NORTHERN MIDLANDS COUNCIL

PLANNING APPLICATION

FOR BUILDINGS, WORKS AND CHANGE OF USE

(E.g. Residential houses, sheds, carports, retaining walls, visitor accommodation, commercial development, signage etc.)

Office Use Only:

Exhibited

The Proposal

Description of proposal:

Liquid waste reuse activities, including the receival and controlled application of approved beneficial liquid waste streams, conducted in accordance with current regulatory conditions and the processes outlined in the Environmental Management Plan (EMP).

Driveway construction material:	Unsealed hardstand

The Land

Site address:	Camperdown: 109 Deddington Road, Nile TAS 7212 Redbanks: 372 Nile Road Evandale TAS 7212
Title reference:	C/T: Camperdown: 102383/1 & Redbanks: 139122/1
Existing buildings on site:	See attached maps.
Existing use of site:	Agriculture Use

Applicant justification of any variation/discretion to the *Tasmanian Planning Scheme – Northern Midlands*

No new buildings, structures, or changes to land use are proposed.

The activities outlined in the supporting EMP will provide the land with beneficial organic nutrients, improving soil health and reducing the need for synthetic fertiliser applications.

FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Exhibited

Tasmanian Government

FILE NUMBER Y.19875

GRANTEE
PART OF 2290A-0R-0P GTD. TO JAMES COX
PART OF 2448A-0R-0P GTD. TO JAMES COX

CONVERSION PLAN

LOCATION

CORNWALL - LYMINGTON

CONVERTED FROM GL.289

NOT TO SCALE LENGTHS IN METRES

Registered Number

P.139122

APPROVED 10 APRIL 2003

Alice Kava

Recorder of Titles

MAPSHEET MUNICIPAL CODE No. (123) 5239

LAST UPI No. 4700178

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

DRAWN CL

SKETCH BY WAY OF ILLUSTRATION ONLY

"EXCEPTED LANDS"



the List

FOLIO PLAN

RECORDER OF TITLES

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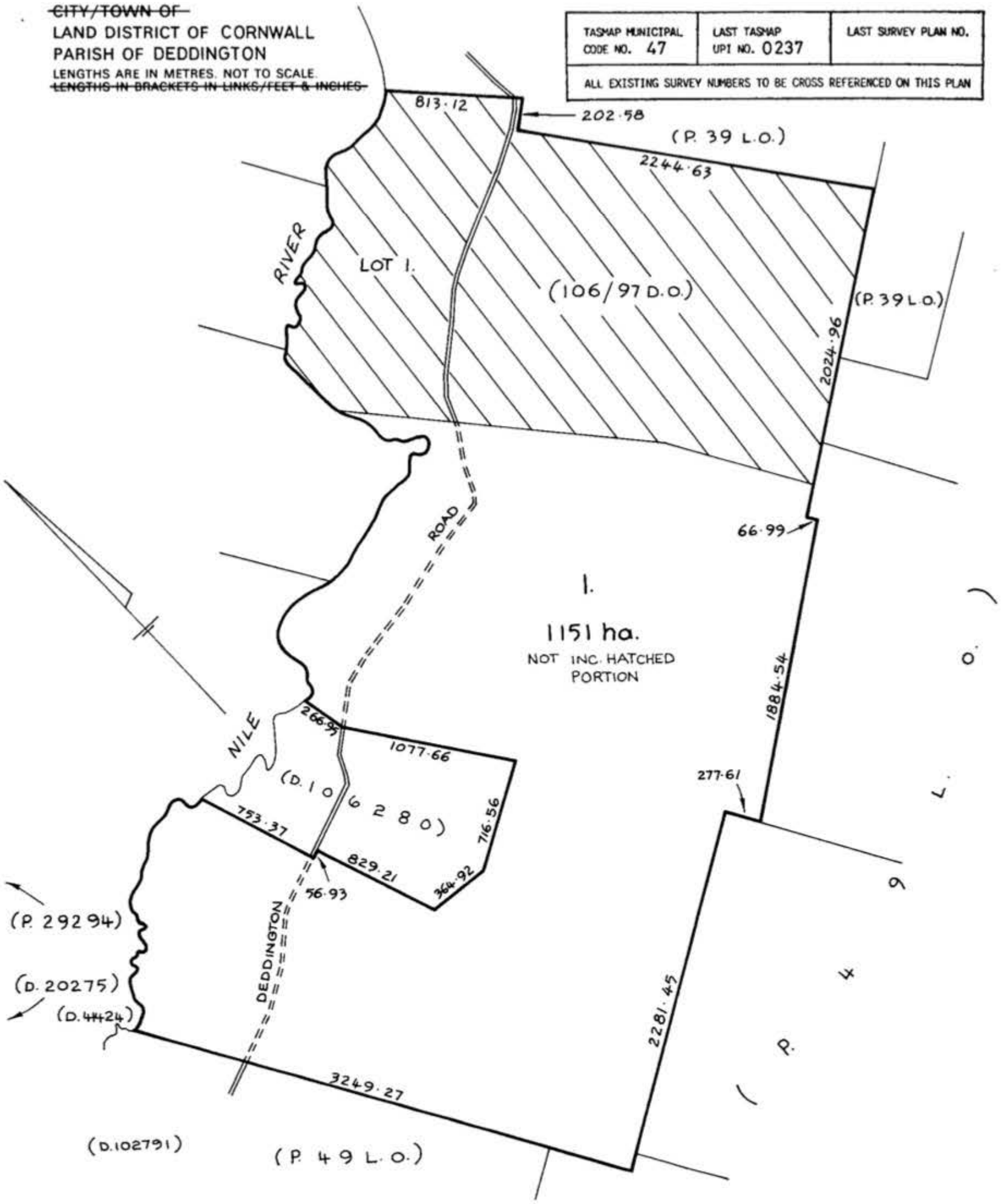
Tasmanian Government

APPROVED -7 OCT 1992 RECORDER OF TITLES	CONVERSION PLAN CONVERTED FROM 55/3204	REGISTERED NUMBER D.102383
FILE NUMBER A.11279	GRANTEE: PARTS OF 200-0-0, 1600-0-0 & 500-0-0 GTD. TO JAMES AITKIN, THOMAS WILLIAMS & JOHN SINCLAIR & PART OF 1250 ACRES GTD. TO JOHN SINCLAIR, JAMES AITKIN & THOMAS WILLIAMS.	DRAWN C. FRA 5-10-92

SKETCH BY WAY OF ILLUSTRATION ONLY

~~CITY/TOWN OF~~
LAND DISTRICT OF CORNWALL
PARISH OF DEDDINGTON
LENGTHS ARE IN METRES. NOT TO SCALE.
~~LENGTHS IN BRACKETS IN LINKS/FEET & INCHES~~

TASMAP MUNICIPAL CODE NO. 47	LAST TASMAP UPI NO. 0237	LAST SURVEY PLAN NO.
ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN		



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11.12.2025

Eve

SPECTRAN Environmental

Environmental Management Plan

Nile

Spectran Group
6 Birdwood Avenue, Moonah TAS 7009

Exhibited Received 11.12.2025

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Document control

Version	Date	Author/s	Reviewed by
V1	31/10/2025	Sam Marsh	Jarrod Rufus
V2	07/11/2025	Sam Marsh	Jarrod Rufus
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1. Introduction

Spectran Environmental Management (Spectran) manage several landspreading sites distributed throughout Tasmania to allow the localised reuse of organic wastes. Operations move regularly from one property to the next depending on the ground availability.

This Management Plan has been developed to support the beneficial reuse of fish morts and other organic waste at Nile, on the two properties of Camperdown and Redbanks. This report has been written to assess and qualify organic waste that is proposed to be spread at the property, determine appropriate application rates and other controls to prevent environmental harm and to ultimately provide sustainable, beneficial outcomes to the property and the wider community.

The application of the wastes offsets requirements for significant quantities of synthetic fertiliser and increases soil carbon, promotes soil biology and improves soil water holding capacity.

Note: This document must be read in conjunction with Spectra Group's Land Spreading Policy and Land Spreading Information for Farmers documents. Compliance with all requirements outlined within these documents is mandatory to ensure environmental protection, regulatory adherence, and safe land application practices.

1.1 Regulatory Context

The application of organic wastes to land presents a risk to the environment and communities if not managed appropriately. Mismanagement of organic waste reuse activities have the potential to contravene the *Environmental Management and Pollution Control (Waste Management) Regulations 2010* (The Regulations).

This EMP is intended to detail the controls to be used to ensure compliance with The Regulations and ensure compliance with Section 23A; General Environmental Duty of the *Environmental Management and Pollution Control Act 1994 (EMPCA).*

Activities shall also consider controls to ensure compliance the Biosecurity Act 2019 and the Land Use Planning and Approvals Act 1993 (LUPAA).

Land Application of organic wastes to benefit agricultural activities is generally considered a Level 1 activity. To ensure compliance with the General Environmental Duty the land application of the liquid wastes described in this EMP shall be regulated by the issuing of an Environmental Protection Notice (EPN) under section 44 of The Act. A Council Officer may issue an EPN under The Act.

The EPN shall detail all the required conduct of the activity so as to assist in the effective management, reduction and/or mitigation of any environmental harm that the activity may cause.

Table 1: Relevant legislation and regulating authorities.

Legislation	Regulating Authority	Regulatory Documentation
EMPCA	EPA or Council as a delegate	Environmental Protection Notice[1]
LUPAA	Council	To be determined by Local Government Planning Representative
Biosecurity Act	Biosecurity Tasmania	The Biosecurity Act 2019 Macquarie Harbour Movement Permit[2]

[1]*Mandatory*

[2]*Mandatory when reusing wastes originating from salmon farmed in Macquarie Harbour, to be issued individually to the respective salmon farming companies.*

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2. Permit Status and Property Details

Addresses

Camperdown: 109 Deddington Road, Nile TAS 7212

Redbanks: 372 Nile Road Evandale TAS 7212

Property Identification Codes

Camperdown: MFEV0077

Redbanks: TBC by Northern Midlands Council

PID/Lease Numbers

Campderdown: 6399032

Redbanks: 3430161

Certificate of Title References

Camperdown: 102383/1

Redbanks: 139122/1

Municipality: Northern Midlands Council

Planning Scheme: Tasmanian Planning Scheme – Northern Midlands Council

Zoning: Agriculture Zone (21)

Use Class: Resource Development

Overlays: Priority Vegetation Area, Waterway and Coastal Protection Area, Bushfire-Prone Area, Airport Obstacle Limitation Area, Flood-Prone Areas and Low Landslip Hazard Bands

Permit Status: To be determined by Northern Midlands Planning Team

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The subject properties are located within the Northern Midlands municipality and zoned as Agriculture under the Tasmanian Planning Scheme. The proposed activity involves the landspreading of liquid waste (e.g., food industry by-products, milk waste, or similar biodegradable materials) for the purpose of soil conditioning and agricultural benefit.

Under Clause 21.2 of the State Planning Provisions, Resource Development is a No Permit Required use in the Agriculture Zone, provided the activity does not damage the soil profile, and preclude future agricultural use. The proposed landspreading activity is considered a form of Resource Development, as it involves the application of biodegradable liquid waste to improve soil fertility and support agricultural production.

The activity will comply with EPA Tasmania guidelines, including the Guide to Land Spreading of Food Industry Waste (2019), Guide to Land Spreading of Milk and Milk By-products (2020), and Environmental Management and Pollution Control (Waste Management) Regulations 2020. Key requirements include site selection, application rates based on soil type and crop needs, exclusion zones from waterways and dwellings, and a documented management plan outlining waste sources, transport, storage, application methods, and risk mitigation.

The properties are affected by overlays including Bushfire-Prone Area, Waterway and Coastal Protection Area, Priority Vegetation Area, Airport Obstacle Limitation Area, Flood-Prone Areas and Low Landslip Hazard Bands. These overlays do not prohibit landspreading but require site-specific risk assessments and management measures to ensure environmental protection.

The proposed landspreading activity aligns with the No Permit Required provisions of the Tasmanian Planning Scheme, supports the agricultural use of the land, and will be conducted in accordance with EPA Tasmania guidelines and best practice environmental management.

In addition, This EMP will fully comply with the requirements of the C9.0 Attenuation Code under the Tasmanian Planning Scheme. In accordance with C9.1.1 and C9.1.2, the development and associated activities will be managed to:

- Minimise adverse impacts on the health, safety, and amenity of sensitive uses from activities that have the potential to cause emissions.
- Reduce the likelihood of conflict or constraint between sensitive uses and activities that generate emissions, ensuring that both can coexist without interference.

All planning and operational measures will be implemented to achieve these objectives, including adherence to attenuation distances and any relevant provisions outlined in Tables C9.1 and C9.2. This EMP will incorporate best practice environmental management systems to ensure compliance with the State Planning Provisions and maintain the integrity of surrounding land uses.

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3. Activity Location and Application Methodology

3.1 Land Area Description

Nile is split across the two properties of Camperdown and Redbanks, which are located next to each other, near the township of Nile, Tasmania, 7212. The property boundaries including the total areas of the properties and the proposed spreading areas with applicable buffer zones in relation to sensitive receptors are shown in Appendix A.

These two properties are relatively large landholdings for the area and are considered suitable for receiving liquid fish morts and other organic waste for the following reasons:

- With a combined area of almost 2000 ha, the properties provided significant scale and sit in a sparsely populated region, with long distances from sensitive receptors.
- The properties are gentle undulating on stable soil types, allowing for the safe trafficking of delivery trucks and spreading equipment for most of the year.
- Contingency, all-weather unloading areas exist at a number of locations across the properties.
- Existing, well designed road infrastructure allows for safe access by trucks to spread areas internal to the properties.
- Paddocks are of an ideal size relative to the scale of the properties, reducing the impact of required liquid waste withholding periods on grazing rotations. Including an allowance for discing organic waste across multiple paddocks on site.
- Multiple areas exist that will benefit from the addition of organic-based inputs to improve soil structure, nutrient levels and water-holding capacity.
- The property is in close proximity to the Launceston area and fish processing facilities in northern regions of the state, reducing transport costs.

The property is predominantly used for lamb grazing and potato farming with areas of pivot irrigation.



Figure 1, Image showing property near Nile with typical terrain and internal farm roading conditions.

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3.2 Rainfall and wind

Table 2: Monthly rainfall of the nearby Evandale weather station. Data from other sites included for comparison.

Average monthly rainfall (accessed via BOM)													
Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Evandale	38.7	37	47.3	54.6	59.4	59.1	70	78.4	61.7	54.3	49	50.4	658.2

The area is relatively moderate in rainfall with rainfall generally spread evenly throughout the year. Wind is predominately from the North and West.

3.3 Delivery of wastes to site

Spectran tankers collect the wastes and transport them to the property. On arrival, the tanker will transfer the material to storage tanks in a hardened accessible area. The storage tanks allow for consolidation of spreading operations and allow flexibility for timing of applications around rainfall, wind, ground conditions etc. At time of writing Spectran has 10 x 24,000 litre tanks available for storage. This volume of storage allows for spreading to cease 2 days before a rain event and 3 days following the rain event with normal delivered volumes.



Figure 2: Delivery area at "Strathburn" Oatlands 2024.

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3.4 Application Method

A tractor-towed liquid spreader will be utilised to spread the wastes accurately across terrain. The spreader is equipped with a vacuum pump to allow creation of either a vacuum or pressure in the spreading tank; this allows for 'clearing out' of transfer hoses at the loading area preventing mess on transfer. The vacuum transfer system protects for spills; any leaks in hoses or fittings allow air ingress rather than waste egress. A link to a video of the spreading equipment in operation can be found here.

3.4.1 Application Rate Control

Application rates are managed by adjusting tractor speed. Calibrations are to be performed on any new equipment and need to account for variable product flowability.

Spread areas must be recorded using an appropriate proof of placement system (Section 5.11). The persons responsible for managing the activity are to regularly validate that total spread areas as recorded on the proof of placement system are consistent with spread area expectations calculated from the tonnages delivered to site over a given period.

The speed required for a given application rate is calculated with the following formula:

$$V = 0.06\left(\left(\frac{\left(\frac{1}{AR}\right) * 10000}{SW}\right) / \left(\frac{1000}{Q}\right)\right)$$

Where:

V = Travel speed required in km/h

AR = Target Application Rate in tonnes/ha

SW = Spread Width of spreading implement in meters

Q = Discharge flow rate of material in litres per minute

Table 3: Data used to calibrate travel speed to obtain target application rates on Pichon TCI2700 liquid spreader shown in Figure 4.

Product viscosity	Applicator type	Discharge duration (min)	Discharge rate (litres/min)	Spread Width
Thick	12m Dribble Bar	13	1592	12
Normal		6.8	3044	12
Water		4.5	4600	12
Thick	Splashplate	12.5	1656	5
Normal		6.5	3185	8
Water		4.6	4500	9

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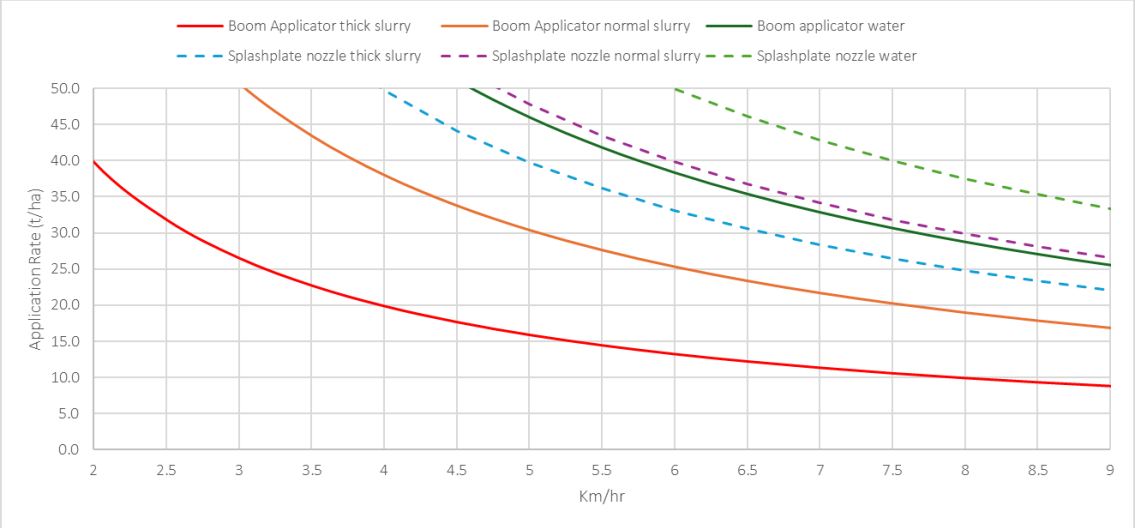


Figure 3: Calibration curves for Pichon TCI 20700 liquid spreader



Figure 4: Typical spreader arrangement. Photo shows a Pichon 20700 litre vacuum spreader and 335hp 4WD tractor, taken at St Peters Pass Oatlands 2021

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3.5 Alternatives

3.5.1 Localised reuse

Where there is suitable land adjacent or close to a site producing liquid wastes, reuse on these areas is the most efficient approach. Even at sites where there is access to land nearby there may be insufficient scale to warrant investment in irrigation infrastructure or spreading equipment or there may be sustainability concerns with reliance on a single area for reuse.

3.5.2 Trade waste discharge

TasWater operate STP's to treat sewage and some STP's have capacity to accept trade waste inputs. In many cases however wastes can exceed acceptance criteria such as BOD, COD and conductivity and also exceed the hydraulic input allowances. With a focus on improving the performance and reliability of STP's there are increasing restrictions on industrial inputs.

3.5.3 Dewatering

Due to the inefficiencies of transporting water and the limited options for storage, reuse and disposal of liquids in Tasmania, dewatering of waste is the preferred approach. Dewatering plants however are expensive to establish, require skilled personnel to operate, require expensive consumables and once solids are dewatered the liquid component still has to be managed onsite, either through further wastewater treatment or localised irrigation which is often not possible.

3.5.4 Composting

Composting is the most predominant means of processing organic wastes and producing a stable, storable and saleable product, however in Tasmania the composting capacity is insufficient to meet the needs of industry especially where there are seasonal peaks. Additionally, high liquid inputs can be detrimental to the composting process and increase leachate production which when combined with rainfall inputs at unroofed sites can upset the water balance and lead to compliance issues.

3.5.5 Rendering

Certain liquid wastes are of sufficient protein and oil content to warrant rendering to separate the various fractions into high value products. Tassal operate a rendering plant for Salmon mortalities, processing trimmings, head and frames and Viscera at their site at Triabunna however it has capacity restrictions, and the liquid component (Stickwater) still requires reuse via landspreading. The site also shuts down for planned maintenance and upgrades from time to time.

3.5.6 Emerging options

A biogas facility is proposed at Westbury. As this facility is designed to recover carbon to create a natural gas substitute, wastes with a high moisture content or a high protein to carbon ratio may not be suitable. As the facility recovers gas only, the remaining liquid "digestate" requires landspreading, so it cannot be considered a replacement for landspreading. The distance required to deliver to the site is cost prohibitive for many waste streams with low calorific value.

Pyrolysis or waste-to-energy plants are generally not considered suitable for liquid wastes due to the significant energy imbalance resulting from the need to forcefully dry the material prior to combustion.

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4. Waste Information

4.1 Hatchery sludges

Salmon Hatcheries have an effluent filtration system where fish excreta and uneaten food is captured and filtered out. Conditioning tanks settle the sludges, and regular collections are undertaken. The sludge contains valuable nutrients and low amounts of salts. The digested, settled nature of the wastes generates an unremarkable, organic odour.

The sludges can be applied directly to pasture and can be treated in the same way as manures, wastewater or biosolids.

4.2 Brewing Sludges

4.2.1 Yeast Sludge

As part of the beer and cider brewing process various strains of the yeast Saccharomyces cerevisiae digest carbohydrates in barley, apples, pears etcetera and in doing so produce alcohol and an amount of yeast biomass. The biomass is allowed to settle, and this sludge is retained for collection. The analysis is similar to the aquaculture hatchery sludges and as such can be managed for reuse in the same way. There are no specific hazard characteristics, implications for stock or biosecurity concerns.

4.2.2 Stillage / Pot Ale

The recently completed Greenbanks Distillery in Bridgewater runs a whisky distilling operation that utilises a continuous process where the grains remain in the liquid to be distilled; With the ethanol and other volatile components distilled and recovered, the remaining material is called “stillage” and is consistent with the analysis of the yeast sludge recovered from Cascade Brewery (Section 4.2.1). This is a different process to distilleries which recover the grains prior to distilling; the liquid component left over after the distilling process is termed Pot Ale, which has been land spread by Spectran in 2022 for Callington Mill Distillery in Oatlands. Stillage and Pot Ale are included in this EMP for contingency purposes.

4.2.3 Winery Sludge

Tas Vintners operate a winery at Cambridge and produce wine on contract for several vineyards and wine brands. They operate a wastewater treatment plant that retains activated sludge. The treatment plant processes mainly washdown water and grape residues left in the bottom of vats at the end of the brewing process.

4.3 Salmon Viscera

Approximately 13% of harvested Salmon is viscera. The viscera is mechanically removed and pressured water is used to wash out the gut cavity. The mix of water and viscera is recovered via a vacuum system and sent to a storage tank where it is further macerated, agitated and ensiled via the addition of acid to break down solids and prevent biological degradation. Viscera is prioritised for rendering and an expansion of Tassal’s rendering plant in early 2025 is expected to see the requirement for land application reduce significantly. The properties described in this EMP will be utilised for contingency purposes.

4.4 DAF Sludge

Huon’s Paramatta Creek processing facility has a Dissolved Air Flotation (DAF) plant that recovers suspended solids from processing room washdown water prior to the water proceeding to a Wastewater Treatment Plant. This low volume product is typically collected with a full load of viscera on occasion.

JBS operate an Abattoir and run a large DAF plant and associated dewatering plant which converts their DAF sludge into a cake. The DAF is produced from wastewater from the killing room floor and holding pens. On occasion the dewatering plant requires maintenance and in these instances the collection of the DAF as a liquid is required.

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4.5 Salmon Silage (Macerated Morts)

Marine farming sites are progressively investing in processing capacity onshore to improve the management of Salmon Mortalities. Salmon "morts" are macerated, agitated and pH reduced with the addition of an organic acid to break down all solids into a stable, low-odour and storable product that can be reused directly via land application. The material contains high levels of useful nutrients and is a valuable source of phosphorous. Its appearance is that of a pink smoothie. Mortalities are typically seasonal and most of the delivered volumes are during the warmer summer months.

4.6 Netwash

Salmon pens are regularly brought to shore and washed in a large tumble-washer in fresh water and this wash water is retained. Nets are handled by crane. Algae and seaweed, high in organic matter and nutrients, is filtered and the water recirculated.

The analysis of the product shows nutrient levels at lower concentrations than other waste streams. Historically, the netwash has had high levels of copper from biofouling paints and elevated levels of lead from lead weights. With industry changes these contaminants have been removed.

4.7 Blood Water

All salmon that are harvested are bled out and the blood retained. At Strahan the blood water is retained separately. Whilst containing valuable nutrients it is not as nutrient dense as other waste streams and is best suited for 'shandying' with other wastes.

4.8 Stickwater

Stickwater is the liquid component recovered from the rendering process of Salmon waste at Tassal's Triabunna rendering plant. The Stickwater contains valuable nutrients and is sometimes sold as a liquid fertiliser in other parts of the world. The installation of a waste heat evaporator at the rendering plant in 2025 is expected to see a significant reduction in the requirement for land applications.

4.9 Hydrolysate

Hydrolysate is produced via Alkaline Hydrolysis, a commonly used process for breaking down organics. Alkaline Hydrolysis is used in Water Cremations, with approximately 1000 litres of Hydrolysate produced per process. The hydrolysate contains valuable nutrients and has the appearance of weak, black tea. It is suitable to be used as a liquid fertiliser. Whist common in the US and Europe, the first Water Crematorium in Australia was opened in Hobart in 2024.

4.10 Cadbury USAB Effluent

Mondelez International operate a chocolate factory in Hobart. Water that is recovered during the manufacturing process is put through an onsite wastewater treatment plant to reduce the concentration of residual sugars prior to it being discharged into the sewer network. When this effluent exceeds allowable sugar concentrations for TasWater trade waste acceptance it requires reuse via land application.

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5. Application Rates and Management Controls

Accurate calculations of waste application rates and adherence to management controls are essential to obtain the most beneficial outcomes whilst preventing environmental harm.

At an application rate of 50 tonnes per hectare, the planned landspreading program at Camperdown and Redbanks will utilise approximately 20,450 tonnes of organic material across 409 hectares. The material will predominantly consists of, salmon silage (45%), complemented by a blend of nutrient-rich by-products including viscera (13%), hatchery waste (15%), dissolved air flotation (DAF) sludge (6%), brewing sludges (5%), netwash residues (2%), bloodwater (2%), stickwater (10%), hydrolysate (1%), and Cadbury USAB effluent (1%). This integrated approach supports sustainable waste management by recycling diverse organic streams into soil amendments, improving fertility and organic matter content while reducing reliance on synthetic inputs and supporting a circular economical approach.

5.1 Soil Testing

Prior to application, we will conduct a full assessment of the implications of spreading multiple waste streams on single spread areas. This will include nutrient balance analysis, potential contaminant risks, and soil health impacts. Where sampling has not yet been undertaken, a detailed plan with timeframes will be provided to Council, including laboratory testing protocols and reporting schedules.

All proposed spread areas are to be soil tested within 12 months preceding the spreading activity. Agronomic advice shall be used to confirm that tested areas are suitable to receive wastes; any areas deemed unsuitable shall be avoided.

Soil tests are to be taken within six months of completion of the spreading activity to monitor changes in nutrient analysis and guide subsequent land use or follow up applications of other fertilisers or soil amendments such as lime.

All results will be tested by a NATA and ASPAC approved laboratory, accompanied by commentary from a suitably qualified environmental specialist at Ag Assist. The soil results will be submitted to Council based on monitoring frequency (Pre and post testing) to maintain transparency and compliance with section 5.7. All soil tests shall be retained in a register and used to demonstrate benefit to receiving areas to property owners, regulators and other stakeholders.

5.2 Particle Size Testing

All fish waste will be processed to meet particle size requirements as specified in Spectrans SOP: landspreading particle size sampling guide. A 90% passing rate through a 4-5mm sieve is required to ensure this requirement is met. Landspreading operators will verify compliance on-site before spreading commences.

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5.3 Weather Conditions for Spreading

Spreading will only occur under suitable weather conditions, defined as:

- **Wind speed:** below 15 km/h
- **Wind direction:** In the opposite direction (away) from sensitive receptors
- **Rainfall:** no spreading during rainfall or when heavy rain is forecast within 24 hours

These measures will minimise odour and runoff risks (section 5.13).

5.4 Pasture Burn and Soil pH

Most of the wastes detailed in this EMP cause foliar burn. The wastes should only be spread on ground prior cultivation or resowing, or in pasture where the short-lived leaf burn is acceptable.

Several of the wastes are acidic and, in many cases, this is intentional and an important step in making the material suitable for reuse. Low pH wastes can contribute to foliar damage especially when the spread material contains salts, protein or oils. Salmon Viscera contains oils which when exposed to oxygen sets into a crumbly crust. Whilst this amplifies the slow-release qualities of this waste and can act as a stabiliser for wind-blown soils, the "drying oil" smothers leaf surfaces and causes osmotic stress to foliage, causing it to yellow off in a couple of days.

The addition of low pH liquids to soils has not been observed to influence soil pH in other landspreading operations that reuse low pH wastes. This is likely due to applied liquids only affecting the pH of the liquid portion of the soil which becomes significantly diluted once applied and diluted further following irrigation or rainfall. Additionally, soils are generally highly buffered and resist pH change, especially soils of high clay content.

A dribble-bar or trailing shoe applicator can be used to spread the waste in strips to allow for the inter-row foliage to remain healthy; these implements add complexity to operations and may not be suitable on all terrain types but should be considered for use depending on the situation.

5.5 Hydraulic Limiting Application Rate

Liquids can flow across the landscape before they are absorbed into the soil surface. As such, the maximum application rate is limited to the hydraulic holding capacity of the ground where it is being applied and the slope of terrain.

No single application shall exceed 50t/ha. 50t/ha is equivalent to an instantaneous 5mm rainfall event.

Application rates above this risk physical movement downslope, especially where soil is compacted and without vegetation cover. Spreading rates shall be reduced further if surface movement of the waste is observed.

5.6 Mineralisation Rate for Application Rate Calculations

As the wastes are organic, nutrients are held tightly in proteins until they are released in plant available forms via biological degradation. The rate of this microbial-driven process is dependent on the availability of moisture and the temperature; thus, the release of nutrients typically aligns with the growth rates (and nutrient demand) of plants. This is one of the more elegant aspects of waste reuse; the slow-release qualities allow for the supply of nutrients in synchrony with the seasons, and farms can expect to see the benefit of the applications for several years following applications.

The rate of conversion of organic forms of nutrients into the mobile, plant available forms is termed "Mineralisation Rate" and for application rate calculations is assumed to be 20%, which is consistent with the mineralisation rate of biosolids.

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5.7 Nitrogen Limiting Application Rate (NLAR)

Nitrogen is a critical input to agricultural operations however over-application of mobile forms can have negative impacts on plant quality and aquatic health. Nitrogen release from inputs from both organic and synthetic inputs shall never exceed the removal rates of the land where it is applied.

NLAR is calculated with the following formula:

$$NLAR = \frac{CNR}{ABN}$$

Where:

CNR = Crop Nutrient Requirement (kg/ha) - A CNR of 100kgN/ha/year is assumed; this is typical for moderately well-managed, dryland pastures. Cropping areas under irrigation will have a higher CNR.

ABN = Available Biosolids Nitrogen (ABN) and is calculated as with the following formula:

> ABN (kg/t) = (Ammonium N (mg/kg) + N as Nitrate and Nitrite (mg/kg) + ((Total Kjeldahl Nitrogen – Ammonium N) x (Mineralisation Rate % /100)))/1000

5.8 Phosphorous Limiting Application Rate (PLAR)

Phosphorous is less mobile than Nitrogen in soils and is taken up luxuriantly by plants so there are less environmental and plant health risk associated with the over-application of P. Additionally, building up background phosphorous levels takes several years and significant financial investment, so it is rare to see high P levels in most dryland Tasmanian soils. However, if Phosphorous is over-applied this can lead to leaching to waterways, especially where soils have a low Phosphorous Buffering Capacity. A crop removal rate of 50kgP/ha/year is used.

Management of NLAR typically manages PLAR, however the maximum PLAR is shown in Table 5.

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5.9 Repeat Applications

Repeat applications are permissible in the same year if the total nutrient limiting application rate is not exceeded and applications are spread evenly throughout the year. Once the maximum application rate is applied no further applications shall occur in the same area for three years unless soil tests demonstrate further applications are warranted. Table 5 details limitations on repeat applications for each waste type.

5.10 Prevention of Soil Salinity and Sodicity

Soils can become saline and/or sodic if excessive salts applied to the surface through irrigation water, rainfall, rising of water table or through addition of inputs such as synthetic or organic fertilisers. The addition of excessive sodium salts can degrade soil structure. Whilst not critical for plant growth for most pasture species, sodium is essential for animal health and considered applications of sodium is warranted in grazing situations.

Many areas in Australia irrigate with saline irrigation water and a careful balance is required to ensure applied salts are leached from the soil profile during winter rains to allow further irrigation the following season. As the application of wastes at Cluny is a one-off event preceding pasture renovation, any applied salts present a short-lived impact to soil salinity before being leached via rainfall through the following weeks and months.

The EC of the combined liquid waste and rainfall volume shall not exceed 8000µS/cm to keep the collective water inputs consistent with irrigating with Class 2 irrigation water.

5.11 Prevention and Correction of Soil Acidity

Soils may be naturally acidic or gradually decrease in pH through modern agricultural practices such as cultivation and addition of fertilisers that promote biologically driven reactions creating acid in soils. A lower than optimal soil pH reduces the nutrient availability to plants and crops. Agricultural operations regularly soil test for pH and correct as required by the addition of lime.

The addition of low pH liquids to soils has not been observed to influence soil pH in other landspreading operations that reuse low pH wastes. This is likely due to applied liquids only affecting the pH of the liquid portion of the soil which becomes significantly diluted once applied and diluted further following irrigation or rainfall. Additionally, soils are generally highly buffered and resist pH change, especially soils of high clay content.

pH correction of the liquid wastes detailed in Section 4 prior to land application is not considered warranted or beneficial.

The soil testing post application will inform if any soil pH adjustments are required through the addition of lime.

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Table 4: Summarised analysis of waste types

Waste Type	pH	Ammonia (mg/l)	Nitrate and Nitrite (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Potassium, Total (mg/L)	Total Phosphorous (mg/l)	EC (µS/cm)	Available Nitrogen (ABN) (kg/t)	Available Phosphorous (kg/t)
Salmon Silage	4.3	1380	0.26	14400	1682	1536	23733	2.88	0.31
Viscera	4.5	618	1.17	3867	387	327	7104	0.77	0.07
Stickwater	7.1	3238	0.21	13800	2268	1026	46850	2.76	0.21
Yeast Sludge	5.1	1360		2640	295	438	17060	0.53	0.09
Hatchery Sludge	5.4	984	1.74	5804	209	2584	8488	1.16	0.52
DAF Sludge	4.7	242.25	0.60	3285	86	305	2397	0.66	0.06
Netwash	6.9	968	0.02	2443	458	372	15150	0.49	0.07
Blood Water	7.2	164	0.02	224		19.45	7780	0.04	0.00
Hydrolysate	10	150		470		50	7000	0.09	0.01
Pot Ale	4.2			2415	998	223	4320	0.48	0.04
Winery Sludge	4.4			580	1250	84	947	0.12	0.02
Cadbury UASB effluent	7.1	0.12	0.02	22.8		5.54	6500	0.005	0.001

Table 5: Application rate summary. The attribute limiting application rate is shown in red.

Waste Type	Forecast annual tonnes (2025)	Max application rate (Net EC <8000µS/cm)	Nitrogen Limiting Application Rate (t/ha)	Phosphorous Limiting Application Rate (t/ha)	Maximum total application rate (t/ha)	Maximum single pass application rate (t/ha)	Maximum number of passes	Total area required per year (ha)	Area required per year under cultivation (ha)
Salmon Silage	5000	184	35	326	35	35	1	144	144
Viscera	1000	616	129	1529	129	50	3	8	8
Stickwater	2000	93	36	487	36	36	1	55	
Yeast Sludge	900	257	189	1142	189	50	4	5	
Hatchery Sludge	4000	516	86	193	86	50	2	47	
DAF Sludge	100	1826	152	1639	152	50	3	1	1
Netwash	600	289	205	1344	205	50	4	3	
Blood Water	700	562	2231	25707	562	50	11	1	
Hydrolysate	60	625	1064	10000	625	50	13	0	
Pot Ale	Contingency	1013	207	2242	207	50	4		
Winery Sludge	Contingency	4621	862	5952	862	50	17		
Cadbury UASB effluent	Contingency	673	21834	90253	673	50	13		
					Total Area Required (ha)			**263**	**153**

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5.12 Buffer Distances

Buffer zones are to be adhered to reduce the risk of movement of the applied waste into sensitive areas (Tables 7-9). These default buffer zones have been adopted in accordance with Spectran Environmental Landspreading Policy, dated September 2025.

Waterway buffer distances are derived in accordance with Integrated Conservation Value (ICV) ratings, as mandated under the Conservation of Freshwater Ecosystem Values (CFEV) framework. These requirements are established by the Department of Natural Resources and Environment Tasmania to ensure compliance with statutory provisions for riparian zone management and freshwater ecosystem protection.

Table 7: Default buffer distances

Occupied dwellings (on-farm)	100m	To prevent odour nuisance
Occupied dwellings (off farm)	1000m	
Public roads	10m-100m	Apply extra buffer for high use roads or with clear line-of-sight, low buffer on low use roads acceptable to prevent off-site nuisance.
Native forests and significant vegetation	10m	
Property access roads	5m	To reduce risk of material drifting on to roads and being trafficked off-site

Table 8: CFEV and ICV buffer distances

CFEV Integrated Conservation Value (ICV) classification	Minimum buffer distance
Very High	50m
High	30m
Medium	20m
Low	10m

Table *9*: waterbody buffer distances

Waterbody type	Minimum buffer distance
Farm drains	5m
Ramsar wetlands and lakes	100m
Farm dams	15m
Town water supply offtakes (upstream)	3000m
Drinking water bore	250m

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This EMP will also comply with the attenuation requirements specified in Table C9.1 of the C9.0 Attenuation Code under the Tasmanian Planning Scheme. All sensitive uses will be located outside the prescribed attenuation distances for activities listed in Table C9.1, measured as the shortest distance from the boundary of the site on which the activity occurs. Where an attenuation area overlay applies, the greater distance between the overlay and Table C9.1 has been adopted to ensure full compliance.

The operational layout of the development has been assessed against these distances to prevent adverse impacts on health, safety, and amenity, and to minimise potential conflict between sensitive uses (residential buildings) and activities that generate emissions (tractors). This approach aligns with the objectives of C9.1.1 and C9.1.2, ensuring that attenuation buffers are maintained in accordance with State Planning Provisions.

Based on the property locations of Camperdown and Redbanks, no activities in relation to Table C9.1 have been identified within attenuation distance, specifically in relation to Level 1 and 2 activities.

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5.13 Proof Of Placement

All spreading vehicles are to have a system installed that displays permitted spread areas to the operator, tracks vehicle position and records areas where waste has been applied. Operators are to be effectively trained on the operation of this system.

Data is to be retained and is to be used on an as-needs basis to demonstrate:

(a) That buffer zones in the proximity of spread areas have been mapped and avoided by spreading equipment.
(b) The total spread area covered over a given period reconciles with the waste volumes delivered to site during that period and the appropriate application rate for that waste type.
(c) Timing and locations of spreading operations



Figure 5: Example proof of placement report showing an area spread with liquids at "Strathburn", Bowhill Road Oatlands, May-June 2025.

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5.14 Unloading Area Management

Areas where wastes are transferred from delivery vehicles to storage tanks (Figure 2) and where spreading equipment collects wastes to be spread present a high risk for waste spillages. The following rules are to apply when establishing and maintaining these areas:

- Unloading areas are to be located as far as practical from public roads, residences, waterways and other sensitive areas, significantly greater than the minimum buffer distances stipulated in Tables 7-9, ensuring full compliance.
- Fencing shall be erected around the unloading areas to exclude stock entry.
- Drains, berms and sediment traps shall be installed where warranted to prevent excessive downslope movement of spilled wastes and/or to prevent waste movement outside fenced area.
- All rubbish, including broken hoses, fittings, and similar items, must be disposed of immediately in designated, contained bins. Any rubbish observed during operations should be promptly placed in these bins and secured to prevent dispersal in adverse weather conditions.
- A stockpile of sawdust shall be available to absorb minor spills.
- Large spills shall be allowed to dry (if practical), collected with appropriate machinery and applied to spread areas.
- Equipment, tanks and fittings are to be cleaned regularly.
- Fuels and oils are to be kept in appropriate bunded storage either onsite or offsite.
- All vehicles including tractors are to have a hydrocarbon spill kit onboard.
- The site shall be remediated to an acceptable condition on completion of the activity and assessed for visible RAM (Section 5.14)

These rules are to comply with housekeeping and environmental standards for site cleanliness and safety.

5.15 Odour

The activity is required to manage multiple odorous waste streams. The primary driver of the selection of this and similar properties for the reuse of the wastes detailed in Section 4 is to allow for significant distance from sensitive receptors and prevent offsite odour impacts.

Waste producing sites are required to undertake effective pre-processing of the waste to prevent degradation and allow for safe storage and transport, including the prevention of nuisance odour in transit. Products like viscera and macerated morts are ensiled to meet this requirement and remain low odour as long as this processing is done effectively. Where wastes are collected that exhibit signs of degradation (e.g. froth generation), this is to be reported to the customer for corrective action.

Forecast weather conditions shall be constantly monitored. Should the weather be considered unsuitable for spreading, the wastes will either be stored onsite until conditions improve or are taken to alternative disposal sites.

When land spreading, odour is most noticeable at the spread area but typically disperses with distance. Additionally, the odour generation falls after application as the wastes infiltrate the soil and rapidly desiccate on the soil surface. Increased temperature can increase odour generation however this also correlates to a much faster drying of the waste on the surface and as such can be self-managing.

If waste is broadcast applied to standing vegetation (e.g. bracken or rank pasture) this can promote generation of aerosols through increased exposure to air. Should nuisance odours occur there is the option to immediately stop odour generation by mechanical incorporation into the soil. Many odour issues are avoided when wastes are applied via low-emission applicators rather than through a broadcast nozzle.

Forecast weather conditions shall be constantly monitored. Should the weather be considered unsuitable for spreading, the wastes should either be stored onsite until conditions improve or are taken to alternative disposal sites.

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5.16 Grazing Withholding

Many of the wastes to be reused are classified as Restricted Animal Material (RAM) due to the potential for the presence of animal-derived products. Animal products have the potential to contain prions which can cause Transmissible Spongiform Encephalopathy (TSE) if ingested. TSE type diseases are ultimately fatal and follow a degeneration of the nervous system. Mad Cow disease and Scrapie in sheep are the two main TSE's affecting Ruminants.

Prions that cause TSE are resistant to decay from normal processing and disinfection practices. Animals that eat animal products such as humans, chickens and farmed salmon can contain and excrete RAM. For this reason, common organic fertilisers such as compost, chicken litter and biosolids are also categorised as RAM. The only viable control methods are through control of transmission and through complete destruction of stock that are found to be infected.

Section 9(1) of the *Biosecurity Regulations 2022* (The Regulations) prohibits a person from feeding RAM to ruminant animals. Feeding is considered to have been prevented when access has been prevented. In practice, when RAM is visible on the soil surface from eye level this is considered to be accessible to stock and if stock is found to be (or have been) in these areas this would be in contravention to The Regulations.

Biosecurity Tasmania, as the regulator, have powers to issue directives to land managers and stock owners and this may include prohibiting landowners from grazing spread areas or preventing sale of stock to certain abattoirs or export markets when they have been found to access RAM.

Prioritising spreading of wastes on land intended for cultivation shall occur, with wastes derived from the processing of raw animal products spread exclusively on ground intended for cultivation (Table 5).

For wastes such as hatchery sludges, stickwater and bloodwater, spreading onto pasture not intended for cultivation is permissible however material must no longer be visible when stock is reintroduced to the spread area. The time it takes for RAM to break down and become incorporated into the soil will vary depending on numerous variables however a minimum withholding period (WHP) of 30 days shall be observed, noting that the minimum requirement under the legislation is 21 days. A 30-day WHP audit will be conducted on site to ensure all material has been incorporated into the soil and once notified compliant, livestock can safely return to site.

Reintroduction of stock must be preceded by an inspection by a suitably qualified person. The suitably qualified person must be trained in the contents of this EMP and an associated procedure for identification of RAM.

Regular inspections of fencing and ensuring all gates are closed are required to prevent unintentional access to the unloading and spread areas by stock.

5.17 Prevention of Vermin

An ongoing assessment will be conducted to determine whether flies, birds etc are becoming a nuisance or if they have the potential to move the waste from the spread area. Should vermin issues be identified mitigation measures shall be investigated.

Vermin activity will be assessed weekly during active spreading periods using visual inspections and bait station monitoring. Results will be documented and corrective actions implemented where necessary.

The proliferation of vermin such as feral cats and crows may be indicative of improperly processed putrescible wastes being reused and this is to be investigated and rectified. Section 12(1) of the Regulations prohibits the unhygienic management of animal carcasses.

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5.18 Vehicle and Equipment Hygiene

The movement of equipment and vehicles has the potential to transfer weeds and pathogens between sites. In the case of Aquaculture based wastes poor hygiene with regards to transport vehicles, boots, gloves, hoses and fittings can increase the risk of disease transfer between aquaculture sites.

All washdown areas must be fenced to exclude stock and assessed for visible RAM prior to demobilising from the site (Section 5.14).

5.18.1 Landspreading equipment

Landspreading equipment shall be cleaned periodically as required. As much as practically possible, landspreading equipment shall avoid driving over spread areas to prevent transfer of material out of spread areas and onto hardened roads and areas not intended for spreading.

Loading ports on spreading equipment where hoses are connected must be cleaned daily.

When spreading equipment is moved to a new location a full clean and disinfection shall occur. All organic material is to be removed using a pressure washer and appropriate cleaning products. Virkon S 1% disinfectant shall be used as per manufacturer's instructions.

5.18.2 Delivery vehicles

All trucks transporting wastes to site must remain on hardened roads. Following transfer of wastes into the storage tanks on site, organic material shall be removed from hoses, fittings and wheels using appropriate cleaning equipment. Virkon S 1% disinfectant shall be used as per manufacturer's instructions before the vehicle leaves site.

5.19 Complaints Management

All complaints received will be logged and forwarded to Council within 24 hours of receipt, along with details of any corrective actions taken.

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5.20 Signage

The following signs are to be in place on the property:

Table 6: Specific signage requirements

Sign Description	Number, size and frequency of signs		Minimum Sign Detail
Permanent signage at main entrance to property and fencelines of organic waste applied paddocks internal to the property.	Single weatherproof sign 20m – 50m into the main entrance to the property and on each gateway accessing the paddock. 900mm^2. Signage to remain until withholding period expires.		WARNING LANDSPREADING APPLICATION AREA Unauthorised entry of persons or stock prohibited.
On fencelines of organic waste applied paddocks alongside public roads or other areas visible or accessible by the public (e.g. walking tracks, public use areas).	A4 sized weatherproof sign every 500m along the fenceline bordering public roads and other areas frequented by the public.		LANDSPREADING APPLICATION AREA Unauthorised entry of persons or stock prohibited. Planned application start date: _____ Planned application end date: _____ Withholding period ends: _____



Figure 6: Organic waste signage

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5.21 Emergency Response

5.21.1 Reporting

All hazards and incidents, including near misses, shall be reported as per Spectran's incident response process (Figure 7).

5.21.2 Relevant Contacts

Table 7: Relevant contacts in case of emergency

Contact	Phone Number	Name
Emergency Services	000	
Environmental Scientist	0409 395 715	Sam Marsh
Site Supervisor	0400 486 884	Peter Tomlison
Senior Manager	0499 447 918	Ben Jones
EPA Incident Hotline	1800 005 171	
Property Owner	0400 341 899	Ben Morrisson

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5.21.3 Spill Response

Events such as equipment failure, operator error or accident may result in a spill of waste which may enter or concentrate into sensitive areas. The following approach shall be followed:

1. MAKE AREA SAFE

Once the spill is identified, personnel should be prevented from accessing the area. If safe to do so, stop the source of the spill. This may include turning off a valve or closing a hatch. Emergency services may be required to manage traffic, treat injuries etc.

Where wastes likely contain Restricted Animal Material (RAM), grazing animals shall not be allowed access to the material. Where safe to do so, attempt to exclude grazing animals from the area.

2. IDENTIFY THE EXTENT OF THE SPILL

Assess the spill and what implications this may have on the safety of yourself, others, to animals and the environment. For example, is the spill confined to a concrete bunded area? Is the spill flowing down a drainage line into a river? Is the product lying on the road and potentially endangering others? Anything other than a minor spill that can be safely cleaned up at the time by personnel should be considered an emergency.

3. REPORT THE SPILL

Spectran Management shall be contacted and advise of the situation as soon as safe to do so. If required, contact Emergency Services first. Do not leave the site unattended. Depending on the spill Spectran Management will need to report the event to the EPA, NRE and/or other stakeholders.

4. PLAN HOW TO CONTAIN AND CLEAN UP THE SPILL

Assess what resources are required to contain and clean up the spill. Depending on the size of the spill this may need to be undertaken in consultation with Spectran Management, Emergency Services, and the EPA. For spills larger than a minor spill, Spectran Management will assume control of the incident.

Consider the requirements for disposing of the cleaned-up material (e.g. covered skip bin, 1000 litre tote bin etc). Spectran Management will assist with resourcing the activity.

Larger spills may require resources such as:

- Containment curtains, booms, socks, hay bales etc in drainage lines.
- Material to block or bund drainage lines or spill area.
- Sawdust for soaking up organic liquids.
- Earthmoving equipment to move and load absorbed material.
- Tracked machines to travel on soft or uneven terrain.
- Wash-down equipment for site clean-up.

Traffic management may be required to ensure a safe clean-up operation.

Liaison with landowners, council, parks and wildlife, NRE etc may be required and are to be addressed on a case-by-case basis.

The organic medium used to soak up and stabilise spilled material should be chosen to have a low moisture content and high surface area to volume ratio. For example, pine bark or soft fall has been shown to be ineffective at stabilising liquids, whereas dry sawdust is much more suitable.

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5. OBTAIN APPROPRIATE EQUIPMENT, PERSONNEL AND PPE

Depending on the situation, varying types of equipment may be required. For example, a vacuum truck may be required to remove excess liquid from an area. All required PPE, SWMS etc associated with this equipment and the activity should be sourced. A crane may be required to right overturned equipment and qualified operators, dogmen etc need to be used for this activity. A skid-steer loader may be required to collect spilled material and load into a replacement skip bin, and a washdown trailer (with water contained to a bunded area) may be required for a final clean-up.

6. CLEAN UP THE SPILL

Depending on the situation, this may be as simple as a Spectran employee shovelling a small amount of material into a garbage bag or could be a multi-entity effort utilising Traffic Management, Environmental Services, Transport and Equipment Contractors and Equipment. Spectran Management will need to ensure all works are undertaken safely and are covered by relevant Safe Work Procedures. The clean-up methodology may need to be approved by authorities before proceeding. Detailed records of the spill and clean-up activities should be kept, including taking notes and photos.

7. DISPOSE OF MATERIAL APPROPRIATELY

The material must be sent to an approved facility that is approved for the waste type. Depending on the situation, specific approvals and consent may be required to allow disposal of the cleaned-up material. Vehicles transporting cleaned-up material need to comply with all controlled waste transporter requirements.

8. REPORT THE INCIDENT AND REVIEW

Any spill event that results in environmental harm needs to be reported to the EPA. All spills should be logged in lucidity as an incident. The spill shall be reviewed through the same process as other incidents and corrective actions implemented.

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INCIDENT RESPONSE PROCESS

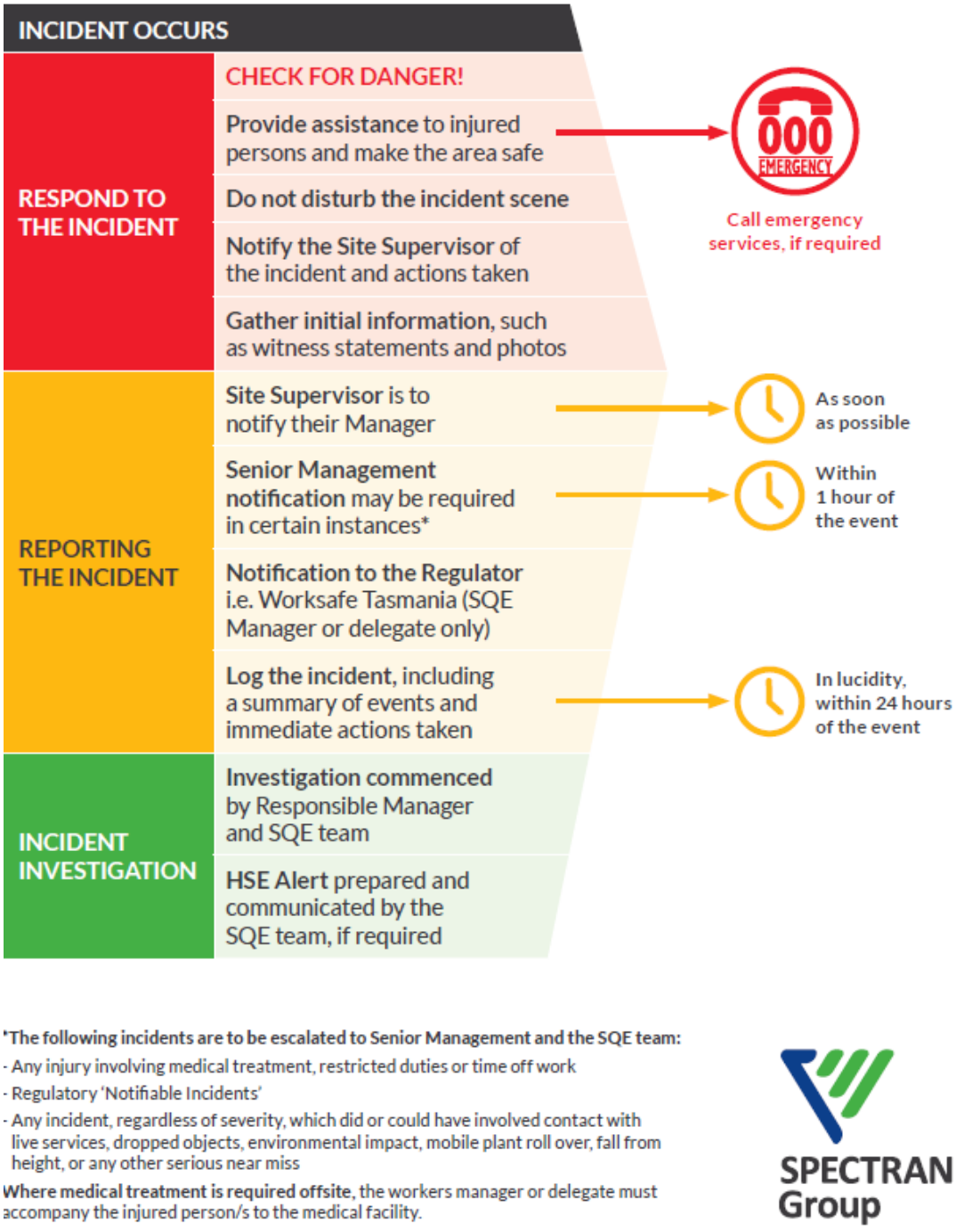


Figure 7: Incident Response Process

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5.22 Handling of Complaints

All complaints are to be investigated immediately and recorded in Spectran's incident recording system. All investigations shall address the following questions at a minimum:

- What is the nature of the complaint?
  - Odour, noise, environmental, visual?
- What are the times and duration of the activity causing concern?
  - Is it a one off or has it been constant?
- Have there been environmental or weather conditions that may be contributing?
  - Hot/cold weather, wind direction, rainfall
- Are there any non-compliance events that may be contributing?
  - Have buffer zones been observed?
  - Are all biosolids delivered to site verified as Grade B?
  - Is stock being excluded from spread areas?
  - Are delivery vehicles being operated safely?
- Is the complaint potentially vexatious or are there vested interests at play?
- Has the complainant been consulted previously?
  - Do they understand the activity, the duration, location, management measures?
- Are others affected?
  - If so, what is their experience?
- What mitigation measures can be employed?
  - Cultivation of spread areas
  - Cease spreading in a particular area.
  - Dust suppression on access roads.
- What corrective actions were performed?
- Have the corrective actions been effective?
  - Is the original complainant satisfied with the outcomes?
  - Have internal inspections and audits indicated the situation is resolved?
- Do management methods need changing to prevent a recurrence?

5.23 Training

The person(s) responsible for this activity must ensure that all persons who are responsible for undertaking work in relation to this activity, including contractors and sub-contractors, are familiar with these requirements to the extent relevant to their work.

The training shall include as a minimum:

- Safe Operating Procedures for spreading equipment.
- Use of the Proof of Placement system.
- Familiarisation of property, boundaries, and access points.
- identification of key points of environmental value on site including matters of national environmental significance
- Detailing requirements of this environmental management plan and the individual's role in the plan.
- Detailing the conditions of the associated permit.
- Environmental incident emergency response procedures.
- Relevant legislation relating to the activity.
- The potential consequences of not meeting environmental responsibilities.

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5.24 Landowner Consent

Landowners are to be provided a copy of this EMP and be briefed on the risks associated with this activity and their responsibilities. Focus is required with regards to Biosecurity and the potential for enforcement activities that may be taken against the landowner and the landowners activity from non-compliance to the Biosecurity Act and the General Biosecurity Duty. A signed document shall be retained that demonstrates that the landowner is aware of the risks and their responsibilities.

5.25 Record Keeping

The following records shall be kept as a minimum and supplied to the regulating authority upon request:

- Delivery records
  - Date
  - Volume
  - Product
  - Driver
  - Truck/Tanker ID
- Spread records
  - Date
  - Time
  - Spread Area
  - Product Type
  - Application rate
- Complaints and corrective actions
- Training records
  - The person receiving the training
  - The date the training was received
  - The name of the person conducting the training
  - A summary of the training

A training record template specific for this type of activity is shown on Page 29.

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Spectran Group	Landspreading Operations

4.23 Environmental Management Plan – Record of Training

Operator Name	Operator Signature
Trainer Name	Trainer Signature
Training Date	Training Location
Environmental Management Plan Title	
Applicable Property Name(s)	
Version of Management Plan	
Date of Management Plan	

Required Additional Training	On File	N/A	Trainer Comments
Waste Reuse – Environmental Responsibilities Training			
Tractor / Spreader VOC			
Excavator VOC			
Telehandler VOC			
SWMS RA035 Liquid Spreading			
SWMS RA035 Biosolids Spreading			
Tabula Work Instruction			
K100 / K130 Spill Response Procedure			
Other (specify)			

Topic Covered	Yes	N/A	Trainer Comments
Property boundaries			
Paddock ID names and paddock plan			
Intended spread areas			
Property access			
Site contacts			
Sensitive receptors			
Sensitive environments			
Buffer distances			
Unloading area management			
RAM management			
Application rates / travel speeds			
Emergency Response Procedure			
Permit conditions			

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SPECTRAN Group

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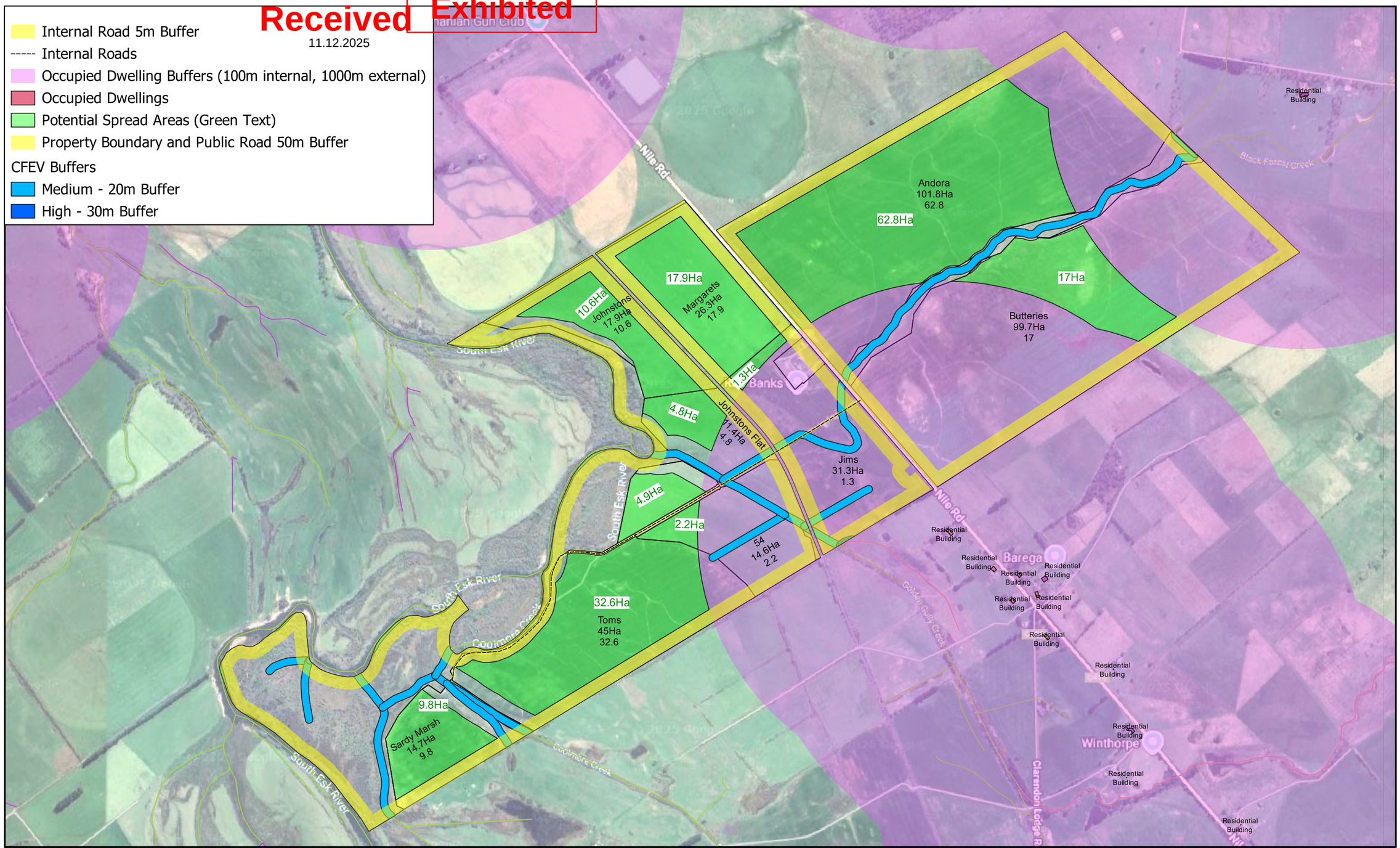
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AgAssist

Morrison - Redbanks - Landspreading Areas

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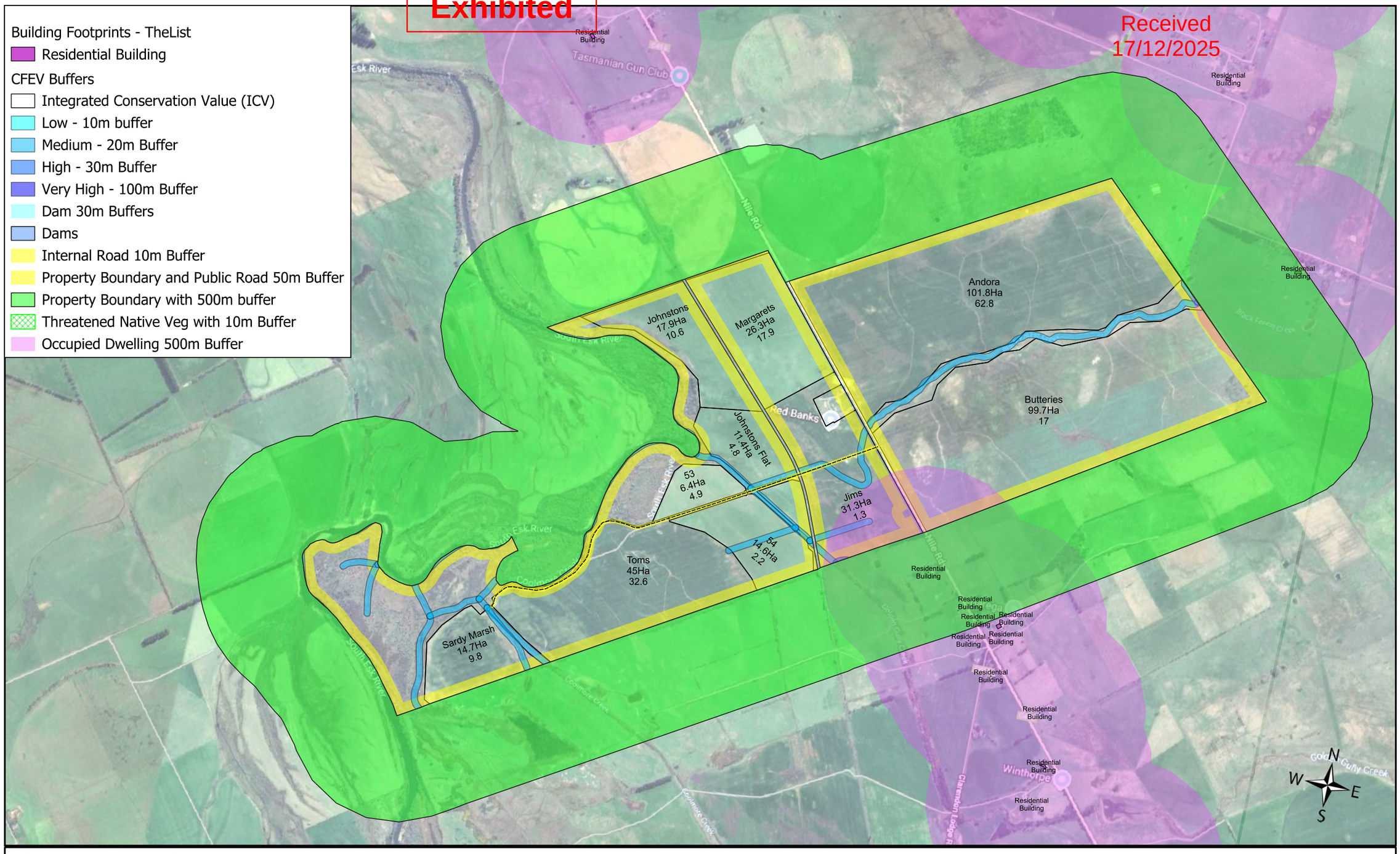
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GDA94 / MGA zone 55
Data Source: Googe Earth and TheList

NORTH

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Morrison - Redbanks - Landspreading Areas

400 0 400 800 1,200 1,600 m

Scaled for printing in A3

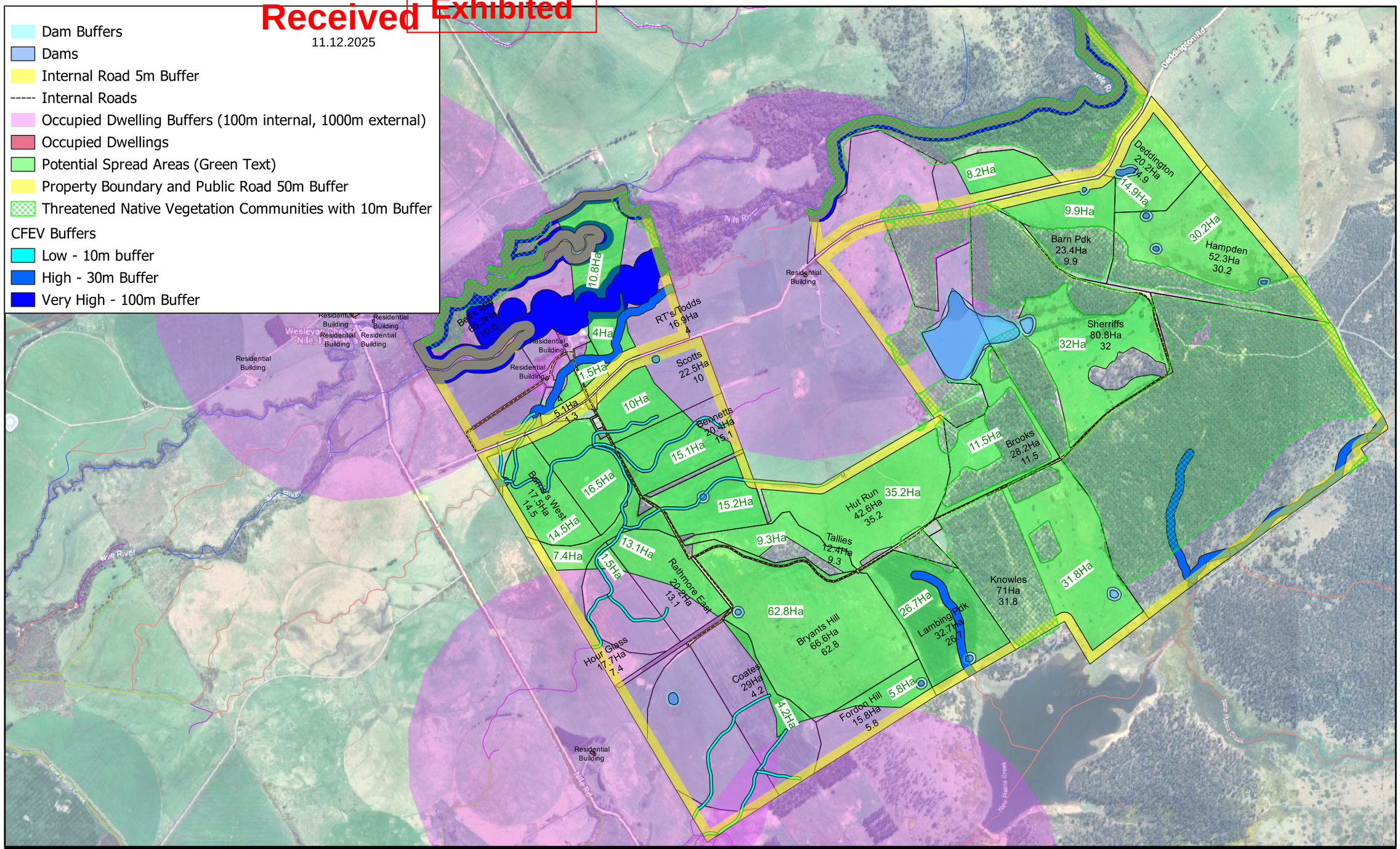
Date Printed: 17-12-2025
GDA94 / MGA zone 55
Data Source: Googe Earth and TheList

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- Dam Buffers
- Dams
- Internal Road 5m Buffer
- ----- Internal Roads
- Occupied Dwelling Buffers (100m internal, 1000m external)
- Occupied Dwellings
- Potential Spread Areas (Green Text)
- Property Boundary and Public Road 50m Buffer
- Threatened Native Vegetation Communities with 10m Buffer

CFEV Buffers

- Low - 10m buffer
- High - 30m Buffer
- Very High - 100m Buffer



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Morrison - Camperdown - Landspreading Areas

500 0 500 1,000 1,500 2,000 m

Scaled for printing in A3

Date Printed: 10-12-2025
GDA94 / MGA zone 55

Data sources: TheLIST, Tas Networks and Google Earth

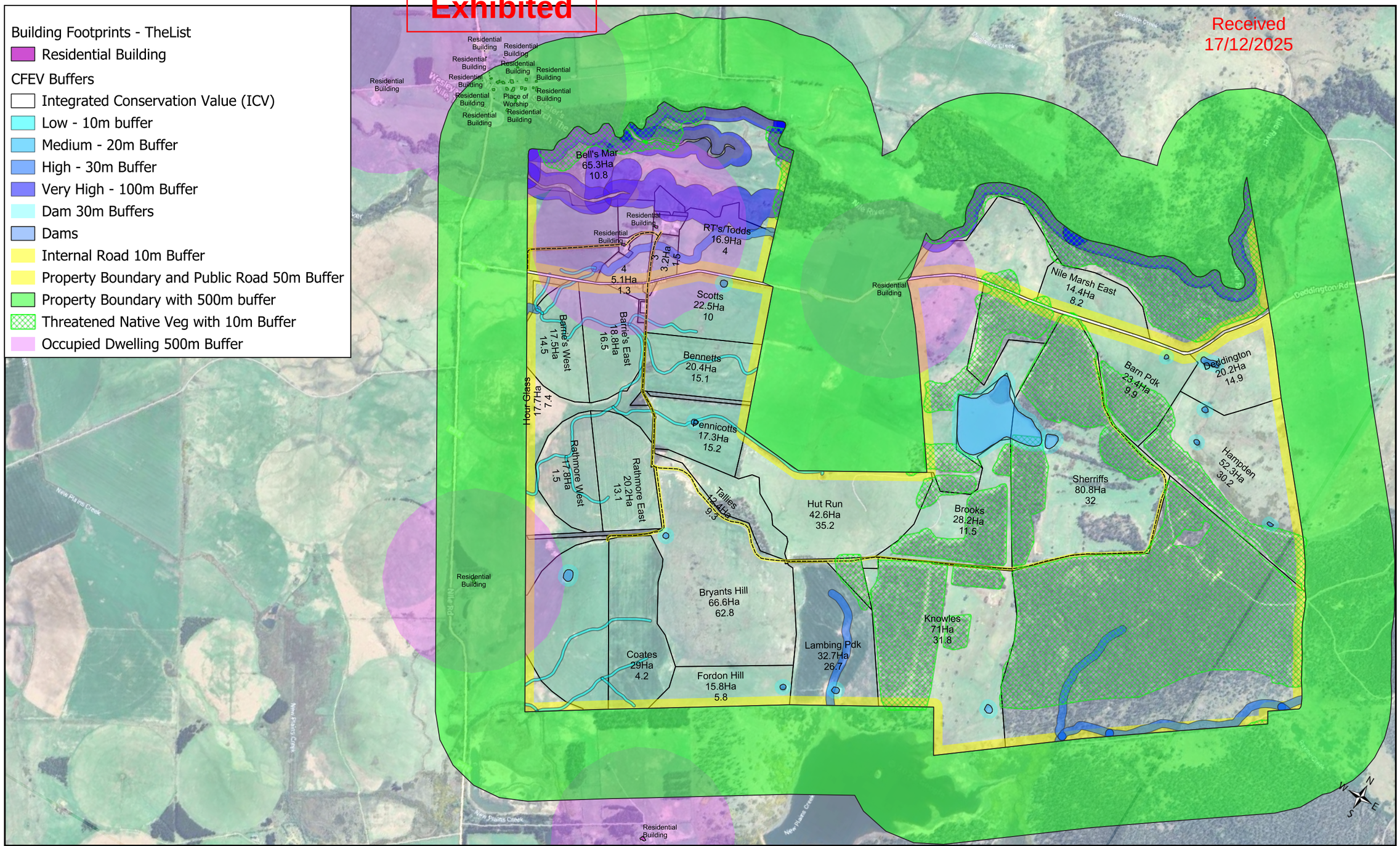
NORTH

Exhibited

Received
17/12/2025

Building Footprints - TheList
- Residential Building

CFEV Buffers
- Integrated Conservation Value (ICV)
- Low - 10m buffer
- Medium - 20m Buffer
- High - 30m Buffer
- Very High - 100m Buffer
- Dam 30m Buffers
- Dams
- Internal Road 10m Buffer
- Property Boundary and Public Road 50m Buffer
- Property Boundary with 500m buffer
- Threatened Native Veg with 10m Buffer
- Occupied Dwelling 500m Buffer



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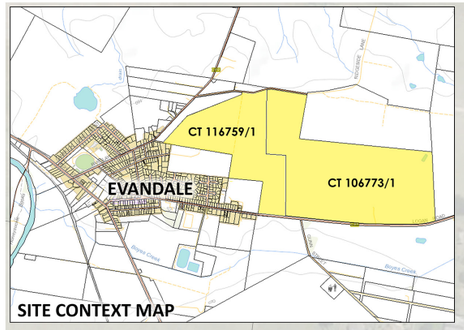
Morrison - Camperdown - Landspreading Areas

500 0 500 1,000 1,500 2,000 m

Scaled for printing in A3

Date Printed: 17-12-2025
GDA94 / MGA zone 55

Data sources: TheLIST, Tas Networks and Google Earth



POTENTIAL SUBDIVISION LAYOUT
NOTE: This indicative layout for 4 Ridgeside Lane forms part of the rezoning application, but is not included in the Expansion Plan as illustrated on this drawing.

RIDGESIDE LANE

WHITE HILLS ROAD

100m Setback from Agricultural Land Use

200m Setback from Agricultural Land Use

COMMUNITY PURPOSE
(Aged care / Retirement / Childcare)
(6.2 Ha)

COMMUNITY PURPOSE
(3.7 Ha)

BARCLAY STREET

LEOPOLD ARTHUR STREET

POTENTIAL SUBDIVISION LAYOUT
NOTE: This indicative layout for 38 Arthur Street forms part of the rezoning application, but is not included in the Expansion Plan as illustrated on this drawing.

MACQUARIE STREET

COACHMANS ROAD

STOCKMANS ROAD

SUBDIVISION BY ADJOINING LAND OWNER

RUSSELL STREET

LOGAN ROAD

GUNN

200m Setback from Agricultural Land Use

100m Setback from Agricultural Land Use

LEGEND

- Existing general residential lots within Evandale.
- Potential future road reserve layout in the adjoining large lot properties.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (6.25 Ha).
- Proposed road network as per NMC Evandale SAP section NOR-S5.8.4 Roads.
- Proposed general residential lots varying in size from 550m2 to 850m2.
- Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- Proposed community purpose lots
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1 Potential for additional land acquisition to provide a safer intersection such as a roundabout.

2 Public open space corridor for pedestrian and cyclist connections to Barclay Street.

3 Road connections to adjoining current and future residential precincts.

4 Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.

5 Local pocket parks to accommodate surrounding residents.

6 Local Business Zone for neighbourhood retail (2,800m2).

7 Existing farm dam to be retained top protect existing frog habitat.

8 Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.

9 Intersection to Logan Road.

10 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Subdivision Master Plan

0 25 50m

Sheet 1 of 1
4 December 2024
Issue M

N

Traders In Purple

LANGE design landscape architecture

PLANNING APPLICATION

Proposal

Description of proposal: Planning Scheme Amendment - Refer accompanying documentation

……

……

……

……

……

(attach additional sheets if necessary)

If applying for a subdivision which creates a new road, please supply three proposed names for the road, in order of preference:

1…… 2…… 3……

***Site address**:* 38 Arthur Street (CT 227117/1), Logan Road (CT 116759/1), 211 Logan Road (CT 106773/1) & 4 Ridgeside Lane (CT 81897/1)

……

CT no: ……

Estimated cost of project *$……* *(include cost of landscaping, car parks etc for commercial/industrial uses)*

Are there any existing buildings on this property? Yes / No
If yes – main building is used as ……

If variation to Planning Scheme provisions requested, justification to be provided:

Refer accompanying documentation

……

……

……

……

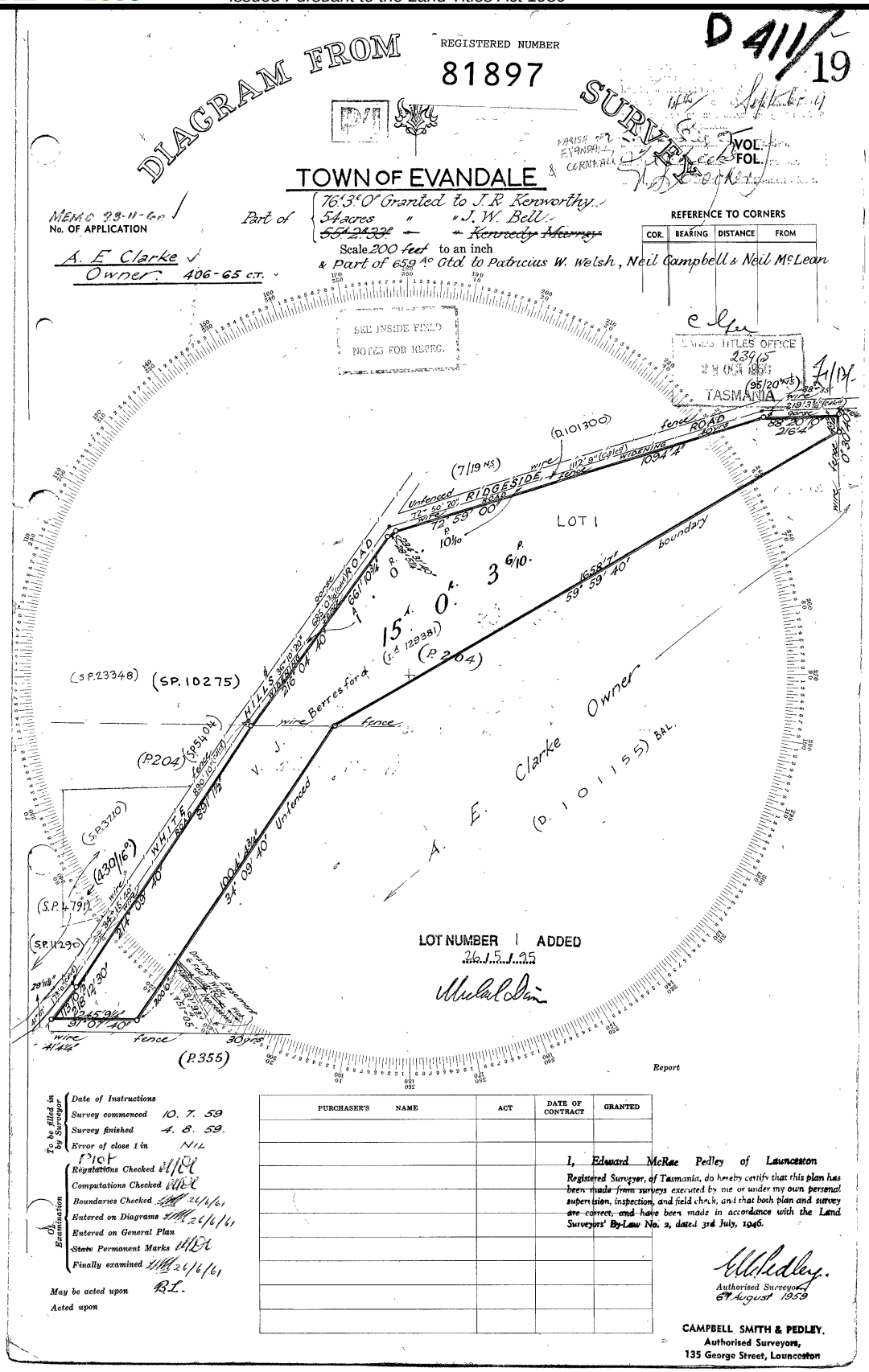
(attach additional sheets if necessary)

Is any signage required? ……
(if yes, provide details)

FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

OWNER
R.A.W ENTERPRISES PTY LTD

FOLIO REFERENCE
C.T.VOL 106774 FOL 1

GRANTEE PART OF 55a 2r 33p & 334acres GRANTED TO KENNEDY MURRAY. PART OF 54acres GRANTED TO J.W. BELL. PART OF 659acres GRANTED TO PATRICIUS W. WELSH, NEIL CAMPBELL & NEIL McLEAN & PART OF 76a 3r 0p GRANTED TO J. R. KENWORTHY.

PLAN OF TITLE

LOCATION TOWN OF EVANDALE
LAND DISTRICT OF CORNWALL
PARISH OF EVANDALE

FIRST SURVEY PLAN No. P.204

COMPILED BY COHEN & ASSOCIATES PTY LTD

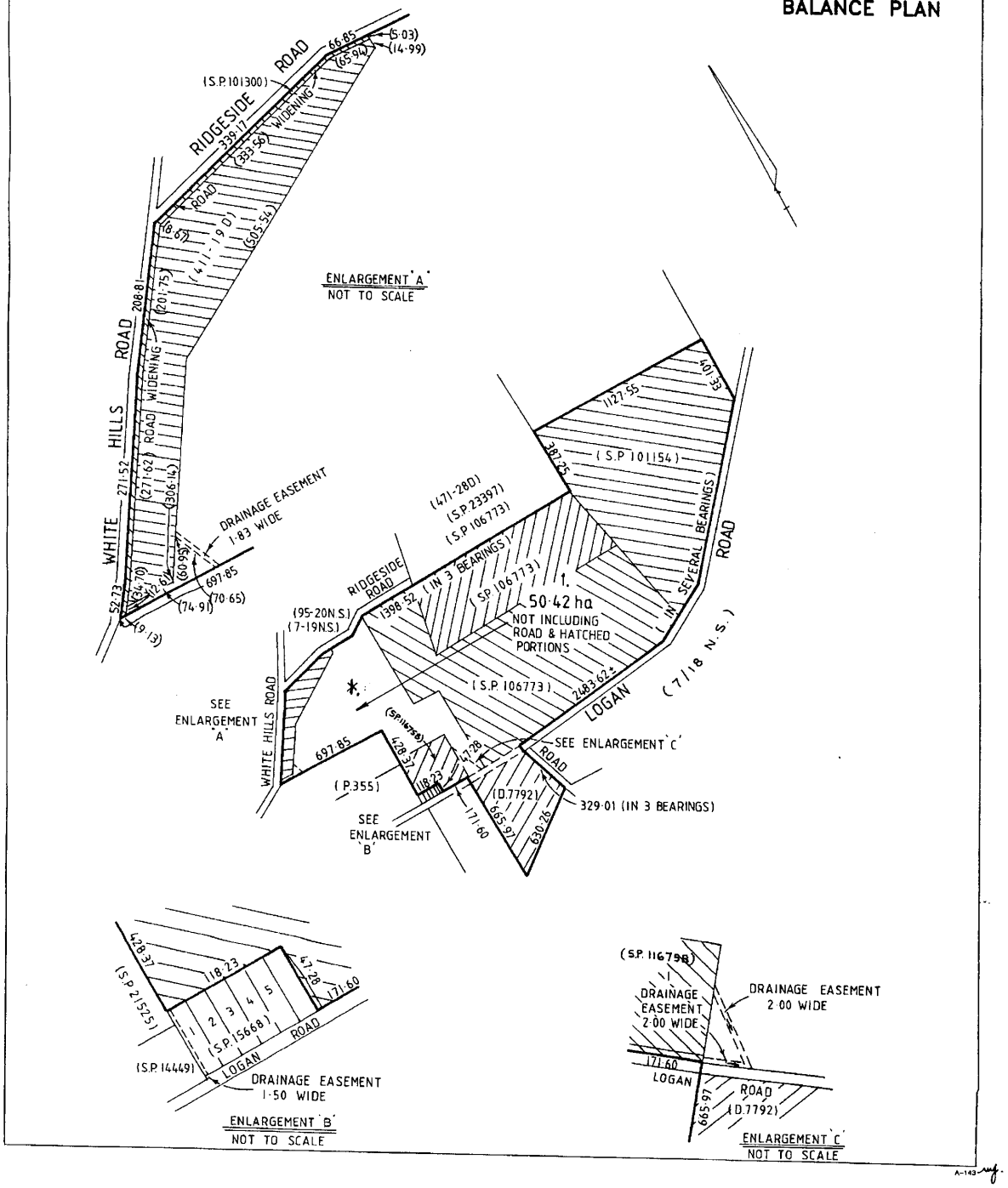
SCALE 1: 20 000 LENGTHS IN METRES

REGISTERED NUMBER
P116759

APPROVED 30 MAY 1995
Recorder of Titles

MAPSHEET MUNICIPAL CODE No. ~~56~~ 47	LAST UPI No 0165	LAST PLAN No. D 106774	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

BALANCE PLAN



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

OWNER Lots 1,2,4 & 5 R.A.W. Enterprises Pty Ltd. Lot 3 Alfred Ernest Wilkes & Betty Blanche Wilkes.
FOLIO REFERENCE
Lots 1,2,4 & 5 CT Vol 101155 Fol 1
Lot 3 CT Vol 4102 Fol 99
GRANTEE Part of 659 acres granted to Patricius. W. Welsh, Neil Campbell & Neil McLean. Part of 500 acres granted to James Aitkin, Thomas Williams & John Sinclair.

PLAN OF SURVEY

BY SURVEYOR R.V.Tait of Cohen & Associates Pty Ltd.

LOCATION

LAND DISTRICT OF CORNWALL
PARISH OF EVANDALE

SCALE 1: ~~7000~~ 7500 LENGTHS IN METRES

REGISTERED NUMBER

SP106773

APPROVED 27 OCT 1993

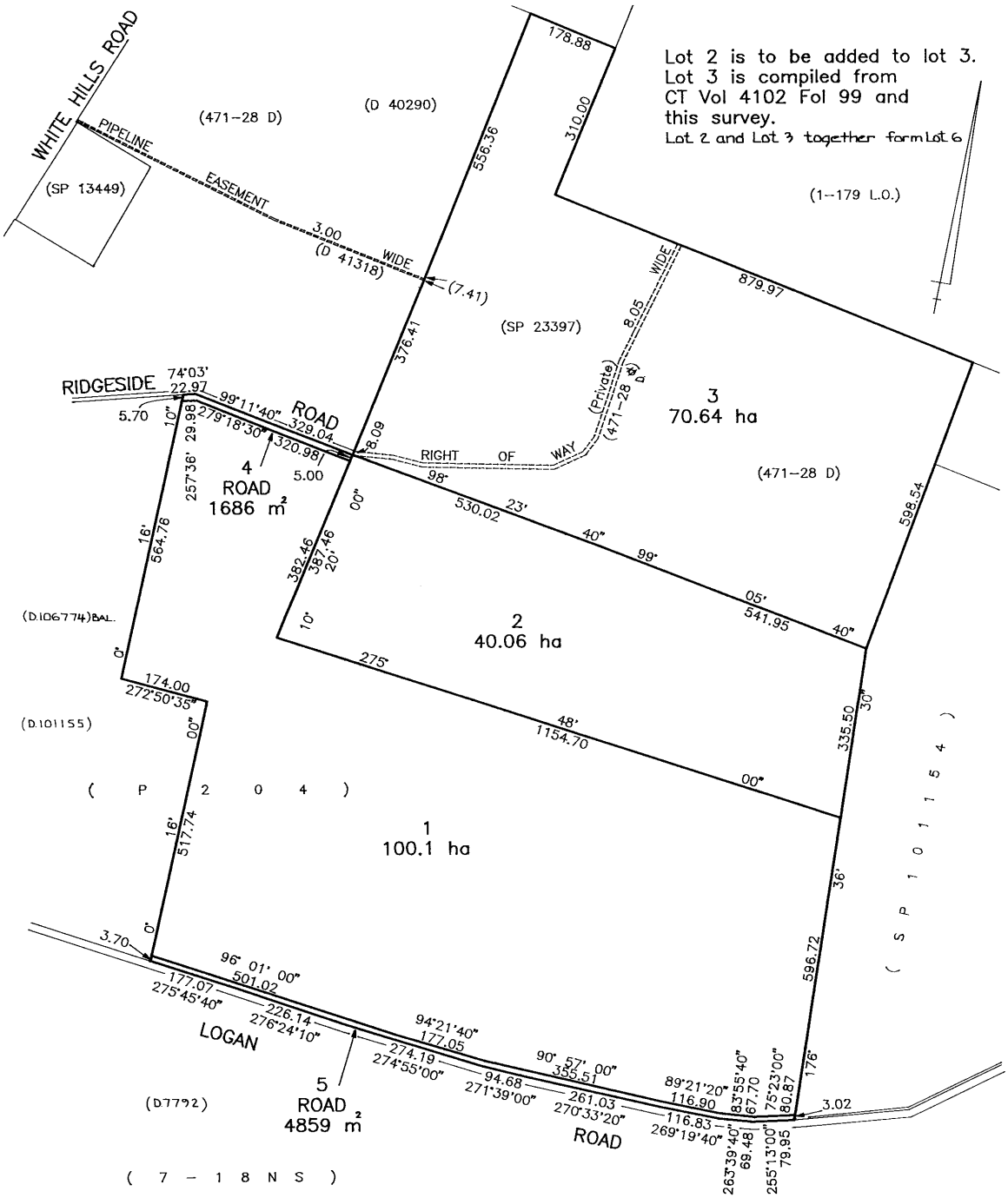
Recorder of Titles

TASMAP MUNIC. CODE SHEET No. 5239 N/S 471

LAST UPI No. ~~0162 &~~ 0560 & 0561 ~~0165~~

LAST SURVEY PLAN (D.101155) No. (471–28 D) & (P 204)

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

ORIGINAL – NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1469
TASMANIA
REAL PROPERTY ACT, 1862, as amended
NOTE—REGISTERED FOR OFFICE CONVENIENCE TO REPLACE

CERTIFICATE OF TITLE

Register Book
Vol. 2938 Fol. 51

Cert. of Title Vol. 327 Fol. 41.

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

Recorder of Titles.

DESCRIPTION OF LAND

PARISH OF EVANDALE LAND DISTRICT OF CORNWALL
TWENTY NINE ACRES ONE ROOD TWENTY PERCHES on the Plan hereon

FIRST SCHEDULE (continued overleaf)

DONALD MARK REDBURN of Evandale, Shepherd

SECOND SCHEDULE (continued overleaf)

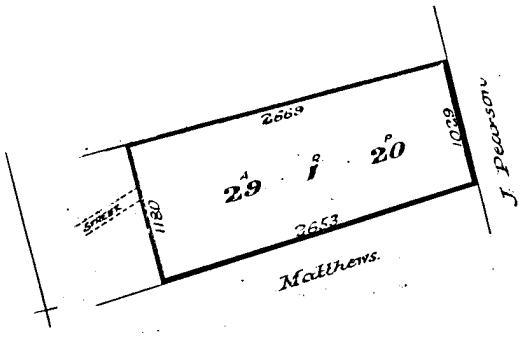
NIL.

CANCELLED
15 FEB 1995
RECORDER OF TITLES
NEW TITLE ISSUED

NOTE.—ENTRIES CANCELLED UNDER SIGNATURE OF THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.

REGISTERED NUMBER 227117

Lot 1 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register



Part of 55A-2R-33Ps. - Gtd. to K. Murray - Meas. in Links. 1/28A Cor.

FIRST Edition. Registered - 8 FEB 1971

Derived from C.T. Vol.327.Fol.41. Transfer A14781 E.M.A. Thompson.



LOGAN ROAD, EVANDALE
PLANNING SCHEME AMENDMENT

ireneinc & smithstreetstudio
PLANNING & URBAN DESIGN

PLANNING TAS PTY LTD TRADING AS IRENEINC PLANNING & SMITH STREET STUDIO PLANNING & URBAN DESIGN ABN 78 114 905 074

LOGAN ROAD, EVANDALE

Planning Scheme Amendment
Tasmanian Planning Scheme – Northern Midlands

Last Updated – February 2025

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ireneinc PLANNING & URBAN DESIGN

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1. INTRODUCTION

Ireneinc Planning and Lange Urban Design has been engaged by Traders In Purple to prepare a request for an amendment to the *Tasmanian Planning Scheme – Northern Midlands* (the Scheme), under the *Land Use Planning and Approval Act 1993* (LUPAA).

The amendment request pertains to the following properties located in Evandale:

- 211 Logan Road
- 95 Logan Road (formerly identified simply as; Logan Road)
- 38 Arthur Street; and
- 4 Ridgeside Lane

The amendment broadly seeks to rezone approximately 100ha of land directly adjoining the existing township of Evandale to the east. Within this, it is proposed that 80ha will be developed in accordance with the proposed Evandale Expansion Plan. The Plan seeks to provide additional residential land, addressing a shortfall in the region and catering for up to 263 residential lots ranging between 550m2-850m2 per lot (residential) and between 1,200m2-1ha per lot (lifestyle).

The Plan also includes up to 6.25ha of public open space, a small local business area (subject to need/demand) and two community purpose areas, providing opportunity for future aged-care, childcare and associated medical facilities. It is anticipated to be delivered over the next 10-15 years, across up to eight (8) stages – each of which will be subject to separate planning approvals.

To achieve this, and ensure future development is consistent with the character of the township, the amendment also seeks to, and will require, the following:

- Expand the existing Evandale Specific Area Plan to encompass the new area; and
- Amend the Northern Tasmania Regional Land Use Strategy, to expand the Urban Growth Area for Evandale to include the Expansion Plan.

The application is accompanied by the following documents (provided separately, unless otherwise noted):

- Traffic Impact, Preliminary Environmental and Geo-technical assessments – Pitt & Sherry
- Stormwater/Civil concept design/reports – MRC (2023)
    - Including subdivision Staging Plan (2024)
- Supply & Demand & Cost-Benefit Analysis – SGS Economics & Planning (2023)
    - Supplementary update to Residential Supply & Demand Analysis – SGS (2024)
- Agricultural Report – Pinion Advisory (2023)
- Aboriginal Heritage & Historic Heritage Assessment – CHMA (2023)
- Bushfire Hazard Management Plan – Ireneinc (2023)
- Natural Values Report – Nest (2023)
- Evandale Development Plan (2012) – Pitt & Sherry (prepared for Northern Midlands Council)
- Evandale Expansion Plan (TIP & Lange Design) – Appendix A;
- Summary of community consultation - Appendix B.

1.1 SITE DESCRIPTION

The site is located east of the township of Evandale, situated between Logan Road and Logan Road. Evandale, located in the municipality of the Northern Midlands in the central northeast of Tasmania, is approximately 15-20km south of Launceston.

The town is close to the Midland Highway and Launceston Airport.

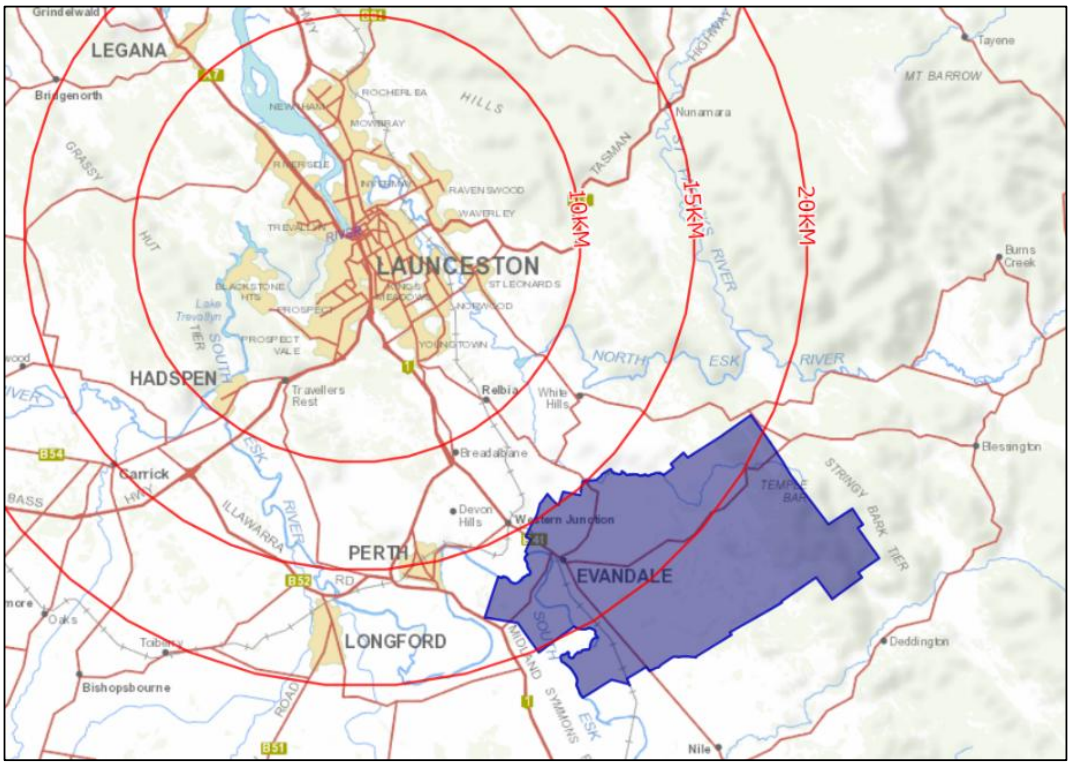


Figure 1: Location Plan with suburb of Evandale and distance from Launceston indicated (The List Map 2023)

The subject land is comprised of the following titles:

ADDRESS	TITLE REFERENCE	DESCRIPTION
38 Arthur Street	227117/1	The land is approximately 11.91ha and comprises a single dwelling towards the northern boundary of the title. There are several other buildings likely to be storage sheds associated with agricultural use of the site. The subject land has frontage to Arthur street. The current landowner has given consent for the property to rezoned as part of this amendment. However, it does not form part of the Expansion Plan. The option to purchase the land for inclusion in the Expansion Plan was discussed between TIP and the owner, however they were not in a position to sell at this stage.

		Shown as 'Site 1' in figure overleaf.
211 Logan Road	106773/1	The entirety of the title is 99.95ha, however, only 35ha of the western portion of the title is proposed for partial rezoning. This portion of the title comprises vacant agricultural land with approximately 2 dams. The subject land has frontage to Logan Road. Shown as 'Site 2' in figure overleaf.
95 Logan Road	116759/1	The land is a large agricultural lot, approximately 50.32 ha in size. The land has stockyards and a large building likely used as a storage shed for cropping activities. There is one additional building towards the centre of the crop field, likely used for crop or machinery storage. The subject land has frontage to Logan Road. Shown as 'Site 3' in figure overleaf.
4 Ridgeside Lane	81897/1	The title is 6.1ha and comprises a residential dwelling and 3 large outbuildings likely associated with the agricultural use of the site. The subject land has frontage to Logan Road. This property is zoned Agriculture and is owned by TIP. Whilst it does not form part of the Expansion Plan, it has been included within the amendment for rezoning and inclusion within the expanded Evandale SAP. From a strategic point of view, retaining this site within the Agriculture zone would be an anomaly given the General Residential zoning of the land to west and the proposed zoning within the Expansion Plan. Shown as 'Site 4' in the figure overleaf.

The subject land is currently used for rural/agricultural purposes, including for grazing. The land area is predominantly cleared of native vegetation, it contains some existing built developments including residential dwellings and outbuildings.

The figure overleaf demonstrates the extent of the titles in purple, with the exact extent of the area proposed for rezoning in red:

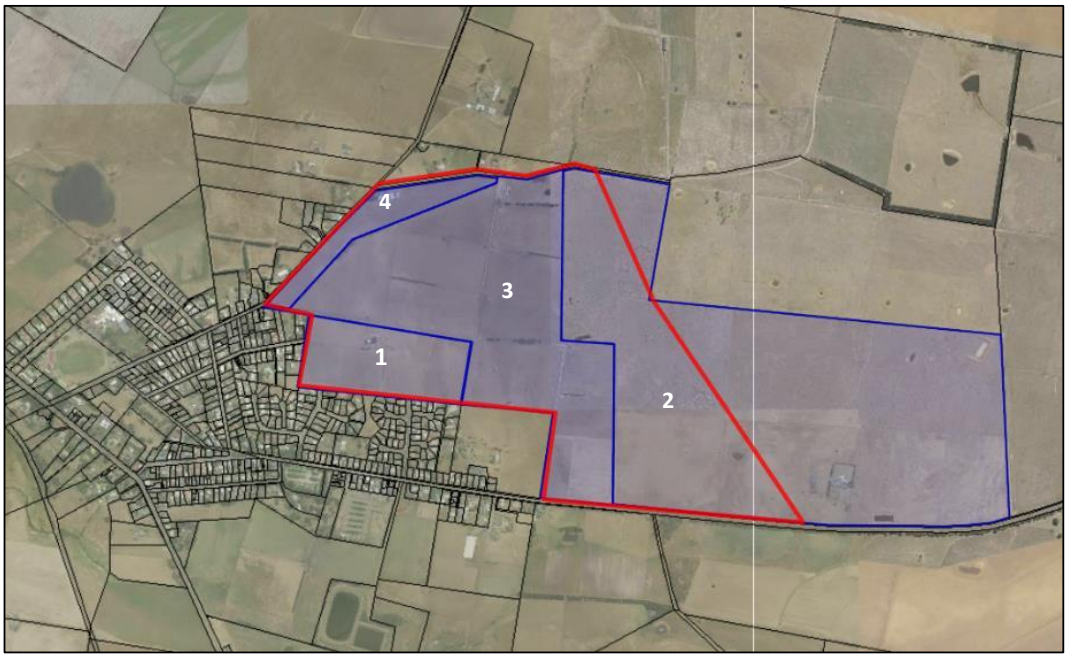


Figure 2: Extent of titles (purple) & extent of site proposed for rezoning (red) (source: the LISTmap, 2022)

1.1.1 Surrounding Use and Development

The surrounding land contains a myriad of uses and developments, with the immediately surrounding context subject to several different zones. To the west of the site, the land is predominantly zoned General Residential and encompasses the broader township of Evandale. The township also comprises pockets of open space zoning and a small local business zone west of the site.

The land to the east of the site is primarily agricultural land (approximately 100ha). The land to the north of the site adjoining Ridgeside Lane, comprises a small handful of Rural Living Lots, and directly north are larger agricultural lots of 50-180ha.

1.1.2 Country of the Leterrermairrener People

The site is within the County of the leterrermairrener people and borders the Country of the tyerrernotepanner (Big River) and the Ben Lomond (turapina in palawa kani) people.

The River that runs adjacent to Evandale is remembered as moorronoe.

1.2 EXISTING PLANNING CONTROLS

The applicable planning scheme is the *Tasmanian Planning Scheme – Northern Midlands* (the Scheme). The following provides a brief overview of the existing planning controls applicable to the site and broader township.

1.2.1 EVANDALE SPECIFIC AREA PLAN

The Evandale Specific Area Plan covers the existing township and provides specific use, development and design controls to ensure the character of the township is maintained and enhanced.

These controls apply either in substitution of, or in addition to the provisions of the underlying zones. These includes several 'development precinct masterplans' which apply to designated areas earmarked for future residential development. The precincts provide specific layouts which control how the land is to be subdivided, including road layouts and the number and size of lots to be achieved.

1.2.2 ZONING

The site is currently zoned as Agriculture, as are the properties to the east as demonstrated in the below figure. The land adjoining the west is zoned as General Residential.

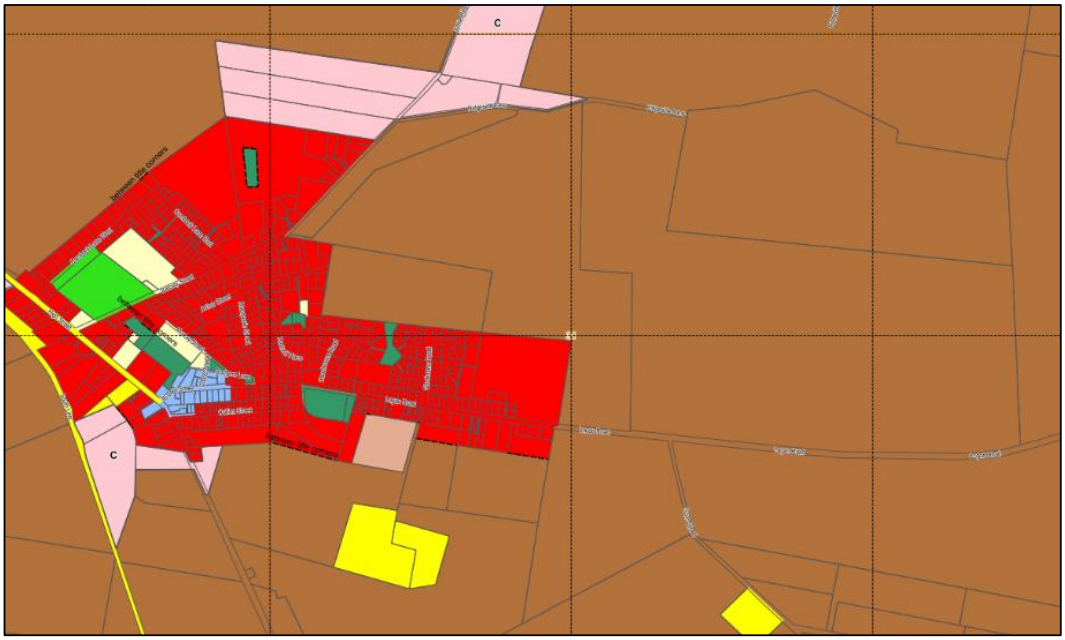


Figure 3: Current zoning, with agriculture (orange), general residential (red), Rural living (pink) (source: the LIST map, 2022)

The zone purpose statements for the agricultural zone are as follows:

21.1.1 To provide for the use or development of land for agricultural use.

21.1.2 To protect land for the use or development of agricultural use by minimising:

(a) conflict with or interference from non-agricultural uses;

(b) non-agricultural use or development that precludes the return of the land to agricultural use; and

(c) use of land for non-agricultural use in irrigation districts.

21.1.3 To provide for use or development that supports the use of the land for agricultural use.

The purpose of the zone is to provide for use or development associated with agriculture. This precludes the use of the site for subdivision for the purpose of residential development.

Whilst the land is currently zoned agriculture, it directly abuts the township of Evandale. As a result, there is no natural transition or buffer provided between agricultural and residential land uses. The envisioned use of the subject land is for primarily residential use which is defined by the scheme as:

Residential

use of land for self-contained or shared accommodation. Examples include a secondary residence, boarding house, communal residence, home-based business, home-based child care, residential care facility, residential college, respite centre, assisted housing, retirement village and single or multiple dwellings.

The following describes the use allowable in the Agricultural zone:

USE CLASS	***QUALIFICATION***
Permitted	
Residential	*If for:* *(a) a home-based business in an existing dwelling; or* *(b) alterations or extensions to an existing dwelling*
Discretionary	
Residential	*If:* *(a) not restricted by an existing agreement under section 71 of the Act; and* *(b) not listed as Permitted.*

Under the current zoning, any future subdivision for the purpose of residential use would be unable to satisfy the performance criteria as below.

21.5.1 Lot design

OBJECTIVE:

To provide for subdivision that:

(a) relates to public use, irrigation infrastructure or Utilities; and

(b) protects the long term productive capacity of agricultural land.

PLANNING SCHEME REQUIREMENT

A1

Each lot, or a lot proposed in a plan of subdivision, must:

(a) be required for public use by the Crown, a council or a State authority;

(b) be required for the provision of Utilities or irrigation infrastructure; or

(c) be for the consolidation of a lot with another lot provided both lots are within the same zone.

P1 - *Each lot, or a lot proposed in a plan of subdivision, must:*

(a) provide for the operation of an agricultural use, having regard to:

(i) not materially diminishing the agricultural productivity of the land;

(ii) the capacity of the new lots for productive agricultural use;

(iii) any topographical constraints to agricultural use; and

(iv) current irrigation practices and the potential for irrigation;

(b) be for the reorganisation of lot boundaries that satisfies all of the following:

(i) provides for the operation of an agricultural use, having regard to:

a. not materially diminishing the agricultural productivity of the land;

b. the capacity of the new lots for productive agricultural use;

c. any topographical constraints to agricultural use; and

d. current irrigation practices and the potential for irrigation;

(ii) all new lots must be not less than 1ha in area;

(iii) existing buildings are consistent with the setback required by clause 21.4.2 A1 and A2;

(iv) all new lots must be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use; and

(v) it does not create any additional lots; or

(c) be for the excision of a use or development existing at the effective date that satisfies all of the following:

(i) the balance lot provides for the operation of an agricultural use, having regard to:

a. not materially diminishing the agricultural productivity of the land;

b. the capacity of the balance lot for productive agricultural use;

c. any topographical constraints to agricultural use; and

d. current irrigation practices and the potential for irrigation;

(ii) an agreement under section 71 of the Act is entered into and registered on the title preventing future Residential use if there is no dwelling on the balance lot;

(iii) any existing buildings for a sensitive use must meet the setbacks required by clause 21.4.2 A2 or P2 in relation to setbacks to new boundaries; and

(iv) all new lots must be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use.

COMMENTS

As required by the scheme, discretionary uses and development must be in support of agricultural use, and/or required as part of an agricultural use. Further, there is a requirement that subdivision lots do not diminish the agricultural capacity of the land.

Under the agricultural zoning, subdivision for residential purposes is therefore prohibited.

1.2.3 CODES AND OVERLAYS

The following Codes/overlays will apply to future development under the Expansion Plan:

- Parking and Sustainable Transport Code
- Road and Railway Assets Code
- Natural Assets Code
- Attenuation Code
- Flood-Prone Areas Hazard Code
- Bushfire Prone Areas Code; and
- Safeguarding of Airports Code

Further consideration of these Codes is provided in section 10 of this report.

1.3 EVANDALE EXPANSION PLAN

The proposed Evandale Expansion Plan has been prepared to guide the development of approximately 82ha of land to the east of the existing township, as illustrated below.

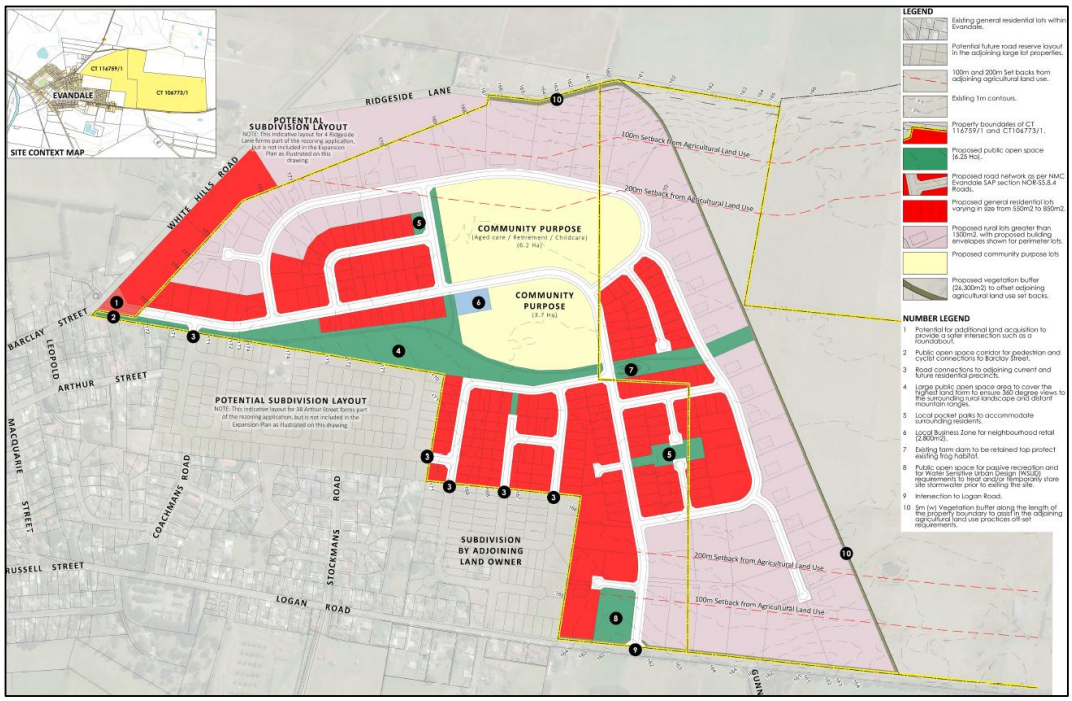


Figure 4: Proposed expansion plan (source: TIP & Lange Design)

The development area will cater for up to 188 x General Residential lots and 75 x Rural 'lifestyle' Living lots – addressing a demonstrated shortfall in the region.

The General Residential lots will range between 550m2 – 850m2 per lot, whilst the Rural Living 'lifestyle' lots will range from 1,500m2 to a maximum of 1ha.

The Plan also includes up to 6.25ha of public open space, a small local business area (subject to need/demand) and two community purpose lots, providing opportunity for future aged-care, childcare and associated medical facilities. The Expansion Plan will be delivered across up to eight (8) stages, each of which will be subject to separate planning approvals.

To achieve this, and ensure future development is consistent with the character of the township, the amendment also seeks to expand the existing Evandale Specific Area Plan to encompass the new area.

Whilst the properties at 38 Arthur Street and 4 Ridgeside Lane are included as part of the rezoning request, they are not owned or controlled by Traders in Purple and do not currently form part of the Expansion Plan. These properties have a combined area of approximately 18ha.

The expansion plan envisages the development of:

- 188 general residential lots
- 75 lower-density/peri-urban lots
- 2 'super lots', providing:
    - Retirement/ aged care
    - Childcare facilities
    - Community services
    - Some local commercial uses that may not be able to be accommodated within the heritage town centre; and
    - Potential affordable housing (in response to community feedback).
- A small Local Business Area, to augment but not compete with existing local businesses in the heritage town centre
- dedicated areas of public open space
- transport network and key connections to existing areas.

The Plan was informed by community engagement undertaken in 2018, and again in 2023. The outcomes of the community engagement/consultation are summarised in section 1.2 of this report.

The intended timeframe for the realisation of the plan is between 2025 and 2035, subject to approval timeframes and market demand.

1.3.1 STAGING

The project is to be delivered over eight (8) indicative stages, as outlined below.

Stage 1

- 16 standard density lots, comprising a mix of 600-850m^2.
- 26 Rural 'lifestyle' living lots, between 1,500-1.7ha.
- Creation of a large open space lot for public recreation

Stage 2

- 35 standard density lots, between 550m^2 to 850m^2
- 10 lower-density lots, between 2,000m^2 - 5,500m^2
- 2 x pocket park(s) / open space corridor.

Stage 3

- 31 standard density lots, between 550m^2 to 850m^2
- Open space corridor, including retention of existing dam.

Stage 4A

- 59 standard density lots, between 550m^2 and 850m^2

Stage 4B

- Community purpose (3.6ha) and Local business precincts (2,800m2), including potential Restaurant/Café within the Local Business Area (subject to market demand and viable tenants); and/or
- Recreation/Sports Facilities

Stage 5

- 6 low density 'lifestyle' lots, between 1ha to 1.3ha.

Stage 6

- 47 standard density lots, between 550m^2 and 850m^2.
- 1 x pocket park.

Stage 7

- 1 x standard density lot
- 33 lower density lots, between 1,200m^2 and 7,400m^2.

Stage 8

- Community purpose precinct (6.2ha) for potential aged care / childcare and associated medical services
- Open space

The indicative staging plan is illustrated below.

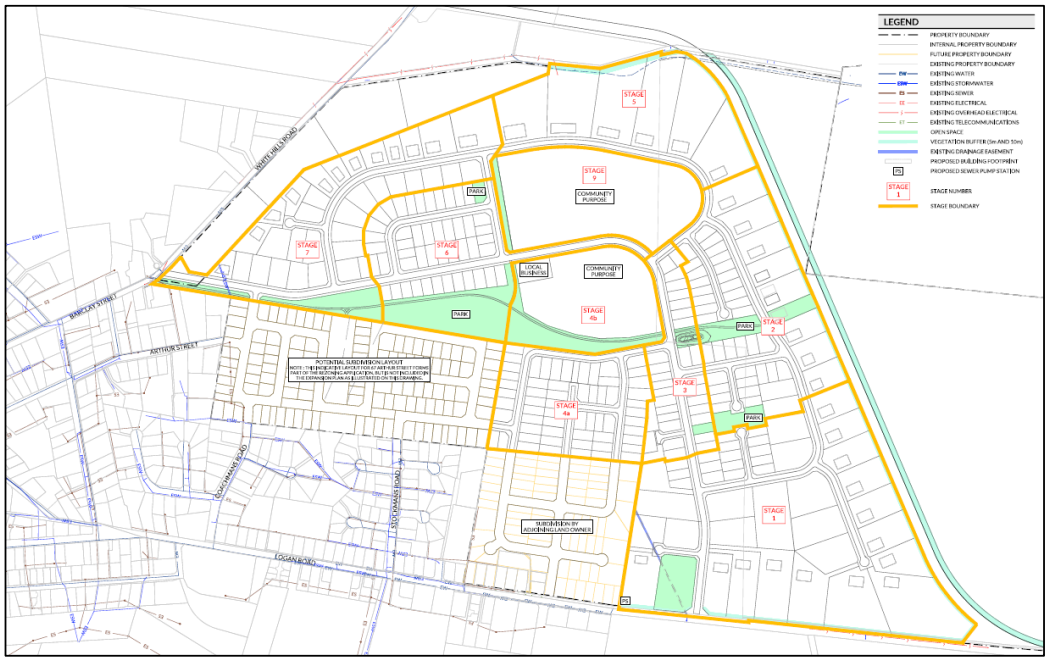


Figure 5: Indicative staging plan (source: MRC Engineers)

Each stage will require separate planning approval for subdivision and associated infrastructure works and will be delivered based on demand.

The potential development of the Cambock Lane and Logan Road precincts cannot be assumed, however it is recognised that any application for development of those precincts will be factored into the delivery of stages associated with the Expansion Plan, to ensure the delivery of each stage is provided as demand requires.

1.3.2 Exclusion Areas

The land at 38 Arthur Street and 4 Ridgeside Lane form part of the amendment (for rezoning purposes) but have been excluded from the Expansion Plan.

It was recognised early in the planning process that 38 Arthur Street should be included in the Expansion Plan and represents the most logical area in which to expand the township. As such, the landowner was approached by TiP to determine their willingness to sell the land, enabling its inclusion within the Expansion Plan. However, at the time of the enquiry, the landowner advised they were not prepared to sell, but did express interest in future subdivision and welcomed the inclusion of their land in the rezoning component.

This was similarly the case with 4 Ridgeside Lane.

Given both properties are currently zoned Agriculture, their omission from the Expansion Plan and any subsequent approval of the amendment would have resulted in retention of two isolated Agricultural properties, surrounded by existing/proposed residential land use. This was not considered a feasible strategic planning outcome, hence the inclusion and proposed rezoning of these sites as part of the amendment.

Indicative subdivision layouts were prepared for each of these properties to assist in determining overall residential supply and demand and ensure future road/pedestrian connections to these sites were considered. The traffic impact assessment also considers a range of scenarios, including one in which the land at 38 Arthur Street is developed, to provide a comprehensive review of all likely traffic scenarios.

Whilst TiP are open to presenting further alternate layouts, these properties are not owned by TiP and do not form part of the Expansion Plan.

- The indicative layout for 4 Ridgeside Lane shows 4 x lots, two of which will be zoned General Residential. If necessary, this can be revised to 3 x Rural Living lots and 1 x Gen Res lot, to further restrict subdivision potential and limit provision of any new access points onto White Hills Road.

1.3.3 Road Network & Traffic

The amendment is accompanied by a TIA, which provides an in-depth assessment of the existing road network and junctions, to guide the design approach for the proposed Expansion Plan.

All internal roads and junctions within the Expansion Plan have been designed to accommodate two-way vehicle movements, minimise cul-de-sacs, provide sufficient width to accommodate footpaths and street trees and ensure appropriate sight-distances. This is consistent with the requirements under the existing Evandale Specific Area Plan, which is to be extended to incorporate the Expansion Plan. The analysis confirms that future/proposed roads and intersections within the Expansion Plan will achieve appropriate view lines and sightlines and can be appropriately integrated into the existing road network.

A SIDRA analysis has been undertaken to consider post-development impacts (upon completion of all stages) on each of the key intersections between the Expansion Plan and the existing road network. The traffic impacts have been estimated for the 10-years post-development scenario. The key points of the analysis are outlined below:

- Post-development:
    - The primary intersections between the existing and proposed road network (Barclay St, Macquarie St, Cambock Ln & Russell St) will continue to operate at a Level of Service (LOS) A. This confirms post-development traffic will not generate unreasonable queues or delays or impact the overall functionality, safety or efficiency of these intersections.
    - The proposed access points onto White Hills Road and Logan Road will also operate at LOS A, post-development.

The TIA indicates the potential retirement living / aged-care component of the Expansion Plan will generate the highest volume of traffic. However, delivery of this component will depend on a range of factors and constitutes the final stage of the Expansion Plan.

All roadways and intersections forming part of the various stage(s) will require assessment under the relevant provisions of the SAP and Codes, to determine compliance prior to the issue of a permit(s).

Potential By-Pass

Earlier iterations of the Expansion Plan included a potential by-pass road, running along the eastern edge of the expansion area, connecting Logan Road to Ridgeside Lane. This was included in response to previous community consultation undertaken by TiP, where issues were raised regarding the extent of heavy vehicle movements through the township.

The area set-aside falls entirely within land owned by TiP, ensuring a suitable area could be developed for such purposes in the future if the need arose. However, given the Expansion Plan will be staged and released over at least a 10-year period, it would be premature to allocate the land within the Utilities Zone until a clear and demonstrated demand for the bypass arises and/or it is necessary to address reduced levels of service or congestion in the road network.

As such, the area set aside has been reduced in width to 5m and will serve as a potential landscape buffer.

1.3.4 Infrastructure

A concept servicing plan has been prepared and outlines a strategy for the delivery of water, sewer and stormwater services. Infrastructure will be delivered in stages, consistent with those outlined in section 1.3.1 of this report.

Preliminary discussions with TasWater have confirmed that there is capacity in the network to accommodate additional development, however this is based on a first-come, first-served basis. Given the delivery of each stage will be subject to separate planning/plumbing permits, infrastructure capacity will be assessed at each stage of the Expansion Plan.

1.3.5 Open Space

The Expansion Plan includes approximately 6.25ha of green space, which will be used to provide pedestrian connections and recreational space. These areas and corridors will also significantly improve natural/ecological values, providing opportunities for landscaping and provision of new habitat.

2. PROPOSED AMENDMENTS

The application seeks to facilitate a sequential expansion of the township, providing a range of residential lots catering for a broad market whilst also providing land for social/community services/facilities, public open space and additional local business land.

To achieve this, a range of zones, provisions and other amendment mechanisms have been considered to accommodate the proposal, whilst addressing the relevant strategic and statutory requirements and community feedback to ensure the overall character of Evandale is maintained.

The purpose of the amendment is to:

- Expand the existing Evandale Specific Area Plan to encompass the subject sites, enabling the following:
    - Implementation of the proposed Evandale Expansion Plan as a 'Precinct Development Plan', consistent with similar plans within the SAP; and
- Rezone the subject site(s) to align with the Evandale Expansion Plan, as outlined in section 1.3.2 of this report.

The following sections break-down each component of the amendment.

2.1 EVANDALE SPECIFIC AREA PLAN EXTENSION

The Evandale Specific Area Plan covers the existing township and provides specific use, development and design controls to ensure the character of the township is maintained and enhanced. These controls apply either in substitution of, or in addition to the provisions of the underlying zones. This includes several 'development precinct masterplans' which apply to designated areas earmarked for future residential development. The precincts provide specific layouts which control how the land is to be subdivided, including road layouts and the number and size of lots to be achieved.

Following a review of the SAP, it was determined that expanding the SAP to encompass the proposed Expansion Plan would maintain an established set of planning controls and ensure future development is undertaken in a manner that is consistent with and enhances the character of the township.

Whilst the proposal was altered to better align with the purpose of the SAP, adjustments to the provisions are still required to insert the Expansion Plan as a new 'development precinct masterplan'. This includes the introduction of several Local Area Objectives, which will apply to the new Local Business Area proposed as part of the Expansion Plan.

A detailed outline of all changes proposed to the SAP is provided in section 9 of this report, along with supporting analysis.

2.2 REZONING

Evandale and the wider Northern Midlands is experiencing higher than expected population growth, due in part to the township's proximity to Launceston, and there is an identified shortfall of housing to meet demand in the municipality. To facilitate the *Evandale Expansion Plan* (*the Plan*), which has been developed by Traders in Purple, the following primary zones are proposed:

- General Residential Zone
- Community Purpose Zone

- Local Business Zone
- Rural Living Zone; and
- Open Space Zone

The plan identifies future subdivisions, road layouts (including integration into the existing network), areas for standard and lower density residential development, provision of public open space, a small local business precinct and community purpose areas suitable for potential childcare and retirement/aged care facilities.

The rezoning component applies to:

- 95 Logan Road (CT116759/1)
- 38 Arthur Street
- 4 Ridgeside Lane; and
- Approximately 32ha of 211 Logan Road.

The figure below demonstrates the extent of these properties, which encompass a total area of (approx.) 100 hectares and are currently zoned Agriculture.

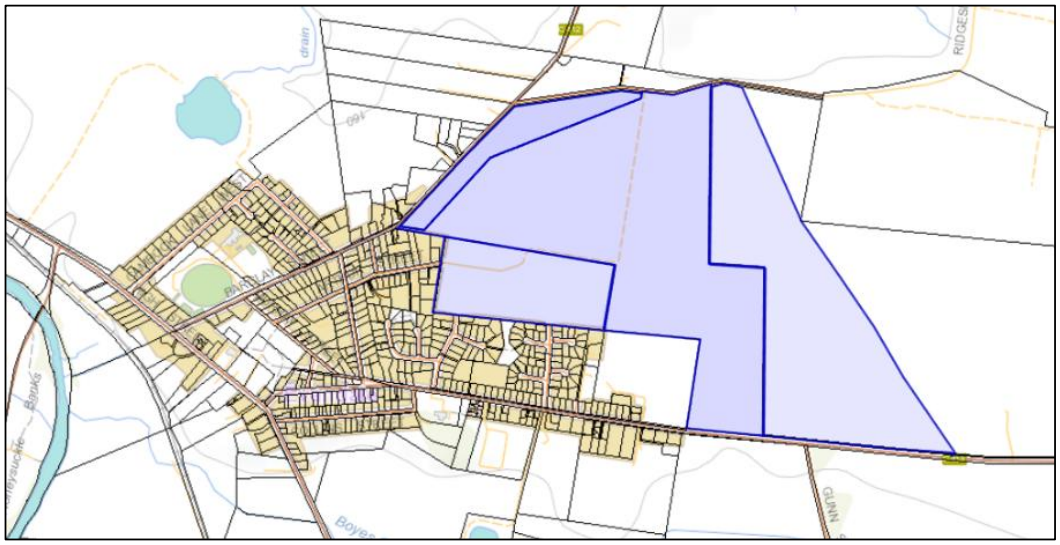


Figure 6: Site area proposed for rezoning. Location in the context of the Evandale township (source: the LISTmap, 2022)

Whilst the Expansion Plan includes standard density residential lots (to be zoned General Residential), it also includes significant 'lifestyle' lots to provide diversity in both housing and general liveability.

The initial approach was to apply the General Residential Zone to all residential lots, however further investigation was necessary to appropriately address the purpose and intent of the lifestyle lots, whilst balancing relevant strategic and statutory requirements.

The following outlines the various considerations and rationale for applying the proposed zones to the Expansion Plan.

2.2.1 RESIDENTIAL

The existing precinct masterplans within the Evandale SAP apply to areas zoned General Residential, with corresponding lot size and layout requirements generally consistent with the zone provisions, except were modified by the SAP. Currently, the SAP implements a permitted lot size of 600m2 which can be reduced by 15% under the performance criteria, equating to a minimum of 510m2.

Whilst several specific areas within the Expansion Plan will be zoned General Residential and support standard lots, a significant area will also support a range of 'lifestyle' lots.

These lots range between 1,200m2, up to a maximum of 1.7ha. Most are positioned along the northern and eastern extent of the Expansion Plan area and are designed to serve two primary purposes. The first being to provide lifestyle living options to meet market demand, and secondly, to provide a transition between General Residential land and adjoining Agricultural land on the outer perimeter of the township.

Application of the General Residential Zone to these lots would require additional and/or modified standards within the Evandale SAP, whereas the application of an alternate zone may be more suitable.

To determine the best approach to deliver these 'lifestyle' lots and ensure the purpose and broader character of the township is maintained, the following options were explored.

- Option 1: Apply the General Residential Zone to all residential lots, and:
    - Insert new or modified standards into the SAP, to restrict or prohibit subdivision on larger lots.
- Option 2: Apply the Low-Density Residential Zone to 'lifestyle' lots with areas at, or exceeding 1,500m2

  OR
- Option 3: Apply the Rural Living Zone to 'lifestyle' lots with areas at, or exceeding 1,500m2.

These options are outlined in further detail below.

Option 1 – General Residential Zone

A blanket application of the General Residential Zone to all residential lots would require additional standards to control subdivision and density, particularly for the proposed 'lifestyle' lots which have larger areas and greater subdivision potential. Such controls would only apply to those lots within the proposed Expansion Plan area. This would be consistent with the current SAP mechanisms, implementing provisions that are in substitution of, or in addition to the provisions within the underlying zone.

Most of the proposed 'lifestyle' lots are located along the periphery of the Expansion Plan area and are wholly or partially within 100m of the adjoining Agriculture Zone.

NOR-S5.8.2 Lot Design applies in substitution for Clause 8.6.1 in the General Residential Zone, specifying a permitted lot size of 600m2, with discretion to reduce this by a further 15% under the performance criteria. However, to ensure the 'lifestyle' lots along the periphery of the Expansion Plan are developed as intended, the following modifications to the acceptable solution / performance criteria were explored (shown in red):

NOR-S5.8.2 – Lot Design

Acceptable Solution A1

Each lot, or a lot proposed in a plan of subdivision, must:

(a) have an area of not less than 600m2 and:

(i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of:

a. all setbacks required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and

b. easements or other title restrictions that limit or restrict development; and

(ii) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; or

(b) be required for public use by the Crown, a council or a State authority; or

(c) be required for the provisions of Utilities; or

(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.

Acceptable Solution A1.1

Each lot, or a lot proposed in a plan of subdivision within the Precinct Masterplan shown in Figure NOR-S5.2.4, and wholly or partially within 100m of an Agriculture Zone, must:

(a) be required for public use by the Crown, a council or a State authority;

(c) be required for the provisions of Utilities; or

(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.

Performance Criteria P1

Each lot, or a lot proposed in a plan of subdivision must have sufficient useable area and dimensions suitable for its intended use, having regard to:

(a) the relevant requirements for development of buildings on the lots;

(b) the intended location of buildings on the lots;

(c) the topography of the site;

(d) the presence of any natural hazards;

(e) adequate provision of private open space;

(f) the pattern of development existing on established properties within the area; and

(g) must be no more than 15% smaller than the minimum applicable lot size required by clause NOR-S5.8.2 A1 (a).

Performance Criteria P1.1

For lots within the Precinct Masterplan shown in Figure NOR-S5.2.4, and wholly or partially within 100m of an Agriculture Zone, there is no performance criteria.

These variations would only apply to areas within the Expansion Plan, to restrict subdivision potential for 'lifestyle' lots along the periphery, ensuring further residential growth does not occur significantly beyond that identified in the Expansion Plan. Whilst this would control subdivision, clause *NOR-S5.7.1 – Residential density for multiple dwellings*, would allow for a proliferation of multiple dwellings.

As this does not align with the Expansion Plan intent, modifications such as those below would also be necessary to control dwelling density:

> ***NOR-S5.7.1 – Residential density for multiple dwellings***
>
> ***Acceptable Solution A1***
>
> *Multiple dwellings must have a site area per dwelling of not less than 400m2, except if:*
>
> *(a) within the Precinct Masterplan shown in Figure NOR-S5.2.4, and on a lot wholly or partially within 100m of an Agriculture Zone.*
>
> ***Performance Criteria P1***
>
> *Multiple dwellings must only have a site area per dwelling that is less than 400m2, if the development will not exceed the capacity of infrastructure services and:*
>
> *(a) is compatible with the density of existing development on established properties within the area; or*
>
> *(b) provides for a significant social or community benefit and is:*
>
> *(i) wholly or partly within 400m walking distance of a public transport stop; or*
>
> *(ii) wholly or partly within 400m walking distance of a Village Zone, Local Business Zone, or General Business Zone.*
>
> ***Performance Criteria P1.1***
>
> *For multiple dwellings within the Precinct Masterplan shown in Figure NOR-S5.2.4, and on a lot wholly or partially within 100m of an Agriculture Zone, there is no performance criteria.*

Without these provisions, the 'lifestyle' lots with areas exceeding 3,500m2 (for example) could support up to 5 x 600m2 lots, or 8 x multiple dwellings in compliance with permitted standards. If this were to occur across multiple 'lifestyle' lots, the overall dwelling potential would be well beyond what is envisaged by the Expansion Plan.

Whilst these provisions would ensure 'lifestyle' lots are developed in accordance with purpose and strategic intent of the proposal and that residential development occurs in a controlled manner, the suitability of the zone may be questioned.

Given the purpose of the 'lifestyle' lots, the following zones more appropriately align with the purpose and strategic intent of the Expansion Plan.

Option 2 - Low-Density Residential Zone

The intent and size of the 'lifestyle lots' is broadly consistent with the purpose and function of the LDR Zone, which specifies minimum permitted lot sizes of 1,500m2 which can only be reduced to 1,200m2 via discretion.

However, the application of the LDR Zone to any particular piece of land must be generally consistent with the zone application guidelines prepared by the Tasmanian Planning Commission, as outlined below:

> ***Zone Application Guidelines***
>
> ***LDRZ 1*** *- The Low Density Residential Zone should be applied to residential areas where one of the following conditions exist:*
>
> *(a) residential areas with large lots that cannot be developed to higher densities due to any of the following constraints:*

(i) lack of availability or capacity of reticulated infrastructure services, unless the constraint is intended to be resolved prior to development of the land; and

(ii) environmental constraints that limit development (e.g. land hazards, topography or slope); or

(b) small, residential settlements without the full range of infrastructure services, or constrained by the capacity of existing or planned infrastructure services; or

(c) existing low density residential areas characterised by a pattern of subdivision specifically planned to provide for such development, and where there is justification for a strategic intention not to support development at higher densities.

The considerations under (a) and (b) are most relevant. The guidelines appear to be drafted in a way that does not strictly prohibit the application of the LDR Zone to new residential areas, where higher density development is not envisaged or cannot be achieved.

With regard to (a)(i), the concept servicing plan accompanying this application outlines how water and sewer infrastructure will be staged and delivered. TasWater have advised that whilst there are some infrastructure capacity limitations within Evandale, several stages could be developed before upgrades to the existing sewer pump station may be required.

***LDRZ 2** - The Low Density Residential Zone may be applied to areas within a Low Density Residential Zone in an interim planning scheme or a section 29 planning scheme to lots that are smaller than the allowable minimum lot size for the zone, and are in existing residential areas or settlements that do not have reticulated infrastructure services.*

Not applicable.

***LDRZ 3** - The Low Density Residential Zone should not be applied for the purpose of protecting areas of important natural or landscape values.*

Not applicable.

***LDRZ 4** - The Low Density Residential Zone should not be applied to land that is targeted for greenfield development unless constraints (e.g. limitations on infrastructure, or environmental considerations) have been identified that impede the area being developed to higher densities.*

Applying the LDZ to the periphery areas within the Plan was explored and the following observations were made:

- Periphery lots within the Plan generally have areas of 1,500m2 or greater, which is consistent with the LDR permitted minimum lot size.
- The periphery lots are designed to provide market diversity (lifestyle lots) and serve as a transitionary area between Gen Res land and Agricultural land.

However, it is intended that land directly adjoining or within close proximity to these lots will be serviced by staged reticulated infrastructure, as capacity permits. As such, these lots may have potential to be serviced once developed.

Following a review of the Northern Midlands LPS process, it appears parts of the Cambock Lane Development Precinct (within the Evandale SAP) which are zoned General Residential, were earmarked for Low-Density Residential zoning within early iterations of the Draft LPS Supporting Report. The areas are shown below:

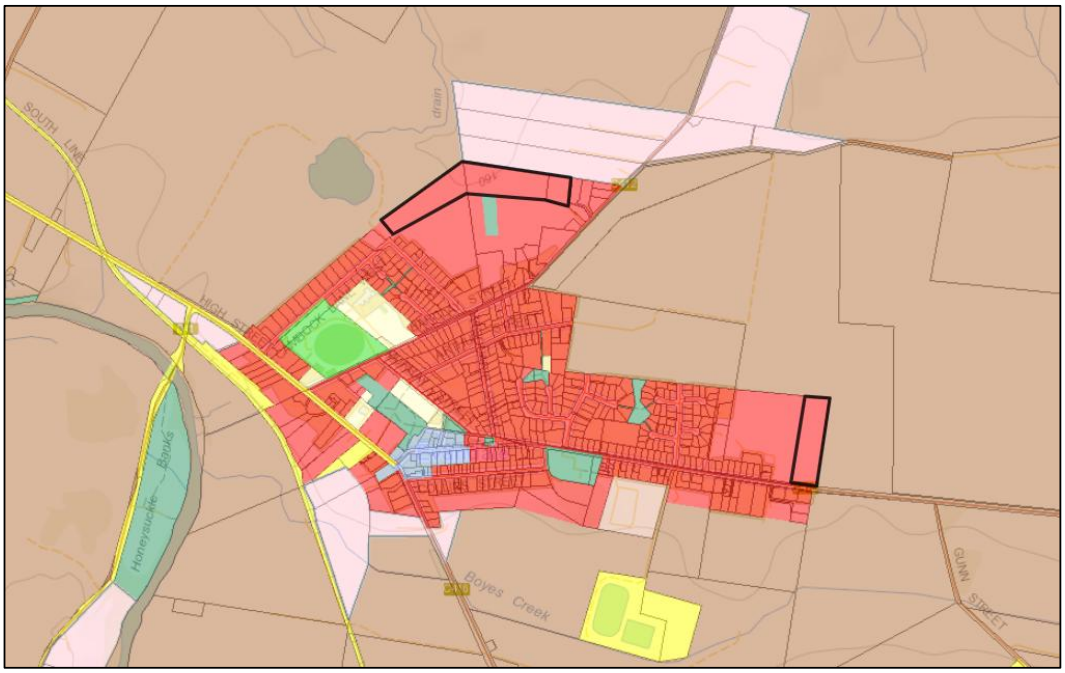


Figure 7: Approximate areas initially proposed for Low-Density Residential Zoning, under the Northern Midlands Draft LPS (source: www.thelist.tas.gov.au © State of Tasmania)

The TPC queried the application of the zone, raising consistency with the zone application guidelines (specifically LDZR 1) and with RSN-A1 and RSN-A2 outlined in the Northern Tasmania Regional Land Use Strategy. The need for the zone was also queried, given subdivision and dwelling density was to be controlled by the Evandale Specific Area Plan.

Ultimately, the General Residential zoning was retained. However, it is noted Cambock Lane constitutes the outermost, north-western section of the township and is adjoined by several Rural Living landholdings. These lots provide a buffer between the wider Agricultural land surrounding the township and the Cambock Lane Development Precinct.

Option 3 - Rural Living Zone

Whilst the General Residential Zone and existing SAP provisions seek to control subdivision and density, the application of the general residential zone to the proposed 'lifestyle' lots would allow for further growth well above what has been designed for within the proposed Expansion Plan.

To ensure the 'lifestyle' lots are utilised as intended and maintain the character of the township, the Rural Living zone has been considered. Within the Rural Living Zone, subdivision and permitted lot sizes are determined via a sub-category system, where land is assigned into one of the following areas:

- Area A: permitted lot size = 1ha.
- Area B: permitted lot size = 2ha.
- Area C: permitted lot size = 5ha.
- Area D: permitted lot size = 10ha.

Regardless of which area is assigned, the performance criteria in the zone limits the reduction of lot sizes to no more than 20%. Whilst most of the 'lifestyle' lots have areas at, or below 1ha, there are several along the periphery with areas up to 1.2ha and one lot with an area of 1.7ha in the south-western corner of the Expansion Plan.

Applying the Rural Living Zone (Area A) to all periphery lots abutting the northern and eastern boundaries of the Expansion Plan area would prohibit further subdivision, address the intent/purpose of the lots and avoid the need for additional provisions in the SAP. This would also prohibit the ability for the lots to be used for multiple dwelling / strata division. It is noted that adjoining rural living lots to the north-west are designated 'Area C'. Given all proposed rural living lots are at or below 1ha, applying 'Area C' would achieve the same outcome, whilst providing greater consistency lots to the north-west.

The proposal includes additional Gen Res land to cater for standard density lots. However, there is currently no buffer between Agricultural land to the north-east of the town and existing tracts of residential land. The 'lifestyle' lots along the periphery are designed to provide diversity in land packages whilst also servicing as a transition area to Agricultural land to the north-east.

The application of the Rural Living Zone is broadly consistent with the section 8A - zone application guidelines prepared by the TPC, noting the following key points:

- The 'lifestyle' lots will provide opportunities for lifestyle living and lower order rural activities (if desired), but the priority is for residential use and protection of residential amenity
- Applying the zone to the 'lifestyle' lots along the periphery of the proposed Expansion Plan would read as a logical extension to the existing area, creating a consistent zoning transition across the north and east of the township; and
- The 'lifestyle' lots are not located on land targeted for greenfield development, do not possess any significant natural/landscape values and are not located on prime agricultural land.

A detailed response demonstrating consistency with the NTRLUS is provided in section 7.1, along with a response to the zone application guidelines for the Rural Living Zone in Section 7.8.

Summary

Whilst Option 1 demonstrates that the General Residential Zone could be applied to the larger 'lifestyle' lots, the purpose of the zone does not directly align with the intent and purpose of the lots. The need to modify the zone standards under the SAP to accommodate the lots is also likely to raise queries as to the appropriateness of Option 1.

Whilst the use of the Low-Density Residential Zone would appear more appropriate given the intent and purpose of the 'lifestyle' lots, utilisation of the zone does not appear to align with the broader strategic planning policy under the NTRLUS. Given the above, applying the Rural Living Zone through Option 3 is preferred on the basis that:

- The zone purpose more appropriately aligns with the intent and purpose of the 'lifestyle' lots, catering for the various lot sizes whilst restricting subdivision and dwelling density.
- The lots to be zoned Rural Living will serve as an extension to an existing Rural Living area, whilst providing the desired transition between higher density Gen Res lots within the masterplan and existing township, and agricultural land to the east.
- This option avoids the need for modified SAP provisions and reduces the complexity of the amendment.

Generally, the NTRLUS indicates the provision of rural living areas should occur outside of urban growth areas. In the event the amendment is approved, an extension to the Urban Growth Area around Evandale would be required.

However, the extension could be restricted to only encompass the additional General Residential and Community Purpose areas within Expansion Plan and exclude the proposed Rural Living 'lifestyle' lots. This would be in-keeping with the broader strategic purpose of urban growth areas.

Given the above, Option 3 was chosen as the preferred approach.

2.2.2 Community Purpose / Future Urban

The Expansion Masterplan includes approximately 9.8ha of land earmarked for Community Purpose zoning, to provide opportunities for a future aged care/retirement village (and associated facilities) and a child-care centre.

Community Purpose Zone

The purpose of the zone is to provide for key community facilities and services including health, educational, government, cultural and social facilities.

The provision of aged-care/retirement living and childcare fall under the Residential use category, which is defined as:

> *use of land for self-contained or shared accommodation. Examples include a secondary residence, boarding house, communal residence, home-based business, home-based child care, residential care facility, residential college, respite centre, assisted housing, retirement village and single or multiple dwellings.*

Residential use in the Community Purpose Zone is restricted to the following:

> *If for:*
>
> *(a) a residential care facility, respite centre, retirement village or assisted housing; or*
>
> *(b) accommodation for staff or students of a use on the site.*

This aligns with the intended use of each community purpose area within the Expansion Plan.

Whilst aged-care/retirement living and childcare can be accommodated in the General Residential Zone, the allocation of a further 9.8ha of residential land for this purpose would likely require further controls to ensure the land is not then used for residential subdivision/dwelling density, not otherwise planned for within the Expansion Plan – as outlined in previously.

The zone also provides flexibility to enhance/value add to existing community related services/facilities within the township, catering for uses such as:

- Business and Professional Services (permitted and discretionary)
- Community Meeting and Entertainment (permitted)
- Educational and Occasional Care (permitted)
- Emergency Services (permitted)
- Hospital Services (permitted)
- Food Services (discretionary)
- General Retail and Hire (discretionary) – if for a market.
- Sports and Recreation (discretionary)

Whilst there is no intention to provide Hospital Services, Business and Professional Services or Emergency Services, no specific need to further restrict or prohibit these uses through the amendment have been identified.

Given the aged-care / retirement living and childcare component will not be developed until the final stage of the Expansion Plan, the Future Urban Zone was raised as a possible alternative if concerns were to arise regarding the volume of Community Purpose land proposed.

Future Urban Zone

The purpose of the zone is to support the planned rezoning of land for urban use and development, in sequence with the planned expansion of infrastructure, as indicated by the following TPC Zone Application Guideline:

> ***FUZ 4*** *- The Future Urban Zone may be applied to sites or areas that require further structure or master planning before its release for urban development.*

Whilst the Expansion Plan has been developed, the application is for a rezoning/planning scheme amendment only. If approved, separate planning permits will be required for each stage of the masterplan, at which point further specifics for each development component will be provided and assessed accordingly.

Given the above, the Community Purpose Zone is considered appropriate and further justification is provided in the response to the Zone Application Guidelines in section 7.8 of this report.

2.2.3 Local Business

A relatively small area within the southern Community Purpose lot is proposed for Local Business Zoning. The area constitutes approximately 2,800m2, and its purpose is to provide opportunities for local shops/services given the opportunities for further shops/services within the township is limited.

The limited area provided allows growth to occur without compromising existing businesses/services or drawing activity away from the establish business area within the township.

Feedback from Council has indicated general support, noting that the extent of heritage listings and associated planning controls within the township limit potential for new retail and commercial services. The introduction of the zone in the context of the expansion is logical and necessary to ensure adequate servicing of the area, whilst avoiding potential impacts on the heritage precinct.

Further consideration and justification for the zone is provided in section 7.8 of this Report.

2.2.4 Open Space Zone

Approximately 6.25ha of open space is proposed within the Expansion Plan, providing significant green corridors and parks to provide a high level of amenity, promote active transport/walkability and improve natural values and biodiversity across the site.

This intent is consistent with the purpose of the Open Space Zone, which is to provide land for passive recreation and natural or landscape amenity and allow for use/development that supports these activities and outcomes.

2.3 URBAN GROWTH AREA

As outlined in section 7 of this report, the area subject to this application currently extends outside the urban growth area for Evandale.

If the application is approved, an amendment to the Northern Tasmania Regional Land Use Strategy will be required to reflect the above.

3. COMMUNITY CONSULTATION

To inform the development of the Expansion Plan and planning scheme amendment request, several community consultation sessions were undertaken and are outlined below.

3.1 INITIAL CONSULTATION (2018)

In 2018, Traders in Purple undertook a detailed community consultation program with the Evandale community. This voluntary engagement enabled initial site planning to incorporate the views of the community, in which 285 members of the community participated.

The consultation process included:

- Face-to-face interviews with key stakeholders and local groups, including Northern Midlands Council, the Evandale District Committee and relevant State Government agencies.
    - Feedback was received from over 80 people.
- Four (4) co-design workshops, to identify community views on what they would like to see included or not included in any future development; and
- Specific briefings to relevant stakeholders and the community.
    - Approximately 110 people participated in the four workshops.
- An additional feedback phase, including three (3) workshops where the draft plan was presented, and additional comments sought.
    - Approximately 70 people attended these workshops.

The responses provided an understanding of a range of issues, which then guided the development and further refinement of the expansion plan. Some of the key issues raised are outlined below.

Interviews: Summary of key issues raised

Prior to the first round of community co-designing workshops, interviews were held with a number of regional stakeholders, community organisations and individuals and contact was made with over 80 people. A record of the interviews and key issues raised is in Attachment 1 to this report. A summary of the key issues raised during the interviews and conversations is set out below.

Evandale's character

Many people moved to Evandale for its heritage, beauty and quietness and there is a fear that this may be compromised. The concern is that any proposed development would end up bigger than the Village and therefore the Village would be lost.

Evandale is a heritage village, which attracts visitors. There was concern that an increase in population associated with any proposed development would detract from the heritage character of the town; that any development may prove inappropriate; that Evandale remain a 'walking Village', as opposed to a 'driving Village'.

It was also suggested that perimeter areas of the development back onto activities, which would improve liveability.

Response

The proposed extension of the Evandale Specific Area Plan will ensure that the future development is undertaken in a manner that respects and responds to the identified character of the township.

The amendment will facilitate the future development of the Expansion Plan, which has been developed over several years in consultation with the community. Therefore, if the proposed expansion of the SAP is not supported by Council/Tasmanian Planning Commission, it is expected that future development will remain broadly consistent with and complement the character of the township.

Roads

Beyond the airport, the road leading to Evandale deteriorates in standard and is not considered adequate by Evandale residents. Any increase in traffic due to population growth in the Evandale District has the potential to exacerbate the situation.

The Northern Midlands Business Association has also been lobbying for the upgrade of roads in the area to reduce travel time from 'paddock to port'.

Traffic in Evandale Village

The concern with any proposed development is using the Village as an entrance and the associated traffic that would be generated.

There was concern over access to the proposed development site. It was considered that Russell Street would not be able to take any extra traffic as the volume of cars, trucks and people competing for space already challenges it. This is highlighted each Sunday when the market operates.

Utilities: water, power and sewer

The provision of utilities to service extra population is a key concern as there is limited capacity in the existing Evandale Village services. Aiming to be 'off the grid' was well-received.

Response

The road network has been designed to provide multiple entry/exit points across the site. The *plan* provides approximately ten (10) access points, providing connectivity with existing residential areas and surrounding roads, including:

- Russell Street
- Logan Road
- Stockmans Road
- Coachmans Road
- Arthur Street; and
- White Hills Road

The Expansion Plan initially included a possible future by-pass along the eastern edge of the site, connecting Logan Road with Ridgeside Lane. The purpose was to address existing concerns regarding unnecessary truck/vehicle movements through the township.

However, the accompanying Traffic Impact Assessment indicates the by-pass is not necessary to accommodate the anticipated post-development traffic increases generated by the Expansion Plan. Any such by-pass would require further consultation with adjoining landowners and Council.

Notwithstanding, opportunities for the by-pass remain possible and can be investigated further where necessary, as part of subsequent planning approvals for each stage of the Expansion Plan.

With respect to utilities, the application is accompanied by conceptual servicing plans and reports that outlined future water, sewer and stormwater connections/infrastructure. This includes provision for water sensitive urban design.

Agricultural land
A view was expressed that agricultural land should be used to grow food not houses.

Jobs and apprenticeships
The area needs local jobs and apprenticeships especially for young people and if this could be incorporated into any proposed development it would be positively received.

Population
Evandale has an ageing population and is predominately a retirement village. This potentially threatens the long-term sustainability of the school, services and commercial activities. There is a regional strategy to increase population through immigration to address the issue of a diminishing working-age population.

Response

The proposal is accompanied by a detailed agricultural land assessment, which supports the proposed rezoning of the land to a mixture of General Residential, Local Business, Open Space and Community Purpose.

The majority of community consultation was undertaken in 2018. At that time, an Economic Impact Assessment was undertaken by MCa which informed the earlier development of the expansion plan.

Since that time, new ABS Census data (2021) has been released indicating strong older cohort population growth in Evandale. This is addressed in further detail in the accompanying Supply & Demand, and Cost-benefit analysis prepared by SGS Economics & Planning.

A further response to population growth and job opportunities is provided in section 5 of this report.

Housing and livability
Housing development should take an integrated approach with a variety of options, including affordable housing. Housing affordability is an issue.
The development should be 'pitched' at telecommuters where people live and work from an area of high lifestyle and livability.

Healthy lifestyle
Any new development should incorporate green open spaces, tracks and trails, provision for active transport, community gardens for fresh food and sport and recreation facilities. The Evandale Football Club has successfully moved into female football and is presently outgrowing its present facilities.
Revegetation of the area was also seen as part of a healthy lifestyle with the connection made between a healthy environment and human health outcomes.

Response

The expansion plan includes consideration for affordable housing, which can be provided as part of the range of residential land use/dwelling types.

The plan also includes substantial areas of public open space, including approximately 6ha located to the north of 38 Arthur Street. This location provides views over the township and will include

green open space, tracks/trails and recreation facilities, promoting healthy lifestyles and walkability.

Tourism

The projected demand for visitor accommodation in the Region over the next 10 years is 500 rooms and after factoring in proposed Launceston developments there is still opportunity for 200 rooms.

Agri-tourism is a focus for the area, the aim being to create immersive experiences around produce, producers and value adding.

Evandale Village viability

Commercial viability is challenging particularly during the winter months. Additional service and retail outlets have often failed e.g. service stations and butchers shop. At one stage the local supermarket closed. There was concern that Village commercial activity would be replicated in any new development and increase competition in an already challenging commercial environment.

The viability of the school and having enough students to ensure its future is also a concern to many people. A social enterprise, perhaps working with a not-for-profit, might provide good outcomes for all.

Response

Community feedback suggested including opportunities for GPs and dentists, along with artist studios/exhibition space and community facilities (golf course, sports oval, swimming pool, men's shed etc).

The proposed Local Business area may cater for some of these services (GP/Dentist), although a significant portion of the Community Purpose land is earmarked for potential aged care / child care which may include associated medical facilities/services. The Community Purpose zoning also has potential to cater for recreation/community facilities. The anticipated residential growth is likely to include young families (given the proximity of the township to Launceston) which would assist to increase student numbers and retain the viability of the local school.

A detailed outline of the community consultation process, feedback and responses is provided in Appendix B.

3.2 FURTHER CONSULTATION (2023)

Traders In Purple undertook further consultation in 2023, in which approximately 80 people attended across two days.

A summary of the key items raised and general responses is outlined below.

1. *Increased traffic was a major point of contention. However, representatives from TIP provided clarification that there will be at least 3 traffic access points (Ridgeside Lane, Logan Road and Barclay Street, plus potential at Arthur Street and 3x existing streets off Logan Road into land owned by others). It was noted that this clarification did serve to alleviate traffic concerns raised.*

2. *Issues of speed and congestion/blockages on Logan Road, Russell Street, Barclay Street (a Council/State Growth issue though sentiment was that further development will contribute to these issues.*

3. People were largely happy with the reduction in overall size of the scheme, from the previous proposal in 2019, with some respondents wanting a separate satellite town scenario at the eastern end of the previous proposal.

4. Concerns of a cookie cutter effect, as recent subdivisions nearby (Longford & Perth) are a sea of black rooves, little character, little landscaping.

These concerns were alleviated once it was advised that similar design standards set out in the Evandale Specific Area Plan would be adopted.

5. There was acknowledgement that the town needs larger/diversity in population to sustain/reinstate services, school, bakery, doctor etc.

In addition to the benefits to the local school, the proposal includes land set aside for Local Business and Community Purpose functions, to facilitate additional business opportunities to increase access to local goods/services but in a limited fashion to mitigate impacts on the activity centre hierarchy.

6. Interest in block sizes and layout, happy with larger lots abutting rural land.

7. Interest from potential purchasers (downsizers, young family), somewhere smaller to retire to but not aged care.

8. Interest from residents who may benefit from the development (may add value to their land, potential to subdivide their own lots with additional access due to proposed roads).

9. Interest in aged care.

10. Concern over services, apparent issues with water pressure and sewer capacity.

11. Many people pro development 'as long as it's done in the right way'.

12. Some people did not want change. 'Why here, why not Perth/Longford', though would like a doctor in town.

The proposed extension of the Evandale Specific Area Plan, to encompass/embed the expansion plan, will provide greater certainty and assurances that development will be controlled and undertaken in a manner that is consistent with and respects the existing character of the township.

4. LANDSCAPE AND URBAN CONTEXT

Every building, precinct and city is part of a broader landscape. The landforms of which they are a part pre-date human settlement. Buildings are usually the focus of attention when considering the character of a city or a city region. However, it is equally important to consider how settlement inevitably develops in response to the form and character of the landscaped setting.

For this report, it is therefore crucial to assess the urban character of Evandale to determine how best to achieve growth without change.

4.1 STUDY AREA & HISTORY

Evandale is situated on the South Esk River approximately 20 km south of Launceston and 5 km from the Midland highway and Launceston Airport. The township was initially established as a military post in 1816 and was declared a municipality in 1865 and has become an important pastoral and agricultural marketing centre.

Today, Evandale has become a popular tourist destination with its rich and well-preserved heritage and popular annual events.

Whilst the study area predominantly consists of the township extent, consideration is also given to the broader landscape context within a 3km radius. Both the town itself and its broader rural context require consideration to provide a holistic assessment of Evandale.

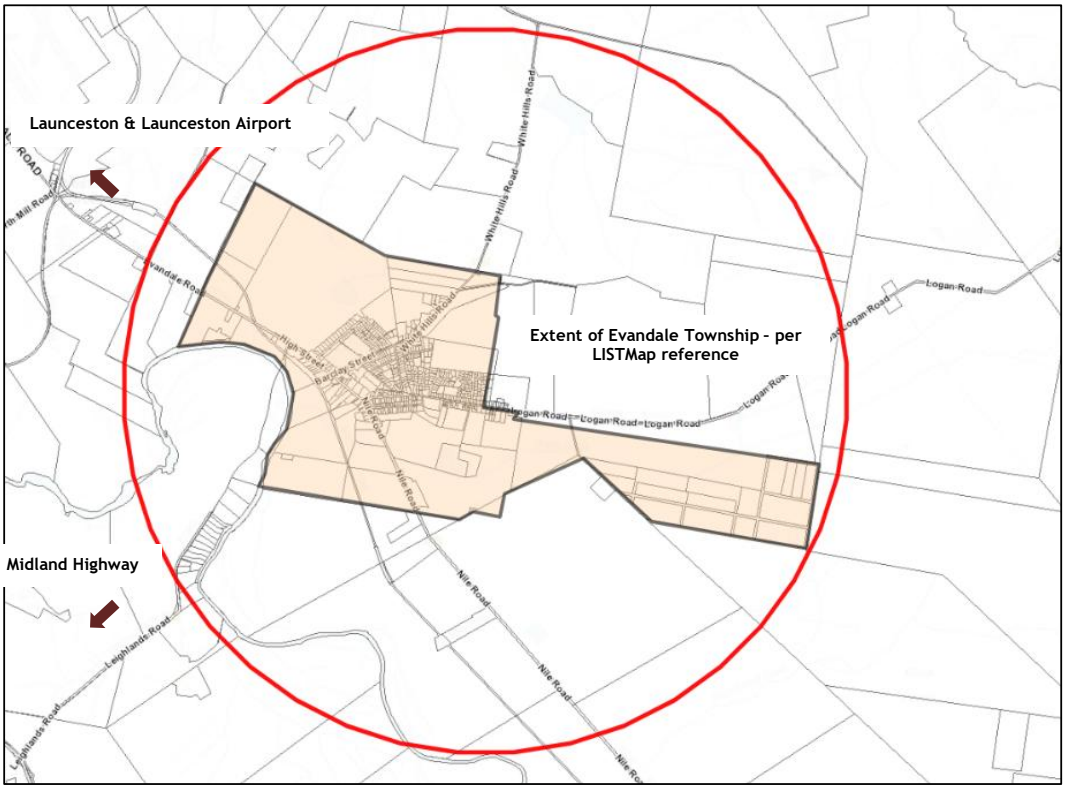


Figure 8: Extent of the study area for analysis (source: the LISTmap, 2022)

The shaded portion above represents the primary area for consideration concerning urban character. The remaining area highlights the broader landscape context for consideration.

4.2 LANDSCAPE CONTEXT

4.2.1 TOPOGRAPHY

The following figure illustrates the topography of the subject land and surrounds:

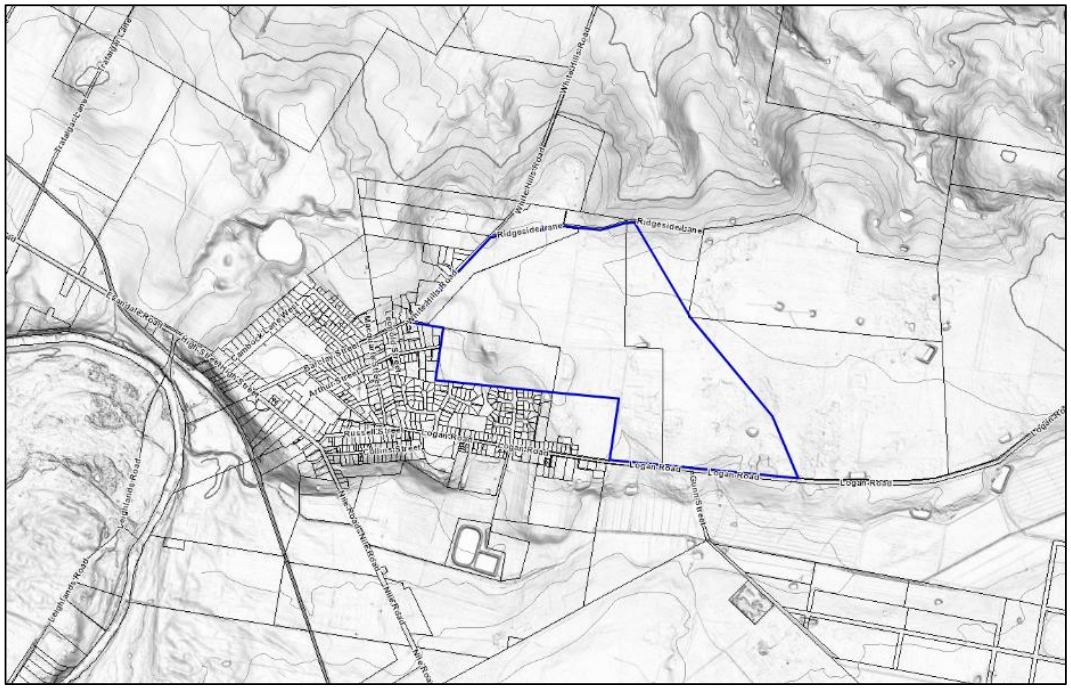


Figure 9: Indicative topography with Hillshade grey, 5m contours, road names and cadastral parcels from www.thelist.tas.gov.au © the State of Tasmania

The Northern Midlands region is broadly characterised by extensive lowland plains and a rounded topography that ranges from gently sloping to steep.

The site and surrounding area are heavily influenced by the surrounding topography. Further north of the town are a series of prominent hills and tiers, with the Ben Lomond Plateau to the east.

Evandale itself is located in the North Esk River catchment area. The town is drained by several rivers including the South Esk River, which flows through the southern part of the town. The South Esk river flows through a broad open valley system with a wide flood plain.

The town of Evandale has a gentle slope that gradually rises from east to west. The subject land and surrounding areas are generally flat, except to the north over Logan Road, where the land rises gently at approximately 1:10, and where it slopes down slightly to the south to Boyes Creek.

4.2.2 VIEWS AND VISTAS

Here, the relatively flat topography of the township and immediate surrounds impacts the views and vistas of the land, where the main roads into and out of Evandale provide the primary experience of the broader landscape.

The agricultural setting is primarily experienced to the northwest and southwest of the town, as explicated below.

There are expansive landscape views when looking north from High Street, where there is a gradual decrease in incline to surrounding agriculture.



Figure 10: View of High Street looking north (source: google street view, 2023)

Not dissimilarly, the rural setting similarly experienced when looking southbound from Nile Road due to the slight topographic decline along the southwestern edge of the township.



Figure 11: View of Nile Road looking south (source: Google Street View, 2023)

Russell Street is the primary road through the township and is maturely treelined and surrounded by urban development. The broader rural vista is largely reduced when looking west due to the rising crest at the intersection with Logan Road. Instead of the immediate agricultural land providing the primary landscape views in this direction, it is the Ben Lomond plateau in the mid-distance that provides the primary view-scape.



Figure 12: Russell Street looking west (source: google streetview, 2023)



Figure 13: Logan Road looking west (source: Google Street Vview, 2023)

Barclay Street when looking north climbs a long and protracted ridge where, until its intersection with White Hills Road, little rural landscape values are experienced.



Figure 14: View from Barclay Street looking North (source: Google Street View, 2023)

At present, the landform within and around the town enhances the management of these transitions. The central precinct is somewhat elevated compared to the immediate surrounds (including the site in question), occupying a relatively level and self-contained zone, and for the most part provides little prospect over the surrounding countryside or even of the more modern developments already established adjacent to the heritage precinct.

4.3 EXISTING URBAN CONTEXT

4.3.1 URBAN GRAIN

Urban grain refers to the pattern of lots in an urban space, including the balance of open space to built form. Evandale is predominantly centred around one main street – Russell Street – which is located along the southern edge of the township. This street defines the commercial and social centre of the town both historically and in the present day. Here, the urban form comprises a predominantly irregular grid pattern of medium-sized square and rectangular blocks. This rectilinear grid pattern is mostly evidenced around the established historic centre along Russell Street.

From this street, much of the residential development has grown outward towards the north. As a result, the newer developments in the township are defined by curvilinear grid patterns in the form of loops and cul-de-sacs.

The urban grain of the township of Evandale is fine grain, with the finer grain occurring towards the city centre where the greatest intensity of movement occurs. The town comprises development that is primarily situated on smaller blocks of land. Outside the spatial boundary of the township, the urban grain becomes immediately coarse at the agricultural interface, with no natural transition between this fine and coarse urban grain.



Figure 15: Relatively fine urban grain of Evandale, building footprints (source: the List map, 2023)

4.3.2 EUROPEAN HERITAGE VALUES

Evandale today is a National Trust classified Georgian village, with numerous properties listed at a local level (heritage place under the *Tasmanian Planning Scheme - Northern Midlands*), at a State level (the Tasmanian State Register) and at a National level (Australian Heritage Database). Evandale is characterised by several heritage buildings and structures which are primarily located along the main collector streets of the town. The extent of these state-listed and local heritage places are demonstrated in the below figure.

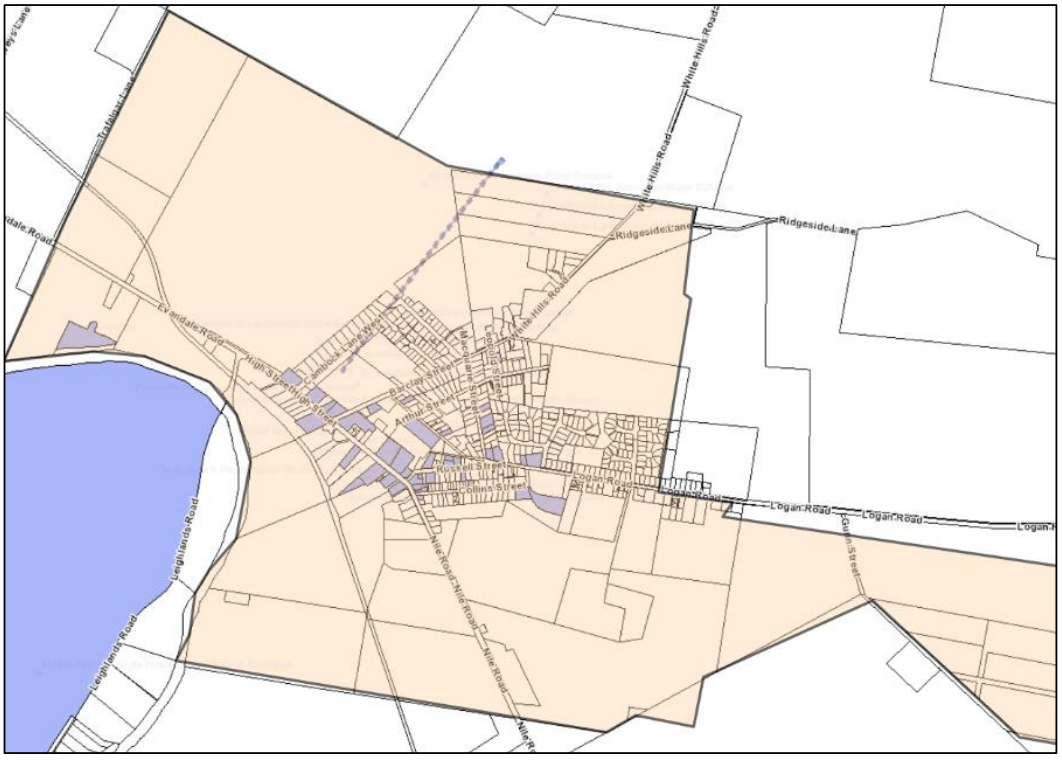


Figure 16: Blue parcels indicating heritage places listed on the Tasmanian Heritage Register (source: the LISTmap, 2022)

The majority of the heritage-listed buildings were historically used for community and/or commercial purposes. Today, the properties provide a mix of businesses used to meet local and tourist needs.

These commercial buildings represent a range of built forms and are perceived as robust due to their structure and materiality. The buildings are generally between one and two storeys. Typically (excluding the historic churches) the buildings are built to the boundary and take up the width of the frontage. The facades are brick or rendered façade painted in muted matte colours. Most of the roofing is peaked or hipped and constructed with corrugated ironing. Almost all of the buildings are designed with classic Georgian proportions.

Some notable heritage properties listed on the Tasmanian Heritage Register include:

- St Andrews Church (THR 5018). Built in 1872, the church is constructed of bricks and stone with a shingled roof leading to an early twentieth-century Italianate-style spire.
- The Uniting Church (THR 5019). Built in 1839 with a classical bell tower and Doric columns, this building is an example of Palladian architecture where buildings were placed in grand landscaped settings.

- Blenheim Inn (THR 5013). Built-in 1832, this brick building demonstrates regularity, symmetry, gridded windows and a fine façade typical of the Georgian style.
- The former Royal Oak and adjoining stables (THR 5048). Built in 1840, this listing is defined by the Georgian style constructed with red brick and a corrugated iron roof. The building is today used as a local antiquities shop.
- The Clarendon Arms Hotel (THR 5044). Built in 1847, this building is typical of a Georgian-styled corner lot hotel.
- Solomon House (THR 5012). Built in 1836, the property is typical of a general store of its era with a pedestrian awning and hanging signs. The building is characterised as Georgian by its outstanding proportion and balance between façade and fenestration elements.



Figure 17:Heritage buildings listed on the Tasmanian Heritage Register (source: the LISTmap, 2022, Googlemaps, 2022)

The Georgian style brought a vocabulary of classic architecture to smaller and more modest buildings, including middle-class residential homes. As a result, there are several residential heritage places, a selection of which are demonstrated below.

These residences comprise relatively understated cottages. The majority of these places consist of single-storey freestanding buildings from the 19th century. These dwellings are generally constructed of either an exposed brick, rendered or weatherboard façade. These residential properties have a setback range between 0 and 5m. The frontage of some of these properties is softened by detailing the façade and landscaping between the building and the frontage. A common feature of many of the properties is a veranda along the front of the building. These features are all indicators of the historic precinct to which they belong. Particularly down the centre of town, the heritage fabric provides intermittent intimacy to the pedestrian space along the streets.


Arthur Street
Barclay Street
Macquarie Street
Cottage
Roman Catholic Church
House
Cemetery
St Andrew's Anglican Church
Former Anglican Rectory
Shop
Russell Street
Rodgers Lane
Former Methodist Chapel
Collins Street
Briars Lane
Logan Road
Cottage
Anjou Villa
Fallgrove
Fallgrove Fallgrove
Cottage
Cottage
Cottage
House
House
Cottage
Cottage
Cottage

Part of the historic importance of this township is attributed to its rich agricultural setting. As stated previously, due to topographical conditions, the agricultural setting when viewed from Evandale is predominantly experienced to the northwest and the southwest of the town. The historic precinct and centre of the town (notably along Russell Street) do not immediately experience or view this agricultural setting until it later becomes Logan Road (well beyond Stockmans Road).

Heritage is an important component of Evandale's overall streetscape, with the township characterized by narrow streets and roads, some gravel paths, a mix of lot sizes, mature vegetation, traditional fence types and dwelling construction of a modest scale. These factors in tandem reinforce the feeling of a 'small rural' town. The majority of these heritage values are located to the north and the west of the township.

However, it is crucial to note that this heritage character does not define the township in its entirety. Some of the more recent subdivisions along and off Logan Road and Cambock Lane have not adhered to the above characteristics, resulting in a more modern suburban environment with a prominence of concrete kerbs and paths, minimal fences, homogenous block size and building stock and no mature vegetation.

4.3.3 Function & Land Use

In response to the landform, road layout, topography, development period, subdivision pattern, and infrastructure, the township can be divided into three distinct yet interrelated areas. These areas are delineated in the below figure.



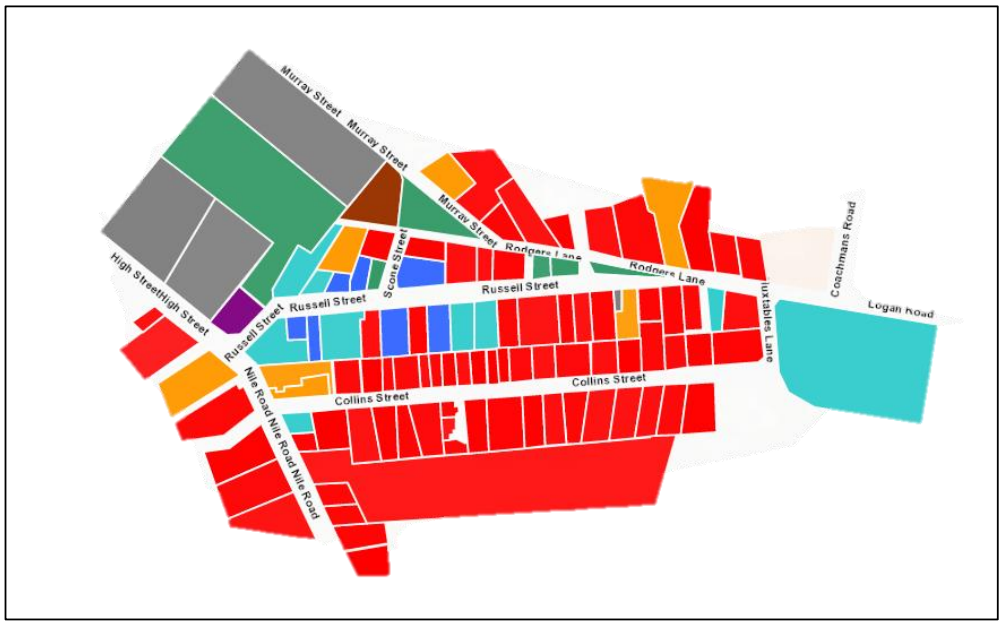
Figure 19: Delineated 'precincts' for the purpose of function analysis (Source: the LISTmap, 2023)

AREA 1 – TOWN CENTRE

This area comprises the predominantly commercial portion of the town, including High Street and Russell Street (eventually becoming Logan Road on the outskirts of the town). These streets are the primary commercial streets and represent the historical heart of the town.

Both Russell and High Street comprise a mix of general retail and hire, commercial businesses, and food services. The shops, whilst generally comprising a modest building footprint, are typically sited on slightly larger blocks of land. Commercial activities in this area include shops primarily geared towards tourists, including the Lake Leather Evandale, Evandale Antiques, several galleries and the Evandale Village Store.

There are few food retail stores, including the General Store and market. Food services include several cafes, pubs and restaurants. Given the town's relative proximity to Perth and Launceston, it is likely most services (doctors, vets, retirement villages, childcare, etc) and general shopping ventures for locals are sourced from these external hubs.



Key

Land Use	Corresponding Colour
Business and professional services	
Food services	
Community and infrastructure	
Public open space	
General retail and hire	
Residential	
Visitor/food	
Emergency services	

Figure 20: Review of existing land use (source: Ireneinc)

Notwithstanding the above, the existing Local Business land within the township comprises approximately 2.8ha and the extent of convenience goods, services and food options appears limited, with key businesses including:

- The Evandale Village Store
- Evandale Hair & Beauty
- Evandale General Store
- Spark Property
- Lake Leather
- Ingleside Café/Bakery
- The Village Store
- The Clarendon Arms; and
- Prince of Wales Hotel

The town center also supports residential use, along with twelve (12) individually listed heritage places and the entire area is subject to the Evandale Heritage Precinct, as illustrated below:

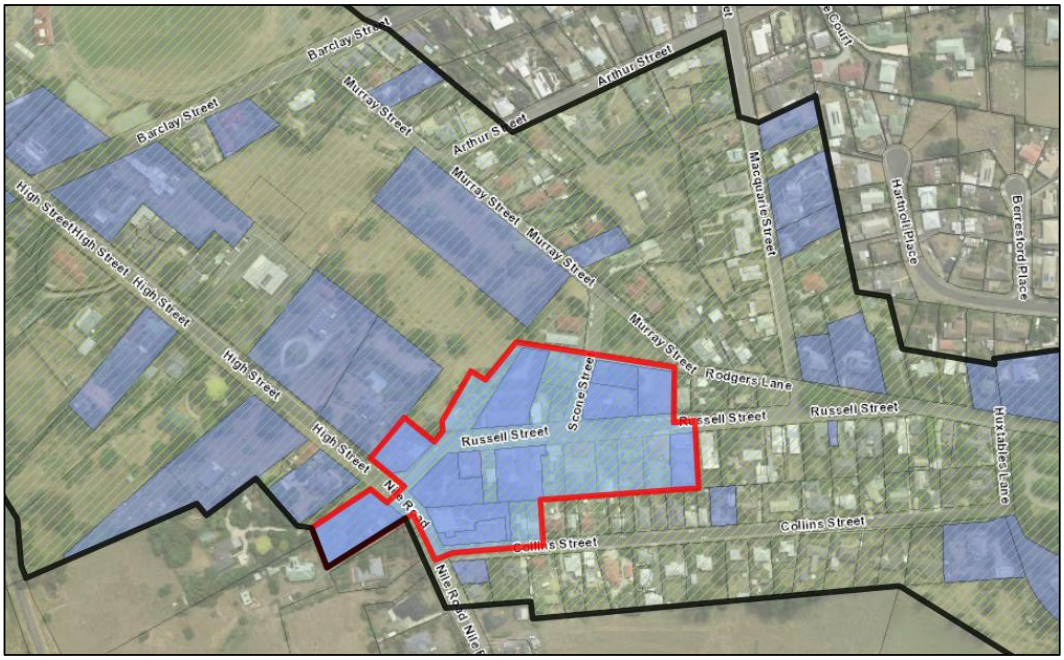


Figure 21: Extent of existing Local Business land within the township (outline in red) - darker blue areas indicate state heritage listed properties. Black outline denotes extent of the heritage precinct (source: www.thelist.tas.gov.au © State of Tasmania)

These factors somewhat constrain the provision of new businesses in this area to support the future growth of the township.

The Town Centre does include public open space which provides tree canopy and contributes to the overall rural feel of the town. There are also examples of community infrastructure such as churches that pay homage to the architectural and historical timeline of the township. These parklands and meeting spaces in the center of town reflect the importance of community gathering spaces that are highly valued by residents.

There are several different visitor accommodations provided within the town center, including hotels such as the Prince of Wales Hotel, and more boutique options such as The Stables Accommodations. There are also pockets of residential housing interspersed along this primary commercial 'strip'.

AREA 2 - RESIDENTIAL

Area 2 comprises predominantly residential subdivisions surrounding the historic center. These residential areas are predominantly comprised of more modern/recent subdivisions. There are some public facilities in this precinct, including the Morven Park sports field adjoining the Evandale Primary School, and other small pocket parks.

AREA 3 - RURAL

Beyond the residential extent of the town, the remainder of the land around Evandale is rural and agricultural. These comprise a variety of uses including orchards, pastoral land for grazing beef and lamb, crops including potatoes, and even honey.

4.3.4 Built Form: Height, Scale And Massing

There is a strong relationship between use and built form within the precinct. These factors in tandem contribute to a sense of streetscape or local character. Streetscape is defined by the scheme as:

> *means the visual quality of a street depicted by road width, street planting, characteristics and features, public utilities constructed within the road reserve, the setback of buildings and structures from the property boundaries, the quality, scale, bulk and design of buildings and structures fronting the road reserve. For the purposes of determining streetscape for a particular site, the above matters are relevant when viewed from either side of the same street within 100m of each side boundary of the site, unless for a local heritage precinct or local historic landscape precinct listed in the relevant Local Provisions Schedule, where the extent of the streetscape may be determined by the relevant precinct provisions. (TPS, 2023).*

The elements described in the above statement are considered with regard to the three precincts of Evandale as discussed in the previous section.

4.4 LAND CAPABILITY

The land is currently used for agricultural purposes, including pastoral activity such as beef and sheep grazing, with irrigated broadacre cropping activities. Nonetheless, the site has a land classification of class 4. The classification of the site identifies the site as having relatively poor capability, where the land is well suited to grazing but is limited to occasional cropping or a very restricted range of crops. Severe limitations restrict the length of the cropping phase and/or severely restrict the range of crops that could be grown.

The land is further constrained due to its overall proximity to existing residential areas, with no existing buffer between agricultural and residential uses. The requirements of the scheme therefore limit agricultural potential to reduce conflicts between uses along the western interface of the site.

The accompanying Agricultural Assessment prepared by Pinion Advisory indicates the key constraints to agricultural use are:

- Erosion (e) associated with the risk rill and sheet erosion caused by surface water movement on bare and exposed soil and potential for degraded soil structural due to

pugging from livestock movement on waterlogged soils and/or inappropriate and excessive ground cultivation activities.

- Soils (s) associated with challenging growing conditions for pasture and/or crops due to limitations such as presence of stones and/or rock fragments and impaired drainage leading to soil waterlogging.



Figure 22: Land capability across the site (class 4 demonstrated in green) (source: the LIST map, 2023)

Council have requested further information in relation to the Agricultural Assessment, which is currently being prepared and will be provided shortly.

4.5 ABORIGINAL LAND

An Aboriginal Heritage property search for the site identifies no registered Aboriginal heritage sites. The Aboriginal Heritage Search Record as well as the Unanticipated Discovery Plan are attached as part of this proposal. In addition, CHMA have conducted a site survey and concluded that;

> *No Aboriginal heritage sites or suspected Aboriginal cultural features were identified during the field survey inspection of the proposed Evandale Expansion Masterplan Project footprint. As noted previously, a search of the AHR shows that there are no other registered Aboriginal sites within or in the immediate vicinity of the Evandale Rezoning Project footprint.*
>
> *The findings of this assessment have therefore confirmed that there are no known Aboriginal heritage sites present within the study area footprint. The field survey was also able to confirm that there are no stone resources identified within the study area that would be suitable for stone artefact manufacturing. Nor are there any sizeable rock*

outcrops occurring within the study area, and therefore there is no potential for Aboriginal rock shelters to be present.

Notwithstanding, if any artifacts are uncovered during subsequent development, an unanticipated discovery plan must be prepared and all work to cease until the plan and on-site investigations have been completed.

4.6 NATURAL VALUES

4.6.1 FLORA

The vegetation in Evandale is mainly comprised of open pastures and scattered trees. The subject land is predominantly mapped by TASVEG as Modified Agricultural land (FAG). The western portion of the site that adjoins the township of Evandale is mapped as modified Urban Land (FUR).

There is a portion of the site that is mapped as native grassland (GCL lowland grassland complex). However, the site has been used for rural pasture for many years. Pasture, weed species and heavy grazing have all contributed to the apparent loss of any remnant native grasses and herbs.

In a heavily modified landscape for agriculture, the nearest native vegetation community to the subject land are small patches of native grassland (GCL) north of the site. As discussed in the accompanying Natural Values Assessment, these values are in poor health, or non-existent given the heavy pastoral use. Notwithstanding, the report recommends that an ecological plan be developed, to include rehabilitation/restoration of identified areas with selected plant species to provide/improve conservation values across the site.

This could be integrated with open spaces and recreational areas.

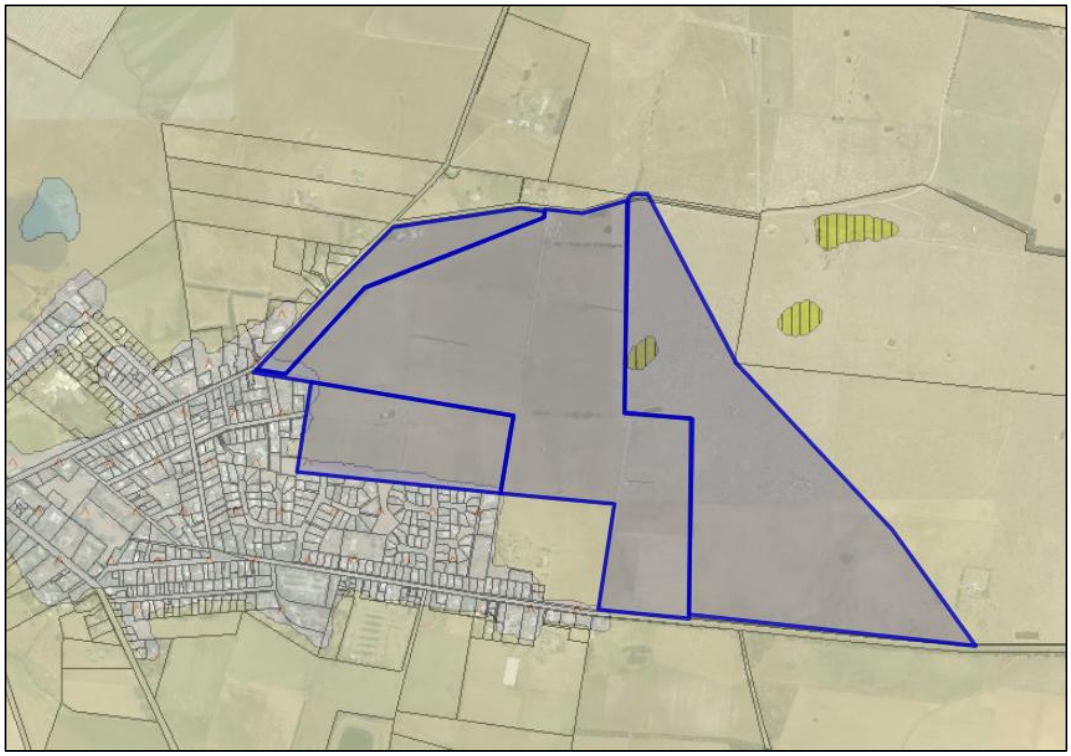


Figure 23: Tasveg4.0 mapping with modified urban land (FUR) (white), modified agricultural land (FAG) (yellow) and Native grassland complex (GCL) (hatched green lines) (source: the LIST map, 2023).

The priority vegetation overlay supports the information provided above, with no threatened flora communities identified on site.

4.6.2 FAUNA

The ecological report considers and outlines the presence of native fauna, recommending that development should provide connectivity and areas of refuge and movement for fauna and provision/retention of habitat where possible.

The report notes that because of the revised boundaries of the development, most areas previously noted in the 2019 survey where there was greater evidence of native animal activity (areas of refuge, such as the windbreaks on the northern and eastern boundaries), have been removed from the development envelope. As such, several species previously identified were not observed during the revised 2022 survey.

However, there are several existing dams located across the site and whilst earlier versions of the masterplan sought removal of these dams, the accompanying ecological assessment identified the dam may contain potential habitat and possible presence of the Green and Gold Frog, which is listed as an endangered species and is known to inhabit the broader area. The location of the dam relative to the site boundaries is shown below.

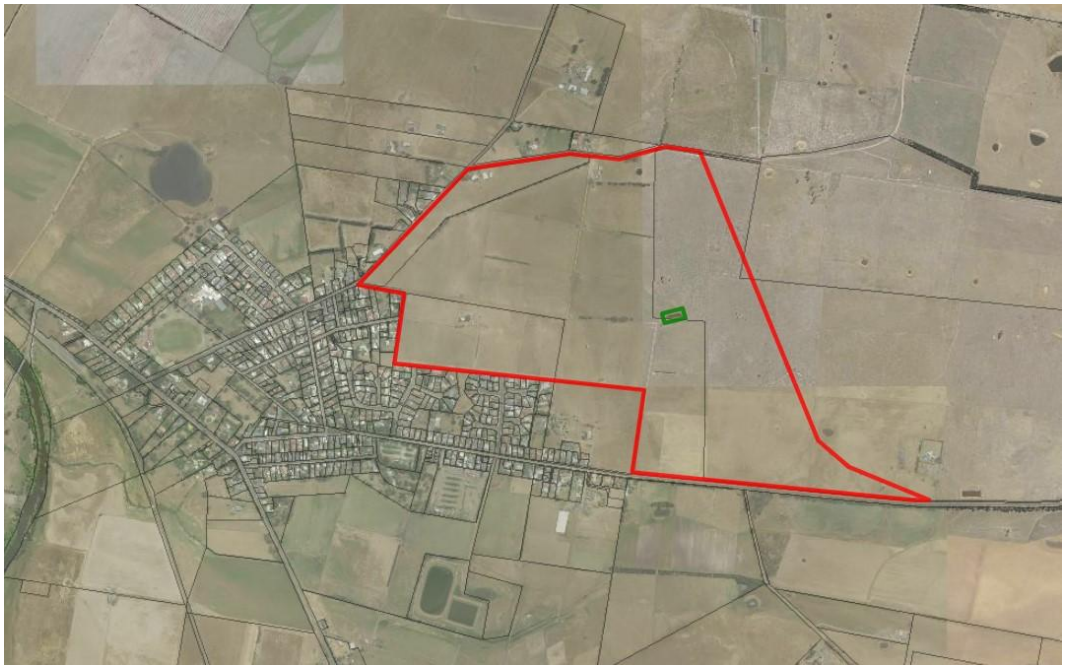


Figure 24: Aerial view of the site (shown red) and location of the dam (green) (source: www.thelist.tas.gov.au © State of Tasmania)

As a result of this information and informal advice received from the Department of Natural Resources and Environment, the decision was made to adjust the masterplan to enable retention of the dam, which has been incorporated as part of the wider open space network.

It should be made clear that there is no development proposed as part of this amendment application. Separate planning/building approvals will be required for each stage of the masterplan, ensuring ecological matters and outcomes are regularly assessed.

Please refer to the accompanying report for further information.

5. EXISTING INFRASTRUCTURE

5.1 ROAD LAYOUT & TRANSPORT NETWORK

The township is located within proximity (less than 5kms) to the Midlands Highway. The highway is a major transport route in Tasmania, connecting the cities of Hobart and Launceston, as well as several other smaller towns and rural areas. It plays a crucial role in the economic development of the state, as it is the primary route for the transportation of goods and services. The highway also serves as a major tourism route, connecting visitors to popular attractions such as the historic township of Evandale. Over the past decade, the highway has undergone significant upgrades and improvements to improve safety and efficiency.

The highway bypasses the township of Evandale by approximately 5kms. From the north, Evandale is accessed from the airport via Evandale Road. From the south and west, Evandale is accessed via Nile Street and Leighlands Street respectively. There is public transport available within the town, including bus stops along Scone street that provide transit to Launceston as well as an existing TassieLink bus route through to Launceston.

The majority of the township is concentrated between Cambock Lane, Barclay Street (becoming Whitehill Road), Russell Street, High Street and Logans Road. These streets loosely define the existing settlement boundary as shown in the figure below.

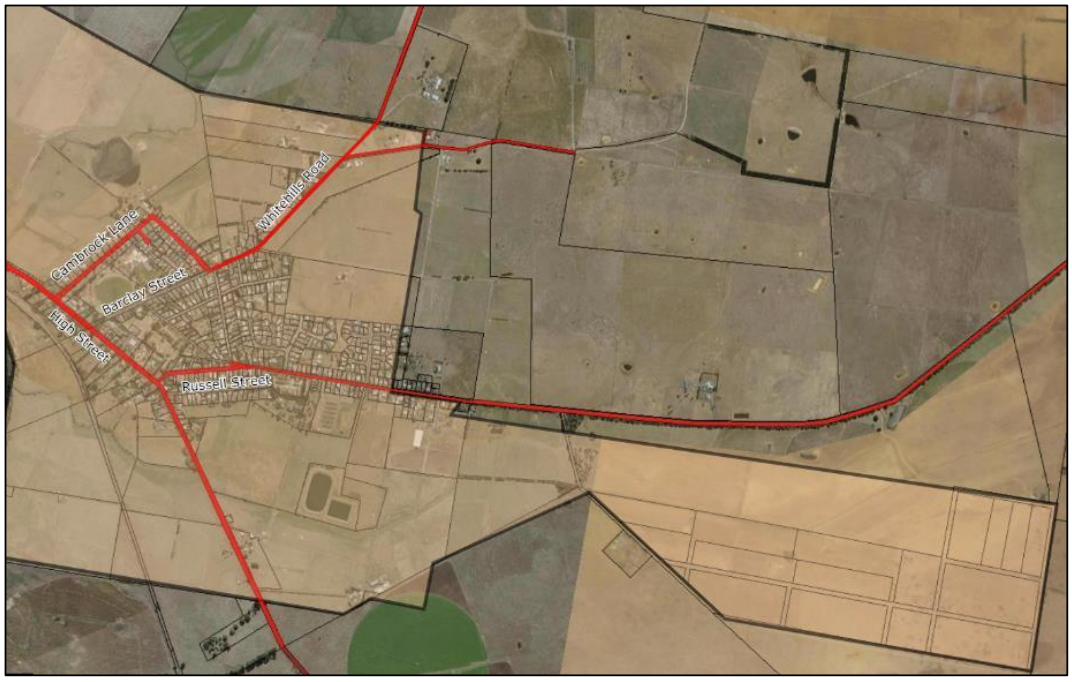


Figure 25: Main Roads (source: the LISTmap, 2022)

The following provides a brief description of these primary roads.

- Cambock Lane operates between High Street and Barclay Street and is subject to an urban speed limit of 50km/h.
- Barclay Street travels in an east-west direction through to the Evandale Town Centre, eventually becoming White Hills Road towards the eastern outskirts of the town. Barclay Street has an urban speed limit of 50km/h.

- High Street has a speed limit of 60km/h, which intersects Evandale Main Road north of the township.
- Russell Street is the primary commercialised street within the township with a speed limit of 50km/h and eventually becomes Logan Road near the eastern outskirts of the town.

The above are the primary collector streets within the township. The streets are narrow and bidirectional with on-street parking provided along the extent of the roads. The narrow nature of these roads, particularly Russell Street, pays homage to a predominantly pre-car era of development. Most of these roads provide pedestrianisation for walking and cycling, particularly towards the historic town centre.

The remaining part of the township is comprised of several no-through roads and cul-de-sacs as demonstrated in the below figure.



Figure 26: Modern subdivision layout (source: the LISTmap, 2022)

This reflects a more modern and suburban pattern of infill development. Whilst this limits road traffic, crowding and noise across much of the township, it results in a dendritic road network which reduces connectivity and permeability throughout the township.

The site is also within proximity to important transport links such as the Launceston Airport and the Translink precinct (located along Evandale Road), both of which are significant gateways to tourism and freight movements in the northern region. Furthermore, the Western Junction rail-line is located between the Midland Highway and Leighlands Road. Both of these areas are forecasted to grow as determined by the Launceston Airport Master Plan (2009).

Despite its rural appeal, the township of Evandale is ideally positioned within proximity of the state highway network, the rail network and the airport.

Consideration of the proposed road layout and connections is provided in section 10 of this report.

5.2 SERVICES

There is the potential for future infrastructure connectivity to the site from Arthur Street, Barclay Street, Stockmans Road and Coachmans Road, allowing for a natural extension of services across the remainder of the site.

The land immediately surrounding the township is serviced by reticulated water and further connections to the existing sewer network have been investigated.

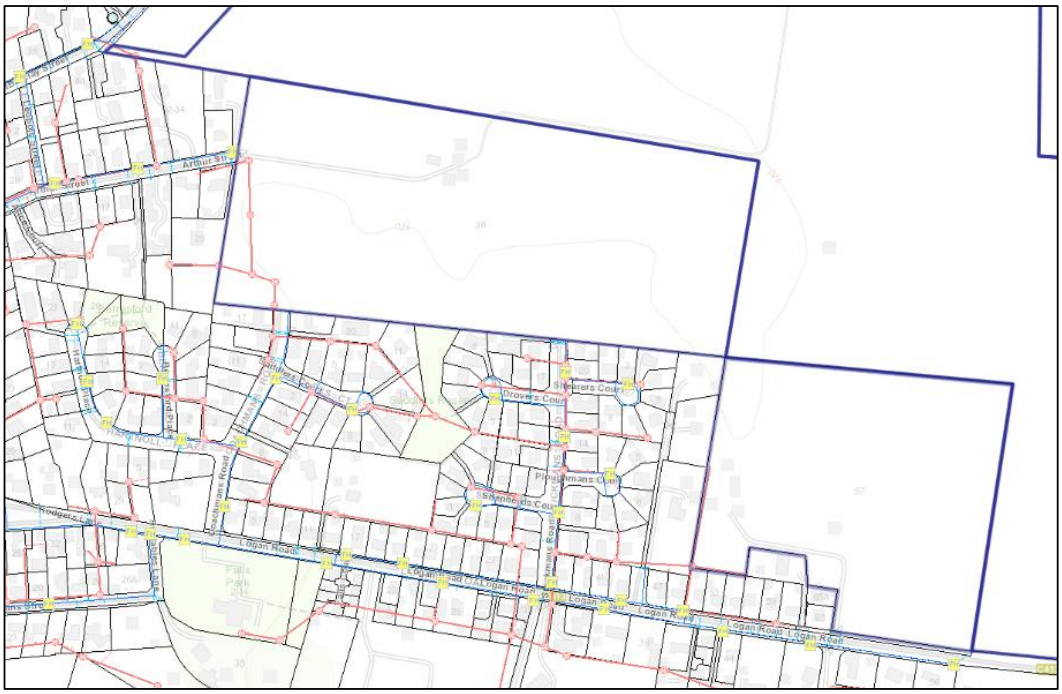


Figure 27: Water and sewer connection points and services (source: the LIST map, 2023)

The concept servicing plans demonstrate each stage of the Expansion Plan can be reasonably serviced. This includes water and sewer concepts and anticipated demand/loading calculations, which have been provided to TasWater for review and feedback. Preliminary advice indicates that whilst there may be a need to upgrade the existing wastewater treatment plant in the near future, there is capacity to cater for growth and new development will be serviced on a first in, first served basis.

Given delivery of the Expansion Plan will be staged, water/sewer loading will be re-considered and assessed during the subsequent approval processes for each stage, which is standard practice for a project of this scale.

Future use and development would need to be designed for the harvesting, storage and reuse of any stormwater from impervious surfaces, this would assist with the shortfall in water infrastructure across the site. Outflows would need to be designed with respect to Water Sensitive Urban Design Principles and to meet Water Quality targets. Again, the accompanying concept plans also outline potential stormwater management systems (inclusive of WSUD) and flooding considerations.

6. LAND SUPPLY

The proposed amendment seeks to expand the extent of General Residential, Local Business, Community Purpose and Open Space zoning within the township. The following provides a brief analysis of the existing supply of land within each of these zones and how this compares to the proposed expansion.

6.1 GENERAL RESIDENTIAL LAND

There is approximately 97.69ha of land currently zoned General Residential within Evandale, as illustrated below.

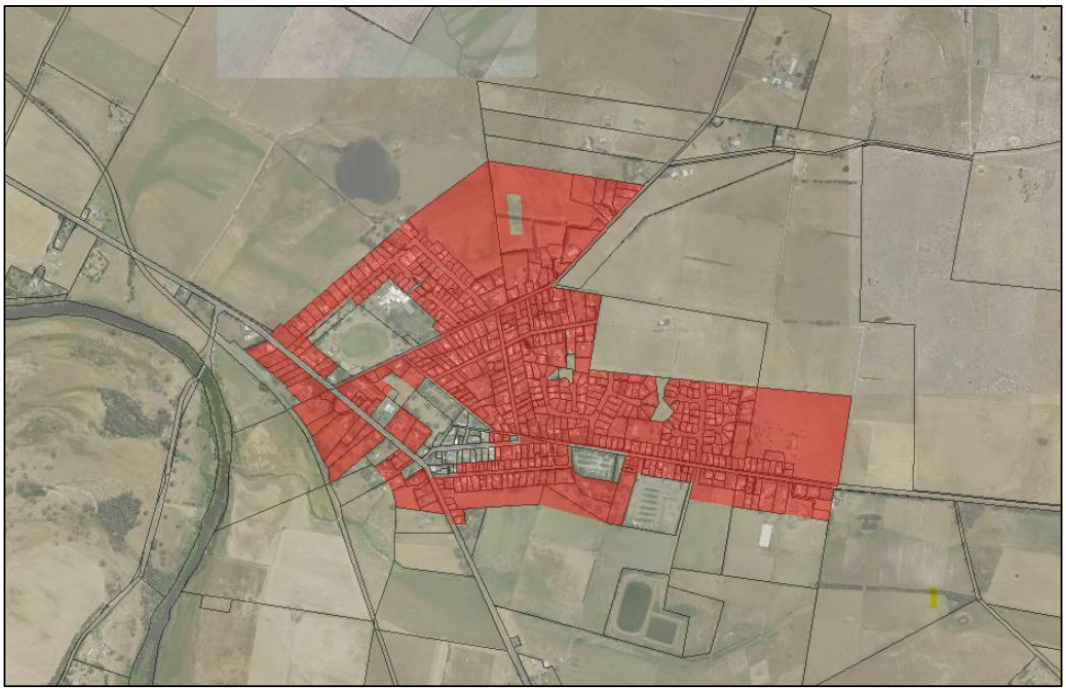


Figure 28: Extent of existing General Residential Land in the township (source: www.thelist.tas.gov.au © State of Tasmania)

This includes 12.78ha forming part of the Cambock Lane Development Precinct and 7.34ha within the Logan Road Development Precinct – neither of which have been developed. The total area also includes numerous private lots which have potential for further subdivision or development at greater densities.

Council have raised the following query in relation to the overall supply and provision of residential land within Evandale:

> *38 Arthur Street (122 lots) combined with the development areas NOR-S5.2.2 (96 lots) and NOR-S5.2.3 (72 lots) totals a potential 290 lots located within and adjacent the existing Evandale SAP boundary. In terms of development staging, it would be expected that the development of this land would necessarily precede the extension of residential zoned land at the periphery of the settlement.*
>
> *The development of the lots within the areas shown would represent approximately 65% of the town's existing residential lot development of approximately 440 lots.*

Even assuming the property at 38 Arthur Street was not rezoned, the existing vacant land set aside for development under the Evandale SAP represents 38% of the existing residential lots.

Assuming then the addition of the proposed 189 General Residential density lots in the master plan including 38 Arthur Street, the lots available for development will total 479 or 108% of the existing developed residential lots. Then adding the Rural Living lots (82) proposed by the master plan, the total potential lot yield (excluding 4 Ridgeside Lane) is 561 residential lots (+128% of the town's current developed allotments).

The land at 38 Arthur Street is currently zoned Agriculture and would serve as a logical extension to the township. However, the land is not owned by TiP and discussions with the landowner have confirmed they are not willing to sell or subdivide the property at this stage. However, they did express interest in the opportunity to do so in the future. For this reason, the land has been included in the amendment for rezoning to General Residential but has been excluded from the proposed Expansion Plan area.

The updated residential supply and demand analysis prepared by SGS Economics and Planning, considers the potential lot yields within the vacant precinct masterplans referred to above, along with the potential lot density within 38 Arthur Street.

Under existing conditions, the report indicates that even if all 168 lots in the Cambock Lane and Logan Road precinct masterplans were developed, housing demand in the Northern Midlands will still exceed supply between 2031 and 2036.

For the housing market to function adequately, there should be at least fifteen years of residential land supply available at any point in time. In the Northern Midlands, fifteen years' worth of dwelling supply equates to approximately 1,050 vacant lots. Under these requirements, there is already a shortage of dwellings in the Northern Midlands.

The Expansion Plan includes 75 'lifestyle' lots (not 82), along with 188 general residential lots (not 189) for a total of 263 residential lots. If the community purpose and local business lots are included, the total is 266. When combined with the 124 lots shown in the theoretical layout for 38 Arthur Street and 4 Ridgeside Lane, the total number of theoretical lots equates to approximately 387.

This increases to approximately 555, once the 168 lots shown in the existing precinct masterplans are considered.

Whilst on paper, this represents a significant contribution toward the forecast shortfall outlined in the Supply and Demand Report, this is assuming that all of the abovementioned lots are developed. However, the realisation rate is likely to be much lower and the following factors are crucial:

- There is no statutory requirement or guarantee that existing precinct masterplans will be developed fully, partially or at all. In the case of Cambock Lane, the precinct includes several lots under different private ownership, which can present constraints as indicated in the following point.
- There are numerous examples across the State where significant parcels of residential land continue to remain undeveloped, despite having been zoned for such purposes for many years.

  There is likely a range of reasons why this occurs, however it is well-known the costs to construct subdivision roads and infrastructure can be significant (particular for larger

subdivisions such as Cambock Lane and Logan Road) and can often be the reason private landowners are unable to substantially develop their land.

There are also those who have inherited or owned land for many years, or may have recently purchased and have no interest in subdivision and/or the financial means to do so, despite possessing suitable residential land.

Given the Expansion Plan is anticipated for delivery over a 10-year period, across up to eight (8) primary stages (not including possible sub-stages), the lots that do become available will be released over a significant period, indicating oversupply at any one-time is unlikely – notwithstanding market demand, affordability and other factors identified above.

The analysis indicates that even with these areas developed, there is still insufficient land to accommodate the preferred 15 – 20 year supply.

What differs with this proposal is that the bulk of land is under the ownership of Traders In Purple (the proponent), and a commitment has been made to develop the land (if approved) in accordance with the proposed Expansion Plan.

6.2 RURAL LIVING LAND

There is approximately 700ha of existing Rural Living land within a 10km radius of Evandale, the majority of which (approx. 497ha) is located at Relbia. This area is designated 'Area B', with a permitted lot size of 2ha.

The second largest area (approx. 141ha) is located north of Perth. This area is designated 'Area A' with a permitted lot size of 1ha. A review of existing lots in this cluster indicates a theoretical supply of up to 16 additional lots.

The following illustrates the extent of Rural Living land within the township.

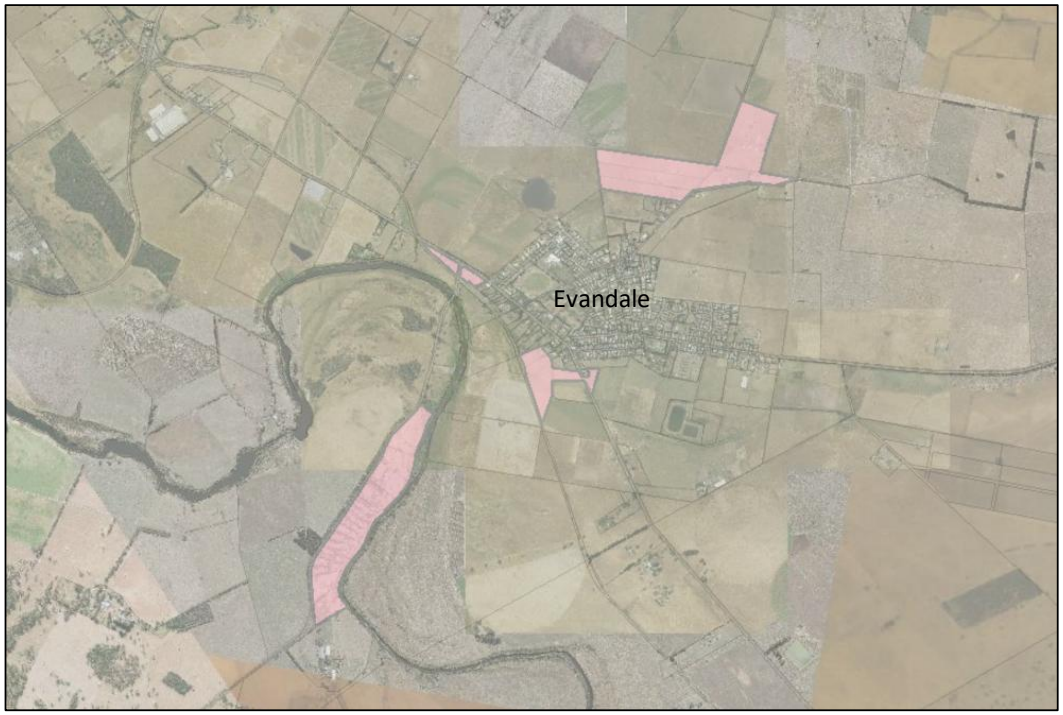


Figure 29: Extent of existing Rural Living land within the township (source: www.thelist.tas.gov.au © State of Tasmania).

The areas identified above are zoned Rural Living (Area C), requiring permitted lot sizes no less than 5ha. Most of the lots contained within these areas are either at, or well below the permitted lot size with no future subdivision potential.

The accompanying Residential Supply and Demand analysis (including addendum) demonstrates additional residential land across the Northern Midlands is required to meet current and projected dwelling demands over the next 15-20 years. The use of the Rural Living Zone to accommodate the larger 'lifestyle' lots will assist in addressing general demand, whilst providing rural residential opportunities that cater for a broader segment of the market, in conjunction with the standard general residential lots.

The application of the Rural Living Zone also reinforces the purpose of these lots within the broader masterplan, providing a necessary transition between higher density residential development and surrounding agricultural land.

6.3 COMMUNITY PURPOSE LAND

Community Purpose land within the township comprises approximately 46.62ha divided across 7 lots (as illustrated below) and supports the following primary functions:

- Evandale Primary School
- Evandale Community Centre
- War Memorial Hall
- Community Health Centre
- Evandale Cemetery; and
- Evandale Police Station.



Figure 30: Extent of Community Purpose land within the township (source: www.thelist.tas.gov.au © State of Tasmania)

The Plan and proposed amendment seek to provide a further 9.9ha of Community Purpose land to accommodate a possible retirement village and/or aged care and associated medical facilities. The potential provision of these facilities contributes to housing diversity, providing options for

older people whilst also generating local employment opportunities and access to medical facilities. The land will also provide opportunities for additional community infrastructure and services where necessary to cater for future demand generated by additional residents.

6.4 LOCAL BUSINESS LAND

The extent of Local Business land within the township is limited to a central area, comprising of 23 lots with a combined area of 2.8ha, as illustrated below.



Figure 31: Extent of Local Business land within the township (source: www.thelist.tas.gov.au © State of Tasmania)

Of the 23 lots, 11 are State listed heritage places and 5 appear to support dwellings used entirely for residential purposes. These factors significantly constrain opportunities to expand local level retail, business and professional services and food services to cater for future growth and demand likely to occur if the Plan and associated amendment is supported.

Therefore, the Plan and proposed amendment includes up to 2,800m2 of additional Local Business land to accommodate the potential increase in demand. This represents a 10% increase in the extent of Local Business land within the township and has been done so deliberately, to ensure the scale and intensity of additional businesses do not unreasonably impact the viability of existing businesses or detract from the character of the township.

The provision of an additional pocket of Local Business land is generally supported by Council Officer's, given opportunities for expansion within the township are limited due to heritage restrictions and existing development. However, it is understood such provision should be limited to avoid impacts on existing businesses, whilst also catering for expected demand increases over time as the Expansion Plan is developed. The introduction of the zone in the context of the expansion is logical and necessary to ensure adequate servicing of the area, whilst avoiding potential compromise of the heritage precinct.

Further consideration is provided in Section 7 of this report, along with a response to the TPC zone application guidelines in section 7.8.

7. POLICY & STRATEGIC ASSESSMENT

The following is an assessment of the strategic documents that are relevant to the future use and development of the subject land and site. Consideration is given to the *Northern Tasmanian Regional Land Use Strategy (NRLUS)* as the key regional strategic document and several local documents for assessment of localised strategies, along with other relevant documents as listed below:

- Northern Tasmanian Regional Land Use Strategy (version dated 23 June 2021)
- Tasmanian Population Growth Strategy (2015)
- Greater Launceston Plan (2014)
- Northern Midlands Council Strategic Plan (2021-2027)
- Integrated Priority Projects Plan (2021)
- Northern Tasmanian Regional Economic Development Strategy (2019)
- Evandale Development Plan, Pitt and Sherry (2012); and
- TPC Zone Application Guidelines

7.1 NORTHERN TASMANIAN REGIONAL LAND USE STRATEGY

The Northern Tasmanian Regional Land Use Strategy (NRLUS) is a statutory regional plan that sets out the strategy and policy framework to manage change and facilitate growth in Northern Tasmania. The document provides in-depth strategic policies, directions and actions to guide economic, social and cultural growth throughout the northern region.

The purpose of the NRLUS is to guide land use and development in the region and as such the contents of the NRLUS need to be considered concerning the rezoning proposal. In the context of the Tasmanian Planning Scheme, planning authorities are required to prepare draft Local Provisions Schedules that are consistent with the Regional Land Use Strategy.

The NRLUS includes Regional Planning Policies to address the management of regional growth. The existing urban area within Evandale is identified as a 'Supporting Consolidation Area' under the Urban Growth Areas (UGB) established in the Northern Tasmania Regional Land Use Strategy (NTRLUS). The proposed amendment includes land abutting the UGB. If the amendment is approved, the UGB will need to be expanded to include the subject sites. The following strategic directions are particularly relevant to the proposal.

7.1.1 POPULATION

The State's population has increased steadily, from 514,686 in 2014 to 541,071 in 2022. However, the average growth rate of 0.30% per annum is less than the Australian average of 0.50% (ABS data). In response, the Tasmanian government has introduced a policy to increase the state's population to 650,000 by 2050 by encouraging and facilitating interstate and overseas migration and encouraging expats to return to Tasmania.

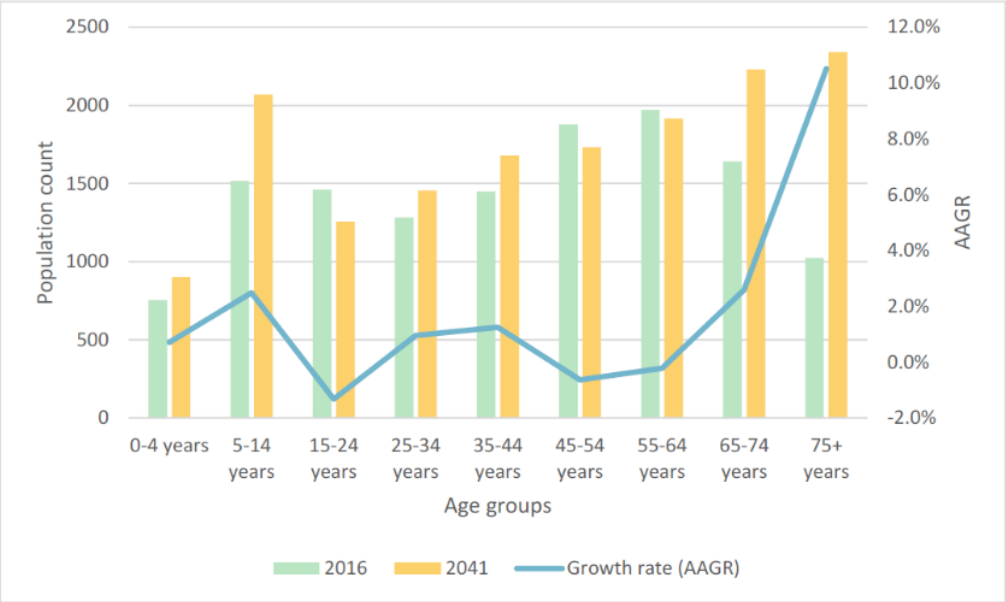
In 2016, the township of Perth had a population of 2,965, which has grown to 3,544 in 2021. This is similarly the case in Longford which had a population of 3,863 in 2016, which has grown to 4,268 in 2021.

In Evandale, the 2021 census data indicates the population has declined slightly, from 1,345 in 2016 to 1,265 in 2021. Like the remainder of Tasmania, the population of Evandale continues to

age, with the median age for the municipality increasing from 48 years in 2016 to 53 years in 2021. It is noted the higher median age in the township is in part due to the attractiveness of the area for retirees.

SGS has modelled population projections by age group, with the continuation of the trend of an ageing population but also an increase in children:

FIGURE 7: CURRENT AND PROJECTED POPULATION BY AGE GROUP, NORTHERN MIDLANDS LGA, 2016 AND 2041



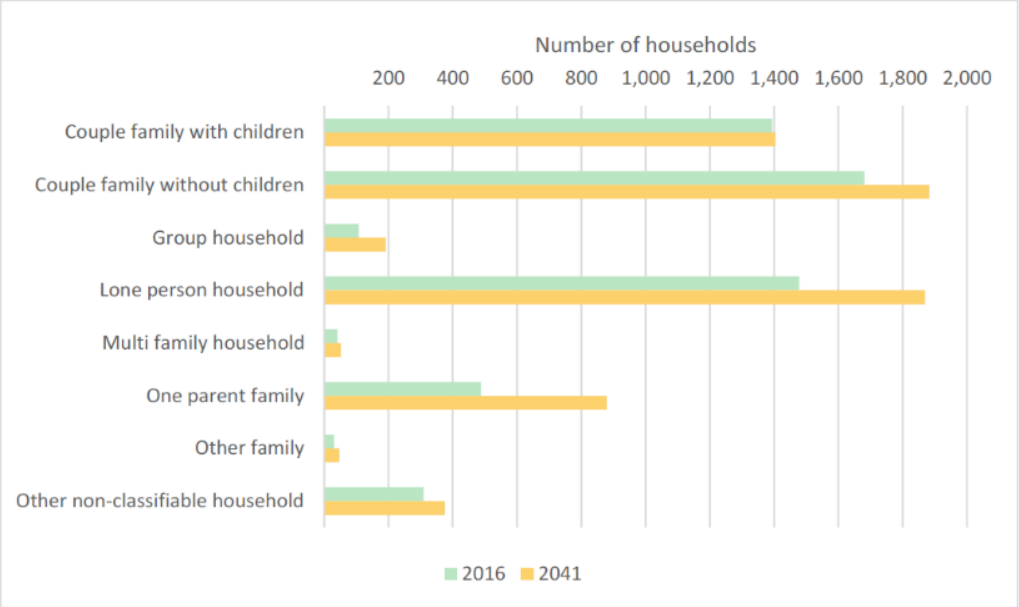
Source: SGS Economics & Planning (2021)

Figure 32: Current and Projected Population by age group (SGS, 2022)

Notwithstanding, the largest concentration of the municipality's population (40 per cent) is located within the Perth-Evandale SA2 and as detailed within the Supply and Demand Analysis, the area is becoming increasingly attractive as low-income earners and pensioners are being priced out of inner-urban areas within Launceston.

The following household structures are projected by SGS:

FIGURE 11: NUMBER OF HOUSEHOLDS BY COMPOSITION 2016 AND 2041, NORTHERN MIDLANDS LGA



Source: SGS Economics & Planning (2021)

Figure 33: Number of Households by Composition 2016 and 2041 (SGS, 2022)

The town is recognised as a predominantly residential community. Under the NTRLUS, Evandale is identified as a neighbourhood or town centre. The role of the neighbourhood or town centre is:

> *To serve daily needs of surrounding community and provide a focus for day-to-day life within a community.*
>
> *Includes a mix of small-scale retail, community, and health services. Limited office based employment.*

The neighbourhood town centre has a growth strategy as below:

> *Provide for lower order activity centres to be sustained through a local residential strategy or development plans to create vibrant and sustainable regional and rural communities. It should strengthen their role and function, maintaining and consolidating retail attractions, local employment opportunities, public amenities and services.*

Specifically concerning residential growth, the strategy outlines the below:

> *Some adjoining in centre/town residential development offering a greater mix of housing types and densities than outer laying residential areas.*

Based on the current residential land supply in Evandale, SGS has predicted a theoretical supply of 261 dwellings in Perth/Evandale, however, if the realisation rate is 25 -50 per cent there will be a shortfall of 195 -420 dwellings in the Northern Midlands in the next 15 years. SGS states “From a strategic perspective to optimise the residential housing market and maintain housing affordability, there is a need to start rezoning suitable land for residential use” (SGS, 2022, p. 28).

The proposal will contribute to the major goals of the NTRLUS as below:

7.1.2 Regional Settlement Network Policy

Regional Settlement Networks

> ***G-RSN-A1*** *- Provide an adequate supply of well located and serviced residential land to meet projected demand. Land owners/developers are provided with the details about how development should occur through local settlement strategies, structure plans and planning schemes. Plans are to be prepared in accordance with land use principles outlined in the RLUS, land capability, infrastructure capacity and demand.*
>
> ***G-RSN-A4*** *- Provide for the long term future supply of urban residential land that matches existing and planned infrastructure capacity being delivered by TasWater, specifically in parallel with existing water and sewerage capacity and required augmentation to meet urban development growth and capacity – both residential and industrial.*

The subject sites are currently within the 'Rural' land use category, under the NTRLUS.

The strategy identifies Evandale as a 'Satellite Settlement' being a settlement within proximity to the Greater Launceston Urban Area. It is proposed to amend the Northern Regional Land Use Strategy to expand the 'Urban Growth Area' around Evandale to encompass the subject site.

The NTRLUS states that new Urban Growth Areas should be located to:

- *Achieve a balanced settlement pattern across the region and sub-regions;*
- *Maintain a well-planned region of distinct cities, towns and villages;*
- *Maintain the integrity of 'intra-regional' open space green breaks;*
- *Minimise impacts on natural resources;*
- *Maximise the use of major transport and water and sewerage infrastructure (committed and/or planned);*
- *Enable efficient physical and social infrastructure, including public transport;*
- *Have ready access to services and employment; and*
- *Ensure significant non-residential activities will meet specific location, infrastructure and site requirements.*

The proposed amendment will achieve these requirements as follows:

- Provide opportunity for regional population growth, to meet demonstrated demand;
- Provide housing diversity for all stages of life, including seniors living; and
- Provide an extension to the existing township of Evandale, contributing to and enhancing the liveability and sense of community through a vibrant, sustainable urban development that will be developed in a manner consistent with the existing character of the township.

The accompanying cost-benefit analysis and residential supply-demand report prepared by SGS Economics and Planning states that within the Northern Midlands LGA, there will be:

- an undersupply of 420 dwellings in the next 15 years – based on a 25% realisation rate of vacant land; or
- an undersupply of 195 dwellings – based on a 50% realisation rate.

The report indicates additional land is required to meet demand, on the basis that:

> ▪ *if population growth keeps tracking above the high scenario, as it is currently, this will put more pressure on the residential market.*

- *Providing service infrastructure, particularly water and sewerage is a lengthy and costly exercise.*
- *Land release by farm-owners on residential zoned land would be based on preferences and market forces providing the right return.*
- *With land becoming less available in Launceston there will be increased demand for housing in LGAs such as Northern Midlands due to their proximity to jobs and amenities in Launceston. Using ABS migration statistics and the housing demand model, SGS estimates an additional demand of 48 dwellings from Launceston in the next 15 years.*

Further analysis considers the yield within the two existing Precinct Masterplans, stating that:

> *…Even if the 168 dwellings these lots could provide were to enter the market soon, as shown in Table 4, housing demand in the Northern Midlands will exceed supply between 2031 and 2036.*
>
> *Additionally, for the housing market to function adequately there should be at least fifteen years of residential land supply available at any point in time. In the Northern Midlands, fifteen years' worth of dwelling supply equates to approximately 1,050 vacant lots. Under these requirements, there is already a shortage of dwelling supply in Northern Midlands.*[1]

The report concludes that there is less than 15 years of vacant residential land available in the Northern Midlands LGA, and a critical capacity constraint is expected between 2031 and 2036. The staging and timely release of the proposed TiP development could alleviate this shortfall.

The plan and amendment incorporate considerations of the strategy, land capability and infrastructure capacity.

Whilst outside of current TasWater strategy studies, the proposal does broadly form part of Longford/Perth/Evandale Area growth and capacity considerations. Pending the rezoning of the site, it is anticipated the subsequent development will occur over a 10-15 year period with corresponding infrastructure improvements required as a cost to development. The above will facilitate goal 1 of the strategy by facilitating economic development through integrated land use and infrastructure.

Notwithstanding, MRC Consulting Engineers have prepared an engineering report which includes conceptual water and sewer reticulation plans, which have been discussed directly with TasWater and discussions are ongoing regarding likely servicing requirements and associated infrastructure staging. These documents are included as part of the application demonstrating appropriate servicing can be achieved as each stage is progressed.

> ***G-RSN-A6** – Encourage urban residential expansion in-and-around the region's activity centre network to maximise proximity to employment, services and the use of existing infrastructure, including supporting greater public transport use and services.*

Under the NTRLUS, Evandale is categorised as a satellite settlement. This is described as an extensive urban area independent of the Greater Launceston Urban Area with key local retail, commercial, and community service functions. The rezoning will allow for new urban development contiguous with the existing township with direct transport linkages to established towns, including Launceston and the Western Junction industrial precinct.

Proximity to Launceston and the Western Junction industrial precinct will provide accessible employment opportunities for future residents and young families.

[1] Supplementary update to Residential Supply and Demand Analysis – SGS Economics & Planning (2024, p: 12)

> ***G-RSN-A10*** *- Apply zoning provisions which provide for a higher proportion of the region's growth to occur in suitably zoned and serviced areas. The application of Urban Mixed Use, Inner Residential and General Residential Zones should specifically support diversity in dwelling types and sizes in appropriate locations.*

The proposed rezoning will allow for future growth to occur, adjoining land that is currently serviced allowing for future connections (as illustrated in the accompanying concept plans). Pending approval of the rezoning, the expansion plan includes provision for a variety of dwelling types and sizes.

Housing, Dwellings and Densities

> ***G-RSN-P4*** *- Provide a planning framework for new and upgraded infrastructure and facilities to support a growing and ageing population and provide housing choice through a range and mix of dwelling types, size and locations in new residential developments.*
>
> ***G-RSN-A5*** *- Provide a diverse housing choice that is affordable, accessible and reflects changes in population, including population composition. Ageing populations and single persons should be supported to remain in existing communities as housing needs change; 'ageing in home' options should be provided.*

The region has an aging population and is anticipated to experience a steady decline in people aged 0-39 over the next 20 years. The development will provide for a range of residential and rural living opportunities to provide diversity in housing and to address a need for first homeowners through to 'aging in place'.

Tasmania supports the oldest population in Australia. The following table provides data from the ABS between 2016 and 2021 outlining population levels and percentages of those aged between 55 and 85+. Whilst there appears to have been a drop in the number of people aged 55-59 in Tasmania between 2016 and 2021, the percentage of those aged between 65 and 85+ increased to 20.9% in 2021 compared with 19.5% in 2016.

The national average in 2021 was 17.2%.

Age *All people*	**Tasmania 2021**	**%**	**Tasmania 2016**	**%**	**Australia 2021**	**%**
55-59	36,993	6.6	37,383	7.3	1,541,911	6.1
65-69	35,137	6.3	32,946	6.5	1,298,460	5.1
70-74	31,856	5.7	24,433	4.8	1,160,768	4.6
75-79	22,029	4.0	17,610	3.5	821,920	3.2
80-84	14,617	2.6	11,992	2.4	554,598	2.2
85 +	12,995	2.3	11,762	2.3	542,342	2.1
		20.9% total		19.5% total		17.2% total

Table 1: Data extracted from ABS Census data 2016-2021 for Tasmania.

This trend appears consistent with previous predictions, indicating Tasmania's population is ageing faster than the Australian average.[2]

[2] ABS Census of Population and Housing 2016

It is well known that an ageing population increases demand for residential support services and retirement living opportunities as people look to downsize or are no longer able to live independently.

The *Strong Liveable Communities: Tasmania's Active Ageing Plan 2017-2022*, outlines the concept of active ageing, which seeks to encourage and promote continued belonging, involvement, learning and purpose as people age.[3] As a result, many older Tasmanian's are looking for smaller, alternative living arrangements where their needs can be met in a consolidated location, along with the added benefit of community and social support.

Whilst residential retirement villages and aged care in general can be supported on residential zoned land, the often speciality nature of these uses is managed through Particular Purpose Zones or Specific Area Plans. These planning mechanisms have been applied to a number of retirement and assisted care facilities across the State, including several in the south within the Clarence and Brighton LGAs, including the Gordons Hill Precinct, Springvale and Fairway Rise developments and St. Anne's Retirement Living.

As of 2021, Tasmania's population was listed at 557,571 and the percentage of people aged 65 years and above was 116,630, or 19.2% of the population, compared to 17.5% in 2016.

This equates to 107,053 people aged 65 years and above. Within Perth-Evandale, the data indicates that of the 5,482 residents, 25.8% were aged between 60 and 79.[4]

According to Aged Care Online, a directory for aged care homes, home care providers and retirement villages, there are approximately eighteen (18) aged care facilities and nine (9) retirement living facilities within a 50km radius of Evandale. This includes Launceston, Perth, Longford, Westbury, Deloraine, Exeter and Campbell Town.

The facilities cater for a range of options, including retirement living, aged care and home care services along with respite care and allied health services. As of November 1st 2024, Aged Care Online indicates only 48 vacancies across the eighteen aged care facilities.

The *Aged Care Market Analysis 2024*, prepared by KPMG indicates that in Tasmania, 6.2% of people 65 years or older were using residential aged care, compared with 30.5% aged 85 years or older.[5] The report also states the number of residential home care providers in Australia increased to 861 in 2023, whilst the number of aged care providers steadily decreased from 873 in FY 2015, to 661 in FY 2023. It is understood this is due to due to financial viability and increased regulatory burdens following recent and ongoing sector reform.

The report notes this is also due to an increased preference for 'ageing in place', under the home-care umbrella.

The provision of land for future potential aged care within the proposed Expansion Plan provides flexibility and could also be used for provision of other community related facilities / infrastructure. As outlined above, the expansion plan includes a range of lot sizes to cater for housing diversity and includes provision of land for potential aged care facilities.

Residential Design

> ***G-RSN-P15*** *- In established urban areas where an existing urban or heritage character study has been undertaken and adopted by Council, provide for development that is consistent with that study and reinforces and enhances the strengths and character of the area in which it is set.*

[3] *Strong Liveable Communities:* Tasmania's Active Ageing Plan 2017-2022, p: 35.
[4] ABS Census Data 2021 – Perth/Evandale SA 2
[5] Aged Care Market Analysis, KPMG (2024, p: 14)

> ***G-RSN-P17*** *- Provide accessible and high-quality public open space in all new 'Greenfield' and infill development by creating well designed public places.*

Buildings will need consideration of townscape and rural settings as considered in the former section of the report. Residential design is not uniform throughout the township, giving a degree of flexibility for future use or development.

The proposed extension of the Evandale Specific Area Plan will provide additional use/development controls to ensure the character of the township is maintained and enhanced. The Expansion Plan also includes approximately 6ha of public open space, provided via parks and a central open space corridor running west to east through the site.

> ***G-RSN-P20*** *- Provide a variety of housing options to meet diverse community needs, and achieve housing choice and affordability.*

Despite the restrictions on subdivision and dwelling density on larger Genera Residential lots imposed through the SAP, several in the southern portion of the Expansion Plan area are sufficient in size to accommodate affordable housing development, in the form of multiple dwellings.

Rural Residential Areas

The following considers the relevant policies/principals related to provision of rural residential areas. The NTRLUS states the following with respect to these communities.

> *The region's rural landscape includes land suitable for opportunities for rural residential use and development on large allotments, in preferred locations. Rural Residential Areas will typically be included in the Rural Living Zone, however other zones may be appropriate, potentially associated with overriding local provisions to the SPP's, upon detailed analysis of particular areas.*
>
> *These zones will be applied to reflect established land use patterns and will provide residential opportunities within a rural landscape, including where services are limited, or existing natural and landscape values are to be retained. An established Rural Residential Area is land with limited potential for efficient or practical agricultural or rural resource use on a commercial basis, and where the land use pattern is characterised by:*
>
> - *Predominantly residential land use, including lifestyle blocks, hobby farms and/or low density residential subdivision; and*
> - *Fragmentation of the cadastral base and property ownership; and may include*
> - *Topographical constraints resulting in physical impediments to rural resource use or connectivity, including biodiversity protection and/or conservation.*
>
> *In practice, this will mean that land that may have been included in low density residential, rural residential, village or rural zones will be identified based on existing land use patterns that are predominantly rural residential in character.*
>
> *Additional demand for land will be met through intensification of existing Rural Residential Area where it can meet sustainability criteria.*
>
> ***G.2.2.4 – Key Planning Principals for Rural Areas***
>
> *Planning for Rural Areas should consider the way in which it can:*
>
> - *Support rural living opportunities in appropriate locations (Rural Residential Areas) where it does not compromise or fragment productive rural land;*

- *Provide and maintain appropriate levels of infrastructure and services to support Rural Residential Area;*
- *Recognise rural living use as a legitimate residential lifestyle subject to appropriate location criteria.*

The application of the Rural Living Zone to the periphery of the Expansion Plan area, encompassing the proposed 'lifestyle' lots is broadly consistent with the considerations above.

Whilst the strategy classifies Evandale as a Satellite Settlement with the majority of land zoned General Residential, there is a significant interface between General Residential land and broader agricultural and rural land/ activities for which there is minimal separation or transition which would appear to present significant land use conflict issues. There is no use of the Village Zone or Low-Density Residential Zone and only limited use of the Rural Living Zone.

Greater use of these zones around the edges of the township caters for rural 'lifestyle' living, generally consistent with the character of the township whilst providing appropriate areas of transition. The following considers the relevant regional policies and actions applicable to rural residential areas.

> ***G-RSN-P21*** *- Rural and environmental lifestyle opportunities will be provided outside urban areas.*
>
> ***G-RSN-P23*** *- Growth opportunities will be provided in strategically preferred locations for rural living and environmental living based on sustainability criteria and will limit further fragmentation of rural lands.*
>
> ***G-RSN-A24*** *- Future locations of the Rural Living Zone should not require extension of Urban Growth Areas, or compromise the productivity of agricultural lands and natural productive resources (within Rural Areas).*

Although large portions of Evandale are zoned General Residential, the township resembles a peri-urban area. Whilst the broader amendment will require an extension to the urban growth supporting area covering the eastern portion of the township, the extension would only apply to the extent necessary to encompass proposed General Residential, Community Purpose and Local Business land within the Expansion Plan area. Any proposed Rural Living Areas, if option 2 were preferred, would not require inclusion.

> ***G-RSN-A26*** *- Consolidation and growth of Rural Residential Areas is to be directed to areas identified in local strategy, that align with the following criteria (where relevant):*
>
> - *Proximity to existing settlements containing social services;*
> - *Access to road infrastructure with capacity;*

The areas outlined for Rural Living zoning through option 2 form the outer extent of the existing settlement area and the broader township is within close proximity to other service centres containing social services.

Whilst additional road infrastructure will be required as part of any subsequent development, the accompanying Traffic Impact Assessment indicates the proposed growth can be supported and will be undertaken sequentially. This ensures growth occurs gradually and any subsequent development will require consideration of existing/proposed traffic and road infrastructure capacity.

- *On-site waste water system suitability;*
- *Consideration of the impact on natural values or the potential land use limitations as a result of natural values;*

- *Minimisation of impacts on agricultural land and land conversion;*
- *Minimisation of impacts on water supply required for agricultural and environmental purposes;*
- *Consideration of natural hazard management;*

The size of larger 'lifestyle' lots ensures sufficient areas are available to support on-site wastewater if required. However, the subdivision standards under the Rural Living Zone require lots within 30m of reticulated infrastructure to be connected, unless the relevant water authority indicates supply cannot be provided.

TasWater have been approached and discussions are ongoing regarding the sequential development of the Expansion Plan and service capacity.

The site is relatively clear of natural values, as indicated in the accompanying Natural Values Assessment. However, it is noted an isolated dam on the site may contain habitat for a vulnerable species and as such, the dam is to be retained and incorporated into the public open space network. The Expansion Plan is not anticipated to have any impact on agricultural water supply and is accompanied by an Agricultural Assessment indicating the land has limited agricultural potential.

- *Existing supply within the region;*
- *Potential for future requirement for the land for urban purposes; and*
- *The ability to achieve positive environmental outcomes through the rezoning.*

The supply of existing Rural Living land within Evandale is limited, although the township is within relatively close proximity to Greater Launceston to the north and Longford and Perth to the west where existing rural living communities are present.

However, unlike Evandale, these areas provide greater utilisation of Rural Living and Low-Density Zones to provide necessary transitions between higher-density urban areas and rural/agricultural areas. The proposed 'lifestyle' lots provide an opportunity to reduce potential for land use conflict, whilst providing for the sequential growth of the township by utilising the Rural Living zone along the periphery of the Expansion Plan area.

Integrated Land Use and Transport

> ***G-RSN-P9*** *- Apply transit oriented development principles and practices to the planning and development of transit nodes, having regard for local circumstances and character.*

The site is located near Launceston airport which will allow for immediate access by tourists arriving or leaving the state. The rezoning will facilitate future subdivisions that will provide pedestrian and cycling connectivity to improve walkability, along with additional areas of public open space. The site is also in proximity to the Western Industrial precinct to the north-west.

This will promote goal 2 – To promote liveability measures for social and community development and the betterment of healthy, strong and vibrant urban and rural settlements.

7.1.3 Regional Activity Centre Network Policy

Regional activity centre network

> ***RAC-A5*** *- Provide for lower order activity centres to be sustained through a local residential strategy or development plans to create vibrant and sustainable regional and rural communities. It should strengthen their role and function, maintaining and consolidating retail attractions, local employment opportunities, public amenities and services.*

Evandale, which is identified as a Satellite centre, has a role that seeks to "service the daily needs of surrounding community and provide a focus for day-today life within the community".

A 'Satellite Settlement' is defined in the Strategy as a settlement within proximity to the Greater Launceston Urban Area, which provides a dormitory function to the regional city. The Strategy confirms that such settlements:

> *"… provide for a rich mixture of land uses, including locations for residential housing for a significant proportion of the region's workforce, associated industrial areas and localised employment opportunities. The settlements are supported by a wide range of local community, retail, business and commercial functions. As key regional urban areas, they will deliver services to their surrounding area as they are subject to substantial change and growth pressures."*

The proposal will allow for the promotion and support of the existing Evandale business centre by providing additional residential use adjoining the existing town. The inclusion of a small Local Business area will provide opportunity to deliver retail options that are not yet available but required for the day to day function of residents - this type of retail has always been constrained in Evandale due to the heritage overlay on Russell St, restricting provision of purpose-built offerings.

Notwithstanding, the land has been included to cater for growth and demand without unreasonable risk of impact on existing local businesses and services.

7.1.4 Regional Infrastructure Network Policy

Regional infrastructure network policy

> ***RIN-A6** - Provide for use and development nearby Launceston Airport that supports and complements the airport's role and does not adversely impact on its current or future operation.*

The proposed amendment was referred to Launceston Airport. The advice received is outlined in section 5.3.3 of this report.

> ***RIN-A11** - Future subdivision design is to allow for permeability and connectivity in the transportation network.*

The primary form of transport access across the region is provided by the State and local road network and, for limited freight, the rail network. The proposed rezoning will allow for subdivisions of a size significant enough to allow for connectivity.

> ***RIN-A13** - Provide for provision for on and off-road cycle facilities, including shared pathways and associated engineering considerations, is addressed by local planning policy.*

This has been considered within the layout of the Evandale Expansion Plan and will be implemented as part of each stage, which will be subject to separate planning applications.

7.1.5 Regional Economic Network Policy

Regional economic development policy.

> ***ED-P5** - Support initiatives that provide Northern Tasmanian with an economic capacity to improve their lifestyle and engaged in fulltime or part-time employment to promote standards of living and access to basic services.*

Economic growth and new employment initiatives will stem primarily from the expansion of existing economic/employment hubs, rather than from an influx of new large-scale enterprises.

The proposal will support new investment initiatives with major upgrades to the regional infrastructure network (promoting efficient freight connections and operations and access to air and sea ports).

The proposal will also cater for aging populations, whilst reducing outward-migration of younger generations through the provision of affordable housing and access to employment opportunities (such as the Launceston Airport precinct and Western Junction Industrial Precinct).

7.1.6 Social Infrastructure and Community Policy

The policy seeks to implement the following strategies:

- *Support sustainable urban settlements through the provision of high-quality community infrastructure;*
- *Promote and protect cultural heritage as a key component of 'community';*
- *Promote coordinated social infrastructure planning to maximise efficiencies and improve land use and development outcomes; and*
- *Advance and demonstrate consistency with State and regional planning policies, projects and initiatives.*

The following policies are relevant:

> ***SI-PO2*** *- Provide social infrastructure that is accessible and well-located to residential development, public transport services, employment and educational opportunities.*
>
> ***SI-PO3*** *- Provide multi-purpose, flexible and adaptable social infrastructure that can respond to changing and emerging community needs over time.*
>
> ***SI-PO4*** *- Allow for a greater choice in housing types.*

The amendment includes provision of up to 6.45ha of Open Space land, which will serve as public open/recreational space. The provision of Community Purpose zoning will provide opportunities for social infrastructure, such as childcare and aged/retirement living as well as community facilities if and where required.

The provision of Local Business land will also provide opportunities for additional local businesses/services to be established, as demand and residential growth increases. This area has been limited to provide a balance between anticipated need for additional services/access to goods, without unreasonably impacting existing businesses/services or disrupting the activity centre hierarchy.

This provides a degree of flexibility, ensuring the future subdivision/development of the land has capacity to cater for community needs as they change over time. The provision of this land will be locked in through the proposed inclusion of the Evandale Expansion Plan as a Precinct Development Plan embedded within the Evandale Specific Area Plan.

The amendment will also support the ongoing viability of the local school, as outlined below.

- According to a Mercury article published in November 2022, data from the Department of Education (provided by Schools Hub), indicates enrolments at Evandale Primary School declined by 18% between 2018 and 2022.[6]
- More recent data published by the Department (2023 Census 1 figures on student headcount/full time enrolments (FTE) for schools and support schools) indicates this trend

[6] *Tasmanian Education: Fastest growing schools revealed for 2023*, The Mercury (2023)

is continuing, with 126 students enrolled in 2023, compared to 129 students in the previous year.[7] It is understood the school has capacity for up to 225 students.

As such, it is reasonable to assume that the increase in new families with children or couples looking to start a family, will contribute to increased enrolments and additional employment opportunities in the education sector (i.e. additional teachers, assistants etc).

TiP have received a letter of support from Evandale Primary School, noting the likely increase in enrolments if the amendment is approved. The school has also provided TiP with an opportunity to assist in the development of a new playground project – a copy of the letter accompanies the application.

7.2 TASMANIAN POPULATION GROWTH STRATEGY 2015

Growing Tasmania's population is a key priority of the Tasmanian Government, with a target of 650,000 people living and working in the state by 2050. To achieve this, fifty actions against three key pillars are purported:

- Job creation and workforce development
- Migration
- Liveability

These targets extend beyond the major cities within the state and include well-located townships in proximity to major services and industries, such as Evandale.

The Tasmanian Department of Treasury and Finance population projections show slow growth for Northern Tasmania in the absence of any major development projects. A major issue for Tasmania and the Northern Midlands region is slow population growth and an ageing population. The projections demonstrate a decline for the low series and limited growth for the medium series over the Northern Tasmanian region. Under the medium and low series, the Northern Midlands LGA population is projected to decline, and under the high series, the population increases only by around 500 persons. Under all these scenarios the population continues to age. The Northern Midlands LGA is one of 12 LGAs in Tasmania whose populations are projected to decline under the medium growth scenario.

This trend is particularly evident in places such as Evandale, where the local population has an aging profile and a reduced working-age cohort. As per the most recent census data in 2021, the population of Evandale is 1265 people with a median age of 53 years (ABS Census Data 2021), representing a decline since the previous census in 2016. Over 40% of this population is not currently in the labour force. These figures are not dissimilar from the 2016 or the 2011 ABS census data results, highlighting a downward trend for the town.

In the absence of intervention, these trends would likely continue, which has major implications for local businesses and the provision of services. The proposal will allow for future development that has the potential to improve the viability of the township by attracting young families and working-age people to live in the area and increase the viability of a local school. Not only will this provide new and affordable houses outside of the heritage area of the town (which is generally expensive/restrictive due to the heritage classifications and overlays), but will provide for a much-needed renewal of the population.

Specifically, the proposal supports the three pillars as below:

[7] *2023 Key Data Publication, Section 2 – I305 – Student Enrolments by School*, Department for Education, Children and Young People.

Job creation and workforce development

The proposal actively pursues investment and provides opportunities for economic development. The strategy explicitly recognises that when economic indicators improve, the number of people employed increases, and so too does the population rate.

Infrastructure and services to support this growth will be delivered progressively with the development of each stage. Planning approval will be required for each stage, at which point network capacity and any upgrade requirements will be reviewed.

that will benefit both Evandale and the broader region.

Migration

Several factors entice people to relocate to Tasmania, including the exceptional natural beauty, relaxed lifestyle, cultural scene, and overall affordability. The proposal will provide an opportunity for both migrants and locals alike to experience this 'quintessential' Tasmanian lifestyle. As the proposal is informed by an understanding of what makes Evandale unique, any future developments that emerge will directly complement the township by honouring and progressing its historic roots. By providing greater opportunities for people to live and work somewhere that embodies the above desired values (somewhere that is affordable and rural but with access to modern services), the proposal can ultimately attract and retain working-aged populations in the region.

Liveability

The strategy recognises that Tasmania's liveability is one of its key strengths. Here, a place's viability has huge implications for its long-term sustainability. As discussed previously within this report, the need to sustain a viable working-age population is of critical importance in supporting the economic and social welfare of a place. To foster a culture that is vibrant, inclusive, respectful and supportive, the proposal will provide for future development that is supportive of the above, but also sensitive to the Evandale location as well.

The physical provision of new public open space areas and corridors throughout the Expansion Plan will also value add to the existing supply of land for passive recreation and opportunities for new parks and playgrounds.

7.3 GREATER LAUNCESTON PLAN 2014

The Greater Launceston Plan (GLP) is a major strategic plan to develop a coordinated approach to the sustainable development of the City and broader greater urban area. The primary reference area for the plan includes the Northern Midlands township of Evandale and therefore requires consideration.

Under the plan, the township of Evandale is described as a predominantly residential community located in the vicinity of the Launceston airport, western junction industrial precinct and within approximately 20 kilometres of the City CBD. The plan provides an outline for development within established urban areas and identifies growth areas.

The plan highlights the need to:

> *ensure that the effective land supply for residential development in designated established suburbs or growth areas will provide for a minimum of 10 years supply provision and a maximum of 15 years supply provision plus an allowance for a rolling reserve of 7 years which should be maintained and augmented over the supply period.*

Based on the current residential land supply in Evandale, SGS has predicted a theoretical supply of 261 dwellings in Perth/Evandale, however, if the realisation rate is 25 -50 per cent there will

be a shortfall of 195 -420 dwellings in the Northern Midlands in the next 15 years. SGS states “From a strategic perspective to optimise the residential housing market and maintain housing affordability, there is a need to start rezoning suitable land for residential use” (SGS, 2022, p. 28).

PERTH

Based on low, medium and high population projections for Perth, the demand for further residential properties is expected to be in the range of up to 226-605 new dwellings by 2036 (Perth Structure Plan, 2017).



Figure 34: Current extent of Residential zoned land in Perth (source: the LISTmap, 2023).

LONGFORD

For Longford, the availability of vacant general residential zoned land is currently less than 7ha – which can yield anywhere between 70-200 new lots. It is acknowledged that land supply in Longford is limited to the existing town boundary due to the location of the flood levees and other low-lying land north of the town.

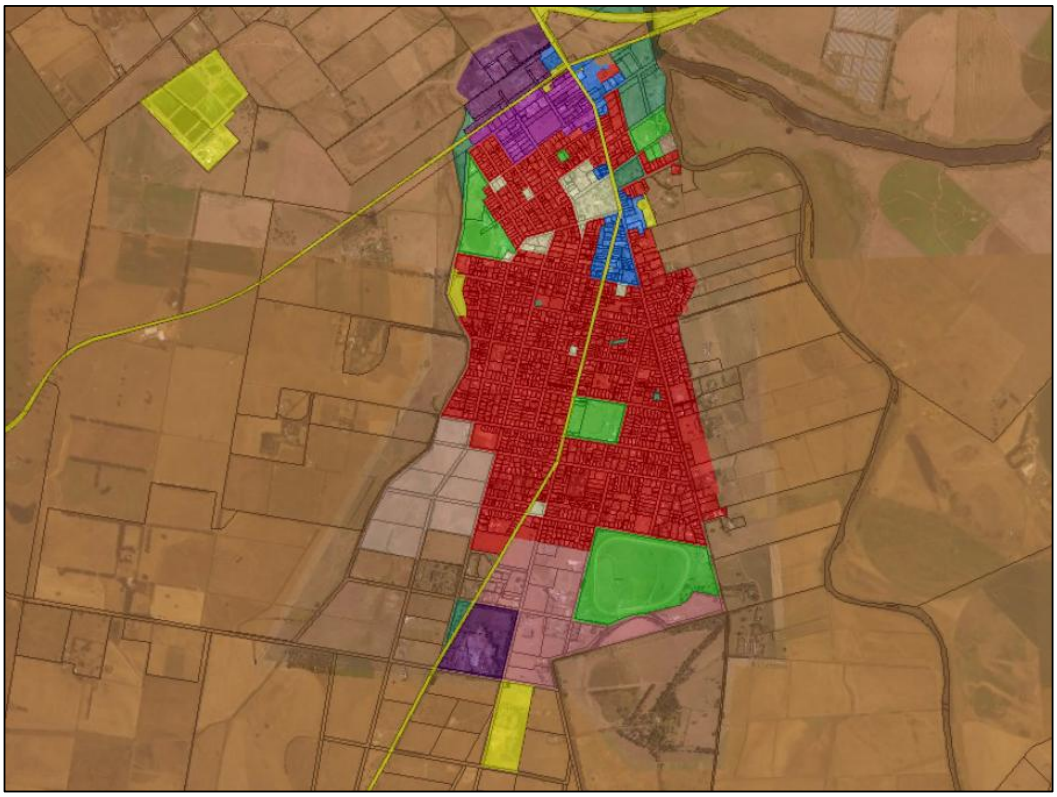


Figure 35: current extent of Residential zoned land in Longford (source: the LISTmap, 2023).

EVANDALE

The following demonstrates the extent of developed land within proximity to the site, relative to the respective zoning.



Figure 36: current extent of Residential zoned land in Evandale (source: the LISTmap, 2023).

There is a portion of land to the east of the township zoned General Residential that is currently vacant. This land is potentially developable for minimum lot sizes of 600m2 as required by the Evandale Specific Area Plan. With approximately 7.3ha, the site could yield approximately 79 lots (allowing for 10% open space and 25% for the road network).

There are two additional vacant general residential lots to the north, which could allow for an additional 98 lots approximately. This land is subject to the Evandale Specific Area plan, which places significant restrictions on the development of residential land (requiring specific consideration of built form, heritage and streetscape character). Through the proposed extension of the SAP, these restrictions will also apply to subsequent development within the proposed Expansion Plan.

Even with the current availability of residential land in Evandale, Longford and Perth, it becomes evident that there is still a shortfall to the requirements as outlined within the Greater Launceston Plan. According to the Greater Launceston plan, additional land stocks will be required to meet prospective residential land demands over the second planning period between 2021-2036. Whilst the site is not located within a growth area or a priority investigation area, the areas indicated in the Regional Framework Plan are indicative only and represent a contiguous urban form that will be subject to detailed local planning.

Hence, adjustments to the existing Urban Growth Area can be undertaken pending support for the amendment from the Council and Tasmanian Planning Commission.

7.4 NORTHERN MIDLANDS COUNCIL STRATEGIC PLAN 2021-2027

The Northern Midlands Council Strategic Plan 2017-2027 defines the Council's vision, mission and values. It aims to make the Northern Midlands an enviable place to live, work and play by guiding the development of annual plans and other documents to deliver the objectives of the Strategic Plan.

The plan was updated in 2021, following a review by elected members and council staff.

The relevant focus areas are explored below:

Progress

This goal primarily recognises the importance of supporting growth and prosperity in achieving economic development. Here, the importance of sustainable and strategic growth is paramount. Sustainability not only relates to sustainable development (i.e. meeting the needs of the present without compromising those of the future) but also sustaining local economies.

The proposal will contribute to the growth and renewal of the population by attracting a diverse mix of new residents (including families) which will directly correlate with an increased demand for local service businesses in Evandale and surrounds.

One of the key economic strengths of the town is its appeal as a tourist destination. However, the economic viability of the township cannot be sustained alone on frequenting populations. The need to attract investment and financial injection is paramount to sustaining the future permanent population of Evandale.

The proposal intends not only to build local community capacity to sustain economic growth but will do so in a manner that is strategically directed. The proposal has been strategically revised since its inception in 2017 to deliver outcomes that specifically benefit the local community both today and in the future.

People

This goal primarily relates to the culture and society of Evandale. A key component of this goal relates to the lifestyle afforded by living in the township.

As discussed previously under the NTRLUS assessment, the aging and static population of the township will continue to have several implications on the liveability and overall culture the town affords. This will increasingly impinge on the town's viability in future.

The proposal will provide for the retention of the cultural essence of the township (notably the historic and landscape values), whilst allowing for an opportunity for desirable development that will encourage more people to live and experience it as well. The proposal seeks to provide for attractive and liveable development that will support and encourage future generations to live, work and play in Evandale. In doing so, the proposal seeks to contribute to the overall sense of place of the township.

Furthermore, the proposal has allowed several opportunities for public involvement and commentary since its original inception in 2017. The engagement and participation of the community have allowed for the proposal to evolve into a scalable and more appropriate development to best espouse a 'sense of place' as desired by the community.

Place

Evandale is steeped in rich cultural heritage that is recognised as important both locally and on a broader scale. The town's historic buildings, picturesque streetscape, and vibrant community events (such as the Evandale Village Fair) make it an appealing place to visit. The preservation of

this heritage is crucial in promoting cultural tourism that directly supports the local economy. Not only this, but the town's heritage also plays a critical role in the community's sense of identity.

A key component of the proposal is its contribution to this sense of place through desirable, strategic and targeted development. A core component is to retain the important cultural and natural landscapes that give Evandale its rural and historic identity. The location of the proposal respects the visual and historical character of the township, and the proposed extension of the existing Evandale Specific Area Plan will ensure this character is maintained throughout the Expansion Plan. Through its location along the urban fringe of the township, the proposal will provide a logical extension to the more modern development that already exists east of the town centre. The proposal will retain this cultural amenity by providing for development that meets future lifestyle requirements whilst being sympathetic to the context of the place. The proposal will promote attractive and liveable places by allowing for the expansion of the town to occur positively and sympathetically.

7.5 INTEGRATED PRIORITY PROJECTS PLAN 2021

The purpose of this plan is to provide coordination between local, regional and federal plans. The Integrated Priority Projects Plan 2021 is guided by the vision, mission and values in the *Northern Midlands Council Strategic Plan 2017-2027*. The foundation projects identified in the *Integrated Priority Projects Plan 2021* seek to provide transformative impacts on the community to improve regional prosperity.

The plan acknowledges the potential for future large-scale subdivisions in places such as Evandale, and the need to provide infrastructure to accommodate such growth. As such, one of the key enabling projects acknowledged within the plan is the improvement of transport infrastructure to Evandale by 2023. This includes upgrades to Evandale Main Road from Breadalbane Roundabout to Leighlands Road (6km) as well as several shared pathways. These upgrades will benefit the region by improving travel time reliability and safety outcomes and catering for growth in the movement of goods and people.

Furthermore, the Council is currently working in tandem with TasWater and TasNetworks to determine what servicing upgrades will also be required to support such potential future subdivisions. Some identified upgrades include:

- Electricity network upgrades –an upgraded supply from Hadspen to cater for Evandale, Perth and Cressy.
- Water and sewer network upgrades –TasWater is currently undertaking a strategic review of sewage treatment plants (STPs) in the Meander Valley and portions of the Northern Midlands (including Perth and Evandale). Among other items, this will determine the viability of rationalising plants in the Northern Midlands area to a single STP in Longford to accommodate for growth and development.

The plan ultimately provides evidence of anticipated growth, particularly in regional areas such as Evandale. The strategic importance of such growth, and supporting it appropriately with targeted actions and projects, is also discussed extensively within the plan. The proposal is therefore determined to significantly align with the future strategy and growth anticipated within this plan.

7.6 NORTHERN TASMANIAN REGIONAL ECONOMIC DEVELOPMENT STRATEGY

The Northern Tasmanian Regional Economic Development Strategy was developed in 2019 and sets out the long-term economic strategies for the region. It sets a vision for Northern Tasmania to be Australia's most liveable and innovative region by 2031 by providing opportunities for the region to 'succeed' and 'grow'.

The following strategic priorities are considered relevant to the proposal.

Population growth

The strategy highlights that 10,000 additional workers will be required to meet the needs of a growing economy by 2031 across Northern Tasmania. As previously discussed, the population of Evandale is currently aging, and there is an identified need to attract and retain working-age people.

Future development of the site will provide for several direct employment opportunities, ranging from the construction through to the operation phase. Increasing the population also requires broader consideration of the planning and infrastructure required to accommodate and retain growth. Here, the strategy identifies the demand for housing is an integral part of this process.

The proposal is intended to attract and retain a working-age population to the region by providing a range of housing types to accommodate growth. The proposal is intended to increase the capacity for people to live and work remotely, whilst also being within commuting proximity to employment hubs such as Launceston and the Western Junction Industrial Precinct.

Investment

To ensure the region remains competitive, there is a target to increase public and private investment by an additional 40% by 2031. Such injection is required to nurture and support a resilient economy. The strategy specifically recognises the need to attract additional private sector support, with a key priority area of advocating at a regional level for investment in infrastructure projects.

The proposal will attract private industry investment to increase economic resilience and population growth. The proposal is estimated to be valued at a benefit-cost ratio of 1:58 with a net present value of approximately $27.4 million.

This includes investment associated with the aged-care / retirement living opportunities earmarked for the final stage of the Expansion Plan.

Over the evaluation period, 2022 to 2047, all options will contribute positively to the overall welfare of Tasmanians, with much of the welfare gain enjoyed in Evandale and Northern Midlands specifically, as outlined in the accompanying Cost Benefit Analysis by SGS.

Infrastructure

The provision of infrastructure is recognised as crucial in providing positive economic, environmental and social outcomes to the region. Priority infrastructure includes placemaking infrastructure that provides amenities, services, culture, and facilities, that make the region more attractive to people who want to stay long-term.

The proposal will provide for appropriately zoned land that is supportive of town planning principles and regulatory frameworks. The proposed rezoning will allow for high-quality infrastructure to enhance lifestyle factors in Evandale. Through the enhancement of liveability, vibrancy and identity in the region, the proposal can support a diverse population.

7.7 EVANDALE DEVELOPMENT PLAN (2012) – PITT & SHERRY

This development plan was commissioned by Northern Midlands Council and issued in 2012. The objective was to provide a broad development framework to guide Council in considering subdivision and development proposals for Evandale.

There have been several previous studies and plans prepared for Evandale to guide future expansion, including:

- Goldin Report (1990)

- Wendy Morris Plan and Report (1991)

Additional reports and guidelines were also prepared by various consultants in the intervening years, which have assisted in the establishment of the current Evandale Specific Area Plan and the Cambock Lane and Logan Road development precinct masterplans.

These plans/reports took into account the area forming part of this application, identifying potential for residential expansion. The land at 38 Arthur Street was identified in the report as an area that should be rezoned for residential development, with the report stating:

> *The site is a natural extension of the urban area and can be developed with little or no visual impact on the surrounding heritage area of Evandale. This site is not impacted by any of the shown bypass routes. Being in a single ownership this site would be relatively easy to develop and to link to existing road networks.*
>
> *This site would be the highest priority area for development but for the Reserved Residential zoning. Its single ownership and secluded location from the heritage area still makes this an attractive site for development. Under the new Northern Midlands Planning Scheme this site should be considered for a General Residential zoning.*

Despite the recommendation, it appears the site was not re-zoned General Residential during the implementation of the former Northern Midlands Interim Planning Scheme.

The existing Cambock Lane and Logan Road areas were also identified, and these areas were included in the Evandale Specific Area Plan as development precincts. It is understood that a subdivision application has been lodged with Council for the Cambock Lane development precinct.

The Pitt and Sherry plan also identifies portions of 4 Ridgeside Lane and 211 Logan Road as suitable for residential expansion, which also form part of this amendment.

7.8 ZONE APPLICATION GUIDELINES

The following provides a response to the relevant Zone Application Guidelines, prepared by the Tasmanian Planning Commission.

As outlined in section 1.1 and section 6 of this report, the amendment seeks to apply a number of zones to designated areas within the proposed Evandale Expansion Plan, which will form part of an extension to the Evandale Specific Area Plan. These zones include:

- General Residential
- Rural Living
- Community Purpose
- Local Business; and
- Open Space

The guidelines are considered in greater detail in the following sections.

7.8.1 GENERAL RESIDENTIAL ZONE

The following guidelines apply:

> ***GRZ 1** - The General Residential Zone should be applied to the main urban residential areas within each municipal area which:*
>
> *(a) are not targeted for higher densities (see Inner Residential Zone); and*

(b) are connected, or intended to be connected, to a reticulated water supply service and a reticulated sewerage system.

The Plan proposes to extend the urban area of the township, to cater for increased dwelling demand outlined in the accompanying SGS residential supply and demand report.

The Plan is to be staged, ensuring lots/areas that are serviced or capable of being serviced within existing infrastructure capacity are delivered first.

***GRZ 2** - The General Residential Zone may be applied to green-field, brown-field or grey-field areas that have been identified for future urban residential use and development if:*

(a) within the General Residential Zone in an interim planning scheme;

(b) within an equivalent zone under a section 29 planning scheme; or

(c) justified in accordance with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council; and

(d) is currently connected, or the intention is for the future lots to be connected, to a reticulated water supply service and a reticulated sewerage system,

Note: The Future Urban Zone may be used for future urban land for residential use and development where the intention is to prepare detailed structure/precinct plans to guide future development.

The areas earmarked for General Residential zoning within the expansion plan are considered 'greenfield' areas, however the areas do not meet criteria (a) or (b). Therefore, criteria (c) and (d) are relevant.

The assessment against the STRLUS, provided in section 5.1 and 5.6 of this report provide a detailed local strategic analysis, supported by the accompanying economic (cost-benefit) and land supply/demand analysis.

With respect to service connections, the accompanying concept servicing documentation demonstrates an intent for all lots to be sequentially serviced, as each stage is delivered. It is noted the delivery of each stage and associated infrastructure will be dependent on the capacity of water/sewer infrastructure. To this end, MRC engineers have prepared a staged infrastructure plan to assist ongoing discussions with TasWater.

***GRZ 3** - The General Residential Zone should not be applied to land that is highly constrained by hazards, natural values (i.e. threatened vegetation communities) or other impediments to developing the land consistent with the zone purpose of the General Residential Zone, except where those issues have been taken into account and appropriate management put into place during the rezoning process.*

A detailed review of the site, including identification and consideration of hazards, natural values and potential for land use conflicts is provided in section 2 of this report. Consideration of specific planning codes and overlay provisions is provided in section 3.2.

The analysis indicates the only significant hazard across the site is bushfire. However, this has been appropriately considered in the design and layout of the Plan and each stage of the subdivision will require provision of further bushfire management plans.

Potential habitat for the vulnerable Green and Gold Frog (Lanis raniformis) has been identified within an existing dam on the site, as outlined previously in this report. In response, the layout of the Plan has been revised to ensure the dam is retained in-situ.

Given the above, the application of the General Residential Zone to the given parcels of land is broadly consistent with the zone application guidelines.

7.8.2 Rural Living Zone

The zone application guidelines for the Rural Living Zone are considered below:

> ***RLZ 1*** *- The Rural Living Zone should be applied to:*
>
> *(a) residential areas with larger lots, where existing and intended use is a mix between residential and lower order rural activities (e.g. hobby farming), but priority is given to the protection of residential amenity; or*
>
> *(b) land that is currently a Rural Living Zone within an interim planning scheme or a section 29 planning scheme, unless RLZ 4 below applies.*

Application of the RLZ to the proposed 'lifestyle' lots abutting the northern and eastern boundary of the Expansion Plan area, would be consistent with (a), given the purpose and intent of the lots.

> ***RLZ 2*** *- The Rural Living Zone should not be applied to land that is not currently within an interim planning scheme Rural Living Zone, unless:*
>
> *(a) consistent with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council; or*
>
> *(b) the land is within the Environmental Living Zone in an interim planning scheme and the primary strategic intention is for residential use and development within a rural setting and a similar minimum allowable lot size is being applied, such as, applying the Rural Living Zone D where the minimum lot size is 10 ha or greater.*
>
> ***RLZ 3*** *- The differentiation between Rural Living Zone A, Rural Living Zone B, Rural Living Zone C or Rural Living Zone D should be based on :*
>
> *(a) a reflection of the existing pattern and density of development within the rural living area; or*
>
> *(b) further strategic justification to support the chosen minimum lot sizes consistent with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council.*

With regard to RLZ 2, the provision of additional Rural Living land to accommodate the proposed 'lifestyle' lots would be contingent on support from the Planning Authority, which in turn would be based on the strategic merits of the broader Expansion Plan.

It is noted the RLZ is used within Evandale, catering for six (6) lots on the northern edge of the township, accessed via White Hills Road and Ridgeside Lane. These lots are designated within Area C, which requires a minimum permitted lot size of 10ha. Given all six have areas less than 10ha, further subdivision of these lots is prohibited. It was accepted through the Draft LPS process that the application of the zone to these lots would provide a buffer between surrounding agricultural uses and the township.

Applying the zone to the 'lifestyle' lots along the periphery of the proposed Expansion Plan would read as a logical extension to the existing area, creating a consistent zoning transition across the north and east of the township. Most of the proposed 'lifestyle' lots fall below the minimum permitted lot size for RLZ Area A, with only a handful exceeding 1ha, meaning further subdivision would be prohibited.

However, the application of RLZ (Area C) may be more appropriate to provide consistency with existing RLZ areas.

This approach and the application of the RLZ would be consistent with the purpose of the 'lifestyle' lots and broadly aligns with the NTRLUS, specifically G-RSN-A7 (as these lots would be outside the revised UGB).

> ***RLZ 4*** *- The Rural Living Zone should not be applied to land that:*
>
> *(a) is suitable and targeted for future greenfield urban development;*
>
> *(b) contains important landscape values that are identified for protection and conservation, such as bushland areas, large areas of native vegetation, or areas of important scenic values (see Landscape Conservation Zone), unless the values can be appropriately managed through the application and operation of the relevant codes; or*
>
> *(c) is identified in the 'Land Potentially Suitable for Agriculture Zone' available on the LIST (see Agriculture Zone), unless the Rural Living Zone can be justified in accordance with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council.*

Point (a) is not applicable as the land to which the RLZ may be suitably applied, is not earmarked for future greenfield development. Regarding point (b), the accompanying natural values assessment has not identified any significant landscape/scenic values, or any large areas of native vegetation that would require protection and conservation. Although a small area of habitat for the threatened Green and Gold Frog has been identified within an existing dam on the site, the dam is to be retained and there is insufficient justification for the application of the Landscape Conservation Zone.

Notwithstanding, the application of the zone to the outer extent of the Expansion Plan also assist in preserving the rural setting of the township.

Regarding point (c), all land contained within the Expansion Plan area is currently zoned Agriculture and is considered unconstrained in the *Land Potentially Suitable for Agriculture Zone*. However, the amendment is accompanied by an agricultural assessment prepared by Pinion Advisory, which indicates that whilst the Expansion Plan and subsequent development would result in some loss of agricultural land, the land has a negligible level of local and regional significance within the agricultural context, given the following:

- The subject land holdings represent less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area) and less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas).

As a result, the application of alternate zoning across the site(s) will not result in a significant loss of agricultural land. The figure below indicates the extent of the Rural Living Zone, applied in the manner outlined above.

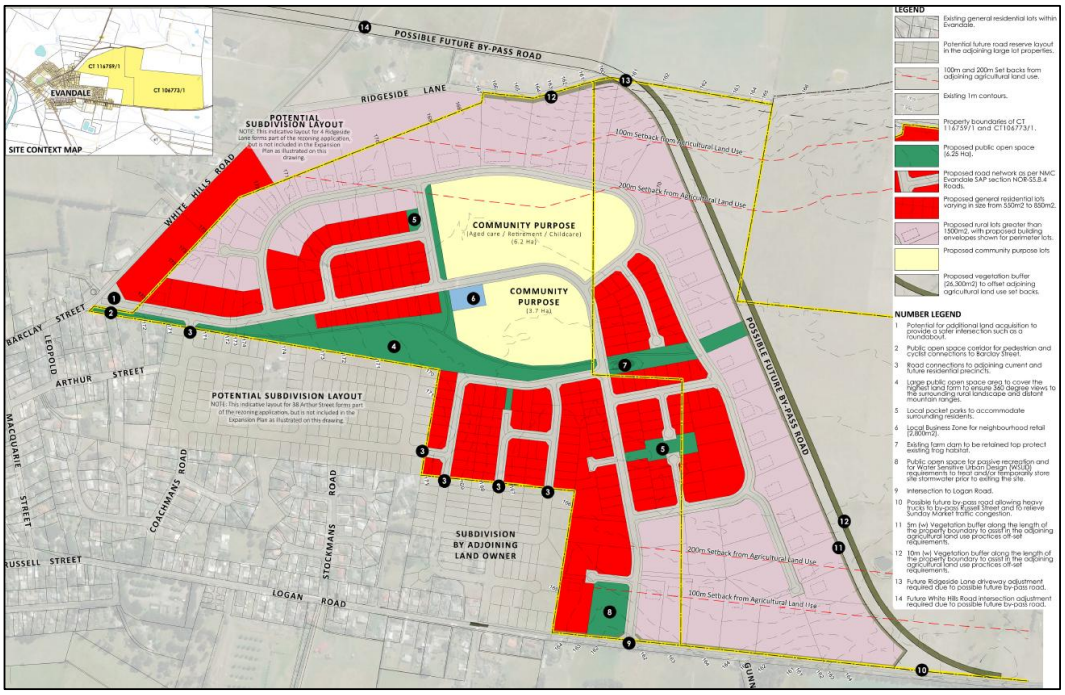


Figure 37: Extent of Rural Living Zone (Area C), shown pink - as per option 2 (source: Lange Design)

Based on the above, Option 2 does appear to carry more strategic weight and is far more consistent with the purpose and provision of these lifestyle lots. However, further consideration of relevant policies/principals under the Northern Tasmanian Regional Land Use Strategy is necessary and is provided in section 4 of this report.

7.8.3 Community Purpose Zone

The Expansion Plan includes two large Community Purpose lots. The first 3.6ha portion will be delivered in Stage 4A, whilst the larger 3.6ha portion will be delivered in the final stage (Stage 8).

Future use and development within the 3.6ha portion will be primarily driven by community needs, noting that the zone accommodates a range of use/development, including but not limited to:

- Business and Professional Services, including but not limited to:
    - A medical centre and community-based organisations
- Community Meeting and Entertainment
- Educational and Occasional Care
- General Retail and Hire – only if for a market; and
- Sports and Recreation

Whilst this provides a reasonable level of flexibility, it also ensures the land will be developed in a manner that provides for the community and will contribute to the range of services, facilities and amenities as forecast demand increases.

The larger 6.2ha portion is earmarked for delivery in the final stage (Stage 8) and will provide opportunities for possible aged care/retirement living and childcare facilities. This allows sufficient time to gauge support from existing and future residents, market demand and demographic changes along with a range of other metrics, to ensure the viability of future development whilst maintaining the township character.

The TPC has specified the following guidelines in applying the Community Purpose Zone.

> ***CPZ 1*** *- The Community Purpose Zone should be applied to land that provides, or is intended to provide, for key community facilities and services, including:*
>
> *(a) schools, tertiary institutions or other education facilities;*
>
> *(b) medical centres, hospital services or other care-based facilities;*
>
> *(c) emergency services facilities; or*
>
> *(d) large community halls, places of worship or other key community or cultural facilities.*
>
> ***CPZ 2*** *- Some community facilities and services may be zoned the same as the surrounding zone, such as a residential or business zone, if the zone is appropriate for the nature or scale of the intended use, such as a small scale place of worship, public hall, community centre or neighbourhood centre.*
>
> *Note: Major community facilities and services, such as tertiary educational facilities and hospital services, with unique characteristics may be more appropriately located within a Particular Purpose Zone.*

The areas set-aside for Community Purpose within the Expansion Plan are consistent with the zone application guidelines, providing opportunities for a range of community facilities and services that are not otherwise envisaged in the General Residential Zone.

Whilst the land area allocated within the Community Purpose Zone is significant, the broad range of potential use/development allowable within the zone often require larger land holdings for functionality and viability.

7.8.4 Local Business Zone

A response to the guidelines is provided below:

> ***LBZ 1*** *- The Local Business Zone should be applied to land within urban settlements which provides, or is intended to provide, for the business, commercial and community functions within:*
>
> *(a) local shopping strips; or*
>
> *(b) town centres for some smaller settlements.*
>
> ***LBZ 2*** *- The Local Business Zone may be applied to:*
>
> *(a) Local Centres and the lower order Minor or Neighbourhood Centres in the Activity Centre Network under the Southern Tasmania Regional Land Use Strategy;*
>
> *(b) Local or Minor Centres and the Neighbourhood or Rural Town Centres in the Regional Activity Centre Hierarchy under the Regional Land Use Strategy of Northern Tasmania; and*
>
> *(c) the main retail and business areas of Local Service Centres and Localities in the activity centres description in the Cradle Coast Regional Land Use Strategy.*

The basis for providing a limited area of Local Business land is to cater for the likely increase in demand for local goods/services, as each stage of the Expansion Plan is developed. However, the intent is to ensure what is provided does not unreasonably impact existing businesses in the township. This is achieved by restricted the physical area in which the zone applies to no more than 2,800m2.

LBZ 2 allows for the provision of Local Business land in Neighbourhood or Town Centres, as specified under the NTRLUS. Evandale is identified as a Neighbourhood Centre.

> ***LBZ 3*** *- The Local Business Zone may be used for groups of local shops and businesses in existing residential areas where there is a strategic intention to maintain such uses, and the provisions of the surrounding residential zone are not appropriate.*

Not directly applicable.

> ***LBZ 4*** *- The Local Business Zone should not be used for individual, isolated local shops or businesses within residential areas, unless:*
>
> *(a) they are a use, or are of a scale, that is more appropriate for the Local Business Zone and there is an intention to maintain the use; or*
>
> *(b) there is a strategic intention to expand the existing retail or business area in this locality consistent with the relevant regional land use strategy, or supported by more detailed local strategic analysis consistent with the relevant regional land use strategy and endorsed by the relevant council.*

The proposed Local Business Area is of a sufficient size to support several local businesses in a defined area, to account for likely increase in demand whilst minimising impact on the existing activity centre hierarchy.

7.8.5 Open Space Zone

A response to the guidelines is provided below:

> ***OSZ 1*** *- The Open Space Zone should be applied to land that provides, or is intended to provide, for the open space needs of the community, including land identified for:*
>
> *(a) passive recreational opportunities; or*
>
> *(b) natural or landscape amenity within an urban setting.*

The zone has been applied to all areas intended to serve as public open/recreational space within the Expansion Plan.

> ***OSZ 2*** *- The Open Space Zone may be applied to land seaward of the high water mark where it includes existing, or is intended for, passive recreation opportunities.*

Not applicable.

> ***OSZ 3*** *- The Open Space Zone should generally only be applied to public land, but may be applied to privately owned land if it has been strategically identified for open space purposes.*

It is expected that as each stage of the Expansion Plan is delivered, ownership and management of the corresponding areas of public open space will be transferred to Council, as public land.

> ***OSZ 4*** *- The Open Space Zone should not be applied to land:*
>
> *(a) with significant natural values (see Environmental Management Zone); or*
>
> *(b) with, or intended for, formal recreational facilities, such as sporting grounds, golf courses, racecourses or major sporting facilities (see Recreation Zone).*

Whilst the site contains some isolated natural values (as outlined previously in this report), the application of the zone is considered appropriate.

8. REQUIREMENTS UNDER LUPAA

8.1 SECTION 37

Section 37 requires amendments to the Local Provisions Schedule to be considered against the following:

1) *A person may request a planning authority to amend an LPS that applies to the municipal area of the planning authority.*
2) *A request under subsection (1) is to be in a form approved by the planning authority or, if a form has been approved by the Commission, is to be in that form.*
3) *A request under subsection (1) by a person to a planning authority to amend the zoning or use or development of one or more parcels of land specified in an LPS must, if the person is not the owner, or the sole owner, of the land –*
   (i) be signed by each owner of the land; or
   (ii) be accompanied by the written permission of each owner of the land to the making of the request.

Landowner consent is provided as part of this application.

Within this *Act*, any relevant planning instrument must meet Section 34 – LPS Criteria.

8.2 SECTION 34 - LPS CRITERIA

Section 34(2) of the *Land Use Planning and Approval Act 1993*, sets out the LPS Criteria, for which amendments to the Local Provisions Schedules must satisfy, as follows:

(2) The LPS criteria to be met by a relevant planning instrument are that the instrument

(a) contains all the provisions that the SPPs specify must be contained in an LPS; and

The proposal is for a rezoning and a such will contain all the provisions that the SPPs specific must be contained in an LPS.

(b) is in accordance with section 32; and

(c) furthers the objectives set out in Schedule 1; and

A response to section 32 and the objectives set out in Schedule 1 is provided in the following sections.

(d) is consistent with each State policy; and

(da) satisfies the relevant criteria in relation to the TPPs; and

A response to the relevant State policies has been provided in the following sections. The proposal satisfies the relevant criteria in relation to the *TPPs*.

(e) as far as practicable, is consistent with the regional land use strategy, if any, for the regional area in which is situated the land to which the relevant planning instrument relates; and

(f) has regard to the strategic plan, prepared under section 66 of the Local Government Act 1993, that applies in relation to the land to which the relevant planning instrument relates; and

(g) as far as practicable, is consistent with and co-ordinated with any LPSs that apply to municipal areas that are adjacent to the municipal area to which the relevant planning instrument relates; and

As detailed in section 5 of this report, the proposed amendment is consistent with the relevant goals and strategic directions of the NTRLUS and the relevant local strategic documents.

(h) has regard to the safety requirements set out in the standards prescribed under the Gas Safety Act 2019.

The provision of infrastructure such as gas has not been determined at this stage and will form part of subsequent subdivision applications.

(2A) A relevant planning instrument satisfies the relevant criteria in relation to the TPPs if-

(a) where the SPPs and the relevant regional land use strategy have not been reviewed under section 30T(1) or section 5A(8) after the TPPs, or an amendment to the TPPs, is or are made – the relevant planning instrument is consistent with the TPPs, as in force before the relevant planning instrument is made; and

(b) whether or not the SPPs and the applicable regional land use strategy have been reviewed under section 30T(1) or section 5A(8) after the TPPs, or an amendment to the TPPs, is or are made – the relevant planning instrument complies with each direction, contained in the TPPs in accordance with section 12B(3) , as to the manner in which the TPPs are to be implemented into the LPSs.

(3) An amendment of an LPS, or a draft amendment of an LPS, is taken to meet the LPS criteria if the amendment of the LPS, or the draft amendment of the LPS, if made, will not have the effect that the LPS, as amended, will cease to meet the LPS criteria.

The proposal seeks to modify the Northern Midlands Local Provisions Schedules through the expansion of the Evandale Specific Area Plan, to include the subject site. However, this change will not affect the function of LPS.

The following sections provide a response to points (c), (d) and (da), demonstrating compliance with s.34(2).

8.2.1 Compliance with Section 32

Section 32 of the *Land Use Planning and Approval Act 1993*, sets out the following criteria:

SECTION 32 CLAUSE	RESPONSE
(1) An LPS is to consist of provisions that apply only to a single municipal area specified in the LPS.	The LPS applies only to land within the Northern Midlands municipality.
(2) An LPS – *(a) must specify the municipal area to which its provisions apply; and*	The LPS applies to the Northern Midlands.
(b) must contain a provision that the SPPs require to be included in an LPS; and	The proposal is for a rezoning and a such will contain all the provisions that the SPPs specify must be contained in the LPS.
(c) must contain a map, an overlay, a list, or another provision, that provides for the spatial application of the SPPs to land, if required to do so by the SPPs; and	The spatial mapping of the proposed zoning will be implemented subject to approval of the Section 37 request.

(d) may, subject to this Act, contain any provision in relation to the municipal area that may, under section 11 or 12, be included in the Tasmanian Planning Scheme; and	The proposal is consistent with this.
(e) may contain a map, an overlay, a list, or another provision, that provides for the spatial application of the SPPs to particular land; and	The application requests the rezoning of the entirety of: • Logan Road (CT116759/1) • 38 Arthur Street • 4 Ridgeside Lane; and • A 32ha portion of 211 Logan Road.
(f) must not contain a provision that is inconsistent with a provision of section 11 or 12; and	The proposal is consistent with Section 11 and 12.
(g) may designate land as being reserved for public purposes; and	The proposal includes areas to be zoned Open Space.
(h) may, if permitted to do so by the SPPs, provide for the detail of the SPPs in respect of, or the application of the SPPs to, a particular place or matter; and	No specific details relating to the place or matter are proposed beyond what the SPP provides for.
(i) may, if permitted to do so by the SPPs, override a provision of the SPPs; and	No provision of the SPP is proposed to be overridden.
(j) may, if permitted to do so by the SPPs, modify, in relation to a part of the municipal area, the application of a provision of the SPPs; and	No modification of the SPP is proposed.
(k) may, subject to this Act, include any other provision that – *(i) is not a provision of the SPPs or inconsistent with a provision of the SPPs; and* *(ii) is permitted by the SPPs to be included in an LPS; and*	No additional provisions are proposed.
(l) must not contain a provision that the SPPs specify must not be contained in an LPS.	This is achieved.
(3) Without limiting subsection (2) but subject to subsection (4), an LPS may, if permitted to do so by the SPPs, include – *(a) a particular purpose zone, being a group of provisions consisting of –…* *(b) a specific area plan, being a plan consisting of –*	Whilst no new Specific Area Plan is proposed, the application does seek to expand the existing Evandale Specific Area Plan to encompass the site and proposed future development as a 'development precinct masterplan'.

(i) a map or overlay that delineates a particular area of land; and *(ii) the provisions that are to apply to that land in addition to, in modification of, or in substitution for, a provision, or provisions, of the SPPs* *(c) a site-specific qualification …*	
4) An LPS may only include a provision referred to in subsection (3) in relation to an area of land if - *(a) a use or development to which the provision relates is of significant social, economic or environmental benefit to the State, a region or a municipal area;* *(b)…*	

The Evandale Specific Area Plan is an existing mechanism forming part of the Northern Midlands Local Provisions Schedules. Whilst this application seeks to rezone land east of the township and expand the SAP to encompass the site and control future development within the Expansion Plan, it does propose a new SAP.

As demonstrated in this report and supporting documentation, the amendment and future development will provide significant social and economic benefit to the municipal area and broader region by:

- Catering for further residential growth, population and housing diversity (including aged care/retirement living) and employment opportunities. The accompanying Residential Supply & Demand report demonstrates a need for additional housing to meet forecast demand in the region.
- Providing substantial public open space, providing greater connectivity and movement through the township.
- Providing limited growth for additional local business, to meet anticipated demand whilst respecting the 'township' character and activity centre hierarchy.
- Ensuring future development is undertaken in a manner which respects the existing character and qualities of the township, through the expansion of the existing Evandale Specific Area Plan; and
- Supporting the viability of Evandale Primary School, which is understood to have a capacity for 225 students.

  Data from the Department of Education indicates enrolments at Evandale Primary School declined by 18% between 2018 and 2022, with total enrolments at 129 students in 2022. More recent data published by the Department for Education, Children and Young People (2023 Census 1 figures on student headcount/full time enrolments (FTE) for schools and support schools) indicated a total student enrolment of 126 in 2023.

  The proposed amendment and staged masterplan will address the demand for residential growth, providing more affordable land/development opportunities for new families. This growth is anticipated to increase the number of enrolments, thereby supporting the ongoing viability of Evandale Primary School, assisting to retain and create additional jobs in the education sector.

The accompanying residential supply/demand and cost-benefit analysis demonstrate a need for additional residential land in the municipal area and wider region.

The proposed Expansion Plan has been prepared following extensive community consultation, in which the importance of maintaining the historic 'village' character of the township, whilst considering the need for growth and the values of the surrounding landscape were identified as core elements. This is broadly achieved by the existing Evandale Specific Area Plan, which provides a significant and ongoing social/community benefit by protecting the townships' heritage character whilst catering for new use/development that respects the overall character and liveability of the township.

The Evandale SAP will be extended to encompass the Expansion Plan, ensuring a consistent approach to development that incorporates the key urban design criteria established in the SAP, ensuring new use/development is undertaken in the same manner. The project will provide significant social/community benefits in the form of additional land for housing, opportunities for community, aged care/child-care services/facilities and considerable public open space corridors and parkland.

The delivery of each stage of the Expansion Plan will also generate sequential employment opportunities in the construction sector, along with additional jobs generated by subsequent development within the Community Purpose and Local Business area.

(5) An LPS must be in accordance with the structure, if any, that is indicated, or specified, in the SPPs to be the structure to which an LPS is to conform.	The LPS structure conforms with the requirements of the SPPs.
(6) A provision of an LPS must be in the form, if any, that the SPPs indicate a provision of an LPS is to take.	This can be achieved.
(7) A provision of an LPS in relation to a municipal area is not to be taken to have failed to comply with this section, or to be inconsistent with a provision of the SPPs, by reason only that it is inconsistent with a provision of the SPPs that has not come into effect in relation to the municipal area.	The proposal is consistent with Section 32.

8.2.2 Objectives of Schedule 1

The objectives are considered in the following tables:

PART 1	
PROVISION	**RESPONSE**
(a) to promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity; and	The proposed amendment relates to an area of land which was modified and cleared of original native vegetation many years ago. There will therefore be no significant impact from the proposed rezoning on natural physical resources or ecological processes.

(b) to provide for the fair, orderly and sustainable use and development of air, land and water: and	The rezoning will provide for the fair, orderly and sustainable development by providing a 200m buffer between sensitive uses and agricultural lands to the north. A variable buffer to the south has also been provided, where lower density lots are to be provided. This will ensure that agricultural enterprises on this adjacent land is not unreasonably impeded, and that fair and equitable use of land and resources can occur better than the existing conditions.
(c) to encourage public involvement in resources management and planning; and	The process required for the assessment of amendments to planning schemes provides interested parties with an opportunity to make representations during public exhibition as well as attending subsequent hearings. This process additionally provides Council and subsequently the TPC to consider issues raised during their assessment.
(d) to facilitate economic development in accordance with the objectives set out in paragraphs (a), (b) and (c): and	The proposal is aimed at facilitating economic development by enabling development and use of a site with suitable site characteristics and location for urban development in accordance with the objectives (a), (b) and (c). The proposal will facilitate increased visitor spending, will allow for the direct creation of construction jobs, and will generate new housing and potential employment opportunities for future residents.
(e) to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.	Assessment of the amendment will occur at local and state level and will include the opportunity for involvement of the community.

PART 2	
PROVISION	**RESPONSE**
(a) to require sound strategic planning and co-ordinated action by State and local government; and	The amendment process requires assessment at local and state levels. The proposal is consistent with the strategic directions for the municipality described in the NTRLUS.
(b) to establish a system of planning instruments to be the principle way of setting objectives, policies and controls for the use, development and protection of land;	The system as per LUPAA provides the instruments to achieve these objectives.
(c) to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land;	There are no direct effects caused through the proposed rezoning given there is a range of use and development opportunities available in the current zone. However, all matters related to the future use and development will be considered provisions of the Scheme as part of future applications.

(d) to require land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels;	Not directly applicable to the proposed amendment.
(e) to provide for the consolidation of approvals for land use and development and related matters, and to co-ordinate planning approvals with related approvals;	Not directly applicable to the proposed amendment.
(f) to secure a pleasant, efficient and safe working environment for all Tasmanians and visitors to Tasmania;	This amendment seeks to ensure the zoning is consistent with the designated use of the residential property and therefore ensure a pleasant and efficient living environment; and to ensure the access to open space is efficient and safe working environment.
(g) to conserve those buildings and areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value;	The proposed rezoning does not alter any matter related to historic or cultural significance as identified under the scheme.
(h) to protect public infrastructure and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community; and	The subject land is located with potential access to all required services. Any future application for subdivision or development will be required to detail connection and/or extension to infrastructure. The location is also within proximity to the local business precinct, the local school and the public transport network.
(i) to provide a planning framework which fully considers land capability.	The proposed rezoning considers land capability of the site.

8.3 STATE POLICIES

8.3.1 THE STATE COASTAL POLICY 1996

The purpose of the State Coastal Policy is to protect the natural and cultural values of the coast, provide for sustainable use and development of the coast, and promote shared responsibility for its integrated management and protection. The subject land is not within 1km from the high-water mark, consideration of the State Coastal Policy is not required.

8.3.2 THE STATE POLICY ON WATER QUALITY MANAGEMENT 1997

The purpose of this policy is:

> *To achieve the sustainable management of Tasmania's surface water and groundwater resources by protecting or enhancing their qualities while allowing for sustainable development in accordance with the objectives of Tasmania's Resource Management and Planning System.*

The amendment proposed does not alter any provision which relates to or will have any direct impact on water quality. The proposed rezoning of the subject land will not directly impact on any issues related to water quality (particularly given the existing zone provides a range of use and development opportunities relating to agriculture). Any future subdivision or development applications for the land regardless of the zoning would be required to detail appropriate water management, through connection to services and appropriate stormwater management practices, consistent with this Policy.

8.3.3 The State Policy on the Protection of Agricultural Land 2009

The subject land classification for agricultural capability is class 4. Class 4 is defined as:

> *Land well suited to grazing but which is limited to occasional cropping or a very restricted range of crops.*

The purpose of this Policy is:

> *To conserve and protect agricultural land so that it remains available for the sustainable development of agriculture, recognising the particular importance of prime agricultural land.*

The Principles of the Policy are:

1. Agricultural land is a valuable resource and its use for the sustainable development of agriculture should not be unreasonably confined or restrained by non-agricultural use or development.	The proposed rezoning will not result in fettering or constraint of any nearby agricultural use. Any future use or development of the site is proposed to retain a buffer between sensitive uses and surrounding agricultural land of between 100m-200m. This provides for better outcomes than the existing conditions, where there are no protective/buffer measures between the residential and agricultural interface.
2. Use or development of prime agricultural land should not result in unnecessary conversion to non-agricultural use or agricultural use not dependent on the soil as the growth medium.	The subject land is not prime agricultural land.
3. Use or development, other than residential, of prime agricultural land that is directly associated with, and a subservient part of, an agricultural use of that land is consistent with this Policy.	The subject land is not prime agricultural land.
4. The development of utilities, extractive industries and controlled environment agriculture on prime agricultural land may be allowed, having regard to criteria, …	The subject land is not prime agricultural land.
5. Residential use of agricultural land is consistent with this Policy where it is required as part of an agricultural use or where it does not unreasonably convert agricultural land and does not confine or restrain agricultural use on or in the vicinity of that land.	As detailed previously the subject land has limited value for agricultural purposes. An agricultural assessment by pinion advisory accompanies this application which further details this.
6. Proposals of significant benefit to a region that may cause prime agricultural land to be converted to non-agricultural use or agricultural use not dependent on the soil as a growth medium, and which are not covered by Principles 3, 4 or 5, will need to demonstrate significant benefits to the region based on an assessment of the social, environmental and economic costs and benefits.	The subject land is not prime agricultural land. The proposed development will provide significant economic, social and employment benefits to the region as confirmed within the CBA by SGS.
7. The protection of non-prime agricultural land from conversion to non-agricultural use will be determined through consideration of the local	The proposed rezoning is consistent with this Principle as detailed in the accompanying Agricultural Assessment. The overall area of land represents a negligible proportion of

and regional significance of that land for agricultural use.	similar class 4 land and that of the total land area on a local and broader regional context.
8. Provision must be made for the appropriate protection of agricultural land within irrigation districts proclaimed under Part 9 of the Water Management Act 1999 and may be made for the protection of other areas that may benefit from broad-scale irrigation development.	The North Esk Irrigation Scheme covers a total area of 16,545 ha of irrigable land around White Hills, Relbia and Evandale. The combined area of the proposal is approximately 89ha, representing less than 0.9% of the total irrigable land within the NEIS. The proposal will not therefore result in significant impact on irrigation districts within the state.
9. Planning schemes must not prohibit or require a discretionary permit for an agricultural use on land zoned for rural purposes where that use depends on the soil as the growth medium, except as prescribed in Principles 10 and 11.	Not relevant to proposed amendment.
10. New plantation forestry must not be established on prime agricultural land unless a planning scheme …	Not relevant to proposed amendment.
11. Planning schemes may require a discretionary permit for plantation forestry where it is necessary to protect, maintain and develop existing agricultural uses that are the recognised fundamental and critical components of the economy of the entire municipal area, and are essential to maintaining the sustainability of that economy.	Not relevant to proposed amendment.

8.4 NATIONAL ENVIRONMENT PROTECTION MEASURES (NEPMS)

NEPMs are not state policies but have the same status and are taken to be State Policies in Tasmania for the purpose of compliance with Section 34. NEPMs are made under Commonwealth legislation and given effect in Tasmania through the State Policies and Projects Act. The current NEPMs are:

- Air Toxics
- Ambient Air Quality
- Assessment of Site Contamination
- Diesel Vehicle Emissions
- Movement of Controlled Waste
- National Pollutant Inventory
- Used Packaging

The Codes within the Scheme deal in detail with the relevant matters (noise and air quality) and the assessment of an application can be undertaken against the appropriate Use and Development Standards. The proposed amendment is not considered affected by the other NEPMS.

A preliminary site investigation was undertaken in 2023 by Pitt & Sherry, which accompanies this submission. The report outlines recommendations to address areas of potential contamination (historical waste deposits, abandoned building (asbestos), septic tanks and soil quality (pesticides).

Further assessments may be required as part of subsequent development applications, if the proposed amendments are approved.

8.1 POTENTIAL FOR LAND USE CONFLICT

Evandale primarily supports residential use and development but is surrounded by Agricultural land and associated rural activities.

Currently, many existing residential areas along the edges of the township directly adjoin Agricultural land with no buffers or transitions provided to alleviate potential conflicts. This is particularly evident along the township's northern interface.

Whilst the proposed Expansion Plan incorporates new general residential land along this northern interface, the proposed 'lifestyle' living lots are positioned along the outer extent of the Expansion Plan, providing a transition between new and existing higher density residential areas and existing Agricultural land.

An additional portion of land has been set-aside along the outer extent of the Expansion Plan area, the purpose of which was to cater for a potential by-pass road in response to matters raised during the community consultation process. The accompanying traffic assessment does specify any need for the by-pass, but the area set-aside has been retained and will serve as an additional buffer from adjoining Agricultural land.

It is noted the agricultural land to which the Expansion abuts is owned by Traders in Purple.

Given the above, the proposed amendment and future implementation of the Expansion Plan is not expected to give rise to any significant or unreasonable land use conflicts.

9. AMENDMENT FORMAT

9.1 INTENT OF THE AMENDMENT

The amendment seeks to implement the following modifications to the Northern Midlands Local Provisions Schedules and apply the following mix of zones:

- To expand the Evandale Specific Area Plan to encompass the subject sites and embed the proposed Expansion Plan as a 'precinct development masterplan'.
- To apply the following mix of zones across the subject sites:
    - General Residential
    - Rural Living
    - Community Purpose
    - Local Business; and
    - Open Space.

The purpose of the rezoning is to facilitate the future subdivision/development of the site as outlined in the Evandale Expansion Plan. The plan will provide a range of residential lots to cater for current/future growth and demand and contribute to housing diversity.

The expansion of the Evandale Specific Area Plan to encompass the site and inclusion of the proposed expansion plan will provide assurances that future development is undertaken in a manner that respects and complements the town character. This approach is consistent with similar expansion plans for the properties at 67 Logan Road and Cambock Lane which have been embedded within the SAP. The location, topography and access to services make the land suitable for development to urban densities and the location is desirable in terms of amenity and services for residential development. The requested amendment also aligns with the strategies residential development as set out in regional and local government strategies.

The following sections outline the specific amendment mechanisms.

9.2 REZONING

To rezone approximately 100ha of land from the Agricultural Zone to a combination of General Residential, Rural Living, Local Business, Open Space and Community Purpose, as indicated below:

- Rezone the entirety of 38 Arthur Street (CT 227117/1) to General Residential.
- Rezone Logan Road (CT 116759/1) to a combination of General Residential, Rural Living, Local Business, Open Space and Community Purpose.
    - The Local Business area will comprise approximately 2,800m2.
    - The Open Space areas will comprise approximately 6ha.
    - The Community Purpose Zone will comprise of:
        - A 6.2ha area set aside for potential aged care/retirement/childcare facilities; and
        - A further 3.7ha area for potential community services/affordable housing.
- Rezone a 35ha (approx.) portion of 211 Logan Road (CT 106773/1) to a combination of General Residential and Rural Living.

- Rezone 4 Ridgeside Lane (CT 81897/1) to a combination of General Residential and Rural Living.

This is illustrated in the following figure.



Figure 38: Alternate zoning, with inclusion of Rural Living Zone (mapping amended by Ireneinc from the LIST map, 2024)

9.3 CHANGES TO ORDINANCE

- To expand the Evandale Specific Area Plan to encompass the site, as illustrated below:

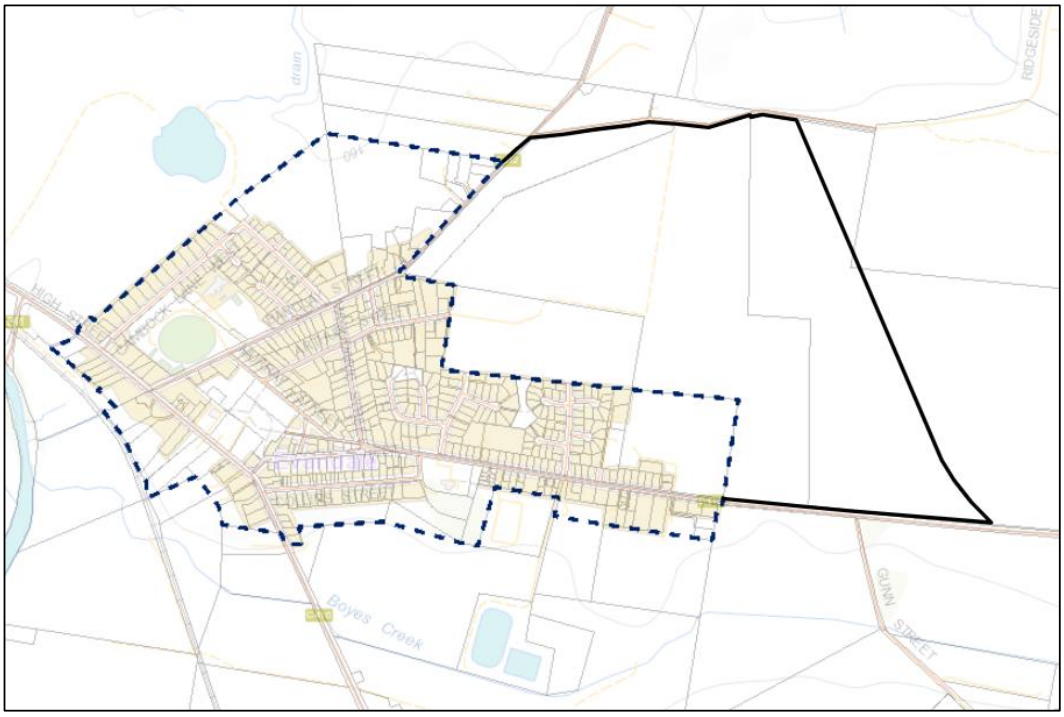


Figure 39: Existing Evandale SAP shown blue - Proposed expansion shown black (source: www.thelist.tas.gov.au © State of Tasmania)

9.3.1 GENERAL MODIFICATIONS

Amendments to specific provisions:

To embed the Expansion Plan, the following modifications to the SAP provisions will be required (shown in red):

NOR-S5.2 – Application of this Plan

- Insert the following additional clause into section ***NOR-S5.2 – Application of this Plan:***
  - *NOR-S5.2.4 - Precinct Plan NOR-S5.2.4 applies to the area of land designated as (naming TBC) Development Precinct Masterplan on the overlay maps and in Figure NOR-S5.2.4; and*
  - *Amend the numbering of NOR-S5.2.4 to NOR-S5.2.5.*

Proposed Local Area Objectives

It is proposed to insert the following Local Area Objectives that will apply to non-residential areas within the Expansion Plan.

NOR-S5.3 – Local Area Objectives

Reference Number	Area Description	Local Area Objectives
NOR-S5.3.1	Local Business Zone, shown in Figure NOR-S5.2.5.	The local area objectives for the Local Business Zone are:

		(a) To provide for business, retail, administrative, professional, community and entertainment functions which meet the needs of a local area and support the staged and sequential growth of the township. (b) To ensure the type and scale of use and development is compatible with the established character of the township and avoids unnecessary duplication of businesses/services. (c) To encourage activity at pedestrian levels with active frontages and shop windows offering interest and engagement to shoppers.

NOR-S5.8.1 – Lot Design in Development Precincts

- Amend the Acceptable Solution A1 and Performance Criteria P1, as per below:

  Acceptable Solution A1

  Each lot, or a lot proposed in a plan of subdivision, must be in accordance with the lot layout shown in the Precinct Masterplans in Figures NOR-S5.2.2, NOR-S5.2.3 and NOR-S5.2.4.

  And;

  Performance Criteria P1

  Each lot, or a lot proposed in a plan of subdivision, must be consistent with the rural township character and provide an optimal location for public open space, having regard to:

  (a) lot layout shown in the applicable precinct masterplans in Figures NOR-S5.2.2, NORS5.2.3 and NOR-S5.2.4.

NOR-S5.8.3 – Internal Lots

- Amend the Objective as follows:

  Objective: That subdivision layout of land outside the precinct masterplans in Figures NOR-S5.2.2, NOR-S5.2.3 and NOR-S5.2.4:

  (a) minimises internal lots;

  (b) is consistent with existing patterns of residential development in the surrounding area; and

(c) retains the rural township character.

This adjustment is to ensure consistency across the SAP.

Amendments to Figures:

- Amend Figure NOR-S5.2.1 to include the expanded SAP area and the proposed Evandale Expansion Plan as shown below.

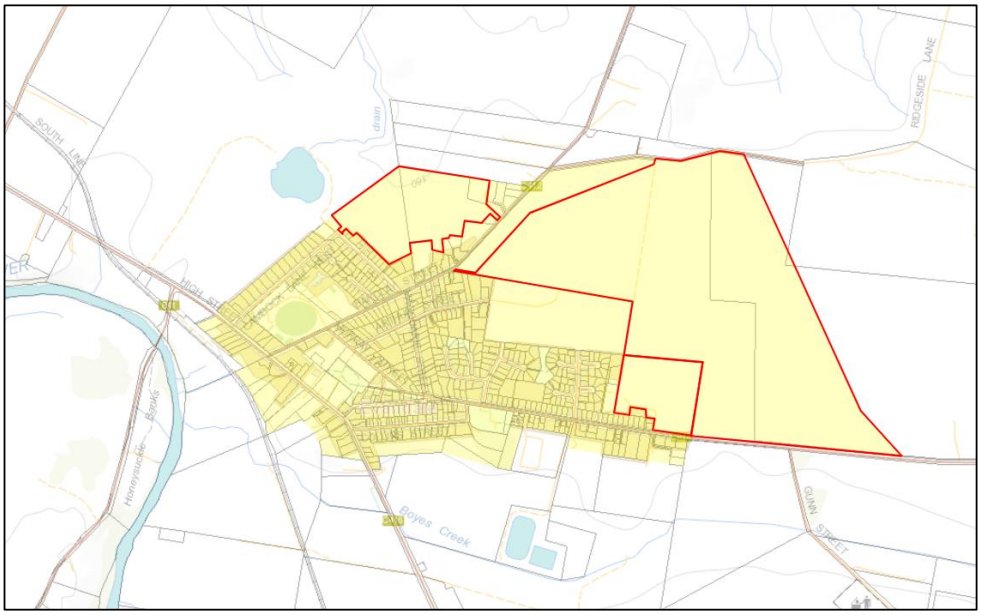


Figure NOR-S5.2.1: Evandale Specific Area Plan shown in light yellow as required by clause NOR-S5.2.1, with precinct development masterplan locations outlined in red.

- Insert the following *Figure NOR-S5.2.4 – Ridgeside Lane (name TBC) Development Precinct Masterplan*, as shown below:

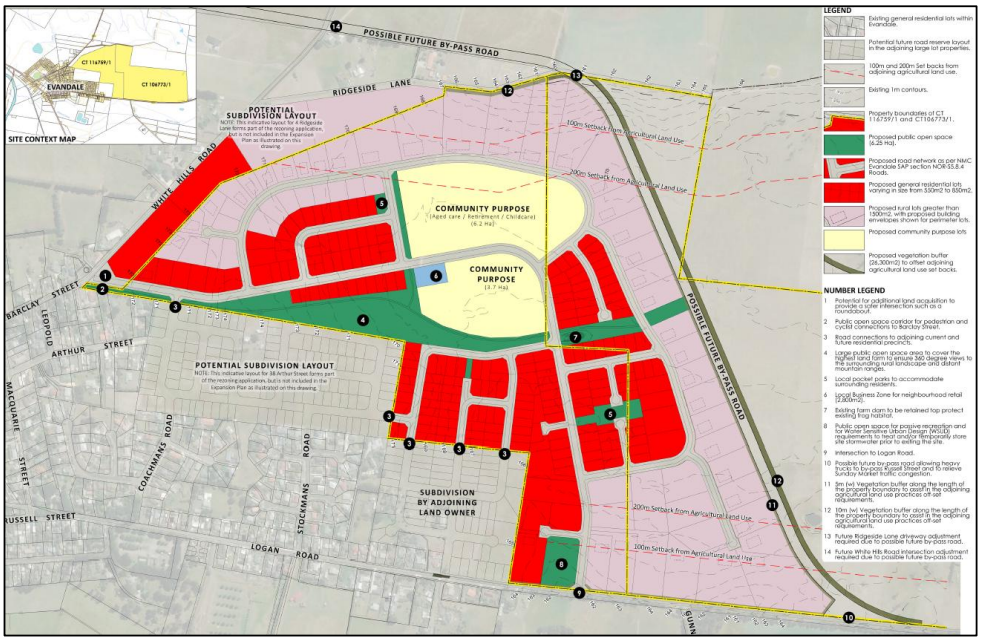


Figure NOR-S5.2.4 – Ridgeside Lane Development Precinct Masterplan (name TBC)

10. COMPLIANCE ASSESSMENT

The purpose of this section is to demonstrate that the project appropriately aligns with the resulting zones and mechanisms to achieve future development in accordance with the precinct development masterplan.

10.1 EVANDALE SPECIFIC AREA PLAN

The purpose of the SAP is:

NOR-S5.1.1 To protect and enhance the unique history and character of the village.

NOR-S5.1.2 To maintain the current open space, picturesque and historic streetscapes.

NOR-S5.1.3 To provide for community events.

NOR-S5.1.4 To encourage the provision of appropriate tourism infrastructure whilst maintaining the scenic character of Evandale.

NOR-S5.1.5 To provide for development that is compatible with the existing streetscape settings, building forms and the rural village character.

NOR-S5.1.6 To provide for the subdivision of key development sites and provide for appropriately located public open space.

NOR-S5.1.7 To encourage subdivision that provides for large lots and minimises internal lots.

NOR-S5.1.8 That as part of any new subdivision, new trees are provided to increase the township's tree canopy cover.

The following figure illustrates the extent of the SAP, as it relates to the subject site.

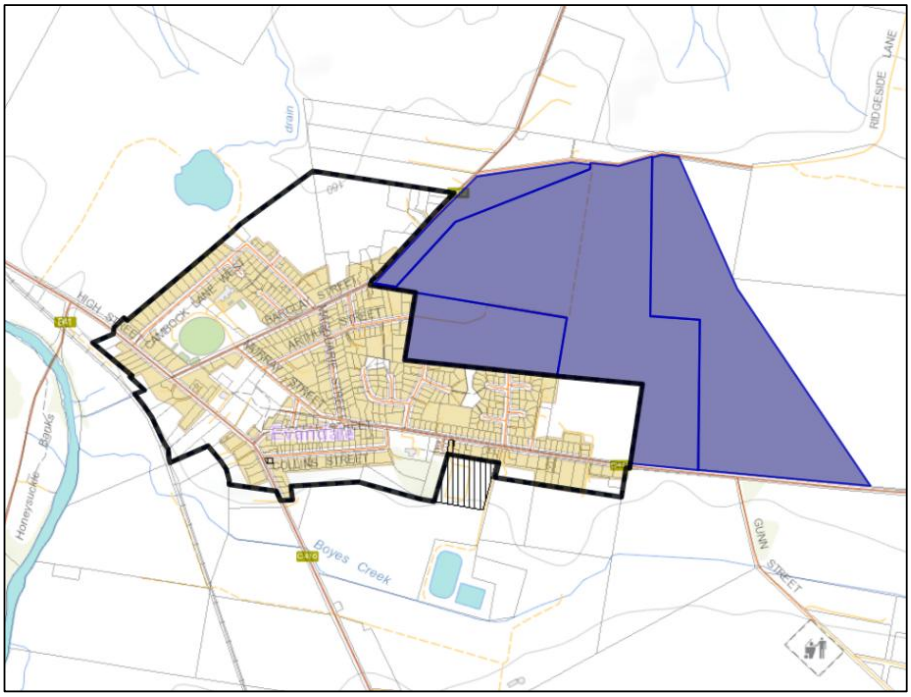


Figure 40: Black area = Evandale SAP extent. Blue area = sites to be rezoned and included within the SAP (source: www.thelist.tas.gov.au © State of Tasmania)

Local Area Objectives

Currently, the SAP does not include any Local Area Objectives. However, an additional 2,800m2 of land is proposed and is intended to provide limited growth options without impacting the existing activity centre hierarchy.

To ensure the purpose of the zone is consistent with the intent of the amendment, the following Local Area Objectives apply:

> ***NOR-S5.3.1***
>
> *The local area objectives for the Local Business Zone are:*
>
> *(a) To provide for business, retail, administrative, professional, community and entertainment functions which meet the needs of a local area and support the staged and sequential growth of the township.*
>
> *(b) To ensure the type and scale of use and development is compatible with the established character of the township and avoids unnecessary duplication of businesses/services.*
>
> *(c) To encourage activity at pedestrian levels with active frontages and shop windows offering interest and engagement to shoppers.*

Future development must be undertaken in accordance with the above.

Use & Development Standards

The SAP includes a variety of use/development standards which serve to control and maintain the character of the township, including:

- A permitted multiple dwelling density of 400m^2.
    - This can be reduced under the performance criteria.
- Detailed standards stipulating:
    - Specific roof forms and external cladding for new and existing buildings
        - Wall materials for new buildings must be compatible with the design and period of construction of the street and broader village, regarding:
            - Using bull-nosed timber weatherboards, or
            - Brickwork with natural/earthy mortar, or
            - Concrete blocks that blend with sandstone or rendered with natural earthy tones.
    - Specific window forms and details
        - Windows must be compatible with the design and period of those on the same street.
    - Detailed lot design and road standards.
        - Including a mandatory requirement for street trees to be provided in the road reserve at 10m intervals (there is no performance criteria).

These standards generally apply in addition to the standards under the relevant zone, however several standards are in substitution for controls under the General Residential Zone and Open Space Zone.

The expansion of the SAP provides the following benefits:

- Provide assurances that future development is undertaken in a way that accords with the established pattern and character of development within the township; and
- Allow the Evandale Expansion Plan to be embedded within the SAP, as a Precinct Development Plan.
    - This ensures future subdivision of the site is undertaken in accordance with the expansion plan.

Given the extent of the area to be rezoned and the future development potential outlined in the expansion plan, embedding the plan into the SAP provides an appropriate level of certainty from both a strategic perspective and community perspective.

Subdivision Standards

An assessment of the relevant subdivision standards under the SAP has been provided below, to outline that the subdivision layout proposed in the expansion plan can comply with the requirements.

NOR-S5.8.1 – Lot Design in development precincts

(This clause is in addition to General Residential Zone – clause 8.6.1 Lot Design and Open Space Zone – clause 29.5.1 – Lot Design).

***OBJECTIVE**: That each development precinct creates an efficient lot design that provides connectivity and optimal location for public open space compatible with the rural township character.*

PLANNING SCHEME REQUIREMENT

***A1** - Each lot, or a lot proposed in a plan of subdivision, must be in accordance with the lot layout shown in the Precinct Masterplans in Figures NOR-S5.2.2, NOR-S5.2.3 and NOR-S5.2.4.*

***P1** - Each lot, or a lot proposed in a plan of subdivision, must be consistent with the rural township character and provide an optimal location for public open space, having regard to:*

(a) lot layout shown in the applicable precinct masterplans in Figures NOR-S5.2.2, NOR-S5.2.3 and NOR-S5.2.4;

(b) the road network as north south grid;

(c) fronting new lots onto existing roads where possible;

(d) minimising cul-de-sacs;

(e) the provision of public open spaces that facilitate pedestrian loops around the town;

(f) creating connections between new and existing public open spaces;

(g) creating road frontages around public open spaces;

(h) using public open spaces for stormwater detention;

(i) the relevant requirements for development of buildings on the lots;

(j) the intended location of buildings on the lots; and

(k) the pattern of development existing on established properties within the area.

COMMENTS

The layout of lots is consistent with that shown in the applicable precinct masterplan.

NOR-S5.8.2 – Lot Design

(This clause is a substitution for General Residential Zone – clause 8.6.1 – Lot Design)

***OBJECTIVE**: That each lot:*

(a) has an area and dimensions appropriate for the use and development;

(b) is provided with appropriate access to a road;

(c) contains areas which are suitable for development appropriate to the purpose of the zone and specific area plan, located to avoid natural hazards; and

(d) is oriented to provide solar access for future dwellings.

PLANNING SCHEME REQUIREMENT

***A1** - Each lot, or a lot proposed in a plan of subdivision, must:*

(a) have an area of not less than 600m2 and:

(i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of:

a. all setbacks required by clause

8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and

b. easements or other title restrictions that limit or restrict development; and

(ii) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; or

(b) be required for public use by the Crown, a council or a State authority; or

(c) be required for the provisions of Utilities; or

(d) be for the consolidation of a lot with another lot provided each lot is within the same zone.

***P1** - Each lot, or a lot proposed in a plan of subdivision must have sufficient useable area and dimensions suitable for its intended use, having regard to:*

(a) the relevant requirements for development of buildings on the lots;

(b) the intended location of buildings on the lots;

(c) the topography of the site;

(d) the presence of any natural hazards;

(e) adequate provision of private open space;

(f) the pattern of development existing on established properties within the area; and

(g) must be no more than 15% smaller than the minimum applicable lot size required by clause NOR-S5.8.2 A1 (a).

COMMENTS

The General Residential lots within the Expansion Plan have been designed to ensure compliance with the acceptable solutions as far as practicable, however a small number of lots may fall slightly below 600m2.

In these instances, the lots satisfy the performance criteria P1(g) which allows discretion down to 510m2 (representing a 15% reduction in lot size).

NOR-S5.8.3 – Internal Lots

(This clause is in addition to General Residential Zone – clause 8.6.1 – Lot Design)

***OBJECTIVE**: That subdivision layout of land outside the precinct masterplans in Figures NOR-S5.2.2, NOR-S5.2.3 and NOR-S5.2.4:*

(a) minimises internal lots;

(b) is consistent with existing patterns of residential development in the surrounding area; and

(c) retains the rural township character.

PLANNING SCHEME REQUIREMENT

***A1 -** No acceptable solution.*

***P1 -** Each internal lot, or an internal lot proposed in a plan of subdivision must have sufficient useable area and dimensions suitable for its intended use, having regard to:*

(a) consistency with existing patterns of residential development of the surrounding area;

(b) the lot gaining access from a road existing prior to the planning scheme coming into effect;

(c) site constraints making an internal lot configuration the only reasonable option to efficiently use the land;

(d) the lot contributing to the more efficient use of residential land and infrastructure;

(e) the amenity of adjacent lots not being unreasonably affected by subsequent development and use;

(f) the lot having access to a road via an access strip, which is part of the lot, or a right-of-way, with a width of no less than 3.6m;

(g) passing bays being provided at appropriate distances to service the likely future use of the lot;

(h) the access strip being adjacent to or combined with no more than three other internal lot access strips provided that it is otherwise not appropriate to provide access via a public road;

(i) the lot addressing and providing for passive surveillance of public open space and public rights of way if it fronts such public spaces;

(j) the relevant requirements for development of buildings on the lots;

(k) the intended location of buildings on the lots;

(l) the topography of the site;

(m) the presence of any natural hazards;

(n) adequate provision of private open space; and

(o) the pattern of development existing on established properties in the area.

COMMENTS

The Expansion Plan has been designed to avoid the creation of internal lots, with only four lots requiring access to a road via an access strip. No lot relies upon a right-of-way.

Notwithstanding, the detailed design of each stage is subject to further planning approval. It is expected that slight adjustments can be made during this process to either entirely remove or further reduce these internal lots.

NOR-S5.8.4 – Roads

(This clause is a substitution for General Residential Zone – clause 8.6.2 – Roads)

***OBJECTIVE**: That the arrangement of new roads within a subdivision provides for:*

(a) safe, convenient and efficient connections to assist accessibility and mobility of the community;

(b) the adequate accommodation of vehicular, pedestrian, cycling and public transport traffic;

(c) adequate areas for the planting of street trees in the road reserve; and

(d) the efficient ultimate subdivision of the entirety of the land and of surrounding land.

PLANNING SCHEME REQUIREMENT

***A1** - The subdivision includes no new roads.*

***P1** - The arrangement and construction of roads within a subdivision must provide an appropriate level of access, connectivity, safety and convenience for vehicles, pedestrians and cyclists, having regard to:*

(a) any road network plan adopted by the council;

(b) the existing and proposed road hierarchy;

(c) the need for connecting roads and pedestrian and cycling paths to common boundaries with adjoining land to facilitate future subdivision potential;

(d) maximising connectivity with the surrounding road, pedestrian, cycling and public transport networks;

(e) minimising the travel distance between key destinations such as shops and services and public transport routes;

(f) access to public transport;

(g) the efficient and safe movement of pedestrians, cyclists and public transport;

(h) the need to provide bicycle infrastructure on new arterial and collector roads in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling 2016;

(i) the topography of the site; and

(j) the future subdivision potential of any balance lots on adjoining or adjacent land.

COMMENTS

The Expansion Plan will require new roads and these will be designed in accordance with the requirements set out in the performance criteria. Reference will also be given to the Tasmanian Standard Drawings and relevant Australian Standards.

A2 - *Where the subdivision plan includes one or more new roads, street trees must be provided within the road reserve:*

(a) at intervals of not less than 10m measured between the centre of each trunk; or

(b) at intervals not less than the canopy diameter of the tree species at maturity; and

(c) in locations where sight distances to vehicle access points are compliant with the following:

(iii) in the case of non-commercial vehicle accesses, Australian Standard AS 2890.1:2004, Parking Facilities, Part 1: Off-street car parking, section 3, Access Facilities to Off-street Parking Areas and Queuing Areas; and

(iv) in the case of commercial vehicle accesses, Australian Standard AS 2890.2:2002, Parking facilities Part 2: Off-street commercial vehicle facilities.

P2 - *No performance criteria.*

COMMENTS

All new roads will be designed with sufficient width to allow provision of street trees along at least one-side of each new road.

10.2 ZONES

10.2.1 General Residential Zone

The zone purpose statements for the general residential zone are as follows:

8.1.1 *To provide for residential use or development that accommodates a range of dwelling types where full infrastructure services are available or can be provided.*

8.1.2 *To provide for the efficient utilisation of available social, transport and other service infrastructure.*

8.1.3 *To provide for non-residential use that:*

(a) primarily serves the local community; and

(b) does not cause an unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off-site impacts.

8.1.4 *To provide for Visitor Accommodation that is compatible with residential character.*

The Expansion Plan provides designated areas for General Residential growth, which have been sited to adjoin existing residential land within the township to assist with sequencing, servicing and road/pedestrian connections. The existing township is predominantly comprised of modern subdivisions towards the outskirts of the town centre. The land is therefore considered suitable for residential development at urban densities and therefore would be consistent with the above purpose statements.

Use Table

The General Residential Zone provides for residential use as no permit required, or permitted, and additionally provides for a limited number of non-residential uses such as childcare.

Future use of the site will likely be primarily for residential, passive recreation, aged care and childcare purposes. The Use Table applicable under the State Planning Provisions remains unchanged.

Subdivision Standards

Future subdivision will be undertaken generally in accordance with the proposed Evandale Expansion Plan (forming part of the proposed Development Precinct Masterplan- name TBC) and the applicable zone provisions.

It is noted that several provisions under the Evandale Specific Area Plan either override or are in addition to the standards under the General Residential Zone.

Provisions within the zone that will continue to apply include standards relating to size and scale (including setbacks to ensure that each lot is appropriate for residential use or development), frontage length (to ensure functionality and manoeuvrability), vehicular access, lot orientation, subdivision roads (safety and amenity for users), and connectivity to services (water, sewer, stormwater).

10.2.2 Rural Living Zone

The zone purpose statements for the Rural Living Zone are as follows:

11.1.1 *To provide for residential use or development in a rural setting where:*

(a) services are limited; or

(b) existing natural and landscape values are to be retained.

11.1.2 *To provide for compatible agricultural use and development that does not adversely impact on residential amenity.*

11.1.3 *To provide for other use or development that does not cause an unreasonable loss of amenity, through noise, scale, intensity, traffic generation and movement, or other off site impacts.*

11.1.4 *To provide for Visitor Accommodation that is compatible with residential character.*

The rural 'lifestyle' living lots are positioned on the outer edge of the Expansion Plan and are broadly consistent with the character and rural setting of the township, providing a transition from higher density residential use.

Use Table

The Rural Living Zone provides for residential use and compatible agricultural/low-order rural activities. The purpose and intent of the 'lifestyle' lots are consistent with the range of uses achievable within the zone.

Development / Subdivision Standards

All rural 'lifestyle' living lots will be provided in accordance with the layout shown in proposed Evandale Expansion Plan, which will be embedded within the existing/expanded Evandale Specific Area Plan.

The Zone allows for minimum permitted lot sizes ranging from 1ha (Area A) up to 10ha (Area D). The minimum discretionary lot size achievable is 8,000m2, under Rural Living (Area A).

Given all proposed 'lifestyle' lots will have areas at or below 1ha, Rural Living (Area A) would normally be most applicable.

However, Rural Living (Area C) is proposed to align with the adjoining rural living lots to the north-east. This ensures that further subdivision opportunities are prohibited, which aligns with the purpose of the zone and restricts growth that would otherwise exceed demand and infrastructure capacity.

10.2.3 Local Business Zone

A Local Business area has been included as part of the amendment. The purpose of this is to provide future options for local shops or other businesses, as required -to support the growth of the township.

The zone purpose is as follows:

> ***14.1.1*** *To provide for business, retail, administrative, professional, community and entertainment functions which meet the needs of a local area.*
>
> ***14.1.2*** *To ensure that the type and scale of use and development does not compromise or distort the activity centre hierarchy.*
>
> ***14.1.3*** *To encourage activity at pedestrian levels with active frontages and shop windows offering interest and engagement to shoppers.*
>
> ***14.1.4*** *To encourage Residential and Visitor Accommodation use if it supports the viability of the activity centre and an active street frontage is maintained.*

The extent of existing Local Business land within the township comprises approximately 2.8ha. This area is located along Russell Street, Scone Street, Collins Street and a portion on the western side of Nile Road.

Whilst this land does support some local businesses, it does not appear to be utilised specifically for the provision of business, retail, administration, professional, community or entertainment functions. This appears to be restricted due to several of the buildings being heritage listed and within the Evandale Heritage Precinct.

Further development of this area to provide the range of businesses/services to cater for growth in the township is significantly constrained, as outlined in section 2.1.9 of this report.

It is anticipated the proposed amendment and subsequent subdivisions will increase demand for local goods/services over time. As such, the limited additional Local Business land will provide additional flexibility for the provision of services to meet the future needs of the township, as required – without impacting the activity centre hierarchy.

Modified Local Area Objectives are included in the SAP, to ensure use/development is consistent with the Expansion Plan intent and override those identified above.

Use Table

The zone provides for a variety of use/development. However, the intent for Local Business land is to provide additional goods/services that meet growing demand over time but are commensurate with the character of the township. For example, the zone allows for Equipment and Machinery Sales and Hire, Manufacturing and Processing and Bulky Goods Sales.

The proposed Local Business area is unlikely to be of a sufficient size to cater for these types of use and the demand is anticipated to be relatively low. Therefore, the most likely future uses would include the following, which are a mix of no-permit required, permitted and discretionary uses in the zone:

- Business and professional services

- Food services;
- General retail and hire
- Educational and Occasional Care
- Hotel Industry
- Emergency Services
- Vehicle fuel sales and hire
- Visitor accommodation; and
- Service industry

The zone includes use standards which apply to non-residential uses within 50m of a residential zone. In addition, discretionary uses must demonstrate there will be no unreasonable loss of amenity to properties in adjoining residential zones and be of an intensity that respects the character of the area.

The zone also includes a provision (Clause 14.3.3 – Retail Impact) which applies a maximum gross floor area of 250m^2 per tenancy for Bulky Goods and General Retail and Hire uses. Whilst the performance criteria provide a pathway to vary this, tenancies exceeding the floor area requirement must not compromise the activity centre hierarchy, having regard to:

> (a) the degree to which the proposed use improves and broadens the commercial or retail choice with the area;
>
> (b) the extent that the proposed use impacts on other activity centres; and
>
> (c) any relevant local area objectives contained within the relevant Local Provisions Schedule.

These controls are appropriate and would be read in conjunction with the requirements under the Evandale Specific Area Plan.

Use / Development Standards

The standards in the zone control building height, design, amenity impacts, setbacks and service provision. The permitted building height in the zone is 10m.

For any future subdivision, there are several provisions that will require assessment.

The permitted lot size in the zone is 200m^2. However, this can be reduced via the performance criteria. The area to be zoned Local Business constitutes approximately 2,800m^2.

The number of lots created would depend on site constraints and landowner/tenant requirements, which may necessitate slightly larger lots thereby reducing the potential yield.

Any subdivision/development of this land would likely occur gradually, in response to demand. If the expansion of the Evandale SAP is approved, this will provide additional standards that may be in addition to, or substitute those within the Local Business Zone.

10.2.4 Community Purpose Zone

Of the two 'super lots' proposed as part of the expansion plan, one will be zoned entirely Community Purpose to provide options for childcare and aged care facilities, whilst the other will be zoned a mix of Community Purpose and Local Business.

The purpose of the zone is:

27.1.1 - To provide for key community facilities and services including health, educational, government, cultural and social facilities.

27.1.2 - To encourage multi-purpose, flexible and adaptable social infrastructure.

The purpose statements are broad, reflecting a general desire for community facilities and social infrastructure.

Use Table

The Community Purpose Zone provides for aged care/retirement living which falls under the residential use classification but prohibits all other forms of residential use.

The zone also provides for:

- Business and Professional Services, if for:
  - Medical centre;
  - A community-based organisation;
  - Government offices; or
  - Funeral parlour.
- Community Meeting and Entertainment
- Education and occasional care
- Emergency services
- Hospital services
- Food services
- General retail and hire (if for a market); and
- Sports and recreation

The use classifications provide substantial flexibility, to ensure the area zoned Community Purpose is utilised appropriately.

Use / Development Standards

The standards in the zone provide controls for non-residential use, covering hours of operation, commercial vehicle movements and external lighting to minimise amenity impacts if within 50m of a residential zone (there are exceptions, such as emergency services).

Development standards include a permitted building height of 10m, setback standards and subdivision standards which specify permitted lot sizes of 600m^2.

The total area to be zoned Community Purpose is approximately 8.4ha across the two 'superlots'.

These standards would be addressed as part of subsequent subdivision/development applications in accordance with the expansion plan. The provisions of the Evandale Specific Area Plan will also be applicable if the SAP is extended.

10.2.5 Open Space Zone

The rezoning includes provision of designated areas of public open space, to provide certainty regarding the provision of open space, rather than implementing these spaces through subsequent subdivision applications where open space is provided on a case-by-case basis, rather than a strategic approach.

The zone will be applied to the areas designated on the expansion plan (references 4 and 7) and constitute a total area of approximately 6ha.

The purpose of the open space zone is:

> *29.1.1 To provide land for open space purposes including for passive recreation and natural or landscape amenity.*
>
> *29.1.2 To provide for use and development that supports the use of the land for open space purposes or for other compatible uses.*

Allocating the Open Space zone will secure several areas of site as public space, ensuring it is not used for residential or other development. The primary area of open space (Expansion Plan reference 4) is a key urban design feature of the Expansion Plan and will serve as a significant public open space contribution.

Use Table

Whilst the zone does provide for a range of discretionary uses, it is anticipated the open space areas will be utilised for public recreation. Development within these areas will generally be restricted to public infrastructure (parks, playground equipment etc).

Use / Development Standards

As the intended use of the areas is consistent with the above, further consideration of the use/development standards is not necessary at this stage. However, it is noted that the Evandale Specific Area Plan includes Lot Design standards that override the lot standards within the Open Space Zone.

10.3 CONSOLIDATION OF TITLES

If approved, the proposed amendment and rezoning will require a reorganisation of boundaries between 211 Logan Road (CT 106773/1) and 95 Logan Road (CT 116759/1) to align with the north-eastern extent of the Expansion Plan area.

The remaining portion of 211 Logan Road would retain an approximate area of 72.22ha, which is considered sufficient to ensure the future agricultural potential of the land is not constrained.

10.4 CODES & OVERLAYS

10.4.1 PARKING AND SUSTAINABLE TRANSPORT CODE

The purpose of the Code is as follows:

> *C2.1.1 - To ensure that an appropriate level of parking facilities is provided to service use and development.*
>
> *C2.1.2 - To ensure that cycling, walking and public transport are encouraged as a means of transport in urban areas.*
>
> *C2.1.3 - To ensure that access for pedestrians, vehicles and cyclists is safe and adequate.*
>
> *C2.1.4 - To ensure that parking does not cause an unreasonable loss of amenity to the surrounding area.*
>
> *C2.1.5 - To ensure that parking spaces and accesses meet appropriate standards.*
>
> *C2.1.6 - To provide for parking precincts and pedestrian priority streets.*

The Code provisions outline requirements for car parking provision, construction and layout of parking areas and pedestrian access. These standards apply to development proposals and will be considered as part of each subsequent planning permit application.

Road Design

All new roads within the Expansion Plan will be designed in accordance with the relevant Tasmanian Standard Drawings and Australian Standards, to ensure appropriate grades, widths and drainage is achieved.

The TIA provides an in-depth assessment of the existing road network and junctions, to determine the design approach for the proposed Expansion Plan.

All internal roads and junctions have been designed to accommodate two-way vehicle movements, along with sufficient width for footpaths and street trees (as required through the Evandale SAP). The analysis confirms that future/proposed roads and intersections within the Expansion Plan will achieve appropriate view lines and sightlines and can be appropriately integrated into the existing road network.

Notwithstanding, all roadways and intersections forming part of the various stage(s) will require assessment under the relevant provisions of the SAP and Codes, to determine compliance prior to the issue of a permit(s).

10.4.2 Road And Railway Assets Code

The purpose of the Code is:

C3.1.1 - To protect the safety and efficiency of the road and railway networks; and

C3.1.2 - To reduce conflicts between sensitive uses and major roads and the rail network.

The Code provisions outline requirements to ensure the continued safety and efficiency of the road and railway networks. This includes compliance with Australian Standards in regard to the design of junctions, accesses, maintaining sight lines and level crossings.

Standards related to development will be addressed as part of each subsequent permit application. However, the accompanying TIA has provided preliminary consideration of the relevant use standards under the Code, as outlined below.

Clause 3.5.1 – Traffic generation at a vehicle crossing, level crossing or new junction

Objective: *To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.*

As there is potential for up to 370 vehicle movements to be generated during the peak hours to and from the site, the clause requires consideration against the following performance criteria:

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.

As outlined in the TIA, the SIDRA modelling results and mid-block assessment, demonstrate the traffic generated by the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road network surrounding the site.

The proposed development is expected to generate predominantly light vehicle traffic which is already catered for on the surrounding road network and the analysis indicates there is spare capacity in the road network surrounding the site to accommodate the traffic generated by the proposed development.

The roads surrounding the proposed development are generally subject to a 50km/h speed limit. These speed limits will be maintained and will ensure safe and efficient access to the proposed development. The TIA concludes that post-development traffic volumes (once all stages are complete) are not expected to have any major impacts on the safety and operation of the surrounding road network.

10.4.3 Natural Assets Code

The purpose of the Code is:

C7.1.1 - To minimise impacts on water quality, natural assets including native riparian vegetation, river condition and the natural ecological function of watercourses, wetlands and lakes.

C7.1.2 - To minimise impacts on coastal and foreshore assets, native littoral vegetation, natural coastal processes and the natural ecological function of the coast.

C7.1.3 - To protect vulnerable coastal areas to enable natural processes to continue to occur, including the landward transgression of sand dunes, wetlands, saltmarshes and other sensitive coastal habitats due to sea-level rise.

C7.1.4 - To minimise impacts on identified priority vegetation.

C7.1.5- To manage impacts on threatened fauna species by minimising clearance of significant habitat.

The Code includes provisions which control the clearance of native vegetation and use/development within identified waterways.

Whilst no development is proposed as part of this application, an ecological report was prepared to identify the presence of natural values and consider the implications of the Expansion Plan. The report notes that due to historic agricultural land use and associated land clearing, there is little native vegetation remaining and few habitat opportunities on the property.

However, two existing water bodies on the site (comprised of a man-made dam / ponds and drainage channels) support various types of aquatic vegetation. The presence of the green and gold frog (Litoria raniformis) was identified in the large dam in the centre of the site. The species is listed as vulnerable under both the *Threatened Species Protection Act 1995 (TSPA)* and *Environment Protection and Biodiversity Conservation Act 1999 (EPBCA)*. The report indicates the dam has a good cover of aquatic plants providing habitat for this species.



Figure 4. Pond where green and gold frogs were calling along with three other species. The vegetation along the edges and within the pond provide good habitat for the frogs.

The report provides the following recommendations:

- *Log piles and gorse patches providing potential refuge should be monitored for the presence of Eastern barred bandicoots prior to any removal work.*
- *Alternative refuge areas should be provided/planted to offset loss of log piles and gorse patches.*
- *The waterbody with intact fringing vegetation where the vulnerable Green and gold frog has been confirmed, should if possible be retained as habitat for aquatic fauna.*
- *The waterbody identified in 2019 as having the pest crustacean the yabby (Cherax destructor) should be checked thoroughly to determine whether it is still present. If it is, it should be treated to control this species. Options for treatment include lowering the water level and treating with Rotenone, or filling these dams in if they are not required within the overall plan.*
- *Where possible the few remaining copses of trees and solitary mature trees should be retained as potential habitat for hollow dependent species, including the endangered Masked owl. These areas should be protected from further degradation and could be rehabilitated with native grasses and shrubs consistent with the lowlands grass complex and woodlands vegetation types. This would potentially provide habitat for other local and threatened fauna species.*
- *Develop an ecological plan to include rehabilitation of those areas that could be restored to provide conservation values through using selected plant species for each location. This could be integrated with open spaces and recreational areas.*
- *Ensure vehicles and machinery entering the site are clean to prevent spread of environmental weeds and pathogens.*

In response, the layout of the Expansion Plan has been amended to enable the retention of the dam, which will be incorporated into the broader open space network. Additional landscape plans will be prepared for each stage of the Expansion Plan, and the use of native vegetation will be prioritised. The inclusion of substantial areas of open space will provide opportunities for new habitat and is expected to significantly improve the overall natural environment and ecological values across the site.

Whilst no development is proposed as part of this application, each stage of the Expansion Plan will require planning approval at which point the provisions of the Code will be considered (where applicable).

10.4.4 Attenuation Area Code

A portion of the site is subject to the Attenuation Area Code. This code applies to subdivision of a lot where sensitive uses may be established within an attenuation area. The below figure demonstrates the extent of the attenuation area from the Tasmanian Gun Club. As per Table C9.1, the attenuation distance for noise from a shooting range is 2,000m which covers a small portion of the southern boundary of the site.

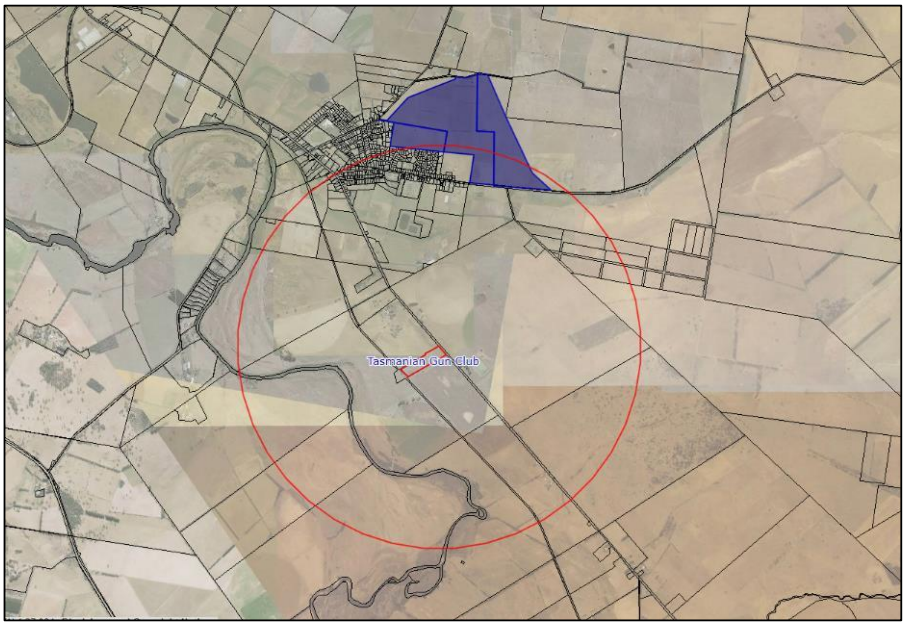


Figure 41: Noise attenuation area (2000m) (source: the LIST map, 2022)

To the south of the township are also two TasWater sewerage treatment aerobic lagoons. These lagoons have a plant capacity of 12000kL/day and 5600 kL/day. The attenuation distance for odour is therefore 1,000m.

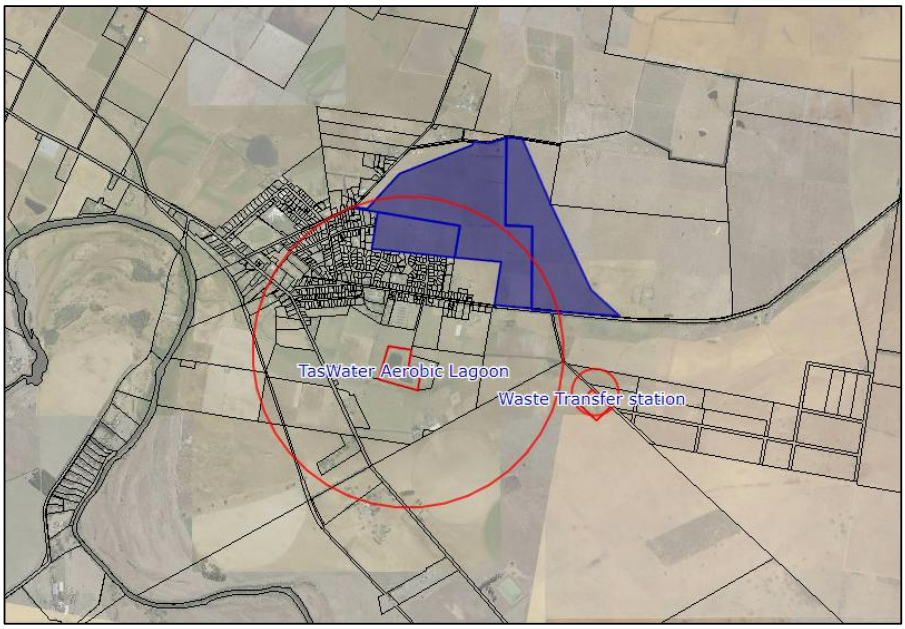


Figure 42: Odour attenuation area (1000m) (source: the LIST map, 2022)

The TasWater treatment plant is located a significant distance south of the site, such that prevailing north/north-westerly and westerly winds will carry any odours away from the site.

The plant also encompasses most of the existing township. As such, the potential impact from odour emissions is likely to be very low.

10.4.5 Flood-Prone Areas Code / Overland Flow

There are several overland flows paths that run through the site toward Drovers Court and Stockmans Road. The preliminary flood/overland flow assessment illustrates potential stormwater/overland flow that may be experienced across the site during a 1% AEP event, as illustrated below.

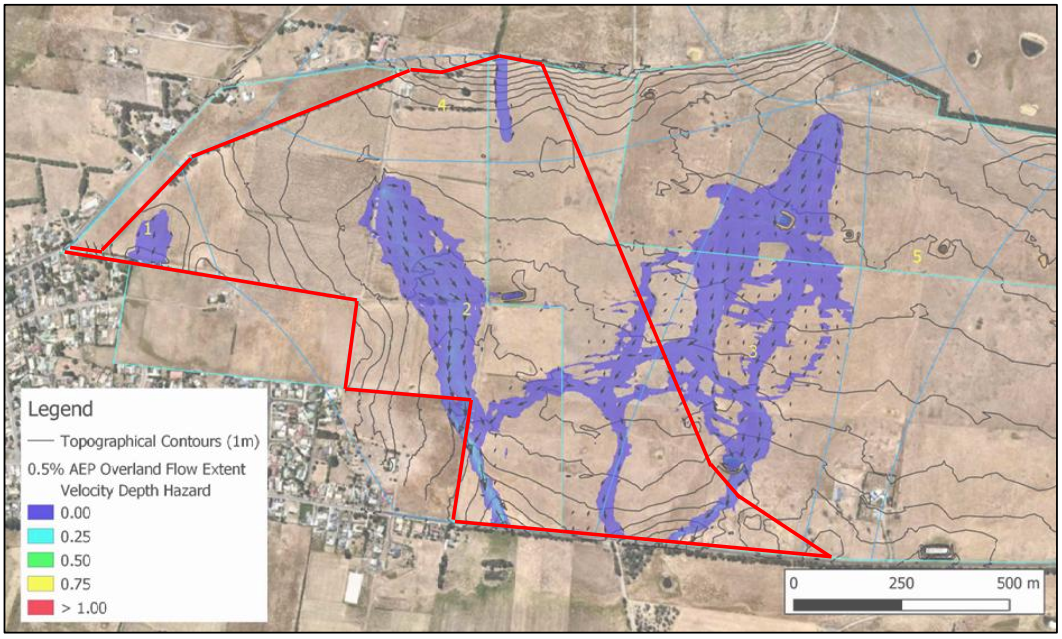


Figure 43: 0.5-1% AEP overland flow velocity – Expansion Plan extent shown red (source: Preliminary Food Hazard Assessment, MRC)

The modelling indicates the maximum depth (200mm) and velocity (0.5 m/s) of stormwater/overland flow is very low. When the modelling is applied to the Expansion Plan, areas of proposed residential and community purpose land may be affected. The Code includes provisions that apply to vulnerable land use that may be subject to flooding, such uses include retirement / aged-care facilities and assisted housing, some of which may be provided within the community purpose lots.

The provisions state that vulnerable uses must achieve tolerable levels of risk from flooding and permit applications must be accompanied by a flood hazard report. However, standard residential lots and associated development are not considered a vulnerable use under the Code.

Whilst no development is proposed as part of the application, each stage of the Expansion Plan will require separate planning approvals. Once each area is established, further planning approvals will be required for the construction and use of buildings, at which point detailed plans and associated reports will be required demonstrating compliance with the relevant provisions. Notwithstanding, the road layout generally runs east to west through the overland flow paths, rather than in the direction of flow (north-south) which is expected to reduce depths and velocities. This will assist in isolating the flow paths into manageable sections and is expected to reduce overall load on the subsequent stormwater system as each stage is developed.

It is anticipated this will allow broader stormwater management measures to be implemented, where required (such as swales and/or detention basins). These measures can be incorporated into the broader open space corridor proposed within the Expansion Plan. Regarding discharge to Logan Road, the general topography of the site slopes down toward the road in several locations. Therefore, it is inevitable that a portion of overland flow and general stormwater drainage will discharge to Logan Road. However, as indicated above, there are several measures that can be accommodated to minimise post-development discharge.

Ultimately, the concept plans indicate stormwater and overland flow can be reasonably accommodated and managed and each stage of the Expansion Plan will require separate planning approval, at which time detailed stormwater management plans will be prepared illustrating in greater detail how stormwater will be managed.

10.4.6 Bushfire Prone Area Code

The entirety of the site is subject to the Bushfire-Prone Areas Code. A Bushfire Hazard Management Assessment accompanies this report. The assessment concludes that any required mitigation measures can be accommodated within any future development applications which the rezoning would provide for.

The proposed rezoning will not result in changes to the way that the code applies to the site. Given that the surrounding land is pasture, the site is considered capable of maintaining a Bushfire Hazard Management Area within its boundaries and that risk can adequately be addressed through a bushfire assessment at the time of a development application for subdivision.

Each stage of the Expansion Plan will require consideration of the bushfire provisions, and any future development will need to be designed with consideration of the risk in order to satisfy further building requirements at a building stage.



Figure 44: Extent of Bushfire Prone Area Overlay (source: Draft LPS, 2022)

10.4.7 Safeguarding Of Airports Area Code

A portion of the site is subject to the Airport Obstacle Limitation Area as, demonstrated in the below. Given the nature of the proposed future use as residential dwellings, future development



Figure 45: Airport Obstacle limitation area (source: Draft LPS, 2022)

As the site is not within any airport noise exposure area, provisions pertaining to subdivision will not be relevant for any future development proposal and is unlikely to conflict or interfere with safe aircraft operations.

Notwithstanding, Launceston Airport has provided the following advice:

- *Any construction equipment (such as cranes) that exceed 211m AHD, may require referral and written approval from the airport, prior to use.*
- *Lights within 6km radius of an airport may cause confusion, distraction or glare to pilots in the air. Should any external lighting compromise aviation safety, Under Regulation 94 of the Civil Aviation Regulations 1998 (CAR1988) CASA may seek that the lighting be modified, shielded or extinguished to ensure aviation safety; and*
- *Whilst the subject site is located outside the Australian Noise Exposure Forecast (ANEF) and N contours, as mapped and laid out in the Launceston Airport Master Plan 2020, prospective lot owners should be notified that the area may be subject to low-level noise from aircraft.*

  Therefore, the airport does not accept any responsibility or liability in respect of any matter arising from aircraft noise and will not enter into any correspondence with the owner/occupier of the future dwellings relating to noise complaints due to the dwellings being located close to the airport and its flight paths.

This advice has been noted.

5. SUMMARY

This report forms part of a request for an amendment to the *Tasmanian Planning Scheme – Northern Midlands*. As outlined in section 6 of this report, the amendment seeks to:

- Rezone the subject site to a combination of:
    - General Residential
    - Rural Living
    - Local Business
    - Community Purpose; and
    - Open Space
- Expand the existing Evandale Specific Area Plan, to encompass the subject site; and
    - Incorporate the *Evandale Expansion Plan* as a precinct masterplan in the SAP.

The amendment broadly aligns with the strategies and policies for land use and development, as set out in the regional and local government residential land use strategies. The amendment has also been considered against the following:

- Tasmanian Population Growth Strategy 2015.
- The Greater Launceston Plan 2014.
- The Northern Midlands Council Strategic Plan 2017-2027 – (updated in 2021).
- The Integrated Priority projects plan 2021.
- Northern Tasmanian Regional Economic Development Strategy; and
- The Evandale Development Plan (2012)

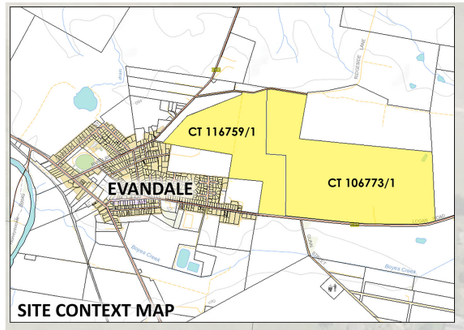
The proposal has also been assessed against the objectives and requirements of the Land Use Planning and Approvals Act, particularly the State Policies, Requirements of Section 32, Schedule 1 Objectives and the provisions of Section 34.

The rezoning will cater for staged future subdivision and subsequent development of the site, whilst the expansion of the Evandale Specific Area Plan will ensure future development complements the rural and historic setting of the township, promoting growth whilst maintaining and enhancing the township character. The amendment and subsequent development will provide substantial social and economic benefits to the local community and municipal area by facilitating future provision of:

- Residential land and a range of potential housing types to meet demand (including potential affordable housing).
- Retirement/aged care.
- Childcare and Community facilities.
- Some local commercial uses to address future demand, that cannot be accommodated within the heritage town centre; and
- Dedicated areas of public open space.

The social and economic benefits are outlined in the accompanying cost benefit analysis and residential supply and demand reports prepared by SGS Economics and Planning. This should be read in conjunction with the additional supporting information provided within this report.

APPENDIX A – EVANDALE EXPANSION PLAN



RIDGESIDE LANE

WHITE HILLS ROAD

POTENTIAL SUBDIVISION LAYOUT
NOTE: This indicative layout for 4 Ridgeside Lane forms part of the rezoning application, but is not included in the Expansion Plan as illustrated on this drawing.

100m Setback from Agricultural Land Use

200m Setback from Agricultural Land Use

COMMUNITY PURPOSE
(Aged care / Retirement / Childcare)
(6.2 Ha)

COMMUNITY PURPOSE
(3.7 Ha)

BARCLAY STREET

LEOPOLD

ARTHUR STREET

POTENTIAL SUBDIVISION LAYOUT
NOTE: This indicative layout for 38 Arthur Street forms part of the rezoning application, but is not included in the Expansion Plan as illustrated on this drawing.

MACQUARIE STREET

COACHMANS ROAD

STOCKMANS ROAD

SUBDIVISION BY ADJOINING LAND OWNER

RUSSELL STREET

LOGAN ROAD

GUNN

200m Setback from Agricultural Land Use

100m Setback from Agricultural Land Use

LEGEND

- Existing general residential lots within Evandale.
- Potential future road reserve layout in the adjoining large lot properties.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (6.25 Ha).
- Proposed road network as per NMC Evandale SAP section NOR-S5.8.4 Roads.
- Proposed general residential lots varying in size from 550m2 to 850m2.
- Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- Proposed community purpose lots
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1 Potential for additional land acquisition to provide a safer intersection such as a roundabout.

2 Public open space corridor for pedestrian and cyclist connections to Barclay Street.

3 Road connections to adjoining current and future residential precincts.

4 Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.

5 Local pocket parks to accommodate surrounding residents.

6 Local Business Zone for neighbourhood retail (2,800m2).

7 Existing farm dam to be retained top protect existing frog habitat.

8 Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.

9 Intersection to Logan Road.

10 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Subdivision Master Plan

0 25 50m

Sheet 1 of 1
4 December 2024
Issue M

N

Traders In Purple

LANGE design landscape architecture

APPENDIX B – COMMUNITY CONSULTATION SUMMARY REPORT

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Ridgeside Lane Community Engagement Report

JULY 2018

'If I was to have imagined the land uses at the beginning, they would never have been as good as what we have in the concept plan. The outcomes are much richer for the contributions made by the community.'

Charles Daoud, Traders in Purple

thenoagroup

www.noagroup.com.au

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Introduction

Traders in Purple are a private development company with major projects in the Illawarra Region of New South Wales and the Redcliffe Peninsula in Queensland. In May 2018 the company purchased approximately 245 hectares of land 250 metres east of the Village of Evandale. The site borders on Logan Road to the south and Ridgeside Lane to the north. Prior to planning the uses for the site the company decided to engage the community of the Evandale District in conversations on what they would like to see happen on the site. This voluntary engagement enabled initial site planning to incorporate the views of the community. 285 people participated in the activities, which provided an understanding of a range of issues, which then guided the development and further refinement of an initial high-level concept plan for the site. This concept plan will guide the research and further detailed information for a rezoning application to the Northern Midlands Council.

Engagement Activities

The engagement plan included the following activities, which were facilitated by Lynda Jones and Bob Campbell from the noagroup:

- Mapping the whole system of the Evandale District. The whole system includes the organisations, groups and individuals that will influence or be influenced by the proposed development. This mapping exercise facilitated the development of a database as a key resource for communication, awareness raising and recruitment to engagement activities.
- Developing a communication plan, which included project narrative, audiences, mediums and scheduling. Included in the plan was the establishment of a dedicated project website.
- Scheduling face-to-face interviews with key stakeholders and local groups with leadership roles in the community. Examples include the Northern Midlands Council, the Evandale District Committee and relevant State Government agencies. A summary of the interviews is included as Attachment A (Input) and Attachment B (Feedback) of this report.
- Conducting four co-design workshops to identify community views on what they would like to see included or not included in any future development. Co-design workshops are a way for people to contribute their thoughts and ideas around potential opportunities, challenges and solutions for any development proposal. Co-designing starts at the beginning of the planning and guides the development of initial and ongoing responses.
- Specific briefings to Council and the Evandale District Committee on the project's advancement and the draft concept plan developed after the initial Input phase of the engagement.
- Conducting an additional Feedback phase, which involved three workshops where the draft concept plan was presented and additional comments sought.
- Throughout, the team responded to requests for one-on-one/small group interviews and combining these with the four co-design workshops, three feedback sessions on the draft concept plan and associated briefings, resulted in the total engagement of 285 people.

At a Glance

82 interviews/presentations for input
110 input co-design workshop participants
70 feedback workshop participants
23 interviews/presentations for feedback
Overall: 285 people engaged

Executive Summary

This Executive Summary presents the key issues from both the Input and Feedback phases of the community engagement program. The issues have been drawn from the outputs of the engagement activities and are qualitative in nature. However, they have guided and informed the development of the high-level site concept plan and have provided invaluable project 'grounding'. Areas where more detailed research and planning are needed have also been identified during the process.

The key opportunity the proposed development provides is the integration of economic, social and environmental outcomes. Successfully planned communities bring all aspects of life and living together to define their own sustainability and liveability.

The Evandale District and Village has an ageing profile and a reducing working aged cohort. Population growth is needed to sustain commercial and community services in the Village. The proposed new development has the potential to improve viability by attracting young families and working age people to live in the area. Increased commercial and community services will reduce the need for time consuming and costly commutes to neighbouring towns and to Launceston by residents.

The proposed development is a mixed-use project not just a housing development. The range of activities will broaden employment opportunities both during construction and ongoing. Opportunities for young people through apprenticeships and traineeships could be facilitated by the mixed-use nature of the development. There is also the opportunity to develop social enterprises within an area where people live

There is a strong focus on health and sustainability. The plan to utilise current and emerging technologies to be self sustaining and off the grid attracted interest and support during engagement discussions. The provision of an extensive network of extensive tracks and trails throughout the site will promote an active, healthy lifestyle that is attractive to residents and visitors

Both the positive and negative issues raised during the Input engagement discussions were incorporated into the site concept plan and consequently there was less tension during the Feedback sessions and more understanding of the development's aims. Younger residents in particular were encouraged by the potential of more housing choice and increased opportunities for their families. There was support for the attraction of more young families as the resultant population growth would increase support for local businesses, provide certainty for school student numbers and help maintain sporting and recreational groups.

A point of consensus was that 'the development should be about the children and grandchildren of existing residents'. This sentiment when joined with the principles of economic, social and environmental integration is a potent force for optimism about the development's potential contribution to the future of the Evandale District and broader Region.

Bob Campbell and Lynda Jones
noagroup
July 2018

Accessing the site

This remains a key issue. There needs to be more than one-way in and one-way out of the development. An emergency services access point onto Logan Road is suggested. Consideration should also be given to the main entrance into the development being via White Hills Road and perhaps incorporating a newly constructed road around the Village. There was mixed feedback over the use of Logan Road for site access. During the input discussions the potential traffic pressures on Russell Street from a Logan Road access point were strongly raised. During the feedback meetings there was a softening of that view and a Logan Road access point was seen as beneficial for local businesses.

Housing

This is essential for community viability. The number, density and mix of housing proposed in the concept plan was well received, particularly when considering that there are very few rental properties presently available in the Evandale Village or any new housing. In keeping with the Regional Housing Strategy an integrated approach including affordable housing is proposed and younger community members and families welcomed this.

All age groups need to be part of the development's future community, but there needs to be housing options for young families and working aged people. This would then support the regional migration strategy to address the challenges of an ageing population and decreasing working age cohort. The concept plan has positively responded to all these issues.

Energy, Water and Waste

As much as is possible, the development aims to be 'off the grid'. The degree to which this can be achieved will mitigate any capacity challenges from existing utilities servicing the Village and will also be a point of difference for the development. The sustainable ideals of the proposed development are attractive to many people.

Name

If rezoning is successful, the development should be named as soon as possible and the name communicated and promoted. The name Ridgeside Lane was temporarily chosen, as it is the property address.

Management and Maintenance

The provision and sharing of considerable areas of open space by the community is a feature of the site concept plan and an idea embraced by the majority of people at the Feedback sessions. This contributes to the values of sustainability and liveability. Questions were raised about where the responsibility for maintenance and funding of the open space will lie once the development is established. Part of the development's sustainability and liveablility ethos is that residents will contribute to maintaining open spaces and places because in doing so they help build both a sense of place and community. Many people liked this idea too.

The Airport

Three areas of concern were raised by airport management and will be easily addressed:

- Potential residents need to understand the proposed new development is beneath the airport flight path and there will be aircraft noise, which won't change.
- There should be no area of water planned for the proposed new development that could potentially increase the amount of birdlife above current levels. (There is no area of water planned)
- Attending the Community Consultative Committee meetings to ensure there is an exchange of information and discussion over any concerns.

Tourism

There needs to be a destination purpose in the end development; not something you come across but something you go to. According to the Launceston Accommodation Demand Study there is still capacity for extra beds in the area. Any accommodation facility could also incorporate a specific meeting/training centre with a focus on executive management and leadership development.

Agri-tourism is still the focus of tourism potential in this area. To that end activities which provide immersive activities involving capacity building, producers and makers, value adding and sustainability will be attractive. Essential to the development and also the future visitor will be the inclusion of 'best' connectivity and a recharging mechanism for vehicles and people movers.

Tracks and Trails

These have been incorporated into the end design. They are the means to support active, healthy lifestyles and sustainable movement and transport within the development. They are desirable to many of the engagement participants.

Good Neighbours

There is some concern amongst the surrounding farming community that a proposed development will create tensions between the 'right to farm' and the 'right to live' the way people want to live. These concerns will be best managed by maintaining dialogue between developers and farmers during the detailed planning stage and farmers and residents as the project develops. There is also the suggestion that engaging an expert agronomist to study the current and future farming practices in the area would help develop recommendations to minimise potential impacts between neighbouring farmers and residents. The use of buffer zones and various types of fencing have already been discussed.

Engagement Phase 1: Input

Interviews: Summary of key issues raised

Prior to the first round of community co-designing workshops, interviews were held with a number of regional stakeholders, community organisations and individuals and contact was made with over 80 people. A record of the interviews and key issues raised is in Attachment 1 to this report. A summary of the key issues raised during the interviews and conversations is set out below.

Evandale's character

Many people moved to Evandale for its heritage, beauty and quietness and there is a fear that this may be compromised. The concern is that any proposed development would end up bigger than the Village and therefore the Village would be lost.

Evandale is a heritage village, which attracts visitors. There was concern that an increase in population associated with any proposed development would detract from the heritage character of the town; that any development may prove inappropriate; that Evandale remain a 'walking Village', as opposed to a 'driving Village'.

It was also suggested that perimeter areas of the development back onto activities, which would improve liveability.

Roads

Beyond the airport, the road leading to Evandale deteriorates in standard and is not considered adequate by Evandale residents. Any increase in traffic due to population growth in the Evandale District has the potential to exacerbate the situation.

The Northern Midlands Business Association has also been lobbying for the upgrade of roads in the area to reduce travel time from 'paddock to port'.

Traffic in Evandale Village

The concern with any proposed development is using the Village as an entrance and the associated traffic that would be generated.

There was concern over access to the proposed development site. It was considered that Russell Street would not be able to take any extra traffic as the volume of cars, trucks and people competing for space already challenges it. This is highlighted each Sunday when the market operates.

Utilities: water, power and sewer

The provision of utilities to service extra population is a key concern as there is limited capacity in the existing Evandale Village services. Aiming to be 'off the grid' was well-received.

Agricultural land

A view was expressed that agricultural land should be used to grow food not houses.

Jobs and apprenticeships

The area needs local jobs and apprenticeships especially for young people and if this could be incorporated into any proposed development it would be positively received.

Population

Evandale has an ageing population and is predominately a retirement village. This potentially threatens the long-term sustainability of the school, services and commercial activities. There is a regional strategy to increase population through immigration to address the issue of a diminishing working-age population.

Housing and livability

Housing development should take an integrated approach with a variety of options, including affordable housing. Housing affordability is an issue.
The development should be 'pitched' at telecommuters where people live and work from an area of high lifestyle and livability.

Healthy lifestyle

Any new development should incorporate green open spaces, tracks and trails, provision for active transport, community gardens for fresh food and sport and recreation facilities. The Evandale Football Club has successfully moved into female football and is presently outgrowing its present facilities.
Revegetation of the area was also seen as part of a healthy lifestyle with the connection made between a healthy environment and human health outcomes.

Tourism

The projected demand for visitor accommodation in the Region over the next 10 years is 500 rooms and after factoring in proposed Launceston developments there is still opportunity for 200 rooms.
Agri-tourism is a focus for the area, the aim being to create immersive experiences around produce, producers and value adding.

Evandale Village viability

Commercial viability is challenging particularly during the winter months. Additional service and retail outlets have often failed e.g. service stations and butchers shop. At one stage the local supermarket closed. There was concern that Village commercial activity would be replicated in any new development and increase competition in an already challenging commercial environment.
The viability of the school and having enough students to ensure its future is also a concern to many people. A social enterprise, perhaps working with a not-for-profit, might provide good outcomes for all.

Past planning and the present Planning Scheme

There is an agreed town boundary, outside which the Village should not expand. Also within this boundary there is a population cap of 2000. There were concerns that this planning framework that had taken a long time to agree was now being ignored.

The development's address/name

The 'working' name of 'Ridgeside Lane' for the project was used because the site borders on Ridgeside Lane – its address. There is also a nearby property called 'Ridgeside' and there was confusion over why that name was being used. Many would prefer an alternative name be given to any proposed project.

Ongoing costs

There is concern over who will pay for the ongoing maintenance costs of gardens, parks, open spaces, track and trails. If this fell to Council there was an added concern that rates would be increased to pay for additional maintenance.

Launceston Airport

The three issues raised by airport management were making it clear to people living in any proposed new development that they are on the airport flight path and there will be aircraft noise that will not change; safety over establishing any body of water which would attract birds which are a safety hazard for air traffic; and the airport retaining good relationships with the community.

Co-design Community Workshops: Summary of Key Issues

Around 110 people attended the four workshops. They were held at various times to maximise convenience on Wednesday, May 23rd and Thursday May 24th. There was a separate meeting with the Evandale History Society and volunteers from the Information Centre held Thursday, May 24 to coincide with their regular monthly gathering. People were asked to register for the workshops to help with the formation of workshop groups and inform catering needs.
The workshop process was organised around the exploration of themes, with project team professionals working with community members. Each participant had the opportunity to contribute to each of the following four themes: Infrastructure; Character; Residential Options; Uses and Opportunities. A summary of the issues raised by participants is set out below:

Infrastructure fit for purpose

Roads and traffic:

- This is a key concern. There is a fear that any proposed development will generate traffic pressures on Russell and Barclay Streets. There was strong opinion that the Evandale Village centre not be used as the 'through-road' to access any proposed new development. There is also a concern that increased traffic will tax existing Village roads.
- Russell Street is integral to the heritage character of Evandale and is also the commercial activity hub. However, it is narrow with restricted parking, driver line of sight concerns and heritage amenity. The Sunday Market creates parking issues and restricts traffic movement and whilst this is generally accepted, people 'don't want Sunday, everyday.'
- The intersections of Russell and Barclay Streets with High Street also have line of sight concerns at current traffic levels. Nobody wants to see a roundabout or traffic lights.
- Barclay Street does not have the parking issues of Russell but does pass by the school. It also has truck traffic.
- A traffic study is needed.
- Vibration from trucks may potentially damage heritage buildings and homes.
- The use of Cambock Lane is limited as an access point as it is a narrower residential street.
- A solution that diverts traffic around the Village would be ideal but the density may not justify the capital cost. Creating a connection from Ridgeside Lane through farmland north of Cambock Lane to the Leighlands Road / Evandale Road intersection was suggested.
- Evandale Road beyond the airport narrows; there are no white lines and there are grade issues around the rail crossings. The Community and Council would like to see it upgraded. The creation of a 'Ring Road' to the Leighlands Road intersection might provide a catalyst for Council and State Government funding for such an upgrade.

Water, sewerage, storm-water and waste management:

- Will the existing infrastructure be able to accommodate a large increase in population?
- The sewage treatment plant is ageing, located in the flood plain of the South Esk River and considered to be close to capacity. TasWater manages it.
- Water pressure is good on White Hills Road but patchy across the Village. There are some quality issues for those living in Trafalgar Lane.
- Councils have retained responsibility for drainage and storm water.
- There is a Waste Transfer Station on Logan Road adjacent to the southern boundary of the site. It was also mentioned that a previous landfill and hydatids testing site might be located on the eastern end of the site on Logan Road. The exact location will need to be determined so testing can be conducted.
- There was support for storm water retention and reuse in any proposed development.
- The notion of any proposed development being self-sufficient and sustainable was generally well received and considered feasible given the rate of technological advancements.

- The ability to connect any proposed development with existing water and sewer infrastructure will need discussion with TasWater.

Character

Village comes first

This is a description of Evandale's character by a resident and workshop participant.

'Evandale is an historic village in a peaceful, rural setting. The leafy, green trees provide cool shade in summer and beauty all year round. It is peaceful, quiet and safe. The landscape surrounding the Village gives us views of mountains, rivers, and productive farming land. The sounds you hear are of cows bellowing, and our kids walking together, riding bikes and playing. Evandale is a creative, enterprising community and there are many 'big' personalities. We stage national and international events like the Penny Farthing races and Glover Art Prize. What is unique about Evandale is the people, their stories, convict history, churches and our historic Village with its cosy, quiet laziness. There has been steady and considered development in Evandale since its establishment. Steady and staged growth is the favoured approach. A steady, staged increase in population within the agreed limits, with the potential of extra families living in the area and jobs that might be developed and maintained would be good.'

What was liked?

- Greenery, open space, trees and gardens. Trees you can eat. 'In Sorrento the streets are lined with lemon trees.'
- Development that is subtle and respectful of the 'neighbouring' historic Village of Evandale
- The development to be surrounded by the landscape, which can be seen wherever you are; this is integral to the character of the District.
- A community focus, parks, walkways, something for families and children
- Underground power
- Good standards of design and construction
- A fire buffer zone, and a community preference to separate any new areas. 'It should not be an extension of Evandale but separate to it.' This also raised the question of a separate name, which has not been determined.
- The potential green belt to contain tracks, trails and paths that link to the Village and to existing tracks and trails which facilitate active transport, health and wellbeing outcomes. Many were positive about this.
- Facilities that help build community.

What was not liked?

- The look and feel of a suburb.
- No concrete jungle!
- High-rise developments
- A place like Grindlewald with gimmicky themes
- Bright colours that clash with the landscape and Village
- Big fences and colour bond fences
- Big houses on small blocks
- Blocked views
- A great big hotel

Residential Options

- Previous planning studies resulted in the recommendation that population in the Evandale Village be restricted to 2,000 persons. The present population is estimated to be around 1,400.

- There is limited supply of new housing and land for sale in Evandale. Housing development is happening nearby in the municipality at Perth and Longford.
- Residential options should cater for all ages and stages in life. There needs to be a mix and diversity. Density however is not favoured.
- To attract families, housing will need to be affordable. This implies smaller lot sizes. Currently the Village has an ageing profile. More young families would help secure the future of the school and eventually the Village. 'If we lose the school, we lose Evandale'.
- There is a tension between small lots and bigger lot sizes. Generally the Devon Hills or Leighlands Road sizes with the traffic problems resolved had support. That however may not address affordability.
- Some objection to grid pattern streets and cul de sacs.
- Ageing in place should be facilitated by the housing options. There was discussion around a Glenara Lakes aged care facility with a mix of independent living and supported care facilities set in landscaped grounds. This got a mixed reception.
- There are examples of areas where building design guidelines are set and covenants placed on buyers to ensure the character of a place is maintained. There is scepticism over how this would be enforced and achieved over time.

Uses and Opportunities

- The Village of Evandale has lost services over time: 'We used to have two service stations, we need a pharmacy, the butchers shop closed and the general store even closed for a while. If the numbers of children don't increase the school may become vulnerable. There is no police station. We could do with increased access to doctors and dentists. Without growth Evandale runs the risk of continued service decline.'
- 'We don't offer enough to tourists to keep them here for very long.' However the community hosts two iconic events with the Penny Farthings and Glover Art Prize. There was some enthusiasm to restore the historic water tunnels.
- A view was expressed that there was no desire to be like the Village of Richmond (outside Hobart) with its 'tacky shops' and high visitor numbers.
- An event, conference or wedding venue was suggested. Weddings could strengthen existing businesses.
- The Agrarian Kitchen (Derwent Valley) concept showcasing local produce was mentioned. In the 1980's Evandale supported two fine dining establishments, Casey's and Russell's, which brought visitors to the Village.
- Artist studios and exhibition spaces to build on the 'Glover' reputation were suggested.
- In broad terms however, there were no consistently strong tourism ideas.
- There were many more suggestions around recreational and community facilities and they included: a 36 hole golf course, sports oval, swimming pool, a men's shed, walking and cycling trail including mountain biking and an outdoor gym. One participant suggested that there was the potential for 8 km's of trails around the development site that could link into the Village and existing trail networks. A 'country-club' style centre with community spaces was suggested and was also seen as a facility that would have a positive impact on community building.
- Landscaping, parks and open spaces linked by walking trails, playgrounds and an outdoors event space were mentioned. An arboretum could enhance the landscape.
- One participant stated that the first public library established in Australia was at Evandale and suggested a community engagement space reflecting that history could be established.
- It was stated that the soils on the northern aspects of the site are suitable for grape growing. Keeping some part of the site for agricultural and rural uses was generally supported.

Phase 1 Summary: What we heard from the engagement INPUT stage

Combining the insights and understandings of both the interview process and the co-designing community workshops the following list summarises the first stage of the engagement's INPUT stage.

- Approach development as it has been done in the past: steady and staged.
- Understand the land and landscape from the perspective of the Aboriginal community.
- The natural environment and surrounding landscapes was a common thread throughout discussions and should be an integral reference point to any considerations.
- Develop separately from, but in sympathy with, the Village. Good design, construction, a subtle colour palette, lower density and respect for the existing heritage is favoured. There needs to be a green zone of separation between Village and New and this provides the opportunity for linkages and connections through tracks, trails and parklands.
- A major issue is the concern around traffic pressure on Russell and Barclay Streets that may be caused by any development associated with a large increase in population.
- An off the grid, self-supporting settlement using modern technology may overcome any challenges with sewer, water and energy.
- Landscaping, green open spaces and recreational facilities are supported. Tracks and trails in particular would promote active transport, health and wellbeing.
- Affordable housing and opportunities for young families would help safeguard the school. Places and spaces for families and young people are needed. The development should be about the children and grandchildren of existing residents.
- Keep part of the site as farmland, vineyards may be the opportunity, but also specialised local produce as the focus.
- Evandale like Tasmania is ageing and ageing in place facilities are likely to be in demand. This has implications for residential options.
- Build on Evandale's history, events and rural produce for tourism in line with a 'heritage to harvest' concept. Mass tourism is not popular.
- An alternative name for any development, not Ridgeside Lane.
- In all planning, be mindful of the Airport requirements.

Phase 2: Feedback

Following the engagement program's INPUT stage, the project team worked to translate the understandings into a draft, high-level concept plan. This concept plan was presented to community and stakeholders at the beginning of June 2018 for further feedback. Below is a summary of the key issues or questions raised during the feedback workshops and presentations.

Presentation and feedback workshop: Summary of Key Issues Raised

Three workshops were held on Wednesday June 6Th 2018 and 70 people attended over the three sessions. The high-level draft concept site plan, developed following the co design workshops was presented and explained.

Working in groups, participants were asked to say what they liked about the concept and what they were not sure about. The key issues from these discussions are set out below. The numbers indicate the number of times an issue was raised. The main like was the provision of tracks, trails and community facilities. The main area of uncertainty was road access and traffic.

Likes

Tracks, trails and facilities (10)

The ability to walk and cycle to Evandale Village and to be active within the project by cycling and walking on tracks and trails amongst lots of trees was popular. An amphitheatre, performance space and training centre were liked. There is interest in a swimming pool being provided.

Housing (7)

The housing design is compatible with the area. Not high density housing and not as many as 1,000 homes. Good variety of lot sizes and integration of living.

Sustainability (5)

The emphasis on sustainability and the eco focus particularly with energy

Population (2)

The development will assist with local population issues.

Community spirit (2)

The development encourages a strong and safe community spirit.

Not Sure

Road access and traffic (23)

Road access and generation of traffic is the key issue. There is debate over vehicle access from Logan Road. Some want it, others don't. Emergency services queried the safety of having only one way in or out. A gated emergency access onto Logan Road was suggested. The need to upgrade Evandale Road between the airport and the Village was also raised.

Development certainty (8)

Who is going to own and operate the development and what happens if you get to a certain stage and then sell to someone else? Is the project economically feasible? How can you be confident to make such a long-term commitment?

1-248

Housing issues (8)
Should there be covenants in place to control the standard and style of homes?
The provision of social housing in the community draws mixed views and what a lot of moderately priced houses mean? What will Council say about rural residential blocks? What are the implications for my house?

Future Maintenance of the land (7)
How will the open land and gardens be maintained and by whom? Do the residents look after the open space? How will the subdivision of large blocks later be controlled?

Facilities for young people (7)
What facilities are planned for young people on the site - skate parks, mountain biking, bike trails, and BMX tracks?

Waste and services (6)
What is the waste management plan for the site? How will water be provided?

Don't lose the countryside (6)
What impact will there be on the countryside and environment? This is the countryside and we don't want to lose it.

The plan and zones (5)
What zones are you proposing and how does the project affect the rural classification of Evandale?

Risk to agriculture (4)
How will the development interface with adjoining agricultural enterprises? There is a potential risk to agriculture. Need to protect right to farm.

Commercial activity (3)
What commercial activities are intended in the project? Will they be at detriment to local business?

Attachment 1: Record of Interviews held during the input phase of the engagement activities

Chris Griffin: CEO Tourism Northern Tasmania
Accommodation Demand Study commissioned by Office of Coordinator General outlines the need for 500 rooms over next 10 years. After taking into account the addition of the Silo Hotel and the proposed Joe Chromy Hotel the area will still be short 200 rooms. NTT is working on the area's core attributes – heritage, productive landscapes, harvest. History is still a focus but only with the 'harvest' connect. Just focusing on a heritage town doesn't work - hard for communities to maintain and needs to be linked to something. NTT is also working with the Aboriginal Community around establishing walks relating to produce and landscape. Free settlers, not convicts, populated the Midlands. Many families are multi-generational residents and have a long and credible relationship with the area. Agri-tourism is a key opportunity - create immersive experiences; merino fine wool; distillery activities e.g. whisky and gin; wine; growing food; growing/using native and heirloom plants; meet the makers and producers.

Ian Goninon: Councillor and President of the Northern Midlands Business Association (NMBA) Please note: it was stressed and understood that this meeting was in the context of Ian's involvement with the NMBA not the Northern Midlands Council. Ian commented that there was confusion about the proposal and specific questions raised by NMBA members were:

- Where is the location?
- If it doesn't go ahead, what will you do with the land?
- How will access be managed?
- Existing roads won't cope
- What size are the lots?

The NMBA has been lobbying for some time to upgrade roads to reduce the travel time of produce to port. There is a need to extend the airport road beyond the airport because the present road cannot cope with the existing volume. Any increase in traffic will exacerbate the situation. Any additional support for road improvements would be welcomed.
The area needs new jobs and apprenticeships for young people

Evandale Rotary Club
Questions raised

- Are they residential blocks?
- Will there be rural blocks?
- What about aged-care blocks?
- What sort of zoning do you need?
- What about the roads going in and out? (This is a key issue)
- How much green/public space will be allocated?
- Have you bought White Hills Ridgeside?
- How will you access it?
- Can you put 'ticker-tape' up on the land you have bought so it can be identified?
- What about power, sewage, water? How are you going to accommodate that?
- Are you part of the Blessington Road development?
- Will all dwellings be built or could you buy a vacant lot?
- What similar projects have you done that we could look at?
- What would the project start time be?
- Would you establish a nursery at/near the house?
- How many people?

- You must have done the projections and know what you are going to do?
- Will you be using wind energy and building turbines?
- Will you have shops as part of the mixed-use?
- We don't want a whole lot of people coming into the Village and making everyday a 'Sunday'.

Maree Tetlow: CEO NTD

NTD taking an integrated approach to development and are keen to see any new housing take the same approach. Also working on an economic strategy for the region, which is highlighting the need for population growth (which will require housing); responding to tourism demand and social and health issues.

Lucy Byrne, Managing Director, Healthy Tasmania

Focus is on health as an economic driver and the need for the State to improve their health outcomes

- Link to Evandale and provide healthy lifestyle opportunities; create a circuit that joins Logan Road, Nile with Leighlands and make use of existing tracks and trails. If there was a trail along Leighlands Road it would make a substantial running, walking, cycling circuit.
- Build understanding of the 'drivers', viability of Village; school numbers;
- Community gardens, landscaping
- Historical connections e.g. to Glover
- No duplication.
  Many deer in the area: could be a 'wildlife attractor'
- Recreation: tennis (cardio tennis), gym equipment; outdoor hoops; playgrounds; mountain bikes, trail running

Jane Shaw, Ingleside Bakery

Businesses find winter months very difficult. Had a butcher but it closed. More locals would influence the kind of retail and services offered and the viability of the Village as a small 'activity centre'.

Frank Deane (Resident)

Frank highlighted the work that had been done in setting the township boundary and also the population cap. He would like to see a golf course incorporated into the end design.

Evandale Football Club

Club was dwindling in numbers and so moved into female football
Now has a need to expand facilities

- Need bigger change rooms
- Could explore incorporating new facilities as part of a new development
- Raised community concerns: traffic, loss of Village atmosphere; too close to Village, competition
- One member, related to the person whose property is called Ridgeside, was upset that the name had been used for the development

Neil Grose CEO and Tim Holder, Chairman, Launceston Chamber of Commerce

Chamber is keen to see increased airport capacity for logistic solutions. Roads beyond airport are an issue. Opportunities for Launceston and Northern Tasmania: new international players; building identity; need smart investors; address winter months, accommodation at airport. New economy where people will be working from home and the north gives a great lifestyle benefit
Opportunities for inclusion in the development

- Incorporate a social enterprise into the mix of use

- Establish a sculpture Park as part of the botanical gardens
- Making lighting a feature
- Digital capabilities for the digitally enabled worker

Coordinator General's Office: John Perry and Catherine Murdoch,
This meeting took the form of a briefing where the idea of a proposed development was outlined to members of the Office.

Launceston Airport Peter Holmes (Operations), Ilya Brucksch-Domanski (Planning) and Paul Godier Planning Manager Northern Midlands Council (on phone)
Airport does not come under the Northern Midlands Council Planning Scheme but Air Services (Federal Government) however development applications near airport are always done in collaboration with the Northern Midlands Council. Want to make sure people who buy in area understand it is an airport precinct and there will be noise. Don't want to have people complaining and trying to get things changed. Need to make it clear; clearly advertise as stipulated in the Air Services Act 1995.
If Launceston/Tasmania was successful in the bid for the Qantas Air School, could mean an increase of workers into the area and more traffic
Airport is responsible and engaged with local community and we don't want this to change. We are a community asset.
The road past the airport is not good. Already decreased speed on road. Locals do not like the roads. They are narrow and in last two years there has been 2 crashes near the railway crossing.
There is concern regarding safety in relation to birds. Bodies of water attract birds. Have been incidents with swans. Swans migrate east to west. If there were another body of water in-between they would use it. CASA dictates we measure and monitor birdlife within a 15k radius. At Evandale, birds are at flying level. Other wildlife hazards include wallabies, peacocks, wombats, and hares. We are very conservative about bird and wildlife hazards because of safety.
Hobart has built a hotel to accommodate early flights but it's not doing well. Launceston is a destination, not a stop over.
Airport is looking to develop their vacant land.
The road upgrade between Breadalbane to airport will be duplicated but not beyond. This was an election promise.
Airport consultative advisory committee meets every six months. TIP representatives are invited to attend and update everyone.

Angus Douglas (P&F member, local farmer)
Sustainability of the area needs to be proven and understanding longer-term trends in relation to an increase in the number of families would be helpful.
The area needs re-vegetating. There is a lot of native authenticity and understanding of vegetation; corridor ethos – reference to bioregions; habitats; re-generative agriculture
Area points to the hills and therefore need for an organic shape
For liveability, the perimeter areas need to back onto activities

Johannes Verhoeff
Development to be neat, tidy and simple
Narrow streets in the village, walking village – car is not king!
Fancourt in South Africa is a model and is like a walk through the country from village to village.
Langezandt outside Cape Town and also Kievits Kroon in Pretoria are examples of well-designed developments

John Kirwin, CEO Royal Flying Doctors Service Tasmania

Tasmanian has an ageing population and Evandale is a retirement village
Traffic, parking and roads are the key issues
Plans for Western Junction: rails, all facilities; Airport is starting their master plan next year; airport used to be busy for freight but that has changed to boat. If Western Junction development goes ahead then people will need to work and live somewhere.
Pitch development at the 'telecommuters'; housing affordability will be an issue; need good school and healthy lifestyle.

Chris Byrne and Chris Concade Hangar 57

The two Chris's are making whiskey in the old Ansett hangar at the airport.
They are at the early stages of their marketing efforts.
They will soon start looking for outlets to sell their product.

John Clements: Missiondale

Missiondale runs a rehabilitation program
Clients are usually in the program for 3 to 12 months
Range of activities include market gardening
Looking for other activities around horticulture skills development
Might be opportunities for skill development within the nursery or agriculture

Peter Wolfe and James Abbott (Glover Society)

Evandale has the highest residential prices outside Launceston
Where you are going to build overlooks the transfer station; land looks down on it
If get 30k winds, plastic gets stuck in the trees
Sight line for land to waste transfer station
Map needs to be adjusted as things look like they are there when they're not
Only people with money can afford sustainability
Where will the storm water go?
Solar panels need to be cleaned

Evandale History Society

Volunteers from the Information Centre joined society members
The following comments/questions were raised

- What did Council say you needed to provide them?
- There is no official application as yet
- The solicitor said that you don't own the land. Do you?
- Evandale feels like a community. 'I came here because of the heritage, beauty and quietness of the Village. Lot of feeling about that and people are concerned and scared that it will be taken away
- Traffic and using the Village as an entrance is the key concern
- Don't want any other days like Sunday
- What size blocks will you have down there?
- This terrifies me – it's larger than our Village
- You are not welcome here!
- Many of us see you as a 'nuisance'
- We need land to grow food, not houses
- Are you aware of Pitt and Sherry's report?
- There is a great deal of confusion
- A town that size (no size specified) needs a 'hub' – this will compete with and destroy the main street of Evandale

- The information says that the proposed development is kilometres away but it's not – it's on the edge of the Village
- Everything TIP does is 'high rise' – are you going to do that here?
- Who will look after the botanical gardens?
- What about flooding?
- What do you mean by affordable housing?
- Ongoing liabilities get passed onto Council and ratepayers
- Grey water – pump breaks down – who pays?
- What is design in sympathy with heritage values?
- Have you made contact with the irrigation?
- If you do this and then leave or sell to someone else, we have to pay for it all
- Impact of using water for domestic use
- Have you been to see the Coordinator General?
- Any meeting with Planning Commission?
- Are there offshore investors?
- Beneficial for land to remain rural land without residential
- There is a rumour that Launceston airport is to be made an international airport
- Perth and Longford already have plenty of land for housing – they can't sell it
- Launceston has an amalgamation agenda
- Planning Scheme has the 'village on the hill' and we want that to remain
- Council have held two closed meetings on this development
- Ridgeside is the name of an existing property

Attachment 2: Record of feedback presentations and interviews

Northern Midlands Council presentation

Questions raised

- Where will you put the battery bank?
- Will people drive White Hills Road into Launceston? Or is an alternative route planned?
- Would tourists want to go into this development?
- Will you be replicating retail? E.g. two supermarkets? (Don't want to end up like Devonport)
- Where does your land start and finish?
- Who determines the building standards?
- What are the next steps?
- What comes to Council in July?

Comments

- Russell Street is impossible. You need to solve entry into the site. This is fundamental
- There is opposition. However, some people like the idea, but won't say
- There is a fear of losing the school
- Jobs and kids is what the community care about
- Barclay Street and growth – still want children to be able to get to school
- Building and apprenticeships would be very beneficial
- Farmers use Logan Road
- The fire brigade will need more resources and up-skilling to handle the increase in population
- There is no ambulance station. Would be good to address that
- Move the existing sewerage station (need to discuss with TasWater)
- Council will have a workshop prior to the meeting when the application comes in and then move to a formal Council meeting

Evandale Advisory Group

Questions raised:

- How wide is the buffer?
- Houses in Logan Road will lose their view
- Will the developers provide the trees?
- Will the developers provide and maintain the botanical garden?
- Who maintains the whole thing?
- Who came up with the name Ridgeside?
- Will you consult regarding the name?
- Off the grid? Will there be wind turbines?
- What do you mean by affordable housing?
- Will there be different rate calculations to the rest of Evandale?
- What zoning are you going for?
- Do you think there will be an enthusiastic take-up?
- One of the key messages you left off the list was 'go away'.

Maree Tetlow: CEO Northern Tasmania Development

Feedback she had heard was around the following

- Name
- Agriculture/vineyard: spray drifting back and therefore upsetting people
- Utilities

Northern Tasmania issues

Population: unless we act, the working population will dramatically drop off in the next three years. Strategy to encourage more skilled migration needed.
NBN: will need to look at how the new community connects to the web so people can work from there.
Housing strategy: being developed. Aim is for inclusion.
Economic data: developing an economic plan with the help of NIEIR (National Institute of Economic and Industry Research). Report will be available soon
NTD do not separate economic and social but focus on the two together.
Employment: focus on apprenticeships and employment

Chris Griffin CEO Northern Tasmania Tourism

Will need to be visitation around purpose – not something you come across
Artisan/makers has great appeal particularly around produce and agricultural activities
Agreed, something like the Mt Eliza Management Centre would be appealing
Incorporate facilities for 'electric cars' – visitors will only travel as far as they can on the 'daily battery' – will want to power up at the night when they are asleep
TNT focuses on the heritage precincts/villages in next few years

Neil Grose, Launceston Chamber of Commerce

Thanked us for the briefing

Leanne Hurst and Richard Jamieson, Planning and Development, Launceston City Council

Thanked us for the briefing

End report
July 2018

thenoagroup



Residential Supply and Demand Analysis for Evandale

Traders In Purple

05 | 05 | 2022

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1. Introduction

1.1 Project brief

SGS was commissioned by Traders In Purple to undertake a residential supply and demand analysis to inform a proposed rezoning and residential development adjacent to the town of Evandale. The proposed development includes residential lots and a mix of additional uses including long term development of potential hotel accommodation and conference centre on 293 hectares of land.

1.2 Project scope

The plan will require an amendment to Planning Scheme by way of a rezoning. There is a need to justify the rezoning of land for residential purposes. A key element of this justification is a demonstrated need relative to the available supply. The project spatial regions considered are the Northern Midlands LGA which contains the suburb of Evandale and the Launceston LGA which could be a source of demand for housing in Evandale as land in Launceston LGA becomes more limited and relatively more expensive.

1.3 Method and approach

To inform the justification SGS undertook:

- A residential demand analysis based on demographic changes, population growth and recent trends in housing demand. SGS will deploy its in-house housing demand model to establish the demand for housing in Evandale and surrounds for the next fifteen to twenty years.
- A residential supply analysis which will review the currently available vacant residential land, and an assessment of the capacity of this land.

The analysis does not consider the appropriateness of the particular site for residential development as this was beyond the scope.

1.4 Report outline

The report is outlined as follows:

- Section 2 looks at the demand for residential land, both historical and future demand. Future demand is modelling using SGS's Housing Demand Model
- Section 3 looks the current supply of residential land in the area and housing capacity of the Northern Midlands LGA.
- Section 4 shows the gap analysis and provides recommendations

1.5 Key findings

Conclusions and recommendations are drawn concerning the need for a planning amendment to rezone the subject land to enable residential subdivision based on the following findings:

Site and policy context

The study area is located in the Northern Midlands Local Government Area (LGA), which is broken up into three Statistical Areas – Level 2 (SA2): "Northern Midlands", "Longford" and "Perth – Evandale" SA2, in the latter of which the subject site is located. There is also a small portion of the south of "Westbury" SA2 that is included in the LGA boundary. The subject site is located approximately 1.5 kilometres from the Evandale town centre. For the purposes of this analysis, housing demand is assessed at the LGA level.

The Northern Tasmania Regional Land Use Strategy (RLUS) locates the study area adjacent to the identified Evandale Urban Growth Area. Therefore, the RLUS requires that any proposed expansion of existing settlements be "restricted to locations where there is a **demonstrated housing need**, particularly where spare infrastructure capacity exists." The RLUS also supports the delivery of housing diversity through a range of dwelling types and sizes in appropriate locations, particularly for ageing populations and single persons, and the provision of high and medium density housing to maximise infrastructure capacity. The application of the General Residential Zone would be appropriate for the proposed residential subdivision and for meeting these needs.

Further investigation should be undertaken to ensure there is adequate supporting infrastructure for the proposed residential subdivision, particularly water supply and sewerage which are delivered by TasWater, as it is beyond the scope of this analysis.

Housing demand

The high growth series of the Tasmanian Government's population projections were applied to the Northern Midlands LGA. Population in the Northern Midlands LGA is projected to grow by 12 per cent (1,578 people) between 2021 and 2036. For comparison, the Launceston LGA is projected to grow by 7 per cent (5,383 people). The structure of the population is changing, as the proportion of elderly people (aged 75 years and over) will more than double between 2016 and 2041, reflecting an ageing population.

In order for a housing and land market to function adequately, there should be at least fifteen years of residential land supply available at any one time. Looking at the fifteen-year timeframe between 2021 and 2036, SGS' Housing Demand Model forecasts that the **total housing demand in the Northern Midlands LGA** is around **645 dwellings**, which is an average increase of **0.8 per cent per annum**.

Housing preferences are skewed towards separate houses, which will form 75 per cent of the total additional dwellings projected to 2036, growing at an average rate of 0.7 per cent per annum (increase of 483 dwellings between 2021 and 2036). However, demand in attached dwellings (comprising townhouses, duplexes etc.) will see the greatest annual average growth rate, at 3.6 per cent per annum (increase of 109 dwellings between 2021 and 2036). This is followed by the flat/unit/apartment typology, which will increase by 26 dwellings, at a rate of 0.7 per cent per annum.

By 2041, the leading household types will be 'couple families without children' and 'lone person' households, with each making up 28 per cent of all dwellings. This is followed by couple family with

children (21 per cent) and one parent families (13 per cent). The forecast proportion of household types will remain relatively stable compared to the share in 2016. In comparing housing forecasts by dwelling type and household composition, all households have an overwhelming preference for the 'separate house' typology, particularly family households both with and without children.

Housing supply

Historical building approvals data shows approvals have increased over time in the Northern Midlands. This has been driven by population growth which has tracked higher than Tasmania's high population growth scenario. This suggests zoned land is being taken up much faster than what has strategically been planned for. Future housing supply/housing capacity was estimated using Department of State Growth Land Use dashboard data. Three scenarios were tested based on realisation rates of 25 per cent, 50 per cent and 70 per cent, where the lower rate assumed more impediments to getting zoned residential land online. These impediments were lack of service infrastructure in the zoned land and continuance of existing land uses, for example, farming. Based on these assumptions, SGS estimates the housing capacity is **450 dwellings** in the **Northern Midlands LGA** based on the realisation rate of 50 per cent.

Gap analysis and recommendations

The gap analysis compared the demand estimated using SGS's housing demand model and housing capacity estimated from State Growth data. The analysis found there would be an **undersupply of 195 dwellings** based on housing capacity realisation rate of 50 per cent. The undersupply of housing would have negative consequences such as increasing housing stress and falling rental affordability. SGS recommends for the residential market to work effectively, more land needs to be made available to absorb future housing demand.

2. Site context

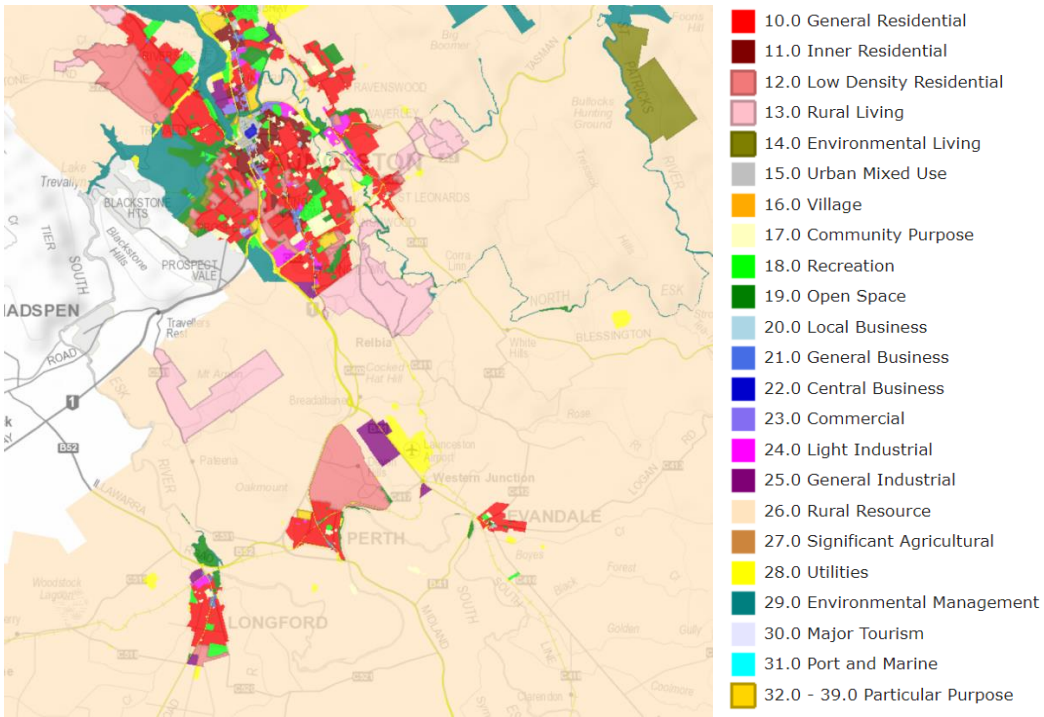
2.1 Study area

The subject site covers 293 hectares of land in Evandale at 211 Logan Road, Evandale 7212, title reference 116759/1 on Plan 116759. The land is currently zoned Rural Resource (Figure 1 and Figure 2) and is located to the east of the existing residential settlement in Evandale. This area is located adjacent to the Evandale Urban Growth Area.

Evandale is a residential settlement in the Northern Midlands Local Government Area (LGA) (Figure 3), located approximately 18 kilometres from Launceston City and 5 kilometres from Launceston Airport. The next closest residential settlement is in Perth, located approximately 6 kilometres away.

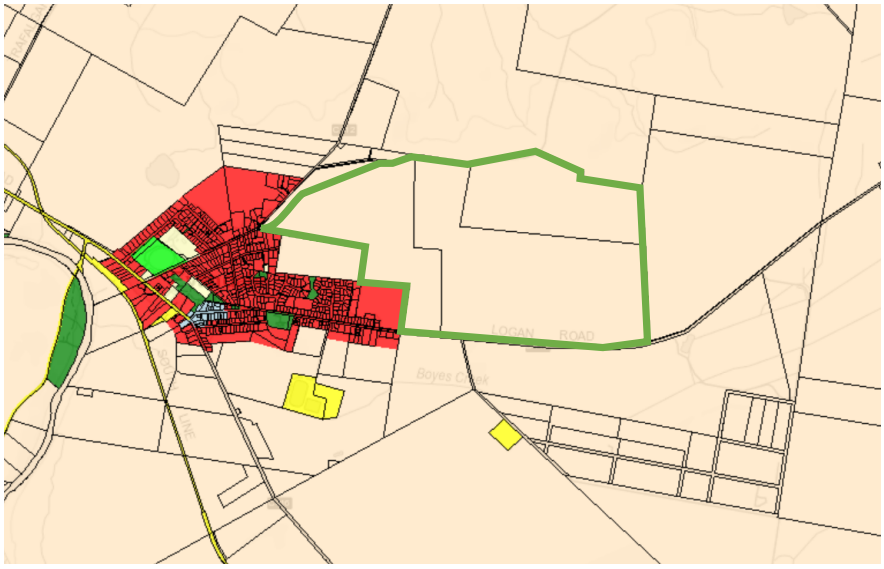
The residential area in Evandale is zoned General Residential and is characterised by detached single dwellings. The residential settlement is mostly surrounded by vacant land. This residential area includes a town centre that is zoned Local Business and provides for local needs, which is located approximately 1 kilometre from the subject site.

FIGURE 1: ZONING MAP



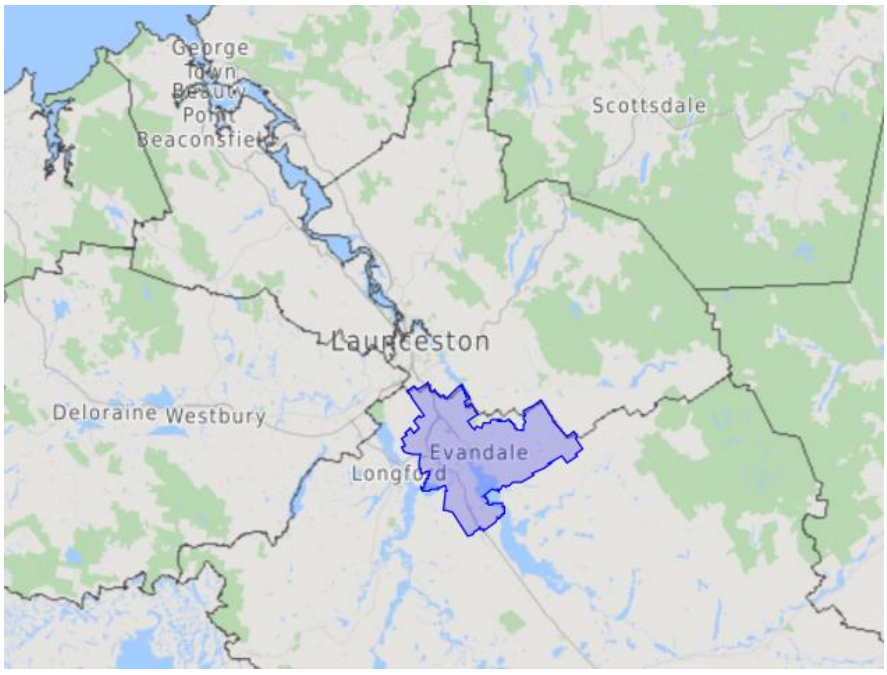
Source: LISTmap, Tasmanian Government (2021)

FIGURE 2: ZONING MAP, EVANDALE RESIDENTIAL SETTLEMENT AND STUDY AREA (OUTLINED IN GREEN)



Source: LISTmap, Tasmanian Government (2021)

FIGURE 3: NORTHERN MIDLANDS LGA



Source: ABS Map Data (2021)

2.2 Planning policy context

The following planning policy documents influence the potential for residential subdivision and development in the study area:

- *Northern Midlands Interim Planning Scheme 2013*
- *Northern Tasmania Regional Land Use Strategy*
- *Northern Midlands Strategic Plan 2021-2027*
- *Northern Midlands Integrated Priority Projects Plan 2021*

Council encourages development that aligns with these statutory and strategic planning documents. In particular, Council advocates for integrated planning of land use and electricity, water and sewer networks.

These documents are summarised as follows, focusing on the relevance to the study area.

Northern Midlands Interim Planning Scheme 2013

The Northern Midlands Interim Planning Scheme 2013 is a statutory planning document that is enforced by the *Land Use Planning and Approvals Act 1993* and it currently guides land use and development in the Northern Midlands LGA. The study area is currently zoned Rural Resource. A planning scheme amendment is required to rezone the land to allow residential uses.

Northern Tasmania Regional Land Use Strategy (RLUS)

The RLUS is the regional plan for Northern Tasmania, which provides a regional vision that includes creating a region within which '*All communities enjoy a positive, affordable and competitive future*' and '*Quality of life is enhanced and people are moved to live, invest and visit Northern Tasmania*'. It applies to all land in the northern region of Tasmania, and guides land use, development and infrastructure decisions made by State and local government. The location, form, type and density of residential development is a significant land use planning issue addressed in the RLUS.

Urban Growth Areas are where urban settlements are contained and include 'Supporting Consolidation Areas' (see Figure 4). The RLUS locates the study area adjacent to the identified Urban Growth Area that comprises the Evandale township/satellite settlement. Therefore, the RLUS requires that any proposed expansion of existing settlements be "restricted to locations where there is a **demonstrated housing need**, particularly where spare infrastructure capacity exists." Infrastructure of particular concern includes water supply and sewerage, which should match existing and planned infrastructure capacity being delivered by TasWater.

Urban residential expansion is supported in locations where there is access to the region's activity centre network, including employment, services and existing infrastructure, while limiting fragmentation of rural lands and natural economic resource areas.

The role of the Evandale town centre is to 'provide an extensive urban area independent of the Greater Launceston Urban Area with key local retail, commercial, and community service functions'. The town centres of Hadspen and Perth Legana also form part of this network of activity centres and the regional settlement networks.

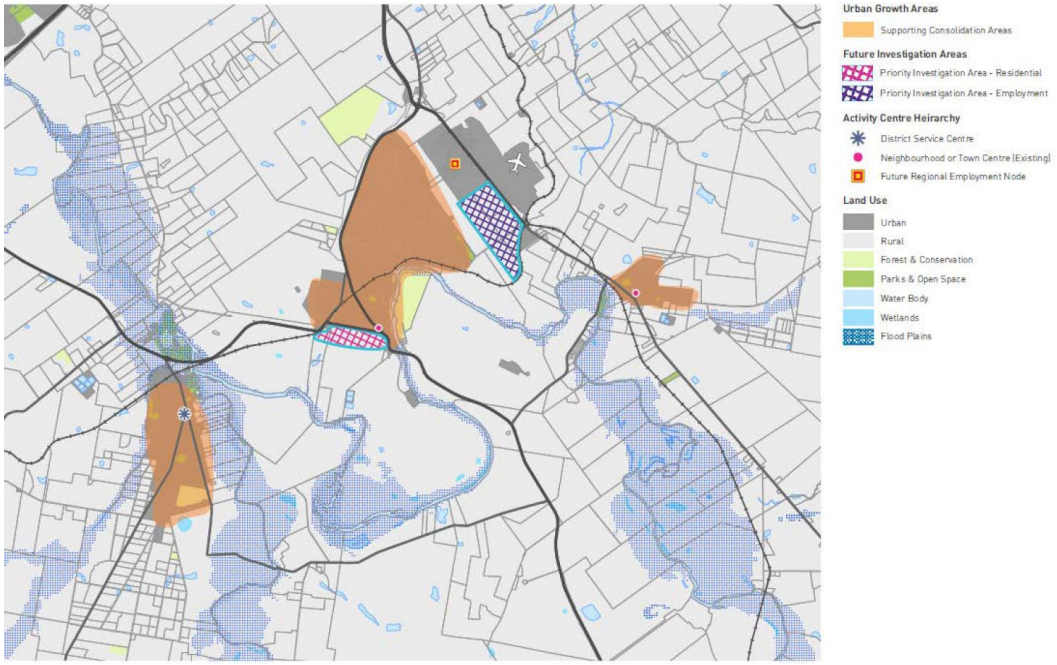
New residential development should deliver housing diversity through a range of dwelling types and sizes in appropriate locations, particularly for ageing populations and single persons as housing needs change, and the provision of high and medium density housing to maximise infrastructure capacity. This outcome is to enable 'ageing in place', by providing affordable housing that meets the needs of the community. The application of the General Residential Zone would be appropriate for the proposed residential subdivision and for meeting these needs.

Housing affordability and choice

The need for affordable housing in Evandale is supported by SGS' Rental Affordability Index[1], which shows that households are being priced out of Launceston. Rental affordability for the average income rental household has dropped markedly in Launceston from being 'affordable' in the second quarter of 2020, to 'acceptable' by the second quarter in 2021. For elderly singles or couples that rely on the pension, rents in Launceston are classified as unaffordable for these household types as of the second quarter of 2021.

Rental unaffordability is where households pay more than thirty per cent of their income in rent. This leaves households with insufficient funds to pay for other primary needs such as heating, medical needs, education and transport. Rental affordability provides the best insight into the relation of residential demand and supply, as its affordability level is not distorted by property speculation and wealth creation considerations.

FIGURE 4: REGIONAL FRAMEWORK PLAN: NORTHERN TOWNSHIPS (LONGFORD, PERTH AND EVANDALE)



Source: Northern Tasmania Regional Land Use Strategy (2021), page 18

Northern Midlands Strategic Plan 2021-2027

This local policy defines the Northern Midlands Council's vision, mission and values. The vision statement is: '*Northern Midlands is an enviable place to live, work and play. Connected communities enjoy safe, secure lives in beautiful historical towns and villages. Our clean, green agricultural products are globally valued. Local business and industry is strongly innovative and sustainable*.'

Emerging issues being addressed by the Council include a focus on economic development, sustainable development, community wellbeing, maintaining core council functions and future funding for prudent financial management. The plan notes that the proposed Land Use and Development Strategy is currently in progress.

Integrated Priority Projects Plan 2021

This plan provides an overview of the socio-economic profile of Northern Midlands, summarised as follows:

- The rate of population growth in Northern Midlands has been higher than in Launceston City since 2011. Most of the growth is occurring in the 50+ age cohort.
- Increasing population growth since 2011 has coincided with increasing employment, mainly in the agriculture and health care sectors. Northern Midlands ranks slightly better than the Tasmanian average for socio-economic disadvantage, with more than 90 per cent of people aged 15 or older employed either part-time or full-time.
- The Northern Midlands has slightly less households in the highest income quartile than the Tasmanian average. However, the number of highest income and medium-lowest income household groups has been increasing since 2011.

The plan identifies projects that represent an investment in the future of Northern Tasmania. Several significant subdivisions in the Northern Midlands region have recently been identified and are in various stages of conceptual design or planning. There is one other subdivision proposed in Evandale:

- Barclay subdivision, Evandale (estimated 110 residential lots)

In undertaking these projects, Council has engaged TasNetworks and TasWater to understand what upgrades may be needed to support the proposed subdivisions. Likely upgrades that will be required to support the developments in Evandale include upgrades to the electricity network (upgraded supply from Hadspec) and substantial water and sewer system upgrades in Evandale.

Council is seeking to work with the State and Federal Government, TasNetworks, TasWater and private investors to identify funding solutions that will enable timely delivery of these upgrades and facilitate land development activity in the Northern Midlands region. There may be an opportunity for Federal and/or State Government grant funding. TasWater is currently undertaking a strategic review of sewage treatment plants (STPs) in the Meander Valley and portions of the Northern Midlands (including Perth and Evandale).

2.3 Implications

The Northern Tasmania RLUS requires that any residential expansion outside the identified Urban Growth Areas- that is the existing Evandale township or residential settlement- requires demonstrated housing need. This report provides the basis for this evidence through a housing demand and supply analysis.

The location of the proposed residential subdivision aligns with strategic planning policy, particularly the Northern Tasmania RLUS. The subject site boundary is located adjacent to the existing residential settlement in Evandale, where the release of new residential land will contribute to consolidating the existing township. The substantial size of the subject site would provide for appropriate housing diversity through a mix of lot sizes and housing products, to meet the needs of different sectors of the population. Providing more affordable housing options will be critical as SGS' Rental Affordability Index shows households are being priced out of Launceston, which subsequently leads to many households looking to satellite settlements such as Evandale for more affordable housing options.

Further, the subject site has good access to the region's activity centre network, specifically the Evandale town centre and Launceston city, which provide services for local needs. There are also opportunities for employment in the surrounding region, particularly in the agriculture and health care sectors, which have bolstered population growth in recent years. More broadly, the proposal adds much needed housing capacity that relieves pressure on agricultural land fragmentation to the benefit of the Northern Midlands and regions of Tasmania.

The proposed development would complement and consolidate other proposed residential subdivisions in Evandale, including Ridgeside Lane located near the subject site and Barclay, as identified in the Integrated Projects Plan. It is particularly timely from an infrastructure perspective, as it is stated that Council is engaging with key government stakeholders to ensure the timely delivery of infrastructure upgrades, including electricity, water and sewerage, to support the proposed subdivisions. Further investigation should be undertaken to ensure there is adequate supporting infrastructure for the proposed residential subdivision, particularly water supply and sewerage which are delivered by TasWater, as it is beyond the scope of this analysis.

3. Housing Demand

3.1 Method overview

Estimates of dwelling demand in Northern Midlands have been generated using the SGS Housing Demand Model. Figure 5(?) below shows each step in the model. The model estimates implied demand for dwelling types by analysing the likelihood (or propensity) of various age groups forming different household types, and then the likelihood of those household types residing in different dwelling forms.

The first two steps in the model are benchmarked to the medium and high growth scenarios of the Tasmanian Department of Treasury and Finance (2019) population projections to 2041. Across all the years, the model accounts for shifting patterns across the population, households and dwellings. Most importantly, it accounts for the changing propensity for households to live in different dwelling types.

The implied demand derived from the model incorporates practical trade-offs made by households based on the supply that is available. If alternative housing stock was available, households may potentially have alternative preferences at the margin. There is good evidence that households do in fact have alternative preferences, and this evidence is used to model alternative preference scenarios at the end of this section.

3.2 Population growth scenarios

The Tasmanian Department of Treasury and Finance (2019) has prepared population projections for Tasmania's Local Government Areas for a 25-year timeframe, between 2017 to 2042[1]. The Tasmanian Government's projections have three series, based on different population growth assumptions - high, medium and low growth series. Table 1 shows the medium and high growth series population projections for Northern Midlands LGA. Table 2 shows the assumptions used by the Tasmanian Government to estimate the population projections for the medium and high growth scenarios.

TABLE 1: POPULATION GROWTH – MEDIUM AND HIGH GROWTH SCENARIOS, NORTHERN MIDLANDS LGA

Statistical Area	Series	2021	2026	2031	2036	2041
Northern Midlands LGA	**Medium**	13 572	13 662	13 647	13 551	13 572
	High	14 187	14 735	15 192	15 575	14 187

Source: Tasmanian Department of Treasury and Finance (2019)

[1] https://www.treasury.tas.gov.au/economy/economic-data/2019-population-projections-for-tasmania-and-its-local-government-areas

TABLE 2: ASSUMPTIONS FOR POPULATION GROWTH SERIES (STATE LEVEL ASSUMPTIONS)

Series	Fertility (total fertility rate)	Mortality (life expectancy at birth)	Net Interstate Migration	Net Overseas Migration	Average annual growth rate (AAGR)
High	Increasing from 1.96 babies per woman in 2017, to 2.10 babies per woman by 2028 then remaining constant thereafter.	To reach 86.0 years for males and 88.5 years for females by 2067.	Net gain of 1,200 persons per year to Tasmania (+0.3% to population in 2017).	Net gain of 2,100 persons per year to Tasmania (+0.4% to population in 2017).	0.77% per annum from 2017 to 2036 0.62% per annum to 2067
Medium	Constant rate of 1.96 babies per woman.	To reach 82.4 years for males and 85.2 years for females by 2067.	Zero net interstate migration.	Net gain of 1,800 persons per year to Tasmania. (+0.34% to the population in 2017).	0.40% per annum from 2017 to 2036 0.20% per annum from 2017 to 2067

Source: Tasmanian Department of Treasury and Finance (2019)

The average annual growth rate (AAGR) for Northern Midlands LGA between **2017 to 2020** using the **Tasmanian Government's projected medium growth series is 0.72 per cent per annum**, and for the **high growth series it is 1.06 per cent** per annum.

The Tasmanian Government's projections have been compared with the **ABS' estimated resident population (ERP)** data, between the period 2017 to 2020, as shown in Table 3. The ERP data shows that projected growth in the Northern Midlands LGA an **AAGR of 1.29 per cent** per annum between **2017 to 2020.** This comparison shows that the ERP data has been trended well above the high growth scenario from the Tasmanian Government's projections for the LGA (AAGR 2017-20: 1.06 per cent).

TABLE 3: COMPARISON OF POPULATION GROWTH RATES, NORTHERN MIDLANDS LGA, 2017-2020

	Tasmanian Government's projections		ABS data
	Medium series	High series	ERP
2017	13 084	13 084	13 084
2018	13 289	13 289	13 299

2019	13 328	13 394	13 437
2020	13 367	13 503	13 598
AAGR	**0.72%**	**1.06%**	**1.29%**

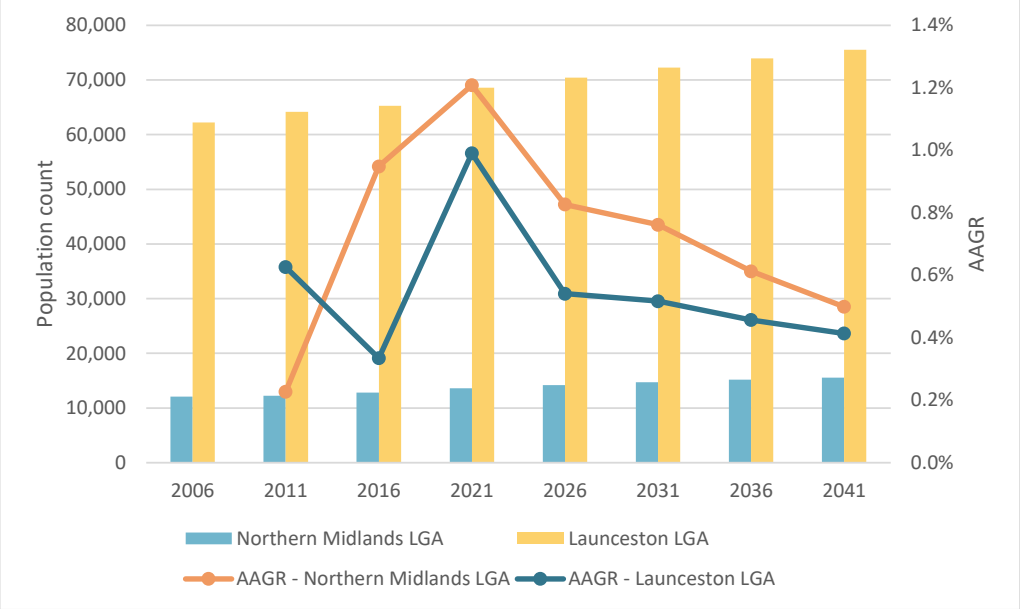
The higher-than-expected population growth in the Northern Midlands can be explained by the municipality's relative proximity to Launceston city. The proximity to this denser populated area, coupled with lower average house prices, means that to first homeowners and other low-medium income earners, Evandale and other residential settlements in Northern Midlands offers considerable appeal. Further comparison with Launceston LGA is provided in the next section.

Overall, the projected population growth for the Northern Midlands LGA region that is taken from the ABS (2021) ERP data is well above the population growth rate of the Tasmanian Government's (2019) high growth series. Based on these findings, it is appropriate to apply the growth rate of the high growth series to projections for the Northern Midlands LGA based on the Tasmanian Government's projections, noting that these projections provide a conservative estimate of future growth when compared to the ERP data.

3.3 Forecast population

As per the findings in the above section, the high growth series of the Tasmanian Government's population projections have been applied to the Northern Midlands LGA (Tasmanian Department of Treasury and Finance 2019). With an average growth rate of 0.73 per cent per annum between 2006 and 2041, the Northern Midlands LGA presents an overall higher growth rate than the neighbouring municipality of Launceston, which has an annual growth rate of 0.55 per cent per annum. This comparison is shown in Figure 5 – the years 2006 to 2016 are based on ABS Census data, which are observed population counts, and 2021 to 2041 are based on the high series population projections.

FIGURE 5: TOTAL POPULATION PROJECTIONS, NORTHERN MIDLANDS LGA AND LAUNCESTON LGA, 2006-2041



Source: ABS Census historic data (2021) and Tasmanian Department of Treasury and Finance (2019)

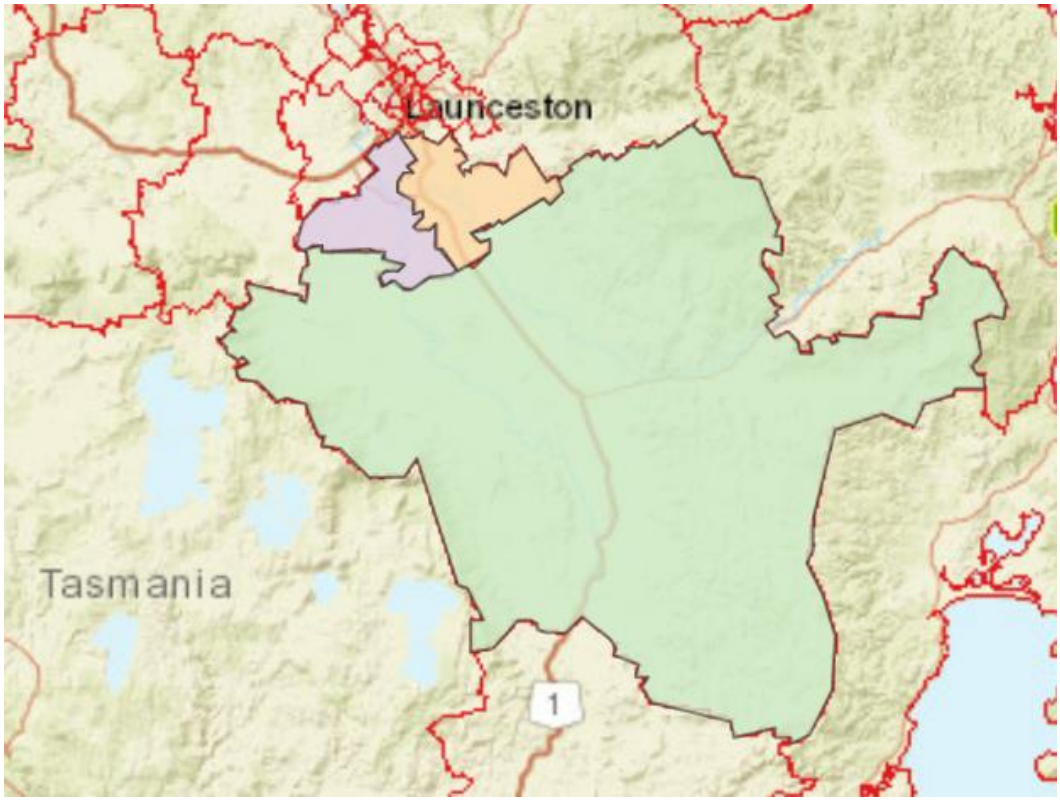
It is worth noting the spread of population across the Northern Midlands LGA as it covers a broad geographic area. There are three Statistical Areas – Level 2 (SA2) that cover this LGA, with Northern Midlands SA2 covering a majority of the area and comprising 28 per cent of the LGA's population, and Longford SA2 and Perth – Evandale SA2 covering relatively much smaller areas, comprising 31 per cent and 40 per cent of the LGA's population respectively. The Westbury SA2 also overlaps with the Northern Midlands LGA, however the population count in this area is negligible. Population is most concentrated in the Perth – Evandale SA2 where the study area is located. The SA2 areas listed in Table 4 are colour coded to correspond with the SA2 areas shown in the map in Figure 6.

TABLE 4: STATISTICAL AREAS IN NORTHERN MIDLANDS LGA, 2016 CENSUS

	Statistical area	People	Percentage of population within LGA
LGA	Northern Midlands (M)	12,822	
SA2	Northern Midlands SA2	3,633	**28%**
	Longford SA2	4,013	**31%**
	Perth – Evandale SA2	5,067	**40%**

Source: ABS (2021)

FIGURE 6: STATISTICAL AREAS IN NORTHERN MIDLANDS LGA

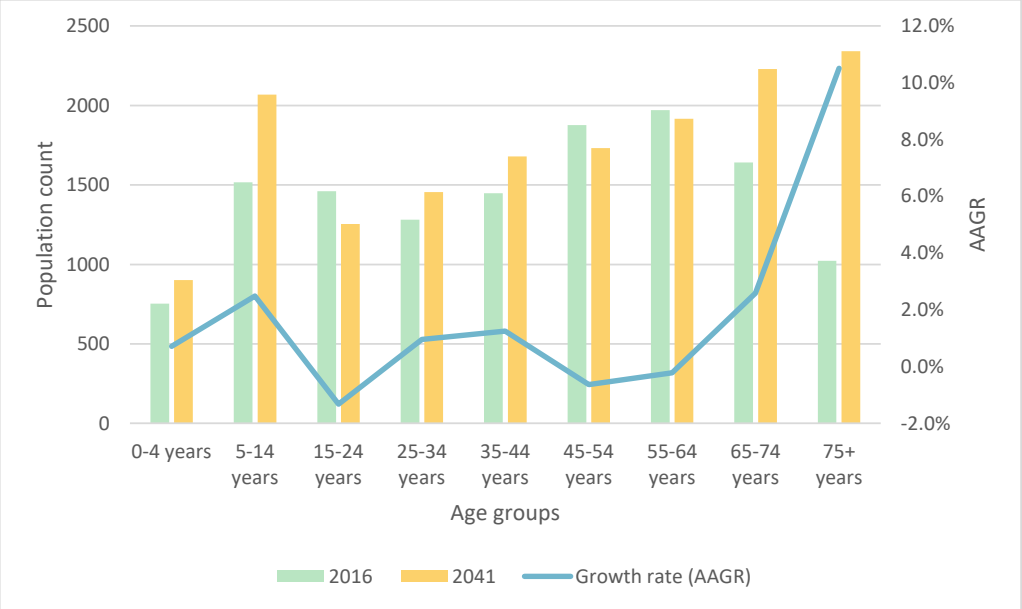


Source: ABS (2021)

The age profile of the Northern Midland's population is changing, as the proportion of elderly people (aged 75 years and over) will increase significantly by 10.5 per cent per annum between 2016 and 2041. This reflects an ageing population, where people are growing older and remaining healthy and independent for longer. The next highest increase per annum of 2.6 per cent is for the 65-75 year age group, followed by a 2.5 per cent increase for the 5-14 year age group. All other age cohorts will see an increase or decrease of approximately or less than 1 per cent. These changes are shown in Figure 7 and Figure 8.

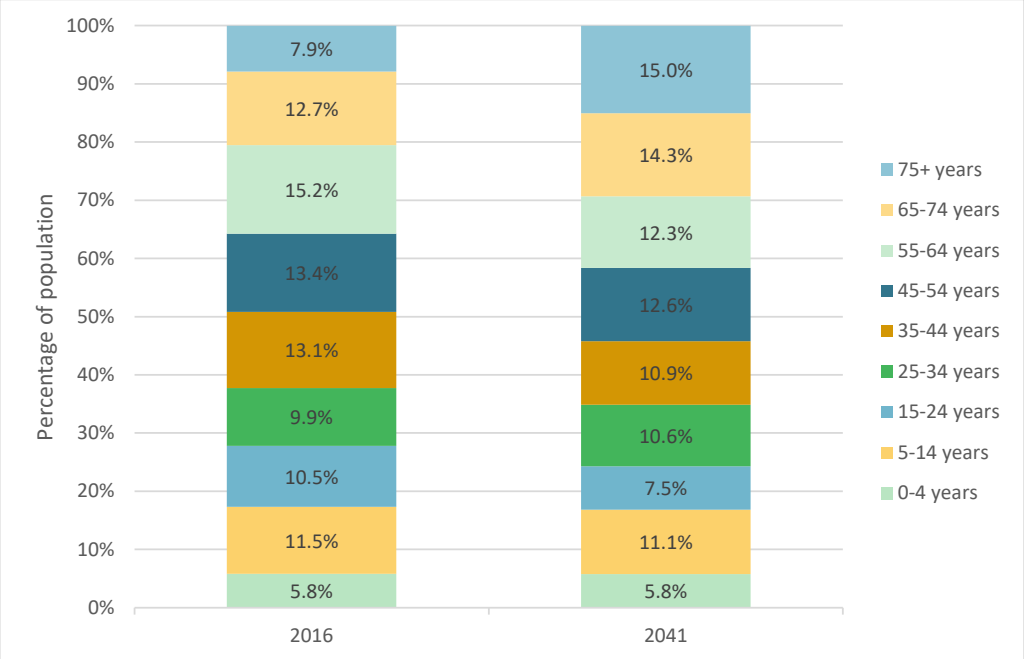
This change in the age structure may influence future housing preferences. It is anticipated that most older people in Evandale will remain living independently, particularly if housing options are provided to them. Similarly, an adequate supply of land for detached housing would allow young families to move into Evandale.

FIGURE 7: CURRENT AND PROJECTED POPULATION BY AGE GROUP, NORTHERN MIDLANDS LGA, 2016 AND 2041



Source: SGS Economics & Planning (2021)

FIGURE 8: AGE GROUP PROPORTIONS, NORTHERN MIDLANDS LGA, 2016 AND 2041



Source: SGS Economics & Planning (2021)

3.4 Forecast dwelling demand and household formation

SGS has calibrated its housing demand model for the Northern Midlands LGA. The model's base scenario is formed by historically observed household and dwelling compositions in the LGA as well as projections sourced from the Tasmanian Government.

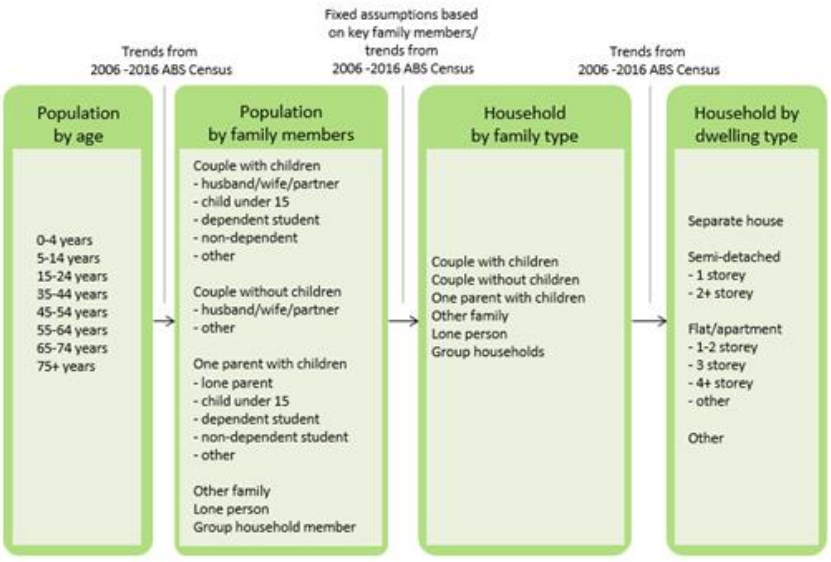
The model includes the following inputs:

- Population projections by age
- Household composition preferences
- Housing type preferences

Housing type preferences are categorised into four types which are defined by the Australian Bureau of Statistics (ABS) and used in the Census. These categories are:

- Separate house means a dwelling which is not attached to any other dwelling. In planning instruments these are called dwelling houses.
- Attached/semi-detached dwellings are attached on one or more walls, such as semi-detached, terraced and villa-style housing. In planning instruments these are called dual occupancies, semi-detached dwellings, attached dwellings and multi-dwelling housing.
- Flats or apartments are dwellings sharing vertical as well as horizontal walls. In planning instruments these are called shop-top housing and residential flat buildings.
- Other dwellings include caravans and cabins, improvised dwellings, houseboats and flats attached to shops.

FIGURE 9: SGS HOUSING DEMAND MODEL METHOD



Source: SGS Economics & Planning (2021)

Results

In order for a housing and land market to function adequately, there should be at least fifteen years of residential land supply available at any one time. Looking at the fifteen-year timeframe between 2021 and 2036, SGS' Housing Demand Model forecasts that the total housing demand in the Northern Midlands LGA is around **645 dwellings**, which is an average increase of **0.8 per cent per annum**.

Dwelling demand will be spread throughout the municipality, however, it is expected to be most concentrated in the Longford SA2 and Perth-Evandale SA2 areas, the latter of which the study area is located. Further detail regarding future land supply to meet dwelling demand is explored in the next section. Given the study area's proximity to Launceston and land running out in Launceston, additional demand is expected due to internal migration. Using ABS 2016 Census statistics it is estimated 2.5 per cent of Launceston's population would migrate to Northern Midlands. Based on the SGS housing demand model that would be an **additional 48 dwellings demanded**.

Housing preferences are skewed towards separate houses, which will form 75 per cent of the total additional dwellings projected to 2036, growing at an average rate of 0.7 per cent per annum (increase of 483 dwellings between 2021 and 2036). However, demand in attached dwellings (comprising townhouses, duplexes etc.) will see the greatest annual average growth rate, at 3.6 per cent per annum (increase of 109 dwellings between 2021 and 2036). This is followed by the flat/unit/apartment typology, which will increase by 26 dwellings, at a rate of 0.7 per cent per annum. It is noted that the potential development of these housing types may or may not occur on strata-titled lots.

Table 5 provides further detail on housing demand, by showing the increase in dwellings by type over a longer timeframe, between 2016 and 2041.

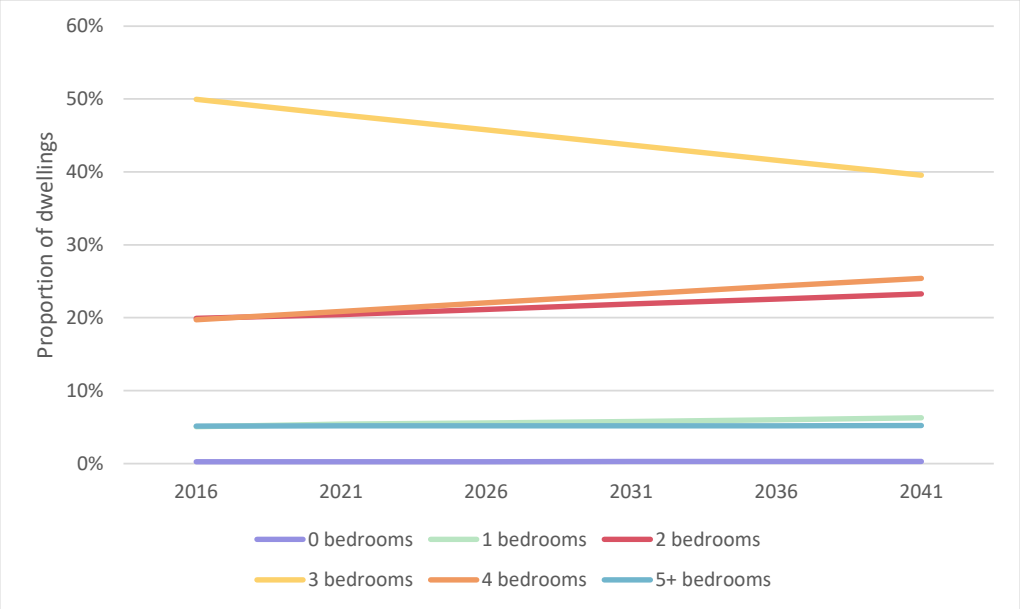
TABLE 5: HOUSING DEMAND BY DWELLING TYPE, NORTHERN MIDLANDS LGA, 2016-2041

Dwelling type	2016	2021	2026	2031	2036	2041	Change 2016-2041	AAGR 2016-2041
Attached dwelling	136	189	229	265	298	332	196	3.6%
Flat, unit or apartment	157	139	136	145	165	188	31	0.7%
Other	132	162	173	182	189	198	66	1.6%
Separate house	5,502	5,858	6,068	6,222	6,341	6,487	985	0.7%
Total private dwellings	5,927	6,348	6,606	6,814	6,993	7,205	1,278	0.8%

Source: SGS Economics & Planning (2021)

Figure 10 provides an overview of the forecast average number of bedrooms, which indicates preferences for dwelling size. The highest proportion of forecast dwellings will comprise 3-bedroom dwellings, followed by 4- and 2- bedroom dwellings. This is consistent with the high proportion of the separate house and attached dwelling typologies that are forecast to 2041. Less than 10 per cent of forecast dwellings will comprise 1 or 5+ bedrooms.

FIGURE 10: HOUSING DEMAND BY PROPORTION OF AVERAGE NUMBER OF BEDROOMS (DWELLING SIZE), NORTHERN MIDLANDS LGA, 2016-2041

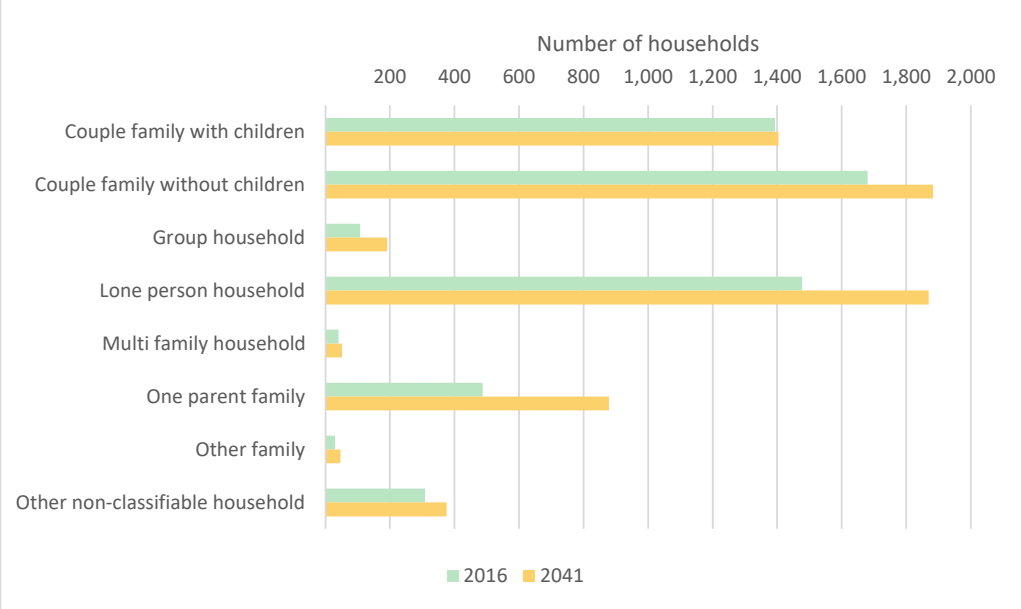


Source: SGS Economics & Planning (2021)

By 2041, the leading household type will be couple families without children tied equally with lone person households at 28 per cent each. This is followed by couple family with children (21 per cent) and one parent families (13 per cent). The proportion of household types will remain relatively stable compared to 2016, however the most notable average annual growth will be for the lone person household at 2.3 per cent per annum.

In comparing housing forecasts by dwelling type and household composition, all households have an overwhelming preference for the 'separate house' typology, particularly family households both with and without children. The relatively smaller demand in attached dwellings is mainly preferred by lone person and group households, while flats/units/apartments are mainly preferred by one parent families and couples without children.

FIGURE 11: NUMBER OF HOUSEHOLDS BY COMPOSITION 2016 AND 2041, NORTHERN MIDLANDS LGA



Source: SGS Economics & Planning (2021)

4. Housing Supply

4.1 Introduction and purpose

This chapter is intended to analyse the vacant land in Northern Midlands ready for development immediately, in the medium-term and the long-term. The purpose was to reveal the land to capacity for new housing in the Northern Midlands to 2036 and compared to housing demand, which would provide indication on whether additional parcels of land need to be released.

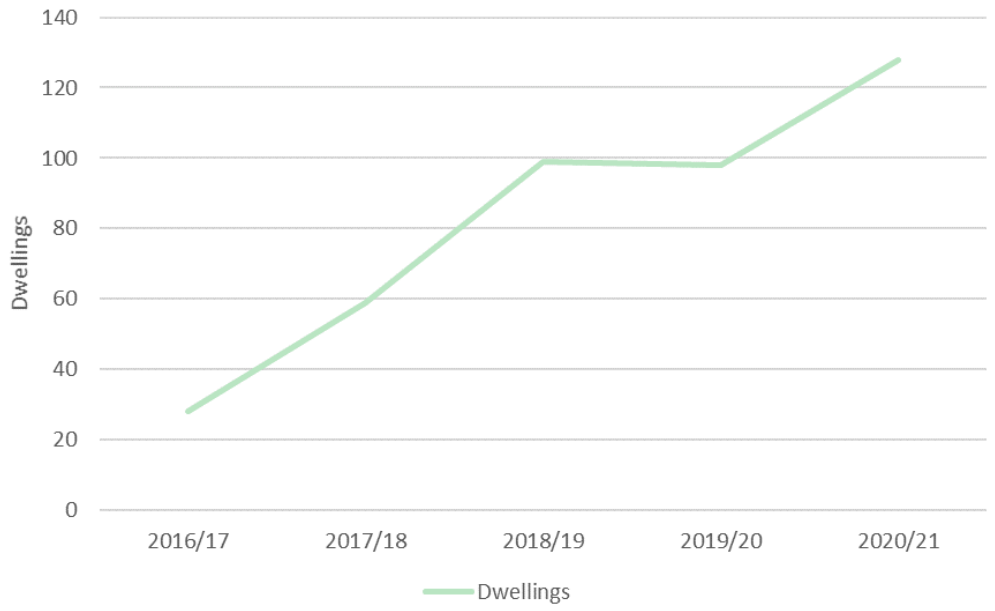
Parcels of land can be sorted into four different groups:

- Development ready lots (immediate supply)
- Land that is serviced with water and sewage, but not sub-divided (medium-term supply)
- Land that is not sub-divided nor fully serviced (long term supply)
- Council-owned land (uncertain supply)

4.2 Historical land supply

Figure 12 shows building approvals over last 5 years in the Northern Midlands. The number of dwellings has increased steadily over time. COVID's impact was to cause a plateau in dwelling approvals for one year with a quick rebound to the trend in the following year. Over the 5 year period (2016 to 2021) 412 dwellings were approved in the Northern Midlands. The AAGR during this period was 52 per cent which is reflection of the low starting base and the sharp increase in housing demand that can be attributed to housing policy i.e., first homeowner grants and national HomeBuilder programs. In addition, the historically low interest rates have made housing lucrative.

FIGURE 12: NORTHERN MIDLANDS LGA HISTORICAL BUILDING APPROVALS, 2016/17 TO 2020/21



Source: SGS Economics and Planning, ABS Building Approvals 8731.0

Within Evandale over the last 5 years 29 dwellings have been approved. Over 50 per cent of the new buildings approved were single dwellings. Compared to the rate of building approvals most of the land supply in the Northern Midlands has occurred outside Evandale.

TABLE 6:HOUSING SUPPLY LAST 5 YEARS IN EVANDALE, 2016-2021

	No: of dwellings	Average Lot size (m2)
Single Dwelling	16	8111
Multiple dwelling	11	1322
Other	2	32455
Overall	29	8752

Source: Northern Midlands Council, SGS Economics and Planning

4.3 Future Housing supply

Future housing supply is contingent on availability of suitable land. For the housing market to function adequately there should be at least fifteen years of residential land supply available at any one time. Historic building approvals data provides a partial picture on what land supply would be if council did not face any constraints in releasing land to market. However, council does face constraints and these constraints are important when considering whether the study area has an adequate supply of vacant land. The constraints that could inhibit supply of vacant land are:

- lack of serviced and sub-divided land
- residentially zoned land being occupied by other uses
- delays and constraints in converting non-residential land to residential land

SGS determined future land supply by converting the total amount of vacant land zoned as residential in the Northern Midlands into dwelling yield by using a standard dwellings per hectare ratio. The next step was estimating how much of the theoretical supply would be realised using a realisation rate.

Future residential land supply data was sourced from the Department of State Growth land use dashboard which captures Valuer General data at a point in time[2]. The data used in this report is a snapshot from the 9th of September 2021. The data provides the raw value of vacant land at an LGA and SA2 level and does not detail if the land is currently serviced and/or if the land is being used for other activities such as farming.

A ratio of 9 dwellings per hectare is used to convert the vacant land into the number of theoretical dwellings that could be supplied. This ratio assumes that lots will be the maximum lot size of the General Residential zone (1,000sqm) plus 10% (1,100 sqm). In addition, this is viewed as a typical ratio for greenfield development. A higher ratio of 15 dwellings per hectare would apply in an infill scenario where there are semi-detached dwelling types or higher density forms of housing.

To factor in that not all theoretical dwelling supply will be realised due to some vacant land needing service infrastructure and/or having existing uses, three realisation ratios of 25 per cent, 50 per cent and 70 per cent were used to estimate the potential amount of realised dwellings. The lower realisation rate assumes higher barriers in converting the theoretical dwelling supply to actual dwellings due to the reasons mentioned prior. The higher rate of 70 per cent is an optimistic rate that assumes service infrastructure is supplied quickly and land with existing land uses is realised promptly for housing.

Housing supply estimates

Based on the assumptions outlined above, Table 7 shows there is a total of 101ha of vacant general residential land in the Northern Midlands, 29ha in the Perth-Evandale and 11ha in the Longford area. The theoretical dwelling capacity is 900 dwellings with the Northern Midlands LGA, 261 dwellings in the

[2] Department of State Growth, Tasmanian Property Land Use Dashboard, https://maps.stategrowth.tas.gov.au/portal/apps/opsdashboard/index.html#/0748805cf6a24123ab33702e95322146

smaller area of Perth-Evandale and 99 dwellings in Longford. As mentioned prior not all the housing capacity will be realised, based on a realisation rate of 25 per cent, 225 dwellings would be realised in Northern Midlands, 65 dwellings in the Perth-Evandale and 25 in the Longford area. Based on a realisation rate of 50 per cent, the dwelling capacity would be 450 in Northern Midlands, 131 in Perth-Evandale and 50 in Longford. Based on the optimistic scenario of a 70 per cent realisation rate 630 dwellings in Northern Midlands LGA, 182 in Perth-Evandale and 69 dwellings in Longford would be realised.

TABLE 7: RESIDENTIAL CAPACITY SCENARIOS BY LGA AND SA2S IN NORTHERN MIDLANDS

	Northern Midlands LGA	Perth-Evandale SA2	Longford SA2	Northern Midlands SA2
Total vacant land (ha)	101	29	11	61
Theoretical dwelling capacity	900	261	99	549
Dwellings at Realisation rate 25 per cent	225	65	25	137
Dwellings at Realisation rate 50 per cent	450	131	50	274
Dwellings at Realisation rate 70 per cent	630	182	69	384

Source: Department of State Growth 2021, SGS Economics and Planning 2022

5. Housing Gap Analysis and Recommendations

The gap analysis identifies the gap between housing demand and housing capacity. Table 8 shows for the Northern Midlands LGA there would be an undersupply of 420 dwellings in the next 15 years if the realisation rate of vacant land is 25 per cent. If the realisation rate is 50 per cent the shortfall in dwellings would be 195 dwellings in the next 15 years. At a realisation rate of 70 per cent the shortfall is 15 dwellings. The shortfall of 15 dwellings seems modest but this scenario makes two big assumptions that providing service infrastructure would be done promptly and the release of land that has other uses would be promptly made available. Therefore, the shortfall estimates based on a 50 per cent realisation rate seem reasonable barring more refined data on vacant land that is serviced and sub-divided becoming available.

TABLE 8: GAP ANALYSIS DEMAND AND CAPACITY

	Capacity	Demand	Gap
Northern Midlands LGA (at 25% realisation rate)	225	645	-420
Northern Midlands LGA (at 50% realisation rate)	450	645	-195
Northern Midlands LGA (at 70% realisation rate)	630	645	-15

Source: SGS Economics and Planning 2022

These results suggest council needs to bring more land online to meet the demand for housing in the region even under the high realisation rate scenario. Supporting this assertion is

- if population growth keeps tracking above the high scenario, as it is currently, this will put more pressure on the residential market.
- Providing service infrastructure, particularly water and sewerage is a lengthy and costly exercise.
- Land release by farm-owners on residential zoned land would be based on preferences and market forces providing the right return.
- With land becoming less available in Launceston there will be increased demand for housing in LGAs such as Northern Midlands due to their proximity to jobs and amenities in Launceston. Using ABS migration statistics and the housing demand model, SGS estimates an additional demand of 48 dwellings from Launceston in the next 15 years.

Without releasing more land for settlement, housing prices would start to rise within the broader region, reducing housing affordability which has negative economic and social consequences. These consequences are:

- Households spend more housing than spending on other parts of the local economy. Reduced spending on the local economy reduces job creation, as this is driven in part by expenditure by households
- Increased housing stress due to rising prices as demand outpaces supply. In addition, the existing rental stocks prices will rise, increasing rental stress for low-income households in the region and to an extent homelessness would increase as rent prices go up. This is already happening in parts of Tasmania with households with long rental histories and full employment struggling to afford housing.

From a strategic perspective to optimise the residential housing market and maintain housing affordability, there is a need to start rezoning suitable land for residential use. Apart from rezoning more land, there needs to be continued monitoring of population, further strategic planning to accommodate future growth and monitoring of efforts to sub-divide vacant land.

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Evandale Expansion Plan Cost Benefit Analysis

Traders in Purple

25 | 08 | 2023

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Executive summary

Project context

Evandale is a town with an existing population of just over 1,000 as at the 2021 Census, approximately 20km south of Launceston. Traders in Purple have proposed a mixed use development that would expand the settlement of Evandale by adding a planned 264 new residential lots, as well as a child care centre and aged care facility. The proposed development is on land that is currently used for agricultural purposes and would therefore need to be rezoned to allow the development. A key element to justify the need for rezoning is a demonstrated economic contribution to the local and wider economies. In this study, SGS estimates whether the benefit to the economy from this proposed development outweighs the costs associated with the loss of agricultural land, by way of a cost-benefit analysis (CBA).

Cost Benefit Analysis

A CBA calculates the incremental benefits of an investment over that which would have occurred in a scenario where no investment is made. The scope for this assessment is not only to the investors but to the wider community of Tasmania, and the benefits that the investment will provide are assessed on this basis. The same goes for costs, meaning any negative externalities that would arise from the investment must be considered as costs to the wider community, even if they aren't a monetary cost to the investor. All components of the costs & benefits have been calculated conservatively.

The results of the CBA show that there is a significantly positive net present value (NPV), indicating that this investment will produce a net benefit to the state of Tasmania. The benefit-cost ratio (BCR) of 1.58 indicates that for every $1 in costs invested, the benefits would cover the costs and return an additional $0.58 to the wider Tasmanian community.

TABLE A: CBA RESULTS, 7% DISCOUNT RATE

	Project Case – developing site
Net Present Value	$27,478,201
Benefit Cost Ratio	1.58

Source: SGS Economics and Planning

The project can also provide non-monetisable benefits including increased primary school utilisation and benefits for key workers.

Sensitivity testing

Sensitivity testing was conducted to understand the impact that the discount rate used, level of residential land sales, and project cost variations would have on the overall performance of the options. The analysis reveals that even with more severe constraints put on the project, it still delivers a positive NPV and delivers more than a dollar in benefits to the community for each dollar spent.

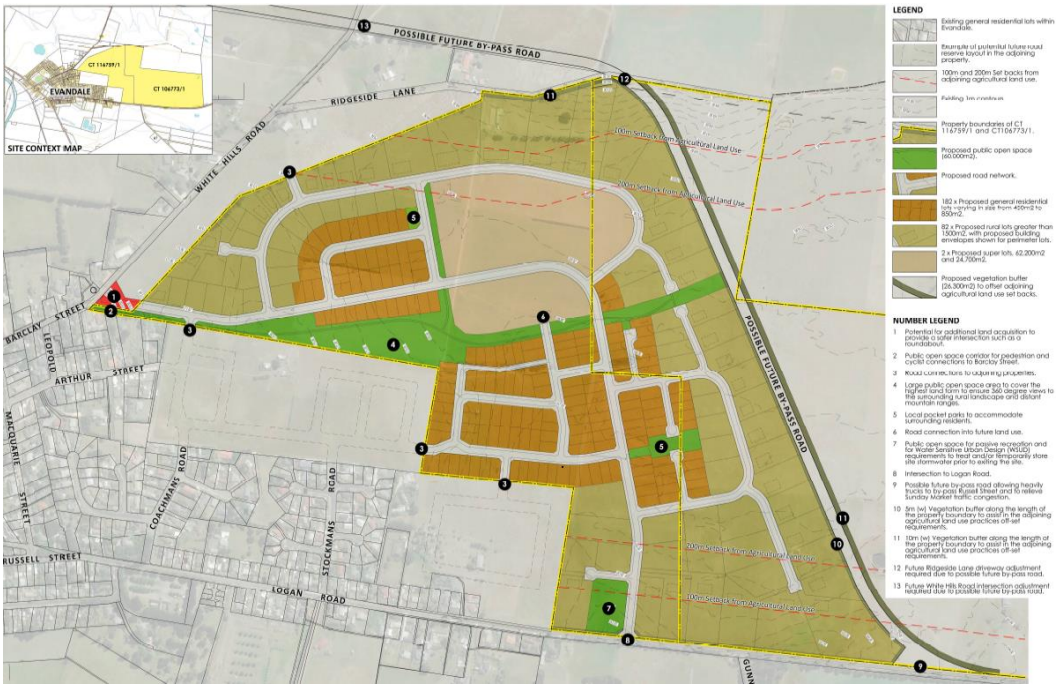
1. Introduction

SGS has been commissioned by Traders in Purple to undertake a Cost-Benefit Analysis (CBA) on the Evandale Expansion Plan, which involves the rezoning of agricultural land for residential purposes.

1.1 Background

Evandale is a town located 20km south of Launceston, with an existing population of just over 1,000[1]. Traders in Purple have proposed a mixed use development which would expand the settlement of Evandale, adding a planned 264 new residential lots, a child care centre, and aged care facility. Figure 1 outlines the proposed redevelopment area which is currently used for agricultural purposes.

FIGURE 1: SITE CONTEXT MAP



Source: Traders in Purple

1.2 Planning context

The Northern Tasmania Housing Study notes that Evandale shows suitability for Greenfield residential development. The Northern Tasmania Regional Land Use Strategy notes the township of Evandale as an

[1] ABS Population data, 2021

urban growth area. It suggests that Evandale should become a satellite settlement to Launceston, one rung below Launceston itself on Northern Tasmania's settlement hierarchy. Given the existing constraints on housing delivery and the current housing crisis, the opportunity to develop housing in a suitable greenfield location is not expected to be easily replaceable. Therefore, the benefits of delivering housing in Evandale have been modelled as wider benefits to the state of Tasmania, due to the assumption that if not delivered in Evandale, this level of housing would not necessarily be developed elsewhere.

1.3 Scope of work

The objective of this report is to strategically assess if the rezoning of agricultural land on the outskirts of Evandale will generate positive social and economic outcomes to the community.

This includes:

- Qualitatively describing the social and economic benefits enjoyed by community members, and
- Monetising social and economic benefits and contrasting them against project delivery costs to ascertain if the project is worth doing from a state-wide community perspective.

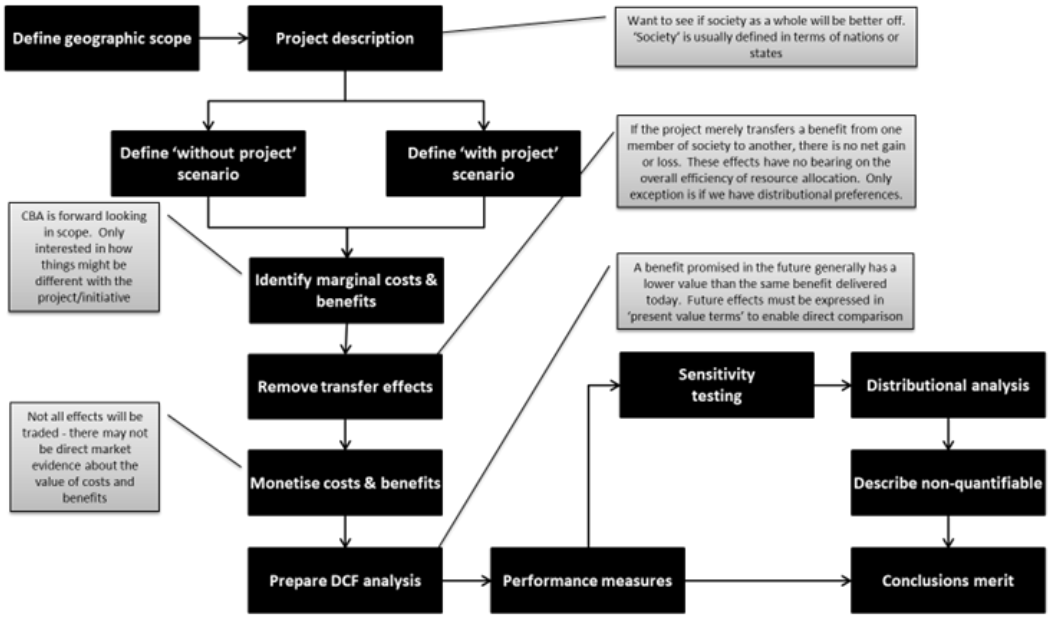
To deliver this, SGS has completed a cost benefit analysis.

Cost Benefit Analysis (CBA)

Cost benefit analysis (CBA) assesses the merit of investing in a project from a broad societal perspective. A CBA contrasts a project's benefits with its costs to establish if the benefits outweigh the costs. If this is the case, the project is considered worth doing from a broad community welfare (or economic efficiency) perspective.

The methodology adopted in CBA is summarised in Figure 2 below.

FIGURE 2: CBA METHODOLOGY



Source: SGS Economics and Planning (2023)

Incremental, real value, lifecycle analysis

The CBA has been conducted on an "incremental" basis. That is, the project outcomes are tested in comparison to the outcomes that would be generated under a do-nothing scenario, or 'base case' scenario.

For this analysis the 'base case' and 'project case' assessed are:

- **Base case –** Traders in Purple (TiP) either elect to not pursue the housing development, or the land is not rezoned, meaning development cannot occur. This is the 'business-as-usual' case, which would essentially see the continuation of current land use on the site.
- **Project case –** Evandale Expansion Masterplan is completed by 2035, including 182 lots on land rezoned to general residential, between 450-850m^2 and 82 lots on land rezoned to low density residential, on at least 1,500m^2 each. Two superlots are also to be developed, which will include a childcare centre on one, and an aged care facility on the other. Within the project case, there is the potential for neighbourhood retail space to be developed, however there is insufficient evidence on this as a potential outcome and therefore, has not been quantified in the CBA.

In line with state and federal economic evaluation guidelines, real values have been utilised in the CBA. This means that costs and benefits were not escalated for inflation during the analysis period. The analysis was conducted over a 25-year benefit evaluation period.

Finally, the benefit analysis was undertaken from a state-wide community perspective, evaluating the benefits that accrue within Tasmania. The benefits examined have been considered locally, however they are applicable to the whole state of Tasmania, because they could not easily be achieved elsewhere if this proposed expansion were to not go ahead. This is because the opportunity to develop housing on suitable greenfield land is unlikely to be replaced if not taken advantage of.

2. Project outcomes

This chapter describes and, where possible, monetises the costs and benefits expected to arise from the Evandale Expansion Masterplan development.

2.1 Introduction

As noted, a CBA assesses the merit of investing in a project from a broad societal perspective. It contrasts the project's economic, social and environmental benefits with its costs, to establish if the benefits outweigh the cost. If this is the case, the project is considered worthwhile from an economic efficiency perspective.

As discussed in section 1.2, the analysis will consider:

- Base case – Evandale Expansion Masterplan is not completed; and
- Project case – Completion of Evandale Expansion Masterplan.

Based on SGS's experience and available monetisation techniques, the benefits and costs included in the CBA are shown in Table 1.

TABLE 1: COSTS AND BENEFITS

Project Component	Base Case	Project case
Costs		
Construction (CAPEX)		X
Operational Expenditure OPEX		X
Lost agricultural yield		X
Benefits (Quantifiable)		
Additional residential housing		X
Childcare benefits		X
Aged care benefits		X
Open space benefit		X
Residual value of benefits (and ongoing costs)	X	X

Source: SGS Economics and Planning (2023)

2.2 Quantified costs

Construction costs (CAPEX)

Construction, or capital expenditure (CAPEX) for the project, has been split into three stages, where a proportion of the residential lots will become available at the end of each stage. At the end of the final stage, all the lots, including two super lots for a childcare centre and aged care facility will become available. The stages are presented in Table 2.

TABLE 2: DELIVERY STAGES AND INDICATIVE COSTS

Stage	General residential lots	Low density residential lots	Superlots	Open space	Indicative cost
Stage 1 (2025-28)	88	11	-	Pocket parks	$10,000,000
Stage 2 (2028-30)	48	33	-	Public open space	$14,000,000
Stage 3 (2030-35)	46	38	2	Public open space	$34,000,000
Total	**182**	**82**	**2**	**60,000m²**	**$58,000,000**

Source: Evandale Expansion Masterplan

To calculate the incremental cost, it is necessary to consider the opportunity cost of building housing that would otherwise occur. However, given that the base case involves leaving the land to its current agricultural use, there is assumed to be no development in this scenario and therefore no attributable housing cost.

The total undiscounted cost of construction is $58,000,000.

Operational Expenditure (OPEX)

In lieu of detailed estimates and a recognition of the scope of the options, OPEX and capital costs have been considered under the following assumptions:

- Asset operation costs have been set at 1 per cent of capital costs

This is an approximate allowance, based on the assumption that the bundle of assets will have a 100 year life, and assuming that 1% per year will need to be spent over the period in operations and reinvestment.[2]

[2] This assumption has been made in recognition that the package of assets being delivered is mixed, comprising physical infrastructure an housing. Using a consistent 1% as an assumption has streamlined the analysis, in recognition a detailed approach is out of the scope of this work and would not materially impact the BCRs of the options.

The total undiscounted cost of operational expenditure is $580,000 per annum, once construction on the expansion is complete.

Lost agricultural yield

Currently the land proposed for development is used for agricultural purposes, which has valuable outputs. These outputs would cease to exist in the project case, resulting in a loss of agricultural yield for the state. According to the agricultural report compiled by Macquarie Franklin (see Appendix A), the agricultural financial returns of the land have been considered under three scenarios.

The scenarios provided annual returns are:

- Unlimited irrigation water but cropping use is determined by the land capability of the ground with the balance of the property used for dryland sheep breeding. Over a 10 year period the potential total agricultural related land use activity gross margin would be $302,450 p.a.
- Limited irrigation water as per the current 40 ML North Esk Irrigation Scheme (NEIS) allocation that constrains the amount of cropping with the balance of the property used for dryland sheep breeding. Over a 10 year period the potential total agricultural related land use activity gross margin would be $229,200 p.a.
- Limited irrigation water as per the current 40 ML NEIS allocation used for the highest possible land use activity, that being strawberry production, with the balance of the property used for dryland sheep breeding. Over a 10 year period the potential total agricultural related land use activity gross margin would be $847,970 p.a.

In order to be conservative, it is assumed that the most profitable scenario would be the one chosen and therefore, the third scenario, where the land cultivates a gross margin of $847,970 p.a. In the project case, the land is presumed to still be able to be used for agriculture until construction starts in 2025, at which point it all becomes unavailable, and the yield is lost.

The total undiscounted cost of lost agricultural yield is equivalent to $19,503,310.

2.3 Quantified benefits

The key benefits derived from the Evandale Expansion Masterplan development are reproduced in Table 3, with SGS's approach to monetisation.

TABLE 3: SUMMARY OF MONETISATION METHODS

#	Benefits	Monetisation Method	Main Driver	Key Assumption
B1	Additional residential housing	Median sale price applicable to each lot type sold when masterplan stage completed	Number of dwellings	Median house prices
B2	Childcare benefit	- Value of hours worked by parents able to work while their child is in care - Money saved from cheaper childcare in Evandale compared to Launceston	Additional labour in labour force and savings from cheaper childcare	Proportion of primary carers in Evandale who can return to work.

#	Benefits	Monetisation Method	Main Driver	Key Assumption
B3	Aged care benefit	- Estimate added life years from access to healthcare in aged care facility - Multiply by value of a statistical life year	Access to health care from aged care facility extends life expectancy	The degree to which life expectancy increases
B4	Open space benefit	Valuing the opportunity cost of leisure time and mental health benefits of open space	Additional residents as part of development	Frequency and duration of use of open space.

Source: SGS Economics and Planning

B1: Additional residential housing

Converting current agricultural land to residential land would result in the ability to sell houses and lots. This is recognised as the incremental residential development yield. To monetise this benefit, the market price (sale value) of the new lots has been used. This is seen as a reasonable estimate of the benefit of residential land use, as the sales prices are taken to be the fair market value, and worth that price to the community. There are many benefits to the wider community of building housing, such as increasing population bringing economic growth to the region. These benefits are taken to be represented by the sale price of each lot.

The masterplan sets out a timeline for the delivery of residential lots, as well as categories of lot sizes to fit into the different residential zones. The timeline involves three stages, running from 2025 to 2028; 2028 to 2030; and 2030 to completion in 2035. The delivery and estimated sales prices are shown in Table 4 below.

In addition to the expansion of the residential area of Evandale, the masterplan indicates that 19 general residential lots will have houses built on them prior to sale. For these, the median sale price for houses in this land area range has been collected from realestate.com.au from Evandale and nearby settlements such as Perth, while for the vacant lots, the median vacant lot price was used for each of the size categories prescribed.

TABLE 4: RESIDENTIAL LOT SALE PRICES

Lot type	Stage 1	Stage 2	Stage 3	Median sale price
General residential lots (450-850sqm)	69	48	46	$297,000
General residential built houses	19	-	-	$547,000
Low density residential lots (>1500sqm)	11	33	38	$543,000

Source: RealEstate.com.au (accessed July 17, 2023); Evandale expansion Masterplan

This benefit assumes that all the houses and lots are sold once they are completed.

The total undiscounted sale value, based on current median price data, is $103,334,071.

B2: Childcare benefits

Childcare provides benefits in multiple ways, primarily through allowing parents to return to work while their child is in the care facility, as well as through relative savings accrued by providing childcare

services in a comparatively cheaper market. Therefore, this benefit has been monetised as the sum of two components; returning to work and childcare cost savings. The approach for these components are detailed below.

Return to work benefit

This benefit has been monetised as the number of hours able to be worked by parents who would otherwise be looking after a child. The catchment for this new facility has been assumed to be families in existing dwellings in Evandale, as well as the new families who move into the expanded residential land as part of the proposal.

As at the 2021 Census, there were 527 dwellings in Evandale, and a further 264 would have been added at the completion of the third stage, where the childcare centre would also be completed. As shown in Table 5, these statistics have been used to convert the number of future dwellings in Evandale into a catchment of childcare aged children in the area at the completion of the masterplan. It is assumed that there will be 126 children aged 0-5 in Evandale who could attend childcare and facilitate the accrual of this benefit.

TABLE 5: CONVERSION OF DWELLINGS TO CHILDCARE CENTRE CATCHMENT

Parameter	Value
Dwellings in Evandale @2021 Census	527
New dwellings as part of masterplan	264
Average household size	2.2
Proportion of children aged 0-5 in Northern Midlands	7.25%
Number of childcare aged children in Evandale	126

Source: ABS Census Quickstats (2021); Evandale Expansion Masterplan; Treasury Tasmania rebased population projections

To determine the value to the economy of parents returning to work sooner, the number of hours worked per week by parents who would send their children to the proposed facility was multiplied by their appropriate hourly earnings. Demand for childcare was estimated in order to understand how many hours per week the facility would enable parents to work. The demand for childcare relied on the assumption that households where both parents (one parent in single parent families) worked full time would send their children to childcare for the average number of hours worked per week. For households where one parent worked part time (the other full time, or single parent family) this value was halved. If one or more parents were not working in any capacity, it was assumed they would not send their child to childcare. The data for this calculation was collected from the ABS Census[3] for Northern Midlands and showed that 35% of child hours would be spent in childcare, which is a blended average of full time and part time working parents.

It is assumed that the new childcare facility remains open 50 weeks a year and parents in Northern Midlands are expected to work on average 30.49[4] hours a week. This means, for 126 children to attend childcare full time it would result in an additional 3,848 hours of work per week. Combining this with

[3] 2021 Census – counting families, place of enumeration, LFSF Labour Force Status of Parents/Partners in Families by LGA

[4] Source: ABS Quickstats, Northern Midlands, Hours worked (HRSP)

the estimate that 35% of the maximum potential hours are spent in childcare, this means that 1,359 hours of labour per week would be unlocked from parents who could send their children to the proposed new centre.

There is assumed to be some leakage of demand for childcare to other markets nearby such as in Launceston, and as a result, in order to provide a conservative estimate, it has been assumed that only 50% of the children in Evandale who would go to the proposed childcare. Taking this into consideration, the proposed childcare facility would add 680 hours per week for which a parent can return to work, or 33,978 hours a year.

In 2022, the average hourly total cash earnings for an employed person in Tasmania was $34.25[5], while the facility is only expected to open, and start producing benefits in 2035. Therefore in 2035, 33,978 additional hours that can be worked due to parents being able to place their children in childcare, generating an additional benefit of $1,163,736 in realised wages.

Across the project timeline this results in an undiscounted benefit of $15,128,566 over the project timeline.

Childcare cost savings benefit

An additional benefit incurred from the provision of a childcare centre on the proposed development site, is the relative cost savings from the cheaper childcare in Evandale compared to Launceston. The average cost of childcare per day in Launceston is $123.40, compared to $94.13 in Evandale[6]. Given that there are currently zero vacancies in the existing Evandale childcare provision[5], it is assumed that parents would be sending their child to Launceston for childcare and having to spend an additional $29.27 a day to do so. By the time the childcare centre is complete at the end of stage 3 (2035), this benefit can be accrued to residents of the residential expansion.

To monetise this benefit, the annual cost of childcare for Evandale residents ($399,790) and compared to the annual cost of Launceston ($524,106), resulting in a difference of $124,316. This benefit would begin to accrue in 2035.

This leads to an undiscounted benefit of $1,616,106 over the project timeline.

Total childcare benefits

The total undiscounted benefits accrued from childcare is $1,288,052 per year or $16,744,672 over the project life cycle.

B3: Aged care benefit

The implementation of a residential aged care home would generate improved health outcomes for the community[7]. The improved health outcomes include longer life expectancies, healthier populations and

[5] https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/employee-earnings-and-hours-australia/latest-release

[6] https://www.careforkids.com.au/child-care/evandale/7212; https://www.careforkids.com.au/child-care/launceston/7250

[7] Guide to Cost-Benefit Analysis of Health Capital Projects, NSW Department of Health, 2018

improved quality of life for aged care residents. According to guidelines established by the NSW Department of Health, an aged care centre would provide a benefit to the community expressed in terms of life years gained per person over their lifetime.

The community health benefits formula used for the calculation is:

Population of the catchment area where the aged care facility is located x *assumed proportion of the population with improved health outcomes (measured by additional life years gained per person per year)* x *the value of statistical life year (VSLY)*

Assumptions regarding these parameters are listed below:

- *Population of the catchment area where the aged care facility is located*: There are no existing aged care facilities in Evandale therefore, the population catchment for the aged care centre would be the segment of Evandale's population aged 65 in the year of completion (2035). At completion, there would be a total of 791 dwellings in Evandale, which is equal to a population of 1,740.
- *Assumed proportion of the population with improved health outcomes*: In Northern Midlands, the proportion of residents aged 65 and over by 2035 is projected to be 27.54% according to Treasury Tasmania. This would equate to 479 Evandale residents who are of an eligible age to utilise the proposed aged care facility. At June 30, 2022, there were approximately 4,200,000 Australians aged over 65, 185,000 of whom, or 4.4%, lived in residential aged care[8]. Assuming the same proportion of Evandale residents, there would be 21 users of the aged care centre among the residents of Evandale. This population would grow over time in line with the trend of an ageing population projected by Treasury Tasmania.
- *Additional life years gained per person per year*: Access to adequate healthcare, which would be provided in an aged care facility, is associated with an increase in life expectancy of 1.1-1.5 years at age 65, and 0.6-0.8 years at age 85, across urban and rural settings in China[9]. Given the overall poorer health outcomes in China compared to Australia, and in order to provide a conservative estimate, it has been assumed that the health benefits at age 85 in China are equivalent to the health benefits at age 65 in Australia.
- *The value of a statistical life year*: A credible estimate of the value of a statistical life year is $227,000[10] indexed to 2022, according to the Office of Best Practice Regulation of the Department of Prime Minister and Cabinet.

As with childcare, there has been assumed to be a degree of leakage of demand to other markets. Unlike childcare, where users have to be picked up and dropped off by parents daily, aged care facilities do not have to be as close to a family home. Thus, a leakage factor of 75% has been assumed, which allows for a conservative estimate of the benefit accruing from aged care. Therefore, 75% of the 65 and over residents of Evandale who would live in aged care, would do so within Evandale. Access to this

[8] https://www.aihw.gov.au/reports/older-people/older-australians/contents/aged-care

[9] Hao, L., Xu, X., Dupre, M.E., Guo, A., Zhang, X., Qiu, L., Zhao, Y. and Gu, D., 2020. Adequate access to healthcare and added life expectancy among older adults in China. *BMC geriatrics*, *20*, pp.1-15

[10] Best Practice Regulation Guidance Note Value of statistical life, Department of Prime Minister and Cabinet, Office of Best Practice Regulation, 2022

care would then extend their life by an average of 0.7 years, which is worth $158,900. This leads to a benefit of $838,709 in 2035, which grows to the region's ageing population.

By 2047, the annual benefit accrued grows to $922,143, producing a total undiscounted aged care benefit of $11,487,291 over the project timeline.

B4: Open space benefit

The Evandale Expansion Masterplan indicates there will be a provision of 60,000m^2 of public open space. The relationship of open spaces and positive social benefits for community is well established and evidenced.

This includes:

- Leisure time benefits: additional public spaces provide opportunities for residents to participate in leisure activities such as cycling and jogging
- Mental health benefits: green infrastructure enhances the attractiveness and liveability of an area, as a result improving residents' wellbeing

In this analysis, existing residents within a 400 metre catchment as well as new residents resulting from the development, will receive open space benefits

- Additional assumptions relevant to this analysis include:
- Visits to the new open space is expected to be 30 times per person per year.
- Average dwell time per visit is expected to be 1.5 hours[11]
- The opportunity cost of leisure time is estimated to be $18 per hour derived from ATAP guidelines[12]. 40% of seasonally adjusted average weekly earnings for Australia 2021 was used. The average weekly ordinary time earnings for full-time adults for 2022[13] is $1,748.40 or $45.04 per hour, assuming a 38-hour week, which gives a figure of $18.40 for the value of recreation/leisure per hour.

The resulting leisure time benefits is estimated to be $828.20 per person per year. Research[14] indicated mental health benefits created by additional public spaces to be $248.00 per person per year. This produces a total open space benefit of $1,076.20 per person per year.

To be conservative, it has been assumed that the benefits stated above represent an entire household, and so the benefits have been divided by the average household size to produce a per capita benefit. In total, these additional public open spaces will generate a combination of leisure time and mental health benefits of $1,076.20 per household per year.

[11] : A. J. Veal (2006) The Use of Urban Parks, Annals of Leisure Research, 9:3-4, 245-276
[12] : 40% of seasonally adjusted average weekly earnings for Australia 2022 was used. The average weekly ordinary time earnings for full-time adults for 2022 is $1,748.4 or $46.01 per hour assuming a 38-hour week, producing a figure of $18.40 for the value of leisure per hour.
[13] https://www.abs.gov.au/statistics/labour/earnings-and-working-conditions/average-weekly-earnings-australia/latest-release
[14] Parsfield, M., Morris, D., Knapp, D., Yoshioka, M., Marcus, G., Park, A. (2015), Community Capital: The value of connected communities, RSA Action and Research Centre.

It is assumed that the new residents of the residential expansion will use the allotted open space following the above assumptions. Given that all three stages involve a provision of open space, it is assumed that residents to the newly completed lots at each stage will begin reaping benefits from the public open space provided. With the benefit being determined at a household level, it can be simply quantified for the proposal by applying it to the number of completed households at each stage, as demonstrated in Table 6 below. The benefits begin flowing from the completed year onwards. There are existing residents of Evandale who may benefit from the provision of new public open space however they have not been considered because there is existing open space in the town.

TABLE 6: OPEN SPACE BENEFITS AT EACH STAGE OF MASTERPLAN DELIVERY

Stage	Completed year	Number of households	Benefit per year
Stage 1	2028	99	$106,543
Stage 2	2030	180	$193,714
Stage 3	2035	264	$284,114

Sources: A. J. Veal (2006); ATAP guidelines (2021); ABS Estimates of weekly earnings (2022); Evandale Expansion Masterplan; Parsfield

The total undiscounted public open space benefit is $4,875,138 across the project timeline.

Residual value of benefits and ongoing costs

Considering the integrated package of investments, it is reasonable to assume that all cost and benefit streams will continue and capitalise beyond the end of the evaluation period. Whilst this package of assets will include individual items with different useful lives, bundling these assets enables the assumption to be made that cost and benefit streams will continue in perpetuity.

It is expected that the development will continue to generate the above benefits to the community beyond the terminal year 2047. Likewise, the residual asset costs have been factored into the CBA. All benefits and costs at 2047 in real terms were capitalised in perpetuity using a 7% discount rate.

This is demonstrated in Table 7 below.

TABLE 7: RESIDUAL COSTS AND BENEFITS

Cost	Cost in 2047	Terminal Value	Value in 2023
OPEX	$580,000	$7,743,658	$1,526,636
Lost Agricultural yield	$847,970	$12,113,857	$2,231,968
Total residual costs	**$1,427,970**	**$19,857,515**	**$3,758,604**
Benefit	**Benefit in 2047**	**Terminal value**	**Value in 2023**
Childcare benefits	$1,288,052	$18,400,739	$3,390,321

Cost	Cost in 2047	Terminal Value	Value in 2023
Aged care benefits	$922,143	$13,187,751	$2,429,832
Open Space benefits	$284,114	$4,058,772	$747,825
Total residual benefits	**$2,188,372**	**$31,262,460**	**$6,567,979**
Net Residual Benefit	**$760,402**	**$11,404,945**	**$2,809,375**

Source: SGS Economics & Planning

Non-monetisable benefits

Increased primary school utilisation

There is an existing primary school in Evandale, with a capacity for about 150 students. Anecdotally, this capacity is not being utilised, with students from other satellite towns of Launceston being bussed in to fill classes. Moreover, year level classrooms are being combined due to their small sizes. There are benefits from fully utilising school facilities, associated with the larger number of students, justifying additional programs. For example, West Launceston Primary School has an arts department, while East Launceston Primary School has recently undergone a $3 million redevelopment to upgrade the learning facilities, and now has a school garden, as well as drama, singing and dancing facilities for extra-curricular activities.

TABLE 8: GROWTH IN PRIMARY SCHOOL ELIGIBLE POPULATION IN EVANDALE

	2023	2035
Northern Midlands population	14,248	15,705
Northern Midlands population aged 6-12	1,111	1,315
Evandale population (assuming project completed)*	1,058	1,740
Assumed primary school eligible population*	82	146

Source: Treasury Tasmania rebased Population Projections, High growth scenario *figures include additional population from Evandale expansion

According to Treasury Tasmania's rebased high population projections, the proportion of primary school-aged children in Northern Midlands is expected to grow from 7.8% in 2023 to 8.4% in 2035. This projection does not specifically account for the potential injection of population from the proposed expansion; however, it suggests that there would be enough children only in Evandale to fully utilise this primary school by the time the proposed residential expansion would be completed in 2035.

Benefits for key workers

There are benefits to the economy associated with delivering housing for key workers. One such example was found in work completed for the Victorian Skills Authority (VSA). It nominated the lack of affordable housing as a key challenge in North East Victoria in attempting to attract the workers it

needs[15]. The successful delivery of this proposed housing project was estimated to provide access to labour for local businesses, as well as generating a range of positive social impacts, including:

- Improved community wellbeing as local health care, aged care, education, law enforcement, cultural and recreational service providers would enjoy access to a deeper and more reliable pool of skills
- Improved local job choices, enabling more people to stay within Evandale for work, maintaining their networks and helping to build social capital
- Improved social cohesion as the new housing development would grow the community of Evandale, and signal that local businesses are viable, thriving entities.

It is likely that a similar effect would take place in Evandale, where key workers can provide services at the local primary school or at businesses in Evandale.

2.4 Project performance – monetised costs and benefits

The incremental costs and benefits linked with the project have been assessed over a 25-year period and discounted back to present day values using a real discount rate of 7 per cent.

These results for each project case are highlighted in the following tables, with two performance measures being generated:

- **Net Present Value (NPV) –** A number generated by deducting the present value of the stream of costs from the present value of the stream of benefits. Options with positive NPV are accepted and options with negative NPV are rejected. The greater the NPV the better.
- **Benefit Cost Ratio (BCR) –** A ratio of discounted present-day benefits over discounted-present day costs. Options with BCR > 1 are accepted and options with BCR < 1 are rejected. The greater the BCR the better.

CBA Results

TABLE 9: CBA RESULTS (7%) DISCOUNT RATE

	Base case	Project case	Percentage
Incremental Discounted Costs			
CAPEX	0	$35,255,241	74.6%
Lost agricultural yield	0	$8,933,156	18.9%
OPEX	0	$3,096,628	6.5%
Total costs	**0**	**$47,285,024**	**100%**
Incremental Discounted Benefits			
Residential land sales	0	$61,547,668	77%

[15] Victorian Skills Authority (2021) Regional Skills Demand Profile - Ovens Murray

	Base case	Project case	Percentage
Childcare benefits	0	$5,114,415	6%
Aged care benefits	0	$3,487,438	4%
Open space benefits	0	$1,804,331	2%
Residual value of benefits	0	$2,809,374	4%
Total benefits	**0**	**$74,763,226**	**100%**
CBA Results			
NPV			**$27,478,201**
BCR			**1.58**

Source: SGS Economics and Planning

Over the evaluation period, 2022 to 2047, all options will contribute positively to the overall welfare of Tasmanians, with much of the welfare gain enjoyed in Evandale and Northern Midlands specifically.

2.5 Sensitivity testing

This assessment depends on a range of assumptions, both in terms of financial parameters, such as discount rates, and cost and benefits assumptions, such as cost estimates and demand forecasts. The following sensitivity analysis has been undertaken to test potential impacts on economic viability should certain assumptions not eventuate:

- A variation in the nominal discount rates used to convert future costs, revenues and benefits to present day values, comparing 7% to 4% and 10%.
- A 40% decrease in the number of sales of residential lots. This reflects the risk that demand for housing in Evandale may not justify the addition of all of the proposed lots.
- An increase in costs of 40%, reflecting a range of risks related to developing housing and infrastructure.
- A construction costs escalation of 5% per year. Construction materials have volatile prices, and this reflects the risk that the development costs will increase over the project life cycle.
- A scenario with no residual value of benefits and costs.

The combined impact of the above changes in construction costs, revenue/ visitation and discount rates were assessed through a pessimistic and optimistic scenario.
The tables below show the impact of each of the sensitivities on the performance across each option. The analysis reveals that BCR for the proposal ranges from 1.07 to 1.95 depending on the scenario being considered. It is noted that the sensitivity analysis does not test the sensitivity of the scale of wider area benefits and impacts.

Discount rate

TABLE 10: BCR COMPARISON - DISCOUNT RATE - 4, 7 AND 10%

	4% Discount rate	7% Discount rate	10% Discount rate
Project Case	1.64	1.58	1.54

Source: SGS Economics and Planning

Residential land sales

TABLE 11: BCR COMPARISON – RESIDENTIAL LAND SALES -40%

	4% Discount rate	7% Discount rate	10% Discount rate
Project Case	1.13	1.06	1.01

Source: SGS Economics and Planning

Project costs

TABLE 12: BCR COMPARISON - PROJECT COSTS +40%

	4% Discount rate	7% Discount rate	10% Discount rate
Project Case	1.27	1.22	1.23

Source: SGS Economics and Planning

TABLE 13: BCR COMPARISON – CONSTRUCTION COSTS ESCALATION +5%

	4% Discount rate	7% Discount rate	10% Discount rate
Project Case	1.18	1.15	1.13

Source: SGS Economics and Planning

The residential land sales benefit is by far the largest, making up 75% of the total benefits in the original cost-benefit analysis results. Adjusting this for a lower demand scenario is imperative to understand if the project still stacks up if not all the residential lots are sold. Even when considering a 10% discount rate, the project would still deliver a marginally positive NPV, and a BCR of above 1.

Given the formula for calculating residual benefits depends on the discount rate, this benefit changed more erratically than any other when adjusting it. This is why the BCR results are significantly higher when using a 4% discount rate, as the residual benefits become a more prominent benefit. Nevertheless, in all sensitivities, and under all three discount rates considered, the project delivers a BCR of greater than 1, indicating that the project represents a sound investment of Tasmania's resources.

Appendix A – Base Case Assumptions

Under the base case, the application for rezoning is either rejected or the developer chooses not to proceed with the masterplan. In this scenario, the land would continue to be used for agricultural purposes and generate a return on the production of the land. Macquarie Franklin produced an agricultural report for the land which provided potential financial returns under three scenarios, expanded upon here from the quantified costs section. For more details, please refer to **"6. Ag Report No. 3 May 19".**

Scenario 1

All land on the property is class 4 ground and based on a potential 2 in 10-year cropping rotation this equates to the potential for approximately 50 hectares (245 x 2 ÷10) of land to be cropped annually. If it is assumed a 2 in 10 year crop rotation includes 3x 50 hectare harvests each of wheat, poppy and grass seed crops and a single harvest of potatoes this would provide an average annual gross margin return of $144,500.

If the balance of the property not irrigated, covering 195 hectares is used for dryland pastoral land use activities as per a sheep breeding enterprise based on an 18 DSE/ha carrying capacity (with each DSE valued at $45) would provide an annual gross margin return of $157,950.

Over a 10 year period the potential total agricultural related land use activity gross margin would be $302,450 per annum.

Scenario 2

Cropping is limited to the use of 40 ML of NEIS irrigation water, and therefore over a 10 year period included 3 harvests each of wheat (20 hectares), poppy (16 hectares) and grass seed crops (20 hectares) and a single harvest of potatoes) this would provide an average annual gross margin return of $42,900.

If the balance of the property not irrigated, averaging at 230 hectares is used for dryland pastoral land use activities as per a sheep breeding enterprise based on an 18 DSE/ha carrying capacity (with each DSE valued at $45) would provide an annual gross margin return of $186,300.

Over a 10 year period the potential total agricultural related land use activity gross margin would be $229,200 per annum.

Scenario 3

Strawberry production is limited to the use of 40 ML of NEIS irrigation water for a total of 8 hectares of production, and therefore over a 10 year period would provide an average annual gross margin return of $656,000.

If the balance of the property not irrigated, covering at 237 hectares is used for dryland pastoral land use activities as per a sheep breeding enterprise based on an 18 DSE/ha carrying capacity (with each DSE valued at $45) would provide an annual gross margin return of $191,170.

Over a 10 year period the potential total agricultural related land use activity gross margin would be $847,970 per annum.

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Agricultural assessment report

Property titles 106773/1, 116759/1, 227117/1 and 81897/1, Evandale TAS 7304

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Executive summary

This agricultural assessment report has been prepared on behalf of the proponent, Traders in Purple (TIP), and covers the various aspects of the agricultural land activities associated with and surrounding the property at Evandale and potential to be negatively impacted by the proposed development.

A number of property titles are associated with the proposed development including the entirety of titles 227117/1, 116759/1, 81897/1 and the western area of title 106773/1.

The proponent wishes to rezone a number of property titles from Agriculture to General Residential.

Under the Tasmanian Planning Scheme the property is zoned as Agriculture, and includes land best considered as a hobby/lifestyle and small acreage blocks.

The properties associated with the proposed development are covered by ground with a land capability of Class 4 land, and portions of the land are currently used for agricultural land use activity, that being to grow pasture for livestock production.

The properties are covered by declared irrigation districts and this includes both the Lower South Esk (LSID) and North Esk Irrigation Districts (NEID).

Approximately 100 hectares of agricultural land would be re-zoned as General Residential zoned land.

The proposed development could be undertaken with a negligible impact on the current future agricultural land use activities which can and could be undertaken on the adjacent and nearby properties.

1 Purpose

This report has been undertaken on behalf of TIP (the proponent) in order to support an application for covering a number of property titles at Evandale to be rezoned from Agricultural to General Residential.

The document provides an agricultural assessment of the property in question and reviews the current and future agricultural usage of the property and the surrounding area in relation to the Land Capability and Land Classification.

This includes soils, aspect, topography, water resource, economic feasibility, and impact of the proposed development in relation to agricultural activities.

1.1 Land Capability

The currently recognised reference for identifying land capability is based on the class definitions and methodology described in the Land Classification Handbook, Second Edition, C.J Grose, 1999, Department of Primary Industries, Water and Environment, Tasmania.

Most agricultural land in Tasmania has been classified by the Department of Primary Industries and Water at a scale of 1:100,000, according to its ability to withstand degradation. A scale of 1 to 7 has been developed with Class 1 being the most productive for agriculture and resilient to degradation and Class 7 the least suitable to agriculture. Class 1, 2 and 3 is collectively termed "prime agricultural land". For planning purposes, a scale of 1:100,000 is often unsuitable and a re-assessment is required at a scale of 1:25,000 or 1:10,000. Factors influencing capability include elevation, slope, climate, soil type, rooting depth, salinity, rockiness and susceptibility to wind, water erosion and flooding.

In providing the opinion enclosed here, it is to be noted that Jason Lynch possesses a Bachelors of Agricultural Science (horticulture) and is a certified practising agriculturalist (CPAg) and has 25 years of experience in the agricultural industry in Tasmania. Jason is skilled to undertake agricultural and development assessments as well as land capability studies. He has previously been engaged by property owners, independent planners, and surveyors to undertake assessments within the Break O'Day, Burnie, Central Coast, Central Highlands, Circular Head, Clarence, Derwent Valley, Devonport, Dorset, George Town, Glamorgan Spring Bay, Kentish, King Island, Latrobe, Launceston, Meander Valley, Northern Midlands, Southern Midlands, Sorell, Tasman, West Tamar, Waratah-Wynyard and West Coast municipalities. Most of these studies have involved the assessment of land for development purposes for potential conflict with the Tasmanian and various council based interim planning schemes.

1.2 Tasmanian Interim Planning Scheme – Northern Midlands Provisions

The Northern Midlands municipality declared the Tasmanian Planning Scheme (TPS) to be active in November 2021 and this sets out the requirements for use and development of land in the municipality.

2 Property details

2.1 Location

The properties involved in the development consists of four titles and are located on the immediate north eastern and eastern outskirts of Evandale. Table 1 and Figure 1.

Table 1 Property location identification details

Address	Property ID	Title Reference	Hectares *(Approx.)*
211 Logan Road, Evandale 7212	1898289	106773/1	32*
Logan Road, Evandale 7212	1662145	116759/1	50.2
38 Arthur Street, Evandale 7212	7286347	227117/1	11.9
4 Ridgeside Land, Evadale 7212	6395373	81897/1	5.8

*refers to only the portion of the property subject to the development with the full property covering 100 hectares

These properties have a generally northerly facing aspect, and are covered by flat and gently sloping ground. Figure 2 and Figure 3.

These properties have frontage to Logan Road (forms the southern boundary), Ridgeside Road (forms the northern boundary), White Hills Road (forms the western boundary) and is accessed by Arthurs Street from the west and Coachmans Road from the south.

Infrastructure present on the property includes:

- Property title 106773/1: boundary and paddock fencing
- Property title 116759/1: boundary and paddock fencing, stockwater system, stockyards and farm sheds
- Property title 81897/1: residential dwelling, various sheds and boundary and internal paddock fencing and internal paddock fencing
- Property title 227117/1: boundary and paddock and derelict farm sheds

Some shelter belt plantings are present throughout the properties, but these are limited in size.

No Threatened Native Vegetation Communities have been identified on the property, as per the Tasmanian Native Vegetation Community 2020 GIS dataset.

The properties in question are held as private freehold land and is similarly surrounded by private tenure land with exception of smaller titles covered by Local Government Act Reserve on the central southern boundary of title 227117/1. In wider Evandale area are titles covered by Local Government tenure, Authority Freehold, Authority Crown and further to the south is TasWater tenure land. Figure 4.

The properties in question are covered by Agriculture zone land. Adjacent and nearby land is covered by General Residential, Rural Living, Open Space, Recreation, Community Purpose, Local Business, and Utilities. Figure 5.

No land associated with land slip hazard bands are present on the subject properties in question.

Land subject to the development including property titles 227117/1, 116759/1 and 106773/1 are serviced by TasWater for the provision of drinking water. Figure 6.

Land subject to the development including property title 227117/1 are serviced by TasWater for the provision of sewerage services. Figure 7.

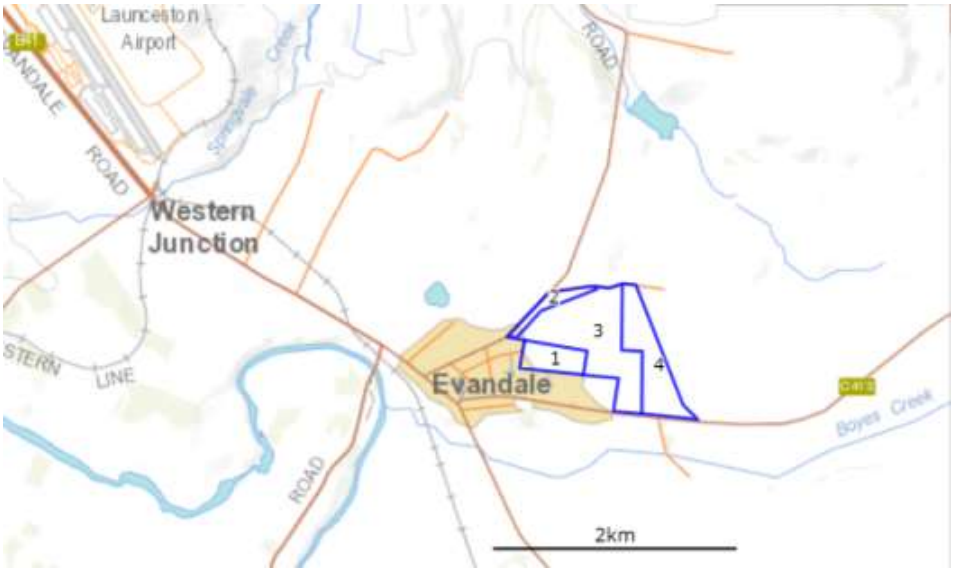


Figure 1 Properties subject to the rezoning development, 1: title 227117/1, 2: title 81897/1, 3: title 116759/1 and 4: western areas of title 106773/1.



Figure 2 Topography of the properties subject to the development (5 meter contours) (source the LIST)

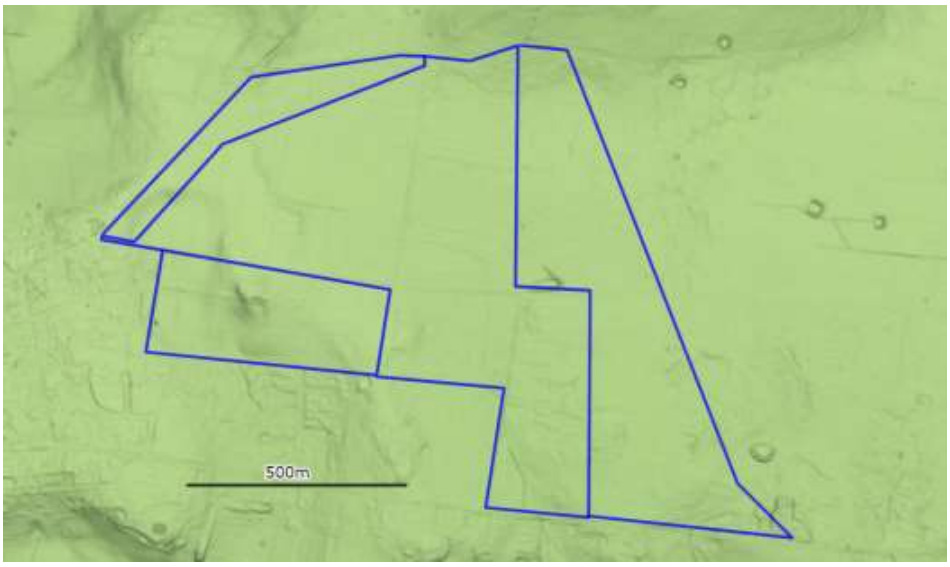


Figure 3 Properties subject to the development topography (grey scale map) (source the LIST)

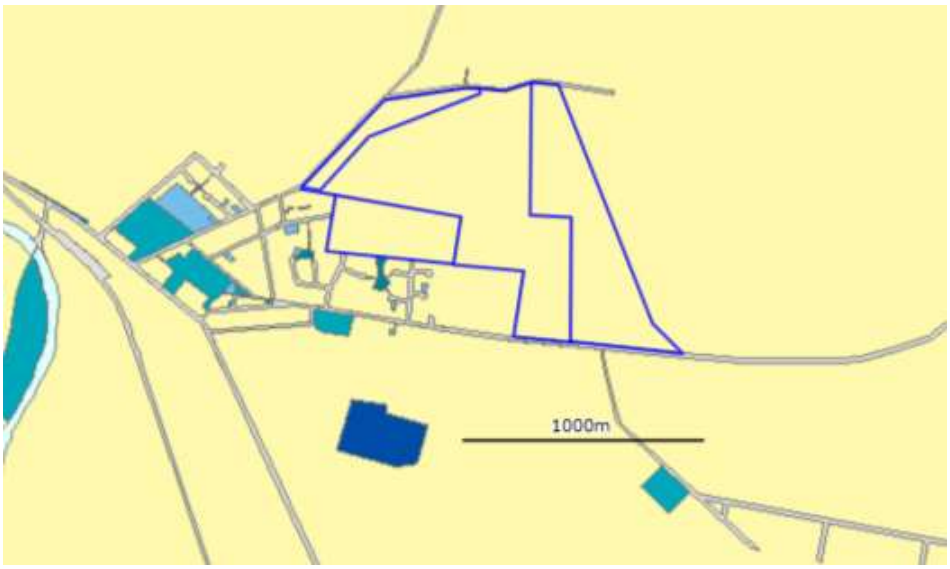


Figure 4 Land tenure on the properties subject to the development (outlined in blue) and all adjacent land as private freehold land (yellow shaded), various Local Government tenure block (magenta shaded), blocks of Authority Crown land (light blue shaded) and a parcel of TasWater land further to the south (dark blue shaded) with casement tenure associated with the various roads in the district (grey shaded). (source the LIST)



Figure 5 The property in question (outlined in blue) and adjacent land as Agriculture zone, with Rural Living (pink shaded) to the north, General Residential (red shaded) to the west and south Utilities zoned (yellow shaded) land further to the south and east. (source the LIST)



Figure 6 Water serviced land on the properties in question (outlined in blue) (source the LIST)

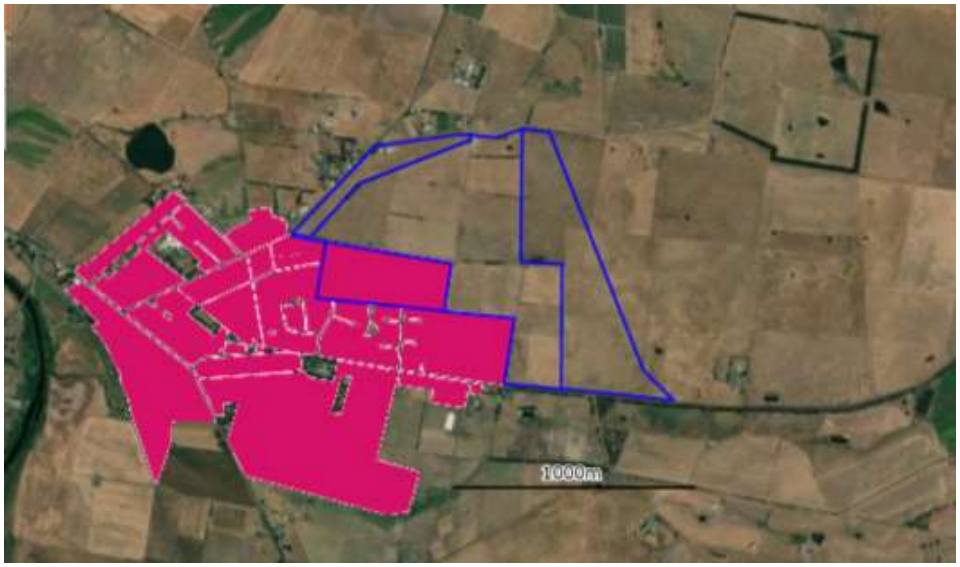


Figure 7 Sewer serviced land on the properties in question (source the LIST)

3 Land capability

The official land capability map for the area was produced by DPIF in 1996 at a scale of 1:100,000 and reported in their South Esk Report. On the subject lot, DPIF identified the property to be covered by Class 4 land.

Site visits in 2018 and 2021 to the properties in question involving detailed inspection of the land was undertaken by the author and determined the all land is covered by Class 4 land. Figure 8.

Class 4 land is described as:

> *Land well suited to grazing but which is limited to occasional cropping or to a very restricted range of crops. The length of cropping phase and/or range of crops are constrained by severe limitations of erosion, wetness, soils or climate. Major conservation treatments and/or careful management is required to minimise degradation.*
>
> *Cropping rotations should be restricted to one to two years out of ten in a rotation with pasture or equivalent to avoid damage to the soil resource. In some areas longer cropping phases may be possible but the versatility of the land is very limited.*

The key land capability limitations associated with the property are;

- Erosion (e) associated with the risk rill and sheet erosion caused by surface water movement on bare and exposed soil and potential for degraded soil structural due to pugging from livestock movement on waterlogged soils and/or inappropriate and excessive ground cultivation activities.
- Soils (s) associated with challenging growing conditions for pasture and/or crops due to limitations such as presence of stones and/or rock fragments and impaired drainage leading to soil waterlogging.



Figure 8 Land capability areas present on the properties subject to the development.

Table 2 Land capability assessment over titles.

Land Capability Class (ha)	Geology & Soils	Slope (%)	Topography & Elevation	Erosion Type & Severity	Climatic Limitations	Soil Qualities	Main Land Management Requirements	Agricultural Versatility
4es	Chromosol soil, as the Brickendon soil profile class, derived non-marine quaternary alluvium. Brown and grey/brown sandy loam topsoil over a brown to orange clay, with some layers of ironstone and quartz gravels present in the profile.	0-3	Flat to very gently undulating land. 168-171m ASL	Medium risk. Rill and sheet erosion due to surface water movement and wind scouring on bare and exposed soils, and structure decline due to excessive and inappropriate soil cultivation.	Moderate climatic limitations. This area experiences cool/cold winters and warm/hot summers. Receives an average of 680mm annual rainfall, experiences up to 30 annual frosts events, 1040 GDD (October – April) and receives up to 1,060 chill hours (May – August).	Moderately well to well drained. Topsoil depth up to 20-30cm. Moderate nutrient and soil moisture holding capacity.	Avoid situations that lead to the exposure of bare soil, therefore maintain sufficient ground cover. The risk of soil compaction in winter from soil cultivation, machinery and stock movement increases significantly during periods of soil water logging.	This land is suitable for cropping on a 2 in 10 cropping rotation with a highly restricted range of crops. This land is suitable for grazing with minor/moderate limitations, such reducing grazing pressure when the soils are waterlogged and/or when soil moisture is limiting, and pasture is limiting.

Land Capability Class (ha)	Geology & Soils	Slope (%)	Topography & Elevation	Erosion Type & Severity	Climatic Limitations	Soil Qualities	Main Land Management Requirements	Agricultural Versatility
4es.1	Chromosol soil, as the Brickendon soil profile class, derived non-marine quaternary alluvium. Brown and grey/brown sandy loam topsoil over a brown to orange clay, with some layers of ironstone and quartz gravels present in the profile.	0-3	Flat to very gently undulating land. Lower land ground relative to the adjacent land to the east and west and forms a natural drainage area. 165-170m ASL	Medium risk. Rill and sheet erosion due to surface water movement and wind scouring on bare and exposed soils, and structure decline due to excessive and inappropriate soil cultivation.	Moderate climatic limitations. This area experiences cool/cold winters and warm/hot summers. Receives an average of 680mm annual rainfall, experiences up to 30 annual frosts events, 1040 GDD (October – April) and receives up to 1,060 chill hours (May – August).	Imperfect to moderately well drained. Subject to more extended periods of soil waterlogging than the land adjacent to the east and west. Topsoil depth up to 20-30cm. Moderate nutrient and soil moisture holding capacity.	Avoid situations that lead to the exposure of bare soil, therefore maintain sufficient ground cover. The risk of soil compaction in winter from soil cultivation, machinery and stock movement increases significantly during periods of soil water logging.	This land is suitable for cropping on a 2 in 10 cropping rotation with a highly restricted range of crops. This land is suitable for grazing with minor/moderate limitations, such reducing grazing pressure when the soils are waterlogged and/or when soil moisture is limiting, and pasture is limiting. This land is prone to waterlogging and therefore the nature and level of intensity of agricultural use could be expected to be negatively impacted. Examples would be delayed sowing dates, reduced total annual grazing days and a higher incidence and severity of soil pugging



Figure 9 Brickendon soil type present throughout all the properties (taken on the site assessment Dec 2022)



Figure 10 Westerly view from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Figure 11 Easterly view from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Figure 12 South easterly view towards Logan Road from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Figure 13 Southerly view towards Evandale from the location of the proposed rezoning development (taken on the site assessment Dec 2022)

4 Proposed development

The proponent wishes to rezone land currently identified as Agriculture to be identified as General Residential.

107.3 hectares of land and four properties are associated with the proposed development:

- 38 Arthur Street, property title 227117/1:
  - A 11.9 hectare block covered by degraded pasture land, and best described a lifestyle block although no residential dwelling is present.
- Logan Road, property 116759/1:
  - A 50.2 hectare block and is covered by degraded pasture land.
- 211 Logan Road, property title 106773/1:
  - A 32 hectare parcel of land, which forms the eastern half of a larger 99.5 hectare property and is covered by degraded pasture land.
- 4 Ridgeside Lane, property title 81897/1
  - A 5.8 hectare property, and best described a lifestyle block with a residential dwelling present.

It is recommended that shelter belts be planted along the sensitive boundaries of the land holdings, and this includes the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

These shelter belts should be protected from browsing wildlife and provided with an appropriate level of ongoing care and attention to ensure they establish and thereafter are able to reach the target height and shrub/tree density.

5 Land use

The property in question is currently used for agriculture, with livestock grazing on the pasture land although the degree of scale and intensity varies significantly.

- 38 Arthur Street, property title 227117/1:
  - Small non-commercial scale and low intensity livestock grazing block, as per a hobby block. No access to irrigation water.
  - Currently total carrying capacity of approximately 115 DSE.
- Logan Road, property 116759/1:
  - Small scale and low intensity livestock grazing use. Highly constrained capacity to be considered as being to support commercial scale agriculture and incapable of being managed as a standalone agricultural enterprise. No access to irrigation water.
  - Currently total carrying capacity of approximately 500 DSE.
- 211 Logan Road, property title 106773/1:
  - Forms part of a larger land holdings used for livestock production, and includes property titles 145763/2 (47.8 hectares) and 101154/1 (101 hectares) further to the east which are used for low/medium scale and intensity livestock grazing use. In its entirety all these land holdings could constitute commercial scale agriculture and capable of being managed as a standalone agricultural enterprise. Limited access to irrigation water.
  - The 32 hectares of land subject to the development represent 332% of the property title 106773/1, and 12% of the larger land holdings further to the east.
  - The 32 hectares of land subject to the development currently total carrying capacity of approximately 310 DSE.
- 4 Ridgeside Lane, property title 81897/1
  - Very small non-commercial scale and low intensity livestock grazing use, as per a hobby block. No access to irrigation water.
  - Currently total carrying capacity of approximately 40 DSE.

Currently at present combined land holdings would be expected to have a total carrying capacity of 985 DSE, and if it is assumed a value of $45/DSE this would equate to a total annual gross margin return of approximately $44,325.

5.1 Recognition of commercial scale agriculture

Agricultural land use activity can involve a range of different enterprises such as livestock based (dairy, red meat and fibre), cropping and perennial horticulture and undertaken at varying degrees of intensification (e.g. dryland or irrigated) and scale. Agricultural land use activity can be classified as commercial agriculture or hobby farming (also known as lifestyle farming).

Non-commercial scale agricultural land use activity, often labelled as hobby farming is defined by the Australian Taxation Office as having no intent, plan or system to make a profit; being motivated by personal pleasure; having no repetition or regularity of sales; not carried on in the same manner as a normal business activity; of small scale; and any produce is sold to friends and relatives and not to the public at large (Australian Taxation Office, 2011).

Commercial agriculture is defined by the Australian Taxation Office (ATO) as a business as including:

- Registration of a business name or obtaining an ABN
- Intention to (eventually) make a profit.
- Repetition of similar types of activities.
- Size or scale of the activity is consistent with other businesses in the industry.
- The activity is planned, organised and carried out in a businesslike manner. This may include keeping business records and account books, having a separate business bank account, operating from business premises, having licenses or qualifications, having a registered business name.

The Australian Bureau of Statistics (ABS) has identified a minimum value of Estimated Value of Agricultural Output (EVAO) for an agricultural enterprise to be included in the ABS agricultural enterprise survey data to be $40,000.

5.2 Potential agricultural activities conducted

5.2.1 Pastoral Use

The properties in question are suited for grazing purposes, although due to the size of the land holdings associated with each property the scale and intensity of grazing varies significantly.

Theoretically the entire 100 hectares of land is suitable for grazing and would be anticipated to have a potential average dryland carrying capacity of 15 DSE/ha for a total of 1,500 DSE. A 1,500 DSE dryland sheep grazing enterprise would be anticipated to return a total annual gross margin return of approximately $67,500.

It is important to note that due to variable rainfall, both total rainfall and frequency of rainfall events the carrying capacity can flex by +/-15-25% on a seasonal and annual basis.

There is a very limited amount of irrigation water available, and currently on property 116759/1 has access to 60 ML of irrigation water via the North Esk Irrigation Scheme (NEIS) which has the potential to support approximately 12 hectares of irrigation pasture. Irrigated pasture has a potential carrying capacity of 35 DSE/ha, and therefore 60 ML would support a total of 420 DSE. 1,420 DSE would be anticipated to return a total annual gross margin return of approximately $18,900.

If all the land associated with the development was used for livestock production, such as sheep breeding/finishing enterprise this could potentially generate a total gross margin return of $78,280 (approximately 88 hectares of dryland pasture and 12 hectares of irrigated pasture).

It is important to note that in order to generate this level of productivity and gross margin return the property would require significant investment in pasture improvement, paddock fencing, stock water system upgrades, soil fertility and most importantly grazing management. It would not be unreasonable to consider the likely pasture based investment required to be in the order of approximately $2,500/ha for a total investment of potentially $250,000.

5.2.2 Cropping use

The class 4 present on the properties is theoretically suitable for cropping and it is possible to consider this land could be cropped on a frequency of 2 times in 10 years and this equates to a sustainable annual cropping rotation of 21 hectares.

It is important to note that not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property title 227117/2 and 116759/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

Broadacre cropping options could include:

- Dryland: cereals (wheat and barley) and canola
- Irrigated: cereals (wheat and barley), canola, hemp, and grass and vegetable seed production

Despite the amount of available land the property is limited for access to irrigation water, with only 60 ML available, and in reality this significantly constrains the potential and scale of cropping land use activity. If we assume an average cropping water usage of 3 ML/ha then a 60 ML entitlement is sufficient irrigate 20 hectares of land.

If it is assumed that the average cropping gross margin return is $2,500/hectares then there is the potential to generate a total an annual gross margin return of $50,000 where 20 hectares of irrigated broadacre crops are grown.

It is important to note that in order to generate this level of productivity and gross margin return the property would require investment in irrigation infrastructure (e.g. pump, pipeline, controller systems, buffer dam and irrigator) whilst contractors could be used to undertake the soil cultivation, sowing, spraying and fertiliser application and harvesting operations. It would not be unreasonable to consider the likely irrigated cropping infrastructure investment required to be in the order of approximately $11,000/ha for a total investment of potentially $220,000 for a towable centre pivot (low operating costs), and approximately $140,000 for a hard hose travelling irrigator (high operating cost), noting that neither investment includes tractor (approximately $30,000) required to move the irrigators.

5.2.3 Mixed land use

In reality if cropping is to be undertaken then the balance of the property would used for dryland grazing.

Therefore the entire could be used to support 20 hectares of irrigated broadacre cropping and 80 hectares of dryland grazing, for a combined total annual gross margin return of $105,000.

It is important to note that in order to generate this level of productivity it assumes that 60 ML of irrigation water is available, and the necessary various significant investment in irrigation infrastructure, pasture improvement, paddock fencing, soil fertility and most importantly an appropriate level of crop and grazing management are adopted.

5.2.4 Perennial horticulture use

No perennial horticultural crops are currently grown on the property.

Perennial horticulture crops such as wine grape production, olives and hazelnuts could be grown on this property.

Perennial horticulture requires access to irrigation water, and typically uses 2-3 ML/ha, and therefore the available 60 ML would support up to 20-30 hectares of production area.

It is important to note that the scale of investment involved in developing perennial horticultural crops would be very significant, and depending upon which enterprise the level of investment can extend up to $190,000/ha for a vineyard, $120,000 for a cherry orchard and $45,000 for a hazelnut orchard).

5.3 Adjacent land use activities

Adjacent and surrounding land has varied uses, including agricultural land use activities (pastoral and protected cropping), lifestyle and general residential blocks.

Commercial scale agricultural land use activity is conducted on the land adjacent to the north, south and further to the east:

- North
  - Property title 145763/1 (164 hectares) zoned as Agriculture, used for wine grape production, and is separated from the property in question by Ridgeside Lane.
  - Property title 70514/1 (1.4 hectares) zoned as Rural Living, a lifestyle block with a residential dwelling present and is separated from the property in question by Ridgeside Lane.
  - Property title 247684/1 (2.5 hectares) zoned as Rural Living, a lifestyle block with a residential dwelling present and is separated from the property in question by Ridgeside Lane.
- South
  - Property title 134043/2 (94 hectares), zoned as Agriculture, has a residential dwelling present, and is managed and operated as a standalone commercial farm involved in dryland and irrigated agricultural land use activity.
  - Property title 7792/1 (22 hectares), zoned as Agriculture, has a residential dwelling present, and is managed and operated as a small scale farm involved in dryland and agricultural land use activity.
  - Property title 145468/1 (7.3 hectares), zoned as General Residential, has a residential dwelling present.
  - Property titles 167220/2, 109847/117, 109847/118, 109847/119, 102046/121, 102046/124, 102046/92, 39454/58, 37275/51, 37275/52, and 140651/1, which range in size from 0.06-0.23 hectares, zoned as General Residential and have residential dwellings present.
  - Property title 39454/200 (0.5 hectares), zoned as Open Space and used a community recreation area.

- East
  - Property title 106773/1 (99.5 hectares) zoned as Agriculture, has a residential dwelling present. This title would be subdivided as a result of the proposed development with 32 hectares of this property associated with the proposed rezoning
  - Property title 145763/2 (47 hectares) zoned as Agriculture, used for grazing.
- West
  - Property title 106785/3, 106785/2, 129191/2, 229957/1, 197493/1, 178146/2 and 178146/1, which range in size from 0.05-0.38 hectares zoned as General Residential.
  - Property title 81897/1 (5.8 hectares) zoned as Agriculture, is used for grazing purposes, has a residential dwelling present.

5.4 Impact on agricultural activities and residential amenity

The proposed development on the properties in question has been planned in order to minimise any potential negative impact or constraint on the adjacent properties.

The adjacent land to the property in question is actively farmed to the east, south and north, and is used for commercial scale agricultural activities, whilst a smaller parcel of land to the west is used for small scale hobby/lifestyle agriculture.

5.4.1 Impact of agricultural activity on neighbouring land on the proposed development

Agricultural activity could be conducted on land adjacent to the north, east, west, and south of the proposed location of the development on the property in question.

An assessment of the key risks are summarised in Table 3.

Table 3 Potential risk from agricultural land use on neighbouring land

Potential risk from neighbouring agricultural land use activity	Extent of risk & possible mitigation strategy
1. Spray drift and dust	Risk = low. Ground spraying is most commonly used in agricultural production systems whilst spot spraying is a practical and mostly used alternative. Spraying events should be communicated in a timely manner to the inhabitants of dwellings on adjacent properties. Extensive shelter belts should be established on the sensitive boundaries surround the specific area of land subject to the development, as per the northern, southern and eastern boundaries. The use and application of agricultural sprays must abide by the Tasmanian Code of practice for ground and aerial spraying 2014 and any applicable agricultural chemical label requirements.
2. Noise from machinery, livestock and dogs.	Risk = low. The properties are located in rural area, and so it is accepted that noises associated with farm machinery and associated infrastructure and livestock will occur. The village of Evandale and the nearby

	Launceston airport are already existing sources of noise.
3. Irrigation water over boundary	Risk = low. Irrigated agricultural land use activity is currently conducted on the adjacent properties to the north, south and east, however significant setback distances are present and therefore no negative impacts would be anticipated. Extensive shelter belts surround the specific area of land subject to the development and more broadly that of the boundary areas of the property in property in question. Irrigated agricultural on the title 145763/1 adjacent to the north involves the application of low pressure irrigation using drippers for the production of wine grapes, and there is no potential for irrigation spray drift over the boundaries.
4. Stock escaping and causing damage.	Risk = low. Provided that boundary fences are maintained in sound condition.
5. Electric fences	Risk = low. Mitigated by the proponent attaching appropriate warning signs on boundary fencing.

5.4.2 Impact of proposed development on agricultural activity of neighbouring land

These potential impacts are usually manifested as complaints that could be made by residents of nearby dwellings. Other risks to neighbouring agricultural activity are outlined in Table 4. Some of these risks rely on an element of criminal intent.

Table 4 Potential risk from proposed development to neighbouring agricultural land use and activity

Potential risk to neighbouring agricultural land use activity	Extent of risk & possible mitigation strategy
1. Trespass	Risk = low. Mitigation measures include installation and maintenance of sound boundary fencing, as required lockable gates and appropriate signage to warn inhabitants and visitors about entry onto private land; where possible and appropriate report unauthorised entry to police.
2. Theft	Risk = low. Ensure there is good quality boundary fencing on the boundary to neighbouring properties and appropriate signage to deter inadvertent entry to property; limit unauthorised vehicle movements, report thefts to police.
3. Damage to property	Risk = low/medium. As for theft.

4. Weed infestation	Risk = low. The proponent is committed to the sustainable management of the property and weed control would be a key feature of the general ongoing property management program.
5. Fire outbreak	Risk = low. Fire risk can be mitigated by careful operation of outside barbeques and disposal of rubbish and adherence to all applicable local and state bushfire regulations.
6. Dog and cat menace to neighbouring livestock	Risk = low. Mitigated by ensuring that all dogs and cats would be managed as per the guidelines determined by the Northern Midlands council and any relevant Tasmanian State Government legislation.
7. Noise	Risk = to be determined and would be informed by acoustic studies. A combination of the separation distances and vegetation buffers present would assist in mitigating this risk. The village of Evandale and the nearby Launceston airport are already existing sources of noise.

6 Water resources

Two irrigation districts are present which cover and are nearby the vicinity of the subject properties in question:

- Lower South Esk Irrigation District (LSEID) and is serviced by the Lower South Esk Irrigation Scheme (LSEIS)
- North Esk Irrigation District (NEID) and is serviced by the North Esk Irrigation Scheme (NEIS)

No waterways flow through any of the properties associated with the proposed development.

6.1 Lower South Esk Irrigation District

The LSEID covers 15,421 hectares and is serviced by the LSEIS which commenced operations in October 2013.

LSEIS services 27 irrigators in Conara, Epping Forest, Evandale, Perth and Longford in Northern Midlands.

The LSEIS provides 5,298 ML of irrigation water from November to March, with irrigators able to draw water directly from the South Esk River.

The entire township of Evandale is included within the LSEID.

Appendix A Figure 15 provides a map of the LSEID.

100% of the irrigation water supplied by the LSEIS is fully allocated and no irrigation water is available for purchase.

None of the properties subject to the proposed rezoning development are covered by the LSEIS, and have any irrigation water allocations associated with these properties.

No infrastructure associated with the LSEIS is present on and/or nearby the properties subject to the proposed rezoning development.

6.2 North Esk Irrigation District

The NEID covers 16,545 hectares and is serviced by the NEIS which commenced operations in January 2019.

NEIS services 57 irrigators in Evandale, Clarendon and the White Hills area of the Northern Midlands.

The NEIS provides 4,685 ML of irrigation water from November to March, with irrigation water supplied by a network of pipelines across the NEID.

Appendix A Figure 16 provides a map of the NEID.

The NEIS covers land that includes White Hills, Relbia and Evandale, and covers a total area of 16,545 hectares of irrigable land, with 54 land holders having irrigation rights.

The amount of class 4 land within the NEIS scheme is approximately 11,000 hectares.

The combined area of the properties in question associated with the development covers a total of 100 hectares, and this represents less than 1% of the Class 4 land and less is roughly 0.07% of the total irrigable land within the NEIS.

The combined irrigation rights associated the properties in question associated with the Ridgeside Lane re-zoning development is 60 ML, and this represents less than 1.3% of the total amount of irrigation water available from the NEIS.

100% of the irrigation water supplied by the NEIS is fully allocated and no additional irrigation water is available for purchase.

TIP has a 60 ML water right out of the NEIS, and this is supplied via the Clarendon Spur A pipeline. This pipeline is located on the northern end of title 106773/1 (of which the western portion of this is subject to the development) and 116759/1.

The proposed development has been planned to ensure that the Clarendon Spur A pipeline will not be negatively impacted and that other outlets and users of this infrastructure will not have their access diminished. Figure 14.



Figure 14 NEIS pipeline infrastructure (dotted blue line) in relation to the subject properties

The proposed development will cover a total of 100 hectares, and this represents less than 0.7% of the total area of land within the NEID.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property title 227117/2 and 116759/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

The properties subject to the development have been operated and managed as dryland grazing enterprises, and no irrigation been used on this land.

6.3 Waterways

No waterways flow through and/or border the properties subject to the development.

The nearest waterway, Boyes Creek, is located approximately 310m south of title 116759/1.

The proposed development is not anticipated to have any negative impacts on the waterway to the south.

Storm water run-off will be managed according to council regulations and ensure it does not negatively impact adjacent and nearby properties.

6.4 Dams

No registered dams are present on the property, although two small stock water dams are present with an anticipated nominal total volume of less than 1 ML.

The proposed development is not anticipated to have any negative impact and/or diminish adjacent and nearby land owners from filling their and/or utilising stock or irrigation water from any dams which may be present.

7 The potential loss of agricultural land from Tasmania's agricultural estate.

The proposed development would cover a total area of 100 hectares.

In terms of appreciating and understanding the relative potential loss of agricultural land from Tasmania's agricultural estate it is important to provide detail on the size of the agricultural estate on a local (Northern Midlands), broad regional (Tamar and Meander Valley and Northern Midlands) and statewide basis.

Additionally, as the Ridgeside Lane development is located in a proclaimed irrigation district, as per the North Esk Irrigation Scheme (NEIS) it is appropriate to understand and appreciate the relative potential loss of irrigated agricultural land on a local (as per the NEIS) and statewide basis for all irrigation districts.

7.1 Local impact - Northern Midlands agricultural estate

The northern midlands area is included in the South Esk land capability mapping report which covers a total area of approximately 216,821 hectares of agricultural land. Table 1 outlines the total agricultural land available and provide detail on the specific amount of land associated with each of the land capability classes present.

Table 5 land capability areas in the Northern Midlands based on the South Esk land capability report

Land Capability*	Area (hectares)	Proportion (%)
3	8,622	3.9
4	122,510	56.6
5	45,524	20.9
6	35,756	16.5
7	4,409	2.1
Total	216,821	100

*the sub classes have been included into the dominant land capability, for example sub class 5+4, 5+6 have been included into the class 5 land

The combined area of the properties in question associated with the development covers a total of 100 hectares, and this represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).

7.2 Broad regional and state impact – Tamar and Meander Valley/Northern Midlands agricultural estate

On a regional basis if the Ridgeside Lane property development is assessed on a broad regional basis that encompasses the Northern Midlands, and Tamar and Meander Valley areas which when combined cover a total area of approximately 605,165 hectares of agricultural land.

The information used to provide detail on the total land area and associated land capability has been obtain from the South Esk, Meander, Pipers and Tamar land capability mapping areas.

Table 2 outlines the areas associated with the land capability classes.

Table 6; land capability areas on a broad regional basis

Land Capability*	Area (hectares)	Proportion (%)
1	42	<0.001
2	1,641	0.3
3	32,148	5.3
4	296,403	49.1
5	142,040	23.4
6	116,600	19.2
7	16,291	2.7
Total	605,165	100

*the sub classes have been included into the dominant land capability, for example sub class 5+4, 5+6 have been included into the class 5 land

The combined area of the properties in question associated with the development covers a total of 100 hectares, and this represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis.

7.3 Statewide impact on the Tasmanian agricultural estate

The total area of the agricultural estate in Tasmania cover 18,900,000 hectares, which represents 28% of the total land area within the state and includes all prime and non-prime agricultural land and proclaimed irrigated districts.

The combined area of the properties in question associated with the development covers a total of 100 hectares, and this represents and less than 0.0005% of the total agricultural estate in Tasmania.

7.4 Tasmania's Total Proclaimed Irrigated Land Estate

In Tasmania there are 23 proclaimed irrigation districts, and these cover a combined total area of 758,972 hectares.

The combined area of the properties in question associated with the development covers a total of 100 ha, and this represents and less than 0.0015% of the total area of proclaimed irrigation districts in Tasmania.

8 Protection of Agricultural Land Policy

The Tasmania Protection of Agricultural Land Policy consists off 11 principles which seek to conserve and protect agricultural land recognising the particular importance of prime agricultural land.

8.1 Principle 1

Agricultural land is a valuable resource and its use for the sustainable development of agriculture should not be unreasonably confined or restrained by non-agricultural use or development.

Response: The proposed re-zoning will result in 100 hectares of agricultural land.

The land subject to the proposed development is entirely covered by class 4 land and no prime agricultural land is present. This class 4 land is suitable for grazing with minor/moderate limitations, and could be sustainably cropped on a 2 in 10 year rotation. Currently due to the degraded nature of the property it would be reasonable to expect it to be able to support a carrying capacity of approximately 1,025 DSE which would equate to a total annual gross margin return of approximately $46,000.

If the property was sufficiently developed used solely for grazing purposes it is reasonable to consider it would be able to generate an annual gross margin return if just used for dryland grazing (e.g. sheep breeding) of approximately $72,450, however if irrigated broadacre cropping and dryland grazing is undertaken this could be increased up to $109,000. In order realise this level of productivity and associated financial performance it would be necessary to invest potentially $480,000 in property improvements and irrigation infrastructure. The potential economic returns and associated investment required presents a challenging financial constraint to the undertaking improved agricultural land use activity.

The land adjacent to the west and western portion of the southern boundary of the subject properties is covered by General Residential and Rural Living zoned land. This General Residential and Rural Living zoned land imposes an existing degree of fettering such as the negative impacts associated with noise, dust and odour emissions, irrigation water and agricultural chemical spray drift from agricultural land use activities.

In order to provide a sufficient level of protection to the adjacent and nearby agricultural land, as per to the north, eastern end of the southern and eastern boundaries it would be appropriate to establish shelter belts along these sensitive boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

The re-zoning can be undertaken without causing undue negative impacts on the adjacent and nearby agricultural land, however the establishment of shelter belts along the sensitive boundaries as per to the north, eastern end of the southern and eastern boundaries will ensure minimal potential for conflict between the proposed land use changes.

8.2 Principle 2

Use or development of prime agricultural land should not result in unnecessary conversion to non-agricultural use or agricultural use not dependent on the soil as the growth medium.

Response: Not applicable due to the nature of the development as no prime agricultural land is present.

8.3 Principle 3

Use or development, other than residential, of prime agricultural land that is directly associated with, and a subservient part of, an agricultural use of that land is consistent with this Policy.

Response: Not applicable due to the nature of the development.

8.4 Principle 4

The development of utilities, extractive industries and controlled environment agriculture on prime agricultural land may be allowed, having regard to criteria, including the following:

(a) minimising the amount of land alienated;

(b) minimising negative impacts on the surrounding environment; and

(c) ensuring the particular location is reasonably required for operational efficiency.

Response: Not applicable due to the nature of the development as no prime agricultural land is present.

8.5 Principle 5

Residential use of agricultural land is consistent with this Policy where it is required as part of an agricultural use or where it does not unreasonably convert agricultural land and does not confine or restrain agricultural use on or in the vicinity of that land.

Response: The land subject to the proposed development has a negligible level of local and regional significance, for example:

- Represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).
- Represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas)

The land subject to the proposed development is entirely covered by class 4 land and no prime agricultural land is present. This class 4 land is suitable for grazing with minor/moderate limitations, and could be sustainably cropped on a 2 in 10 year rotation. Currently due to the degraded nature of the property it would be reasonable to expect it to be able to support a carrying capacity of approximately 985 DSE which would equate to a total annual gross margin return of approximately $46,000.

The land adjacent to the west and western portion of the southern boundary of the subject properties is covered by General Residential and Rural Living zoned land. This General Residential and Rural Living zoned land imposes an existing degree of fettering such as the negative impacts associated with noise,

dust and odour emissions, irrigation water and agricultural chemical spray drift from agricultural land use activities.

The adjacent and nearby agricultural land consists of:

- East: dryland grazing pasture block (68 hectares)
- North: separated by Ridgeside Road are three small hobby block properties (covering 1.4, 2.5 and 10 hectares respectively), and a vineyard (covering 166 hectares of 25 hectares of vines with the nearest vines approximately 350m at the closest point)
- South: separated by Logan Road is a hobby block (22 hectares), and mixed cropping livestock property (93 hectares) with dryland and irrigated production system.

In order to provide a sufficient level of protection to the adjacent and nearby agricultural land, as per to the north, eastern end of the southern and eastern boundaries it would be appropriate to establish shelter belts along these sensitive boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

8.6 Principle 6

Proposals of significant benefit to a region that may cause prime agricultural land to be converted to non-agricultural use or agricultural use not dependent on the soil as a growth medium, and which are not covered by Principles 3, 4 or 5, will need to demonstrate significant benefits to the region based on an assessment of the social, environmental and economic costs and benefits.

Response: Not applicable due to the nature of the development as no prime agricultural land is present.

8.7 Principle 7

The protection of non-prime agricultural land from conversion to non-agricultural use will be determined through consideration of the local and regional significance of that land for agricultural use.

Response: The land subject to the proposed development has a negligible level of local and regional significance, for example:

- Represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).
- Represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas).

The land subject to the proposed development is located within the North Esk Irrigation Scheme (NEIS) and represents approximately 0.07% of the total irrigable land within the NEIS.

Potentially 60 ML of irrigation water supplied by the NEIS is available and represents less than 1.3% of the total amount of irrigation water available from the NEIS. It should be noted regardless of the proposed development this 60 ML irrigation water entitlement could still continue to be used on the

balance of the proponent land to the east of the location of the proposed location of the rezoning development.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property titles 227117/2 and 116759/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

No key agricultural infrastructure is present on the properties subject to the proposed development, such as dams, waterway or support facilities (e.g. grain silos, transport access). The existing NEIS Clarendon Spur A pipeline is located on the land immediately adjacent to the Ridgeside Lane on the far north end of property title 116759/1, and would not be impact and or constrained by the proposed development.

Principle 8

Provision must be made for the appropriate protection of agricultural land within irrigation districts proclaimed under Part 9 of the Water Management Act 1999 and may be made for the protection of other areas that may benefit from broad-scale irrigation development.

Response:

The land subject to the proposed development is located within the North Esk Irrigation Scheme (NEIS) and represents approximately 0.07% of the total irrigable land within the NEIS.

Potentially 60 ML of irrigation water supplied by the NEIS is available and represents less than 1.3% of the total amount of irrigation water available from the NEIS.

Regardless of the proposed development this 60 ML irrigation water entitlement could still continue to be used on the balance of the proponent land to the east of the location of the proposed location of the rezoning development.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property titles 227117/2 and 116759/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

8.8 Principle 9

Planning schemes must not prohibit or require a discretionary permit for an agricultural use on land zoned for rural purposes where that use depends on the soil as the growth medium, except as prescribed in Principles 10 and 11.

Response: The proposed development does not involve an agricultural use, rather it is rezoning the subject land to General Residential.

8.9 Principle 10

New plantation forestry must not be established on prime agricultural land unless a planning scheme reviewed in accordance with this Policy provides otherwise. Planning scheme provisions must take into account the operational practicalities of plantation management, the size of the areas of prime agricultural land, their location in relation to areas of non-prime agricultural land and existing plantation forestry, and any comprehensive management plans for the land.

Response: Not applicable due to the nature of the development.

8.10 Principle 11

Planning schemes may require a discretionary permit for plantation forestry where it is necessary to protect, maintain and develop existing agricultural uses that are the recognised fundamental and critical components of the economy of the entire municipal area, and are essential to maintaining the sustainability of that economy.

Response: Not applicable due to the nature of the development.

9 Conclusion

1. The subject land holdings involves four properties located the immediate north east of Evandale, and includes property title 106773/1, 116759/1, 227117/1 and 81897/1.

2. The subject land holdings are entirely covered by land capability Class 4 land.

3. The subject land holdings are used to graze livestock, albeit at a scale consistent with hobby farm/scale non-commercial scale (e.g. property titles 227117/1 and 81897/1) whilst the larger blocks are used for grazing but on a large scale although not a standalone commercial scale of operation (e.g. property titles 106773/1, 116759/1).

4. The proposed development would result in the loss of approximately 100 hectares of agricultural land, although it has a negligible level of local and regional significance. The subject land holdings represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area) and less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas).

5. The subject land holdings are located within the North Esk Irrigation District (NEID). The land subject to the proposed development represents approximately 0.07% of the total irrigable land within the NEID.

6. The adjacent properties are used for agricultural land use activity, and includes cropping and livestock production and a vineyard. A combination of the separation distances, and the proposed shelter belts would mitigate the potential for the proposed development to cause negative impacts, fettering and constraints on these other properties and vice versa.

7. The proposed development is sensitive to the adjacent land use activity and is not anticipated to create any negative impacts and/or constraint on the capability/capacity of the neighbouring properties to be actively managed and used for agricultural land use activity.

10 References

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National Committee on Soil and Terrain (2009) 'Australian soil and land survey field handbook (3rd edn).' (CSIRO Publishing: Melbourne).

The LIST Map datasets.

11 Declaration

I declare that I have made all the enquiries which I consider desirable or appropriate, and no matters of significance which I regard as relevant have, to my knowledge, been withheld.

Jason Lynch

Mr Jason Lynch BAgrSc (Hons) CPAg
Senior Consultant
Pinion Advisory Pty Ltd
September 2023

Appendix A

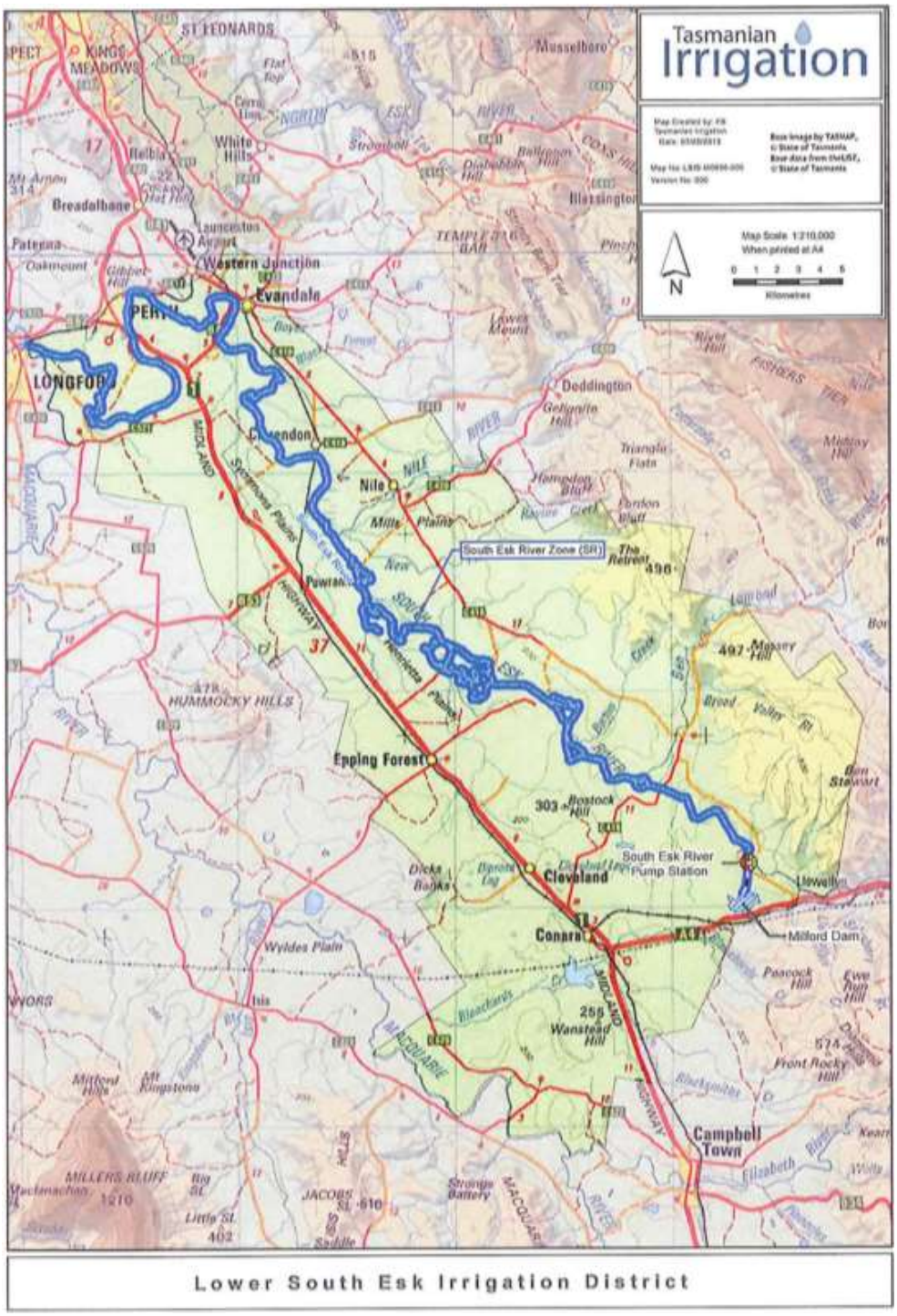


Figure 15 LSEID map



Figure 16 NEID map



Agricultural assessment report

Property titles 106773/1 and 116759/1, Evandale TAS 7304

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This report has been prepared in accordance with the scope of services described in the contract or agreement between Pinion Advisory and the Client. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client and Pinion Advisory accepts no responsibility for its use by other parties.

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Executive summary

This 2nd final version of this agricultural assessment report has been prepared in response to an update to the proposed development plan, as per the Proposed Evandale Expansion Plan, and a request for further information by the Northern Midlands council.

This agricultural assessment report has been prepared on behalf of the proponent, Traders in Purple (TIP), and covers the various aspects of the agricultural land activities associated with and surrounding the subject properties at Evandale and potential to be negatively impacted by the proposed development.

Four property titles are associated with the proposed development including the entirety of titles CT 116759/1, CT 116759/1, CT 81897/1 and the western portion of title CT 106773/1.

The proponent wishes to rezone the subject titles from Agriculture to a mixture of General Residential, Local Business, Open Space and Community Purpose.

Under the Tasmanian Planning Scheme, the subject properties are zoned as Agriculture.

The subject property titles associated with the proposed development are covered by ground with a land capability of Class 4 land, and portions of the land are currently used for agricultural land use activity, that being to grow pasture for livestock production albeit at a low intensity.

The properties are covered by declared irrigation districts and this includes both the Lower South Esk (LSID) and North Esk Irrigation Districts (NEID).

Approximately 100 hectares of agricultural land would be re-zoned as Agriculture to a mixture of General Residential, Local Business, Open Space and Community Purpose.

The subject property titles are utilised for low intensity and small scale grazing use, and due to the current condition of the pasture and associated level of productivity would not be considered as commercial scale agricultural. These properties could be developed and improved and used to support more intensive grazing use, cropping and perennial horticulture. However, in reality due to a combination of factors such as operational challenges and very significant investment required relative to the financial returns which could be generated it is unrealistic to consider that the land would be further developed and improved.

Extensive shelter belts should be established on the sensitive boundaries surrounding the specific area of land subject to the development, as per the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

The layout of the Proposed Evandale Expansion Plan has established 100m and 200m setbacks to agricultural land on the northern and southern boundaries to provide guidance on building envelopes on the proposed development.

The proposed development could be undertaken with a negligible impact on the current future agricultural land use activities which can and could be undertaken on the adjacent and nearby properties.

1 Purpose

This report has been undertaken on behalf of TIP (the proponent) in order to support an application for covering a number of property titles at Evandale to be rezoned from Agricultural to a mixture of General Residential, Local Business, Open Space and Community Purpose.

The document provides an agricultural assessment of the property in question and reviews the current and future agricultural usage of the property and the surrounding area in relation to the Land Capability and Land Classification.

This includes soils, aspect, topography, water resource, economic feasibility, and impact of the proposed development in relation to agricultural activities.

1.1 Land Capability

The currently recognised reference for identifying land capability is based on the class definitions and methodology described in the Land Classification Handbook, Second Edition, C.J Grose, 1999, Department of Primary Industries, Water and Environment, Tasmania.

Most agricultural land in Tasmania has been classified by the Department of Primary Industries and Water at a scale of 1:100,000, according to its ability to withstand degradation. A scale of 1 to 7 has been developed with Class 1 being the most productive for agriculture and resilient to degradation and Class 7 the least suitable to agriculture. Class 1, 2 and 3 is collectively termed “prime agricultural land”. For planning purposes, a scale of 1:100,000 is often unsuitable and a re-assessment is required at a scale of 1:25,000 or 1:10,000. Factors influencing capability include elevation, slope, climate, soil type, rooting depth, salinity, rockiness and susceptibility to wind, water erosion and flooding.

In providing the opinion enclosed here, it is to be noted that Jason Lynch possesses a Bachelor of Applied Science (horticulture) and is a certified practising agriculturalist (CPAg) and over 25 years of experience in the agricultural industry in Tasmania. Jason is skilled to undertake agricultural and development assessments as well as land capability studies. He has previously been engaged by property owners, independent planners, and surveyors to undertake assessments within the Break O’Day, Burnie, Central Coast, Central Highlands, Circular Head, Clarence, Derwent Valley, Devonport, Dorset, George Town, Glamorgan Spring Bay, Kentish, King Island, Latrobe, Launceston, Meander Valley, Northern Midlands, Southern Midlands, Sorell, Tasman, West Tamar, Waratah-Wynyard and West Coast municipalities. Most of these studies have involved the assessment of land for development purposes for potential conflict with the Tasmanian and various council based interim planning schemes.

1.2 Tasmanian Planning Scheme – Northern Midlands Provisions

The Northern Midlands municipality declared the Tasmanian Planning Scheme (TPS) to be active in November 2021 and this sets out the requirements for use and development of land in the municipality.

2 Property details

2.1 Location

The properties involved in the development consists of four titles and are located on the peri-urban area to the immediate north eastern and eastern outskirts of Evandale. Table 1 and Image 1.

Table 1 Property location identification details

Address	Property ID	Title Reference	Hectares *(Approx.)*	
			Total	Subject to development
211 Logan Road, Evandale 7212	1898289	CT 106773/1	99.5	32
4 Ridgeside Lane, Evandale 7212	6395373	CT 81897/1	6	6
38 Arthur Street, Evandale 7212	7286347	CT 227117/1	12	12
95 Logan Road, Evandale 7212	1662145	CT 116759/1	50	50

These properties have a generally northerly facing aspect and are covered by flat and gently sloping ground. Image 2 and Image 3.

The subject property titles have frontage to a number of roads, including:

- Property title CT 227117/1 has frontage to three roads, including Arthur Road (western boundary) and also Coachmans and Stockmans Road (southern boundary).
- Property title CT 106773/1 has frontage to Logan Road (forms the southern boundary) and Ridgeside Road (forms the northern boundary),
- Property CT 81897/1 has frontage to White Hills Road (western boundary) and Ridgeside Lane (northern boundary),
- Property CT 116759/1 has access to White Hills Road via a laneway access as well as Ridgeside Lane to the north and Logan Road to the south.

Infrastructure present on the property includes:

- Property title CT 81897/1: boundary fencing, a residential dwelling and three sheds.
- Property title CT 227117/1: boundary fencing, three sheds and a derelict residential dwelling.
- Property title CT 106773/1: boundary and paddock fencing on the parcel of ground subject to the proposed development (western area) whilst on the balance of this property not subject to the proposed development (as per the eastern area) infrastructure includes boundary and paddock fencing, three sheds and a residential dwelling.

- Property title CT 116759/1: boundary and paddock fencing, stockwater system, stockyards and farm sheds

Some shelter belt plantings are present throughout the properties, but these are limited in size.

No Threatened Native Vegetation Communities have been identified on the subject properties, as per the Tasmanian Native Vegetation Community 2020 GIS dataset[1].

The subject properties are held as private freehold land and is similarly surrounded by private tenure land, and in the wider Evandale area are property titles covered by Local Government tenure, Authority Freehold, Authority Crown and further to the south is TasWater tenure land.[2] Image 4.

The subject properties in question are covered by Agriculture zone land. Adjacent and nearby land is covered by a mixture of General Residential, Rural Living, Open Space Community and Rural zoned land.[3] Image 5.

No land associated with land slip hazard bands are present on the subject properties.

Subject property titles CT 81897/1, CT 227117/1, CT 116759/1 are serviced by TasWater for the provision of drinking water.[4] Image 6.

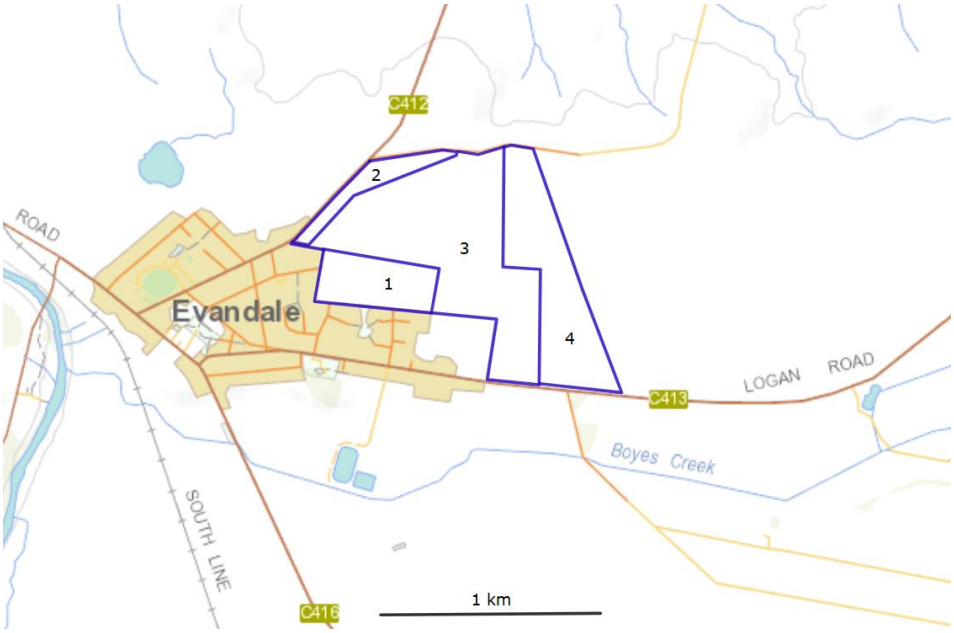


Image 1 Properties subject to the rezoning development, 1: title CT 227117/1, 2: title CT 81897/1, 3: title CT 1165759/1 and 4: title CT 106773/1.

[1] Extracted from the LIST https://maps.thelist.tas.gov.au/listmap/app/list/map
[2] Extracted from the LIST https://maps.thelist.tas.gov.au/listmap/app/list/map
[3] Extracted from the LIST https://maps.thelist.tas.gov.au/listmap/app/list/map
[4] Extracted from the LIST https://maps.thelist.tas.gov.au/listmap/app/list/map

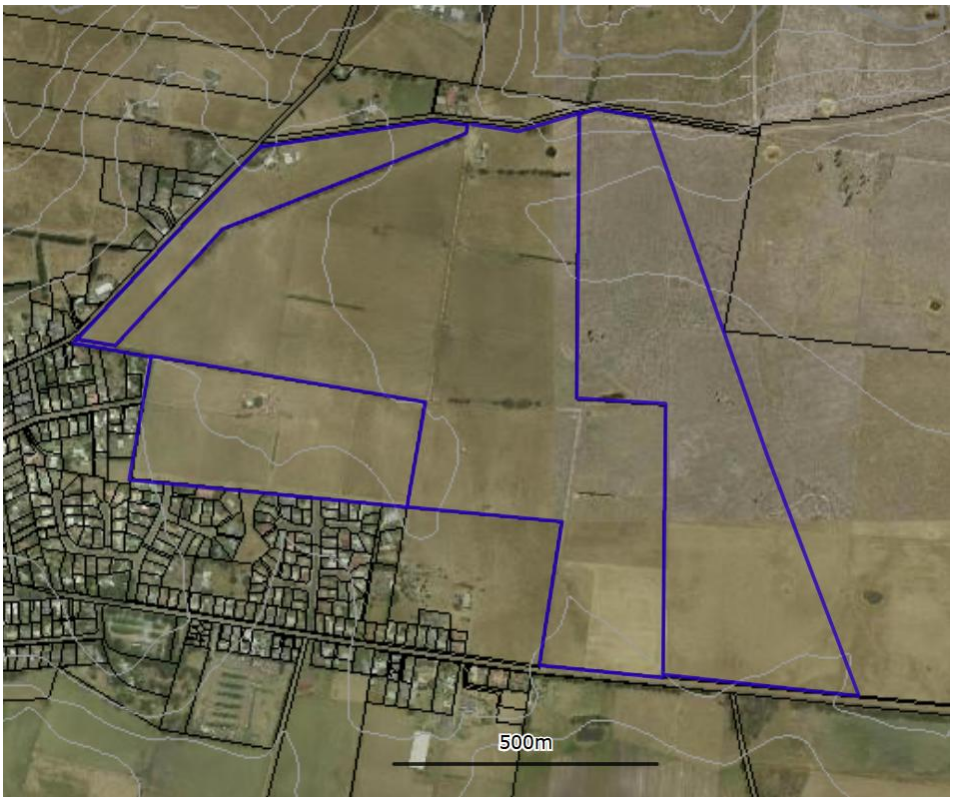


Image 2 Topography of the subject properties (5 meter contours) (source the LIST)



Image 3 The subject properties topography (colour scale map) (source the LIST)

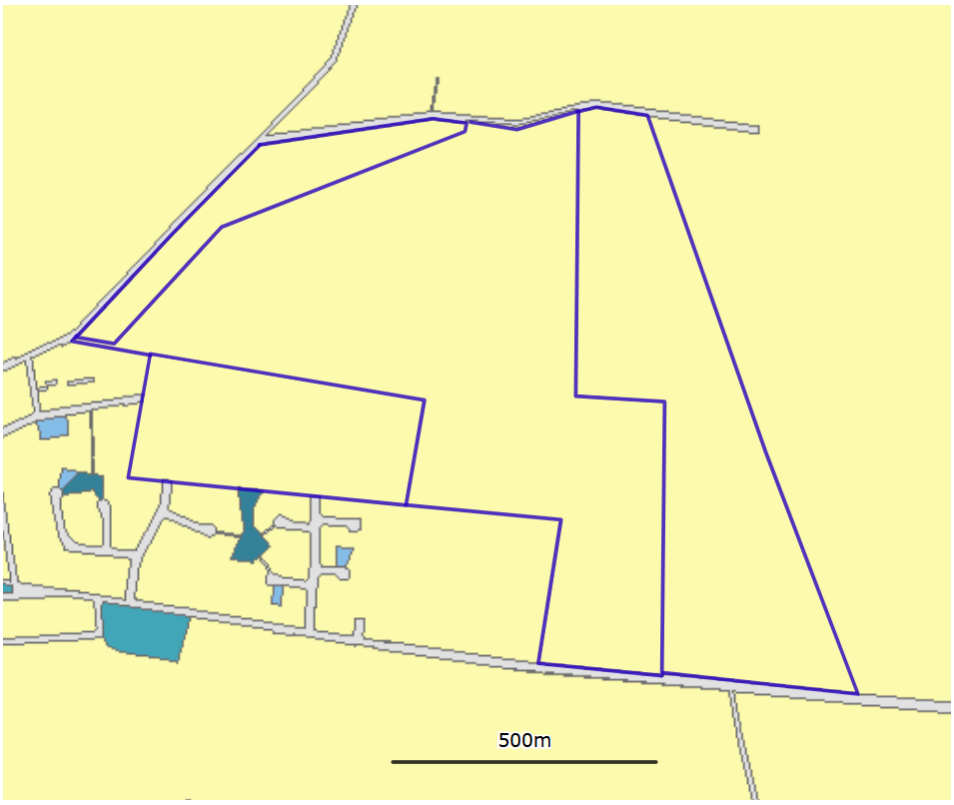


Image 4 Land tenure on the subject properties (outlined in blue) and all adjacent land as private freehold land (yellow shaded), and further to the south and west is various Local Government tenure blocks (magenta shaded), blocks of Authority Crown land (light blue shaded), a parcel of TasWater land (dark blue shaded) with casement tenure associated with the various roads in the district (grey shaded). (source the LIST)

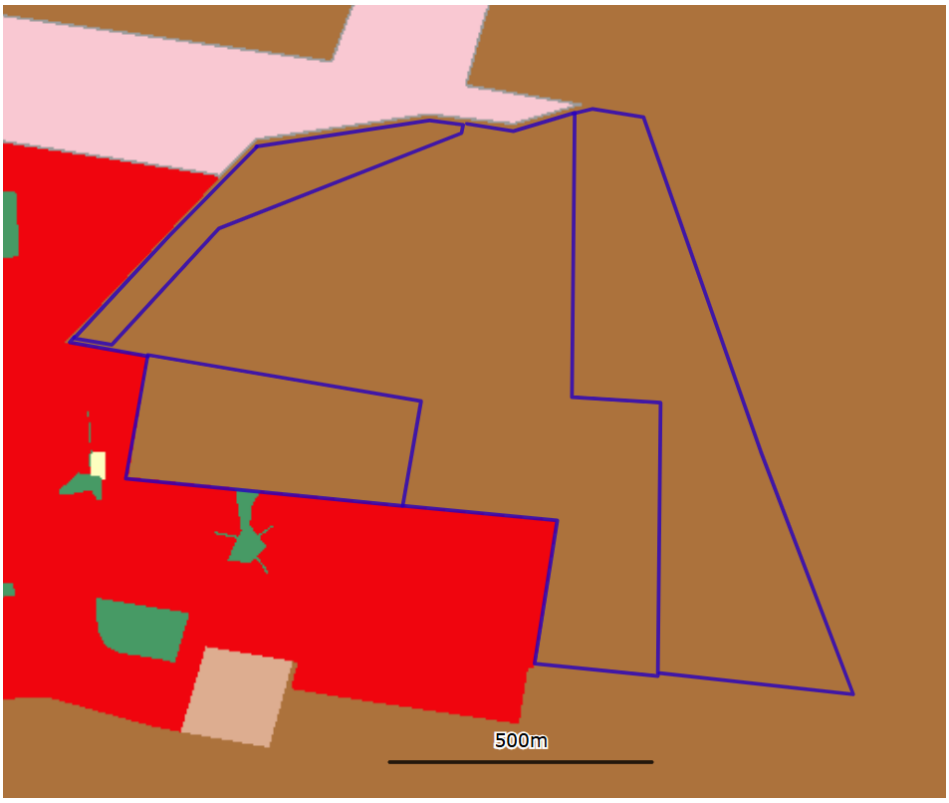


Image 5 The subject properties (outlined in blue) and adjacent land as Agriculture zone (brown shaded) to the north, east and south, with Rural Living (pink shaded) to the north and north west, General Residential (red shaded) to the west and south, and Open Space (green shaded) adjacent and nearby to the south and west, and Community Purpose (yellow shaded) nearby to the south west, and Rural (light brown shade land) further to the south. (source the LIST)

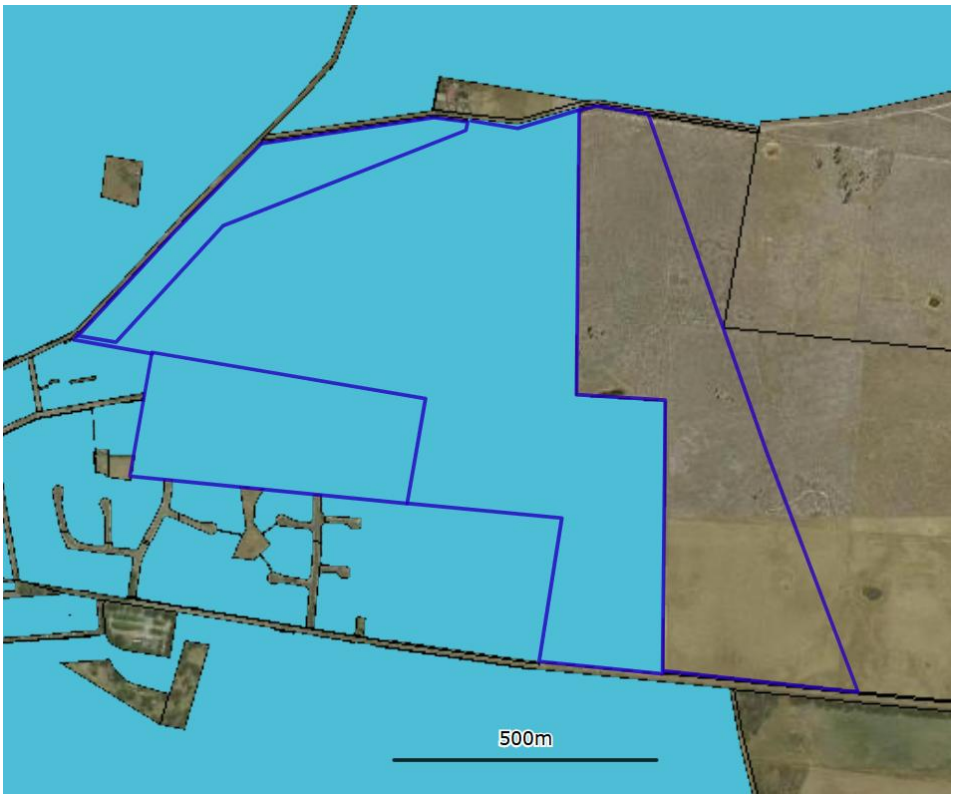


Image 6 Water serviced land on the subject properties (outlined in blue) (source the LIST)

3 Land capability

The official land capability map for the area was produced by DPIF in 1996 at a scale of 1:100,000 and reported in their South Esk Report. On the subject lot, DPIF identified the subject properties to be covered by Class 4 land[5].

Site visits in 2018 and 2021 to the subject properties involving detailed inspection of the land was undertaken by the author and determined that all land is covered by Class 4 land. Image 7.

Class 4 land is described as:

> *Land well suited to grazing but which is limited to occasional cropping or to a very restricted range of crops. The length of cropping phase and/or range of crops are constrained by severe limitations of erosion, wetness, soils or climate. Major conservation treatments and/or careful management is required to minimise degradation.*
>
> *Cropping rotations should be restricted to one to two years out of ten in a rotation with pasture or equivalent to avoid damage to the soil resource. In some areas longer cropping phases may be possible but the versatility of the land is very limited.*[6]

The key land capability limitations associated with the property are;

- Erosion (e) associated with the risk rill and sheet erosion caused by surface water movement on bare and exposed soil and potential for degraded soil structural due to pugging from livestock movement on waterlogged soils and/or inappropriate and excessive ground cultivation activities.
- Soils (s) associated with challenging growing conditions for pasture and/or crops due to limitations such as presence of stones and/or rock fragments and impaired drainage leading to soil waterlogging.

[5] Grose, C.J and Moreton R.M. (1996) Land Capability Survey of Tasmania. South Esk report, Department of Primary Industry and Fisheries, Tasmania, Australia.

[6] Grose C.J. (1999) Land Capability Handbook: Guidelines for the Classification of Agricultural Land in Tasmania. 2nd Edition, DPIWE, Tasmania.

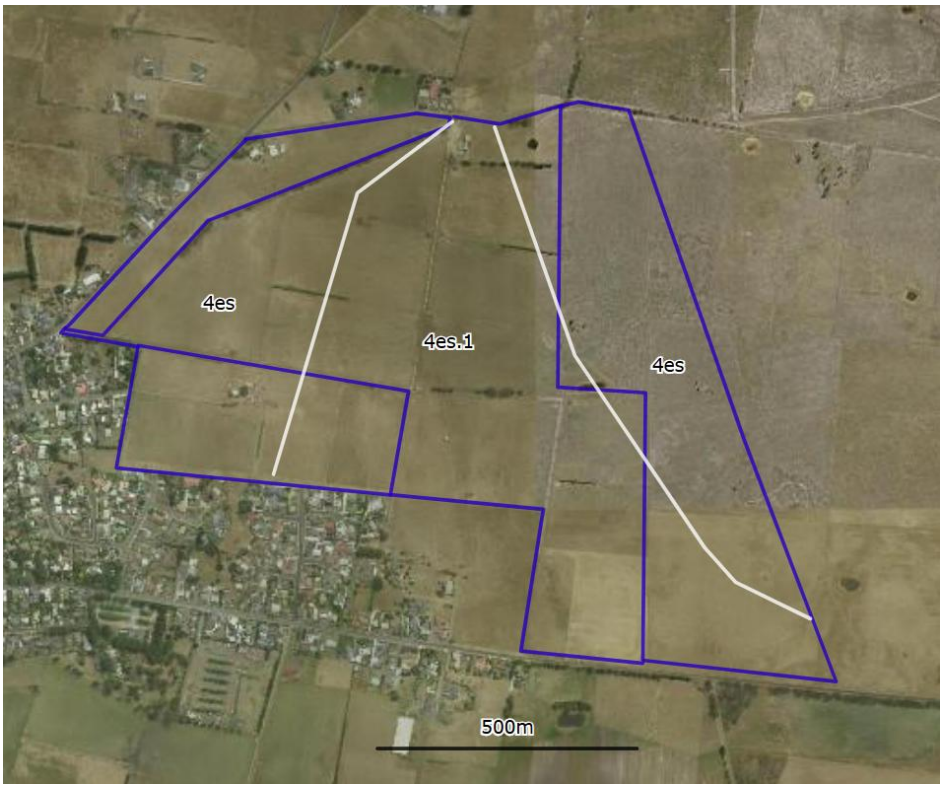


Image 7 Land capability areas present on the subject properties.

Table 2 Land capability assessment over the subject properties.

Land Capability Class (ha)	Geology & Soils	Slope (%)	Topography & Elevation	Erosion Type & Severity	Climatic Limitations	Soil Qualities	Main Land Management Requirements	Agricultural Versatility
4es	Chromosol soil, as the Brickendon soil profile class, derived non-marine quaternary alluvium. Brown and grey/brown sandy loam topsoil over a brown to orange clay, with some layers of ironstone and quartz gravels present in the profile.	0-3	Flat to very gently undulating land. 168-171m ASL	Medium risk. Rill and sheet erosion due to surface water movement and wind scouring on bare and exposed soils, and structure decline due to excessive and inappropriate soil cultivation.	Moderate climatic limitations. This area experiences cool/cold winters and warm/hot summers. Receives an average of 680mm annual rainfall, experiences up to 30 annual frosts events, 1040 GDD (October – April) and receives up to 1,060 chill hours (May – August).	Moderately well to well drained. Topsoil depth up to 20-30cm. Moderate nutrient and soil moisture holding capacity.	Avoid situations that lead to the exposure of bare soil, therefore maintain sufficient ground cover. The risk of soil compaction in winter from soil cultivation, machinery and stock movement increases significantly during periods of soil water logging.	This land is suitable for cropping on a 2 in 10 cropping rotation with a highly restricted range of crops. This land is suitable for grazing with minor/moderate limitations, such reducing grazing pressure when the soils are waterlogged and/or when soil moisture is limiting, and pasture is limiting.

Land Capability Class (ha)	Geology & Soils	Slope (%)	Topography & Elevation	Erosion Type & Severity	Climatic Limitations	Soil Qualities	Main Land Management Requirements	Agricultural Versatility
4es.1	Chromosol soil, as the Brickendon soil profile class, derived non-marine quaternary alluvium. Brown and grey/brown sandy loam topsoil over a brown to orange clay, with some layers of ironstone and quartz gravels present in the profile.	0-3	Flat to very gently undulating land. Lower land ground relative to the adjacent land to the east and west and forms a natural drainage area. 165-170m ASL	Medium risk. Rill and sheet erosion due to surface water movement and wind scouring on bare and exposed soils, and structure decline due to excessive and inappropriate soil cultivation.	Moderate climatic limitations. This area experiences cool/cold winters and warm/hot summers. Receives an average of 680mm annual rainfall, experiences up to 30 annual frosts events, 1040 GDD (October – April) and receives up to 1,060 chill hours (May – August).	Imperfect to moderately well drained. Subject to more extended periods of soil waterlogging than the land adjacent to the east and west. Topsoil depth up to 20-30cm. Moderate nutrient and soil moisture holding capacity.	Avoid situations that lead to the exposure of bare soil, therefore maintain sufficient ground cover. The risk of soil compaction in winter from soil cultivation, machinery and stock movement increases significantly during periods of soil water logging.	This land is suitable for cropping on a 2 in 10 cropping rotation with a highly restricted range of crops. This land is suitable for grazing with minor/moderate limitations, such reducing grazing pressure when the soils are waterlogged and/or when soil moisture is limiting, and pasture is limiting. This land is prone to waterlogging and therefore the nature and level of intensity of agricultural use could be expected to be negatively impacted. Examples would be delayed sowing dates, reduced total annual grazing days and a higher incidence and severity of soil pugging



Image 8 Brickendon soil type present throughout all the subject properties (taken on the site assessment Dec 2022)



Image 9 Westerly view from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Image 10 Easterly view from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Image 11 South easterly view towards Logan Road from the location of the proposed rezoning development (taken on the site assessment Dec 2022)



Image 12 Southerly view towards Evandale from the location of the proposed rezoning development (taken on the site assessment Dec 2022)

4 Proposed development

The proponent wishes to rezone the subject properties which are currently identified as Agriculture zone to a mixture of General Residential, Local Business, Open Space and Community Purpose.

The proposed development plan of the subject properties is attached in Appendix A Image 14.

100 hectares of land on the four subject properties are associated with the proposed development:

- 211 Logan Road, property title CT 106773/1:
  - A 32 hectare parcel of land, which forms the eastern half of a larger 99.5 hectare property and is covered by degraded pasture land.
- 4 Ridgeside Lane, property CT 81897/1:
  - A 6 hectare block and best described a lifestyle block with a residential dwelling present.
- 38 Arthur Street, Evandale CT227117/1:
  - A 12 hectares block is covered by degraded pastureland with a derelict residential dwelling present and best described as a hobby block.
- 95 Logan Road, property CT 116759/1:
  - A 50.2 hectare block and is covered by degraded pasture land.

It is recommended that shelter belts be planted along the sensitive boundaries of the perimeter of the subject properties, and this includes:

- Property title CT 116759/1: the northern (as per adjacent to Ridgeside Lane) and far eastern end of the southern (as per adjacent to Logan Road) boundaries.
- Property title CT 106773/1: the northern (as per adjacent to Ridgeside Lane), western end of the southern (as per adjacent to Logan Road) and eastern boundary (as per along the common boundary with the balance of this title).

These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

These shelter belts should be protected from browsing wildlife and provided with an appropriate level of ongoing care and attention to ensure they establish and thereafter are able to reach the target height and shrub/tree density.

The layout of the Proposed Evandale Expansion Plan has established 100m and 200m setbacks to agricultural land on the northern and southern boundaries to provide guidance on building envelopes on the proposed development and further assists in minimising the potential for conflict and fettering of adjacent and nearby agricultural land.

5 Land use

5.1 Current land use activities and available agricultural resources

The subject properties are currently used for agriculture, with livestock grazing on the pasture land although the scale and intensity varies significantly.

- 38 Arthur Street, property title CT 227117/1:
  - Small non-commercial scale and low intensity livestock grazing block, as per a hobby block. No access to irrigation water.
  - Currently total carrying capacity of approximately 115 DSE and based on a value of $40/DSE[7] could potentially generate an annual gross margin return of $4,600.
- 95 Logan Road, property CT 116759/1:
  - Small scale and low intensity livestock grazing use. Significantly constrained capacity to be to support commercial scale agriculture and incapable of being managed as a standalone agricultural enterprise. Has access to a 45 ML irrigation water allocation from the North Esk Irrigation Scheme (NEIS).
  - No irrigated agriculture is undertaken on this property.
  - Whilst the access to irrigation water does offer the potential to undertake irrigated agriculture, in reality due to combination of the limited amount of irrigation water (supporting potentially approximately 9 hectares of irrigated pasture or 15-20 hectares of vines), very significant investment required to developed an irrigation scheme relative to the likely potential returns, awkward shape of the block, and lower land capability it is unrealistic and likely unviable to consider that irrigated agricultural would be undertaken.
  - Currently total carrying capacity of approximately 500 DSE and based on a value of $40/DSE could potentially generate an annual gross margin return of $20,000.
- 211 Logan Road, property title CT 106773/1:
  - Forms part of a larger land holdings used for livestock production and includes property titles CT 145763/2 (47.8 hectares) and CT 101154/1 (101 hectares) further to the east which are used for low/medium scale and intensity livestock grazing use. In its entirety all these land holdings could be marginally considered to be constitute a commercial scale agriculture although are incapable of being able to be managed as a standalone agricultural enterprise. Has access to a 60 ML irrigation water allocation from the North Esk Irrigation Scheme (NEIS).
  - No irrigated agriculture is undertaken on this property.
  - These total combined land holdings titles CT 106773/1, CT 145763/2 and CT 1011154/1) would be considered to support a total current carrying capacity of 2,385 DSE.

[7] DSE is a standard unit used to compare the feed requirements of different classes of livestock to assess the carrying capacity of a farm or paddock. One DSE is defined as the amount of feed required by a two-year-old 50 kg 'dry' Merino sheep (wether or non-lactating, non-pregnant ewe) to maintain its weight.

  - The 32 hectares of land subject to the development (western portion of title CT 106773/1) represent 32% of the property title CT 106773/1, and 13% of the larger combined land holdings further to the east.
  - The 32 hectares of land subject to the development currently total carrying capacity of approximately 310 DSE, and this represents 13% of the total carrying capacity of the combined land holdings, and based on a value of $40/DSE could potentially generate an annual gross margin return of $12,400.
- 4 Ridgeside Lane, property title CT 81897/1
  - Very small non-commercial scale and low intensity livestock grazing use, as per a lifestyle block. No access to irrigation water.
  - Currently total carrying capacity of approximately 40 DSE and based on a value of $40/DSE could potentially generate an annual gross margin return of $1,600.

Currently at present the combined land holdings subject to the development would be expected to have a total carrying capacity of 965 DSE, and if it is assumed a value of $40/DSE this would equate to a total annual gross margin return of approximately $38,600. At this level of financial return, it would not be considered as commercial scale agriculture although incapable of being able to be managed as a standalone agricultural enterprise, please note that livestock prices do vary and the potential financial returns would be expected vary somewhat.

5.2 Recognition of commercial scale agriculture

Agricultural land use activity can involve a range of different enterprises such as livestock based (dairy, red meat and fibre), cropping and perennial horticulture and undertaken at varying degrees of intensification (e.g. dryland or irrigated) and scale. Agricultural land use activity can be classified as commercial agriculture or hobby farming (also known as lifestyle farming).

Non-commercial scale agricultural land use activity, often labelled as hobby farming is defined by the Australian Taxation Office as having no intent, plan or system to make a profit; being motivated by personal pleasure; having no repetition or regularity of sales; not carried on in the same manner as a normal business activity; of small scale; and any produce is sold to friends and relatives and not to the public at large (Australian Taxation Office, 2011).

Commercial agriculture is defined by the Australian Taxation Office (ATO) as a business as including:

- Registration of a business name or obtaining an ABN
- Intention to (eventually) make a profit.
- Repetition of similar types of activities.
- Size or scale of the activity is consistent with other businesses in the industry.
- The activity is planned, organised and carried out in a businesslike manner. This may include keeping business records and account books, having a separate business bank account, operating from business premises, having licenses or qualifications, having a registered business name.

The Australian Bureau of Statistics (ABS) has identified a minimum value of Estimated Value of Agricultural Output (EVAO) for an agricultural enterprise to be included in the ABS agricultural enterprise survey data to be $40,000[8].

5.3 Recognition of a standalone agricultural enterprise

A standalone agricultural enterprise would be considered as an agricultural business which allow the operator to generate sufficient income to cover all variable and fixed costs, meet financial commitments (e.g. loans and lease payments) and provide an income for the property owner to derive as their sole means of income.

The nature, scale and intensity of the current grazing agricultural land use activities level of productivity and potential associated financial returns which have been identified in sections 5.1 would not be considered sufficient to be identified as a standalone agricultural business.

The nature, scale and intensity of the potential grazing and/or cropping agricultural land use activities level of productivity and potential associated financial returns which have been identified in sections 5.3 would not be considered sufficient to be identified as a standalone agricultural business.

Due to unrealistic nature (combination of significant operational and financial challenges) of the establishment of perennial horticulture enterprises (wine grapes or hazelnuts) they have not been considered as being a standalone agricultural business or otherwise.

5.4 Potential agricultural land use activities on the land subject to the development

5.4.1 Pastoral Use

The subject properties are suitable for grazing purposes, although due to the size of the land holdings associated with each property the scale and intensity of grazing varies significantly.

Theoretically the entire 100 hectares of land on the subject properties is suitable for grazing and would be anticipated to have a potential average dryland carrying capacity of 15 DSE/ha for a total of 1,500 DSE. A 1,500 DSE dryland sheep grazing enterprise would be anticipated to return a total annual gross margin return of approximately $60,000.

It is important to note that due to variable rainfall, both total rainfall and frequency of rainfall events the carrying capacity can flex by +/-15-25% on a seasonal and annual basis.

There is a limited amount of irrigation water available:

- Property CT 116759/1 has access to 45 ML of irrigation water (Serial number IR-NE-01-009[9]) via the North Esk Irrigation Scheme (NEIS) which has the potential to support approximately 9 hectares of irrigation pasture. Irrigated pasture has a potential carrying capacity of 35 DSE/ha, and therefore 45 ML would support a total of 315 DSE. 315 DSE would be anticipated to return a total annual gross margin return of approximately $12,600.

[8] https://www.agriculture.gov.au/abares/research-topics/agricultural-outlook/definitions
[9] https://www.tasmanianirrigation.com.au/water-entitlement-register-2

  - Based on the current centre pivot infrastructure (pump, pipeline, controller systems, buffer dam and irrigator) at $8,000-9000/ha, therefore a 9 hectare centre pivot would be anticipated to cost approximately $72,000-81,000. Due to the cost of this infrastructure, it be would very unlikely that a centre pivot irrigator solely used for pasture production in a sheep based grazing (or any red meat production) would be a financial positive investment.
- Property CT 106773/1 has access to 60 ML of irrigation water (Serial number IR-NE-01-052[10]) via the NEIS which has the potential to support approximately 12 hectares of irrigation pasture. Irrigated pasture has a potential carrying capacity of 35 DSE/ha, and therefore 60 ML would support a total of 420 DSE. 420 DSE would be anticipated to return a total annual gross margin return of approximately $16,800.
  - Based on the current centre pivot infrastructure (pump, pipeline, controller systems, buffer dam and irrigator) at $8,000-9000/ha, therefore a 12 hectare centre pivot would be anticipated to cost approximately $105,000-110,000. Due to the cost of this infrastructure, it be would very unlikely that a centre pivot irrigator solely used for pasture production in a sheep based grazing (or any red meat production) would be a financial positive investment.
  - The balance of this title not subject to the proposed development (eastern area) could still be used to accommodate a 12 hectares centre pivot used for pasture production.

If all the land associated with the proposed development was used for a combination of dryland and irrigated pasture production to be grazed by livestock, such as a sheep breeding/finishing enterprise this could potentially generate a total gross margin return of $76,800 (approximately 79 hectares of dryland pasture and 21 hectares of irrigated pasture).

It is important to note that in order to generate this level of productivity and gross margin return the property would require significant investment in pasture improvement, paddock fencing, stock water system upgrades, soil fertility and most irrigation infrastructure. It would not be unreasonable to consider the likely investment potentially $383,000. Based on the potential financial returns which could be generated it would be unlikely that the level investment required could be justified.

5.4.2 Cropping use

The class 4 present on the properties subject to the proposed development covers approximately 82 hectares which is theoretically suitable for cropping and it is possible to consider this land could be cropped on a frequency of 2 times in 10 years and this equates to a sustainable annual cropping rotation of 16.5 hectares.

It is important to note that property titles CT 227117/2 and CT 81897/1 have not been considered suitable for cropping due to the close proximity to adjacent residential dwellings and road infrastructure and a range of sensitivities such as the potential for irrigation spray over property boundaries, application of agricultural chemicals and intensity of agricultural activities associated with this type of agriculture (e.g. ground cultivation, application of fertilisers, harvesting).

[10] https://www.tasmanianirrigation.com.au/water-entitlement-register-2

Broadacre cropping options could include:

- Dryland: cereals (wheat and barley) and canola
- Irrigated: cereals (wheat and barley), canola, hemp, poppies and grass and vegetable seed production.

Despite the amount of available land, the property is limited for access to irrigation water, with 105 ML available, and in reality, this significantly constrains the potential and scale of cropping land use activity. If we assume an average cropping water usage of 3 ML/ha then a combined total of 105 ML allocation is sufficient irrigate 35 hectares of land, however from a sustainability point of view only 16.5 hectares of land would be cropped.

If it is assumed that the average cropping gross margin return is $2,500/hectares then there is the potential to generate a total an annual gross margin return of $41,250 where 16.5 hectares of irrigated broadacre crops are grown.

It is important to note that in order to generate this level of productivity and gross margin return the property would require investment in irrigation infrastructure (e.g. pump, pipeline, controller systems, buffer dam and irrigator) whilst contractors could be used to undertake the soil cultivation, sowing, spraying and fertiliser application and harvesting operations. It would not be unreasonable to consider the likely irrigated cropping infrastructure investment required to be in the order of approximately $11,000/ha for a total investment of potentially $181,500 for a towable centre pivot, and approximately $140,000 for a hard hose travelling irrigator, noting that neither investment includes a tractor (approximately $30,000) required to move the irrigators.

5.4.3 Mixed land use

In reality if cropping is to be undertaken then the balance of the property would be used for dryland grazing.

Therefore, if 16.5 hectares of irrigated cropping were undertaken and the balance (83.5 hectares) for dryland grazing, could generate a combined total annual gross margin return of $91,350.

5.4.4 Perennial horticulture use

No perennial horticultural crops are currently grown on the property.

Perennial horticulture crops such as wine grape production and hazelnuts could be grown on this property. Olives and cherries have not been considered as being appropriate perennial horticultural crops due to a combination of the patchiness of the suitable sites (varies from suitable to moderately suitable), exposed nature of the site, soil type present, and a less than ideal climatic conditions (e.g. late spring/early summer rainfall, frost, temperatures), Therefore cherry and olive enterprises' would be considered as being unacceptably a high risk proposal and associated investment.

Perennial horticultural crops (e.g. wine grapes and hazelnuts) requires access to irrigation water, and on average typically requires 3 ML/ha, and therefore the available 105 ML would support up to 25-35 hectares of production area.

Please note that the land associated with the subject properties is frost prone, and therefore for wine grape production the amount of irrigation water required involve potentially 2 ML/ha for frost risk mitigation, and therefore it would not be unreasonable to consider a vineyard may require potentially up to 4 ML/ha (2 ML/ha for frost mitigation and 2 ML/ha to grow the vines/grapes). Therefore 105 ML of irrigation could actually support approximately 25 hectares of vines.

Table 3 provides a guide to the indicative financial investment and financial performance, and Table 4 outlines the enterprise risk considerations of hazelnut and wine grape production.

Table 3 Indicative financial investment, internal rate of return and investment timelines for hazelnuts and wine grape production enterprises.

Enterprise	Capital investment ($/ha)	Indicative gross margin returns (once a mature enterprise)	Internal rate of return (%)	Typical time taken to reach net positive cash flow (years)
Hazelnuts	40,000-50,000	9,000-10,000	5-6	10-12
Wine grape	160,000-190,000	12,000-13,000	3-4	16-18

Table 4 Production system operation and management risk considerations for hazelnuts and wine grapes production enterprises.

Enterprise	Enterprise risk and production system complications exposure			
	Weather	Market price volatility	Plant and equipment requirement	Processing requirements
Hazelnuts	Medium	Medium/high	Medium/high	Yes*
Wine grapes	Medium/high	Medium	Medium/high	Nil

*can be outsourced but in Tasmania 3rd party processing capacity is highly constrained.

Wine grapes and hazelnut crops would need protection from browsing wildlife as well as birds. Control of browsing wildlife involves the use of a number of techniques including fencing, birds scaring devices (e.g. gas guns, lasers and audio deterrents) and shooting. Gas guns, audio and lasers all have the potential to cause conflict (noise and visual intrusion on residential amenity) with nearby neighbouring residential dwellings to the west and south and therefore it would be not possible (or highly modified in use) to utilise these forms of wildlife and bird deterrents. Without control over wildlife and birds it is reasonable to consider then that the yield and quality of wine grapes and hazelnuts could be potentially significant diminished and this would represent an unacceptable production risk

It should be noted that whilst the subject properties are located close to population base which offers access to a potential work force supply and has access to nearby freight and logistics centres this is of a

significantly lower order to benefit relative to the significant financial investment required, limited financial returns and various operational risks.

It should be noted the Tasmanian hazelnut production sector is only small (22/23 total production of 174 T[11]), and if the subject properties were developed for this enterprise, it would be likely to constitute some the largest producer. Being the largest producers in the state would present benefits (e.g. scale of economy and large volumes of nuts) however a very significant challenge would be to find appropriately sized sales markets and this represents a major risk factor to their long term viability due to market saturation and a reduction in crop returns.

The decision for any perennial agricultural enterprise to be established on the subject properties would be a major undertaking, and based on the investment required, financial returns and significant risk involved in the sale and marketing of horticultural crop, establishing all the support infrastructure and management system it would be a particularly risky enterprise.

5.5 Integral nature of the subject properties and adjacent land holdings

The subject properties involved in the proposed development do not contain any infrastructure, resources and/or beneficial topography which is integral to the successful operation and management of adjacent and nearby agricultural land holdings.

5.6 Impact on the development on the combined land covering titles CT 145763/2, CT 106773/1 and CT 101154/1

The proposed development would result in the subdivision and removal of 32 hectares of the western portion of property title CT 106773/1 which represents 32% of this title, and 13% of the total area of the combined titles CT 145763/2, CT 106773/1 and CT 101154/1.

The total current carrying capacity of the combined properties is approximately 2,385 DSE which at a which could generate an annual gross margin return of approximately $113,400, and this represents a commercial scale livestock grazing enterprise. This level of financial return would be likely considered as insufficient to be considered as standalone agricultural business.

The 32 hectares of land on the western area of title CT 106773/1 subject to the development has a current total carrying capacity of approximately 310 DSE, and this represents 13% of the total carrying capacity of the combined land holdings, could potentially generate an annual gross margin return of $12,400.

The loss of the 32 hectares of land from the combined land holdings could lead to a reduction of income down to $101,000 although this is still recognised as a commercial scale agriculture.

If the balance of the property title CT 106773/1 (not subject the proposed development) and titles CT 145763/2 and CT 101154/1 were developed and improved the carrying capacity could be increased up to a total potential dryland carrying capacity of approximately 3,245 DSE it could generate an annual gross margin return of approximately $129,780.

[11] https://tasmaniangrown.au/what-we-grow/nuts/hazelnuts/

Irrigated agriculture (e.g. for perennial horticulture, grazing and/or cropping activities) could still be undertaken on the balance of the land holdings including property titles CT 106773/1 (western portion not subject to the proposed development), CT 145763/2 and CT 101154/1, there would still be sufficient land to accommodate irrigated land as well as the 60 ML NEIS irrigation water allocation could be utilised.

A combination of the proposed extensive shelter belt along the common boundary between the subdivided title CT 106773/1 and agricultural setback and associated setback building envelopes on the Rural Living land would assist in minimising the potential for conflict and fettering on the balance of title CT 106773/1 and the other land holdings (as per titles CT 145763/2 and CT 101154/1) further to the east.

5.7 Adjacent land use activities

Adjacent and surrounding land has varied uses, including agricultural land use activities (pastoral and protected cropping), lifestyle and general residential blocks.

Commercial scale agricultural land use activity is conducted on the land adjacent to the north, south and further to the east:

- North
  - Property title CT 145763/1 (164 hectares) zoned as Agriculture, used for wine grape production, and is separated from the nearest subject property (as per title CT 106773/1) in question by Ridgeside Lane. The nearest vineyards to the closest boundary of title CT 106773/1 are approximately 40m (which includes the 15m wide Ridgeside lane and would be approximately 200m from the nearest proposed residential dwelling building envelope on the layout of the Proposed Evandale Expansion Plan.
  - Property title CT 70514/1 (1.4 hectares) zoned as Rural Living, a small lifestyle block with a residential dwelling present and is separated from the subject properties (as per title CT 81897/1 and CT106773/1) and separated by the 15m wide Ridgeside Lane.
  - Property title CT 247684/1 (2.5 hectares) zoned as Rural Living, a small lifestyle block with a residential dwelling present and is separated from the subject property (as per title CT 81897/1) and separated by the 15m wide Ridgeside Lane.
- South
  - Property title CT 134043/2 (94 hectares), zoned as Agriculture, has a residential dwelling present, and is managed and operated as a standalone commercial farm involved in dryland and irrigated agricultural land use activity and is separated from the nearest subject property (as per title CT 106773/1) in question by Logan Road. At the nearest common boundary between property tile CT 134043/2 and title CT 106773/1 is setback approximately 18m (as per Logan Road) and would be approximately 100m from the nearest proposed residential dwelling on the layout of the Proposed Evandale Expansion Plan.
  - Property title CT 7792/1 (22 hectares), zoned as Agriculture, has a residential dwelling present, and is managed and operated as a small lifestyle scale farm involved in dryland and agricultural land use activity. At the nearest common boundary between property

tile CT 7792/1 and the subject titles CT 106773/1 and CT 116759/1 is setback approximately 18m (as per Logan Road) and would be approximately 100m from the nearest proposed residential dwelling on the layout of the Proposed Evandale Expansion Plan.

- Property title CT 145468/1 (7.3 hectares), zoned as General Residential, has a residential dwelling present. The subject property title CT 116759/1 and associated proposed residential dwellings would form the northern and eastern boundary of property title 145468/1.
- Property titles CT 167220/2, CT 109847/117, CT 109847/118, CT 109847/119, CT 102046/121, CT 102046/124, CT 102046/92, CT 39454/58, CT 37275/51, CT 37275/52, and CT 140651/1, which range in size from 0.06-0.23 hectares, zoned as General Residential and have residential dwellings present. These residential properties would be south of the subject property CT 227117/1.
- Property title CT 39454/200 (0.5 hectares) zoned as Open Space and used a community recreation area. This Open Space zoned property would be south of the subject property CT 227117/1.

- East
  - Property title CT 106773/1 (99.5 hectares) zoned as Agriculture, has a residential dwelling present. This title would be subdivided as a result of the proposed development with 32 hectares of this property associated with the proposed rezoning
  - Property title CT 145763/2 (47 hectares) zoned as Agriculture, used for grazing.
- West
  - Property titles CT 106785/3, CT 106785/2, CT 129191/2, CT 229957/1, CT 197493/1, CT 178146/2 and CT 178146/1, which range in size from 0.05-0.38 hectares zoned as General Residential. These property titles are to the west of the nearest subject property title CT 227117/1.
  - Property titles CT 168397/1, CT 168397/2, CT 5404/5, CT 168397/3, CT 168398/6, CT 168398/5, CT 168398/4, CT 159893/4 (also includes 0.5 hectares Open Space zoned land), CT 65879/4, CT 159893/1, CT 159893/2, CT 144137/5, CT 88207/1 and CT 123032/2, which range in size from 0.08-7 hectares and are zoned as General Residential. All but four of these properties (CT 159893/4, CT 159893/1, CT 144137/5 and 159893/2) have residential dwellings present. These property titles are to the west of the nearest subject property title CT 81897/1 and separated by the 18m wide White Hills Road.
  - Property titles CT 38076/1 (4.2 hectares), CT 36474/1 (5 hectares) and CT 227393/1 (6.1 hectares), all are zoned as Rural Living, considered as small lifestyle block with a residential dwelling present, and are separated from the separated from the nearest subject property (as per title CT 81897/1) by the approximately 15m wide White Hills Road.

5.8 Impact on agricultural activities and residential amenity

The proposed development on the properties in question has been planned in order to minimise any potential negative impact or constraint on the adjacent properties.

The adjacent land to the property in question is actively farmed to the east, south and north, and is used for commercial scale agricultural activities, whilst a smaller parcel of land to the west is used for small scale hobby/lifestyle agriculture.

5.8.1 Impact of agricultural activity on neighbouring land on the proposed development

Agricultural activity could be conducted on land adjacent to the north, east, west, and south of the proposed location of the development on the property in question.

An assessment of the key risks are summarised in Table 5 .

Table 5 Potential risk from agricultural land use on neighbouring land

Potential risk from neighbouring agricultural land use activity	Extent of risk & possible mitigation strategy
1. Spray drift and dust	Risk = low. Ground spraying is most commonly used in agricultural production systems whilst spot spraying is a practical and mostly used alternative. Spraying events should be communicated in a timely manner to the inhabitants of dwellings on adjacent properties. Extensive shelter belts should be established on the sensitive boundaries surrounding the specific area of land subject to the development, as per the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high. The layout of the Proposed Evandale Expansion Plan has established 100m and 200m setbacks to agricultural land on the northern and southern boundaries to provide guidance on building envelopes on the proposed development. The use and application of agricultural sprays must abide by the Tasmanian Code of practice for ground and aerial spraying 2014 and any applicable agricultural chemical label requirements.
2. Noise from machinery, livestock and dogs.	Risk = low. The subject properties are located in the peri-urban area of Evandale, and so it is accepted that noises associated with farm machinery and associated infrastructure and livestock will occur. The nature, scale and intensity of agricultural land use activity undertaken on surrounding properties in the Evandale area is limited and hence the limited amount of noise generated is commensurate with this level of activity. The village of Evandale and the nearby Launceston airport are already existing

	sources of noise. Extensive shelter belts should be established on the sensitive boundaries surrounding the specific area of land subject to the development, as per the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.
3. Irrigation water over boundary	Risk = low. Irrigated agricultural land use activity is currently conducted on the adjacent properties to the north, south and east, however significant setback distances are present and therefore no negative impacts would be anticipated. Extensive shelter belts should be established on the sensitive boundaries surrounding the specific area of land subject to the development, as per the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high. Irrigated agriculture occurs on the title CT 145763/1 nearby to the north involves the application of low pressure irrigation using drippers for the production of wine grapes, with this property separated by the 14m wide Ridgeside Lane, and there is no potential for irrigation spray drift over the boundaries. Irrigated agricultural occurs on title CT 134043/2 nearby to the south using centre pivots, and a combination of the nature of this irrigation system, setback to the subject nearest property, separation distance associated with Logan Road (18m wide) and proposed shelterbelt along the southern boundary would mitigate the risk of irrigation water over the common boundary.
4. Stock escaping and causing damage.	Risk = low. Provided that boundary fences are maintained in sound condition.
5. Electric fences	Risk = low. Mitigated by the proponent attaching appropriate warning signs on boundary fencing.

5.8.2 Impact of proposed development on agricultural activity of neighbouring land

These potential impacts are usually manifested as complaints that could be made by residents of nearby dwellings. Other risks to neighbouring agricultural activity are outlined in Table 6. Some of these risks rely on an element of criminal intent.

Table 6 Potential risk from proposed development to neighbouring agricultural land use and activity

Potential risk to neighbouring agricultural land use activity	Extent of risk & possible mitigation strategy
1. Trespass	Risk = low. Mitigation measures include installation and maintenance of sound boundary fencing, as required lockable gates and appropriate signage to warn inhabitants and visitors about entry onto private land; where possible and appropriate report unauthorised entry to police.
2. Theft	Risk = low. Ensure there is good quality boundary fencing on the boundary to neighbouring properties and appropriate signage to deter inadvertent entry to property; limit unauthorised vehicle movements, report thefts to police.
3. Damage to property	Risk = low/medium. As for theft.
4. Weed infestation	Risk = low. The proponent is committed to the sustainable management of the property and weed control would be a key feature of the general ongoing property management program.
5. Fire outbreak	Risk = low. Fire risk can be mitigated by careful operation of outside barbeques and disposal of rubbish and adherence to all applicable local and state bushfire regulations.
6. Dog and cat menace to neighbouring livestock	Risk = low. Mitigated by ensuring that all dogs and cats would be managed as per the guidelines determined by the Northern Midlands council and any relevant Tasmanian State Government legislation.
7. Noise	Risk = to be determined and would be informed by acoustic studies. A combination of the separation distances and vegetation buffers present would assist in mitigating this risk. The village of Evandale and the nearby Launceston airport are already existing sources of noise. Extensive shelter belts should be established on the sensitive boundaries surrounding the specific area of land subject to the development, as per the northern, eastern end of the southern and eastern boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

6 Water resources

Two irrigation districts are present which cover and are nearby the vicinity of the subject properties:

- Lower South Esk Irrigation District (LSEID) and is serviced by the Lower South Esk Irrigation Scheme (LSEIS)
- North Esk Irrigation District (NEID) and is serviced by the North Esk Irrigation Scheme (NEIS)

No waterways flow through any of the properties associated with the proposed development.

6.1 Lower South Esk Irrigation District

The LSEID covers 15,421 hectares and is serviced by the LSEIS which commenced operations in October 2013.

LSEIS services 27 irrigators in Conara, Epping Forest, Evandale, Perth and Longford in Northern Midlands.

The LSEIS provides 5,298 ML of irrigation water from November to March, with irrigators able to draw water directly from the South Esk River.

The entire township of Evandale is included within the LSEID.

Appendix A Image 15 provides a map of the LSEID.

100% of the irrigation water supplied by the LSEIS is fully allocated and no irrigation water is available for purchase.

None of the properties subject to the proposed rezoning development are covered by the LSEIS and have any irrigation water allocations associated with these properties.

No infrastructure associated with the LSEIS is present on and/or nearby the properties subject to the proposed rezoning development.

6.2 North Esk Irrigation District

The NEID covers 16,545 hectares and is serviced by the NEIS which commenced operations in January 2019.

NEIS has 69 individual irrigation water entitlements in Evandale, Clarendon and the White Hills area of the Northern Midlands.

The NEIS provides 4,685 ML of irrigation water from November to March, with irrigation water supplied by a network of pipelines across the NEID. Of the 4,685 ML of irrigation water available, 13 allocations account of approximately 79% (approximately 3,700 ML) of the total available irrigation water , and the remaining 995 ML is shared amongst 50 entitlements and seven entitlements have a 0 ML allocation.

Appendix A Image 16 provides a map of the NEID.

The amount of class 4 land within the NEIS scheme is approximately 11,000 hectares.

The combined area of the properties in question associated with the development covers a total of 100 hectares, and this represents approximately 0.6% of the total area, and less than 1% of the Class 4 land within the NEIS.

The combined irrigation entitlement rights associated the properties in question associated with the Ridgeside Lane re-zoning development is 105 ML (as per 45 ML attached to serial number IR-NE-01-009 and 60 ML attached to serial number IR-NE-01-052), and this represents approximately 2.2% of the total amount of irrigation water available from the NEIS. These entitlements are supplied via the Clarendon Spur A pipeline.

100% of the irrigation water supplied by the NEIS is fully allocated and no additional irrigation water is available for purchase. Arguably there is significantly more land available to be irrigated within the NEID than irrigation water available from the NEIS, and irrigation water entitlements are tightly held.

The proposed development has been planned to ensure that the Clarendon Spur A pipeline will not be negatively impacted and that other outlets and users of this infrastructure will not have their access diminished. Image 13.

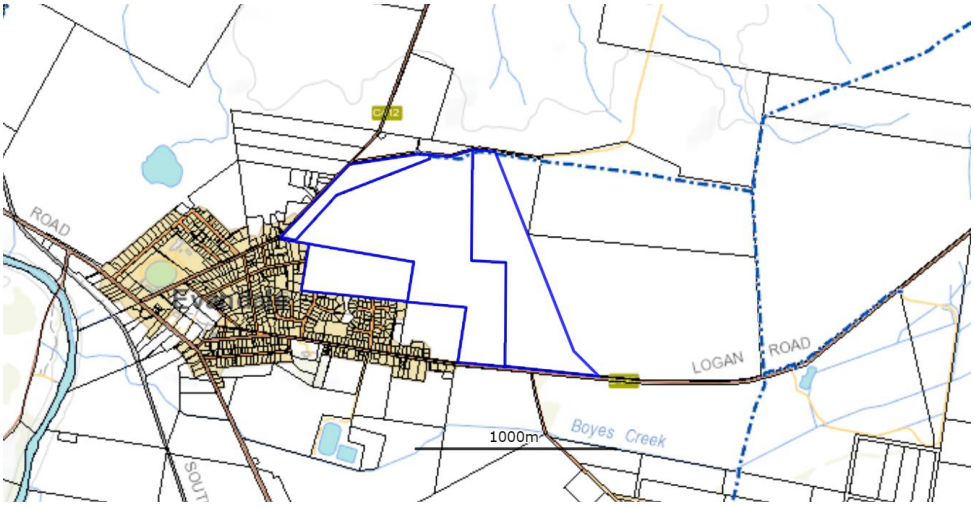


Image 13 NEIS pipeline infrastructure (dotted blue line) in relation to the subject properties.

The proposed development will cover a total of 100 hectares, and this represents less than 0.7% of the total area of land within the NEID.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property title CT 227117/2 and CT 81897/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

The subject properties have been operated and managed as dryland grazing enterprises, and no irrigation has been used on this land.

6.3 Waterways

No waterways flow through and/or border the subject properties.

The nearest waterway, Boyes Creek, is located approximately 310m south of title 116759/1.

The proposed development is not anticipated to have any negative impacts on the waterway to the south.

Storm water run-off will be managed according to council regulations and ensure it does not negatively impact adjacent and nearby properties.

6.4 Dams

No registered dams are present on the subject properties, although two small stock water dams are present with an anticipated nominal total volume of less than 1 ML.

The proposed development is not anticipated to have any negative impact and/or diminish adjacent and nearby land owners from filling their and/or utilising stock or irrigation water from any dams which may be present.

7 The potential loss of agricultural land from Tasmania's agricultural estate.

The proposed development on the subject properties would cover a total area of 100 hectares.

In terms of appreciating and understanding the relative potential loss of agricultural land from Tasmania's agricultural estate it is important to provide detail on the size of the agricultural estate on a local (Northern Midlands), broad regional (Tamar and Meander Valley and Northern Midlands) and statewide basis.

Additionally, as the subject properties are located in a proclaimed irrigation district, as per the North Esk Irrigation Scheme (NEIS) it is appropriate to understand and appreciate the relative potential loss of irrigated agricultural land on a local (as per the NEIS) and statewide basis for all irrigation districts.

7.1 Local impact - Northern Midlands agricultural estate

The northern midlands area is included in the South Esk land capability mapping report which covers a total area of approximately 216,821 hectares of agricultural land[12]. Table 7 outlines the total agricultural land available and provide detail on the specific amount of land associated with each of the land capability classes present.

Table 7 Land capability areas in the Northern Midlands based on the South Esk land capability report.

Land Capability*	Area (hectares)	Proportion (%)
3	8,622	3.9
4	122,510	56.6
5	45,524	20.9
6	35,756	16.5
7	4,409	2.1
Total	216,821	100

*the sub classes have been included into the dominant land capability, for example sub class 5+4, 5+6 have been included into the class 5 land

The combined area of the subject properties covers a total of 100 hectares, and this represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).

7.2 Impact on the NEID

The NEID covers approximately 16,545 hectares of land.

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The amount of class 4 land within the NEID scheme is approximately 11,000 hectares.

The combined area of the subject properties covers a total of 100 hectares, and this represents approximately 0.6% of the total area, and less than 1% of the Class 4 land within the NEID.

Based on the Department of Natural Resources and Environment Enterprise Suitability Maps [13] the subject properties have been identified having 100 hectares of land considered suitable for wine grape production, and this represents approximately 0.9% of the total area (approximately 10,900 hectares) within the NEID which is consider suitable for wine grape production. In reality due to a combination of factors such as operational challenges and very significant investment required relative to the financial returns which could be generated it is unrealistic to consider that the wine grape production would be undertaken on the properties subject to the proposed development.

The combined irrigation entitlement rights associated the properties in question associated with the development is 105 ML (as per 45 ML attached to serial number IR-NE-01-009 and 60 ML attached to serial number IR-NE-01-052), and this represents approximately 2.2% of the total amount of irrigation water available from the NEIS.

100% of the irrigation water supplied by the NEIS is fully allocated and no additional irrigation water is available for purchase. Arguably there is significantly more land available to be irrigated within the NEID than irrigation water available from the NEIS.

The proposed development has been planned to ensure that the Clarendon Spur A pipeline will not be negatively impacted and that other outlets and users of this infrastructure will not have their access diminished.

7.3 Broad regional and state impact – Tamar and Meander Valley/Northern Midlands agricultural estate

On a regional basis if the subject properties involved in the development are assessed on a broad regional basis that encompasses the Northern Midlands, and Tamar and Meander Valley areas which when combined cover a total area of approximately 605,165 hectares of agricultural land.

The information used to provide detail on the total land area and associated land capability has been obtain from the South Esk[14], Meander[15], Pipers[16] and Tamar[17] land capability mapping areas.

Table 8 outlines the areas associated with the land capability classes on abroad regional basis.

[13] Extracted from the LIST https://maps.thelist.tas.gov.au/listmap/app/list/map

[14] Grose, C.J and Moreton R.M. (1996) Land Capability Survey of Tasmania. South Esk report, Department of Primary Industry and Fisheries, Tasmania, Australia.

[15] Noble, K. E. (1992) Land Capability Survey of Tasmania Tamar Report. Department of Primary Industry, Tasmania.

[16] Noble, K. E. (1990) Land Capability Survey of Tasmania Pipers Report. Department of Primary Industry, Tasmania.

[17] Noble, K. E. (1992) Land Capability Survey of Tasmania Tamar Report. Department of Primary Industry, Tasmania.

Table 8 Land capability areas on a broad regional basis.

Land Capability*	Area (hectares)	Proportion (%)
1	42	<0.001
2	1,641	0.3
3	32,148	5.3
4	296,403	49.1
5	142,040	23.4
6	116,600	19.2
7	16,291	2.7
Total	605,165	100

*the sub classes have been included into the dominant land capability, for example sub class 5+4, 5+6 have been included into the class 5 land

The combined area of the subject properties covers a total of 100 hectares, and this represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis.

7.4 Statewide impact on the Tasmanian agricultural estate

The total area of the agricultural estate in Tasmania covers 18,900,000 hectares, which represents 28% of the total land area within the state and includes all prime and non-prime agricultural land and proclaimed irrigated districts.

The combined area of the subject properties covers a total of 100 hectares, and this represents and less than 0.0005% of the total agricultural estate in Tasmania.

7.5 Tasmania's Total Proclaimed Irrigated Land Estate

In Tasmania there are 23 proclaimed irrigation districts, and these cover a combined total area of 758,972 hectares.

The combined area of the subject properties covers a total of 100 ha, and this represents and less than 0.0015% of the total area of proclaimed irrigation districts in Tasmania.

8 Protection of Agricultural Land Policy

The Tasmania Protection of Agricultural Land Policy consists of 11 principles which seek to conserve and protect agricultural land recognising the particular importance of prime agricultural land.

8.1 Principle 1

Agricultural land is a valuable resource and its use for the sustainable development of agriculture should not be unreasonably confined or restrained by non-agricultural use or development.

Response: The proposed re-zoning will result in 100 hectares of agricultural land of being made available for future agricultural land use activity.

The land subject to the proposed development is entirely covered by class 4 land and no prime agricultural land is present. This class 4 land is suitable for grazing with minor/moderate limitations and could be sustainably cropped on a 2 in 10 year rotation. Currently due to the degraded pastures present on the property it would be reasonable to expect it to be able to support a carrying capacity of approximately 965 DSE which would equate to generating a total annual gross margin return of approximately $38,600.

If the land subject to the development was fully developed and improved for grazing purposes it is reasonable to consider it would be able to generate an annual gross margin return if just used for dryland grazing (e.g. sheep breeding) of approximately $60,000. If the 105 ML of available irrigation water was utilised for irrigated pasture production and the balance of the land used for dryland pasture production the gross margin return could be $76,800. If the 105 ML of available water was utilised for annual cropping and the balance of the property used for dryland pasture production the gross margin return could be $76,800. If the 105 ML of available water was utilised for annual cropping and the balance of the land used for dryland pasture production the gross margin return could be $91,350.

The investment required to develop and improve the productivity of the pastures on the subject properties would equate to approximately $206,000, and to develop an irrigation scheme would cost approximately $180,000.

Perennial horticulture (wine grape production or hazelnuts) could be undertaken on the land subject to the development however due to a combination of the very significant financial investment required in conjunction with challenging operational issues it is unrealistic consider that these enterprises would be establishment.

The subject properties are located on the peri-urban fringe of Evandale, and the land adjacent to the west and southern boundary of the subject properties is covered by General Residential and Rural Living zoned land with multiple residential dwellings present. This General Residential and Rural Living zoned land imposes an existing degree of fettering such as the negative impacts associated with noise, dust and odour emissions, irrigation water and agricultural chemical spray drift from agricultural land use activities.

The operational challenges, investment required and associated potential economic returns presents a significant and challenging financial constraint to undertaking improved agricultural land use activity.

In order to provide a sufficient level of protection to the adjacent and nearby agricultural land, as per to the north, eastern end of the southern and eastern boundaries it would be appropriate to establish shelter belts along these sensitive boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

The layout of the Proposed Evandale Expansion Plan has established 100m and 200m setbacks to agricultural land on the northern and southern boundaries to provide guidance on building envelopes on the proposed development.

The re-zoning can be undertaken without causing undue negative impacts on the adjacent and nearby agricultural land, however the establishment of shelter belts along the sensitive boundaries as per to the north, eastern end of the southern and eastern boundaries will ensure minimal potential for conflict between the proposed land use changes.

8.2 Principle 2

Use or development of prime agricultural land should not result in unnecessary conversion to non-agricultural use or agricultural use not dependent on the soil as the growth medium.

Response: Not applicable as no prime agricultural land is present on the properties subject to the development.

8.3 Principle 3

Use or development, other than residential, of prime agricultural land that is directly associated with, and a subservient part of, an agricultural use of that land is consistent with this Policy.

Response: Not applicable as no prime agricultural land is present on the properties subject to the development.

8.4 Principle 4

The development of utilities, extractive industries and controlled environment agriculture on prime agricultural land may be allowed, having regard to criteria, including the following:

(a) minimising the amount of land alienated;

(b) minimising negative impacts on the surrounding environment; and

(c) ensuring the particular location is reasonably required for operational efficiency.

Response: Not applicable as no prime agricultural land is present on the properties subject to the development.

8.5 Principle 5

Residential use of agricultural land is consistent with this Policy where it is required as part of an agricultural use or where it does not unreasonably convert agricultural land and does not confine or restrain agricultural use on or in the vicinity of that land.

Response: The land subject to the proposed development has a negligible level of local and regional significance, for example:

- Represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).
- Represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas)

The land subject to the proposed development is entirely covered by class 4 land and no prime agricultural land is present. This class 4 land is suitable for grazing with minor/moderate limitations and could be sustainably cropped on a 2 in 10 year rotation. Currently due to the degraded nature of the property it would be reasonable to expect it to be able to support a carrying capacity of approximately 985 DSE which would equate to a total annual gross margin return of approximately $46,000.

The land adjacent to the west and western portion of the southern boundary of the subject properties is covered by General Residential and Rural Living zoned land. This General Residential and Rural Living zoned land imposes an existing degree of fettering such as the negative impacts associated with noise, dust and odour emissions, irrigation water and agricultural chemical spray drift from agricultural land use activities.

The adjacent and nearby agricultural land consists of:

- East: dryland grazing pasture block (68 hectares)
- North: separated by Ridgeside Road are three small lifestyle/hobby block properties (covering 1.4, 2.5 and 10 hectares respectively), and a vineyard. The nearest vineyards to the closest boundary of title CT 106773/1 are approximately 40m (which includes the 15m wide Ridgeside lane and would be approximately 200m from the nearest proposed residential dwelling building envelope on the layout of the Proposed Evandale Expansion Plan.
- South: separated by Logan Road is a hobby block (22 hectares), and mixed cropping livestock property (93 hectares) with dryland and irrigated production system.

In order to provide a sufficient level of protection to the adjacent and nearby agricultural land, as per to the north, eastern end of the southern and eastern boundaries it would be appropriate to establish shelter belts along these sensitive boundaries. These shelter belts should consist of a staggered linear planting of mixed native species, 10m wide and with shrubbery and trees covering from ground level to and up to approximately 10m high.

The layout of the Proposed Evandale Expansion Plan has established 100m and 200m setbacks to agricultural land on the northern and southern boundaries to provide guidance on building envelopes on the proposed development.

8.6 Principle 6

Proposals of significant benefit to a region that may cause prime agricultural land to be converted to non-agricultural use or agricultural use not dependent on the soil as a growth medium, and which are

not covered by Principles 3, 4 or 5, will need to demonstrate significant benefits to the region based on an assessment of the social, environmental and economic costs and benefits.

Response: Not applicable as no prime agricultural land is present on the properties subject to the development.

8.7 Principle 7

The protection of non-prime agricultural land from conversion to non-agricultural use will be determined through consideration of the local and regional significance of that land for agricultural use.

Response: The land subject to the proposed development has a negligible level of local and regional significance, for example:

- Represents less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area).
- Represents less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas).

The land subject to the proposed development is located within the NEID and represents approximately 0.6% of the total land within the NEID.

105 ML of irrigation water supplied by the NEIS is available for use of the land subject to the proposed development (as per titles CT 116759/1 and CT 106773/1) and represents approximately 2.2% of the total amount of irrigation water available from the NEIS.

It should be noted regardless of the proposed development this 60 ML irrigation water entitlement could still continue to be used on the balance of the proponent's land to the east (as per the balance of title 106773/1) of the location of the proposed location of the rezoning development, and/or be utilised by other irrigators in the NEID.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property titles CT 227117/1 and CT 81897/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

No key agricultural infrastructure is present on the properties subject to the proposed development, such as dams, waterway or support facilities (e.g. grain silos, transport access). The existing NEIS Clarendon Spur A pipeline is located on the land immediately adjacent to the Ridgeside Lane on the far north end of property title CT 116759/1 and would not be impacted and or constrained by the proposed development.

8.8 Principle 8

Provision must be made for the appropriate protection of agricultural land within irrigation districts proclaimed under Part 9 of the Water Management Act 1999 and may be made for the protection of other areas that may benefit from broad-scale irrigation development.

Response:

The land subject to the proposed development is located within the NEID and represents approximately 0.6% of the total land within the NEID.

105 ML of irrigation water supplied by the NEIS is available for use of the land subject to the proposed development (as per titles CT 116759/1 and CT 106773/1) and represents approximately 2.2% of the total amount of irrigation water available from the NEIS.

It should be noted regardless of the proposed development this 60 ML irrigation water entitlement could still continue to be used on the balance of the proponent's land to the east (as per the balance of title 106773/1 and additional land holdings further to the east as per titles CT 145763/2 and CT 101154/1) of the location of the proposed location of the rezoning development, and/or be utilised by other irrigators in the NEID.

The remaining 45 ML of irrigation could be either transfer for use to the proponent other land holdings to the east (as per titles CT 145763/2 and CT 101154/1 and on the balance of title CT 106773/1) or sold to other irrigators within the NEIS.

In reality not all of the land subject to the development would be considered suitable for and/or capable of supporting irrigated agricultural land use activity, and this includes property titles CT 81897/1 and CT 227117/1 due to the close proximity to adjacent residential dwellings and road infrastructure and the sensitivities linked with irrigation spray over property boundaries and intensity of agricultural activities associated with this type of agriculture.

8.9 Principle 9

Planning schemes must not prohibit or require a discretionary permit for an agricultural use on land zoned for rural purposes where that use depends on the soil as the growth medium, except as prescribed in Principles 10 and 11.

Response: Not applicable due to the nature of the development.

8.10 Principle 10

New plantation forestry must not be established on prime agricultural land unless a planning scheme reviewed in accordance with this Policy provides otherwise. Planning scheme provisions must take into account the operational practicalities of plantation management, the size of the areas of prime agricultural land, their location in relation to areas of non-prime agricultural land and existing plantation forestry, and any comprehensive management plans for the land.

Response: Not applicable as no forestry land use activities will occur on the properties subject to the development.

8.11 Principle 11

Planning schemes may require a discretionary permit for plantation forestry where it is necessary to protect, maintain and develop existing agricultural uses that are the recognised fundamental and critical components of the economy of the entire municipal area, and are essential to maintaining the sustainability of that economy.

Response: Not applicable as no forestry land use activities will occur on the properties subject to the development.

9 Conclusion

1. The land involved in the proposed development involves four properties located on the peri-urban area to the immediate north eastern and eastern outskirts of Evandale, and includes property titles CT 106773/1, CT 116759/1, CT 227117/1 and CT 81897/1.

2. The subject land properties are entirely covered by land capability Class 4 land.

3. The subject properties are used to graze livestock, albeit at a scale consistent with hobby/lifestyle farm scale non-commercial scale (e.g. property titles CT 227117/1 and CT 81897/1 respectively) whilst the larger blocks (e.g. property titles CT 106773/1 and CT 116759/1) are used for grazing but on a large scale although not a standalone commercial scale of operation.

4. The proposed development would result in the loss of approximately 100 hectares of agricultural land, although it has a negligible level of local and regional significance. The subject land holdings represent less than 0.09% of the Class 4 land and approximately 0.05% of the total ground in the Northern Midlands (as per the South Esk land capability mapping area) and less than 0.03% of the Class 4 land and less than 0.02% of the total ground on a broader region basis (as per the South Esk, Meander, Pipers and Tamar land capability mapping areas).

5. The subject land holdings are located within the North Esk Irrigation District (NEID). The land subject to the proposed development represents approximately 0.6% of the total land within the NEID.

6. The adjacent properties are used for agricultural land use activity and includes cropping and livestock production and a vineyard. A combination of the separation distances, and the proposed extensive proposed shelter belts, and proposed 100-200m agricultural setback for residential building envelopes would mitigate the potential for the proposed development to cause negative impacts, fettering and constraints on these other properties and vice versa.

7. The proposed development is sensitive to the adjacent land use activity and is not anticipated to create any negative impacts and/or constraint on the capability/capacity of the neighbouring properties to be actively managed and used for agricultural land use activity.

10 Declaration

I declare that I have made all the enquiries which I consider desirable or appropriate, and no matters of significance which I regard as relevant have, to my knowledge, been withheld.

Jason Lynch

Mr Jason Lynch BAppSc (Hort) CPAg
Senior Consultant
Pinion Advisory Pty Ltd
February 2025

Appendix A

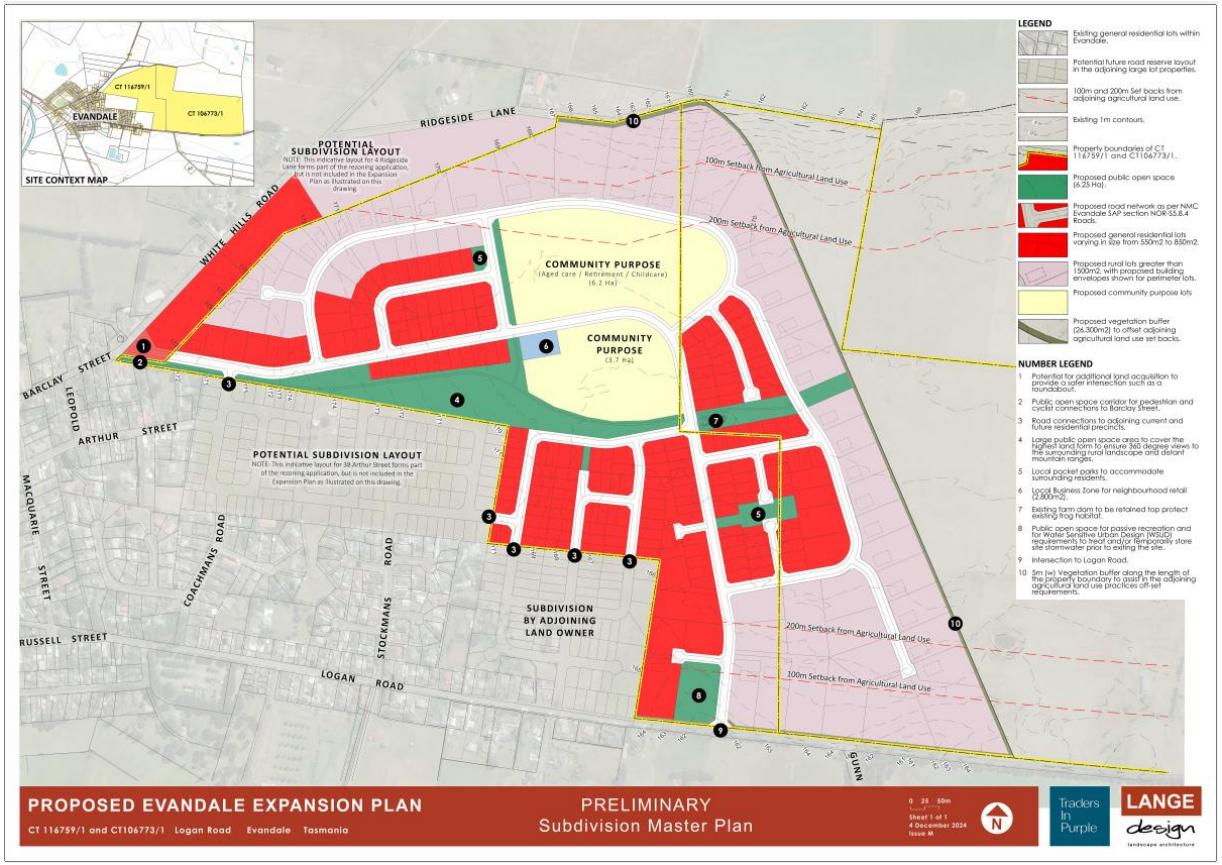


Image 14 Proposed development plan for the subject properties. (source Lange design)

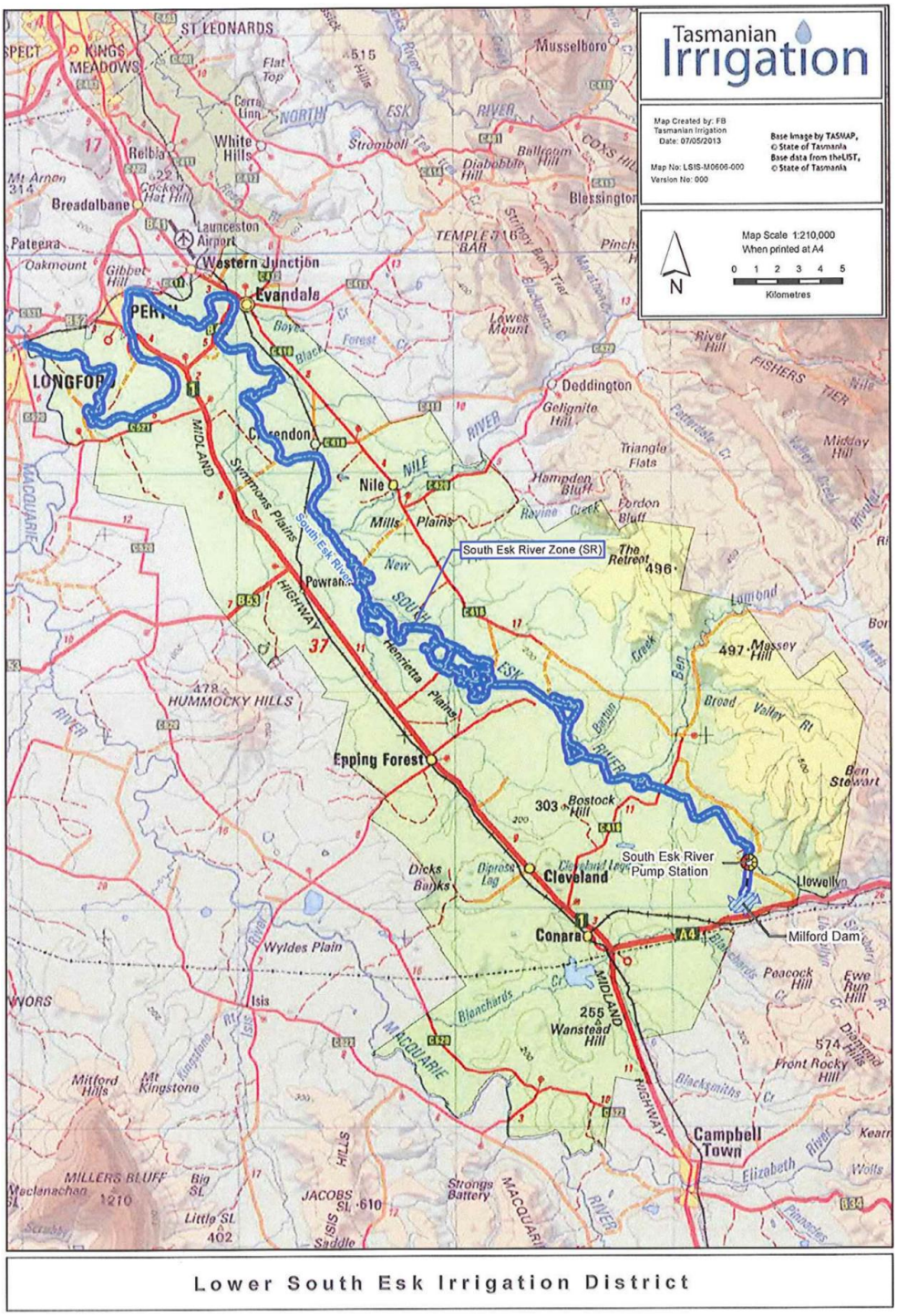


Image 15 Lower South Esk Irrigation District map. (source Tasmanian Irrigation)

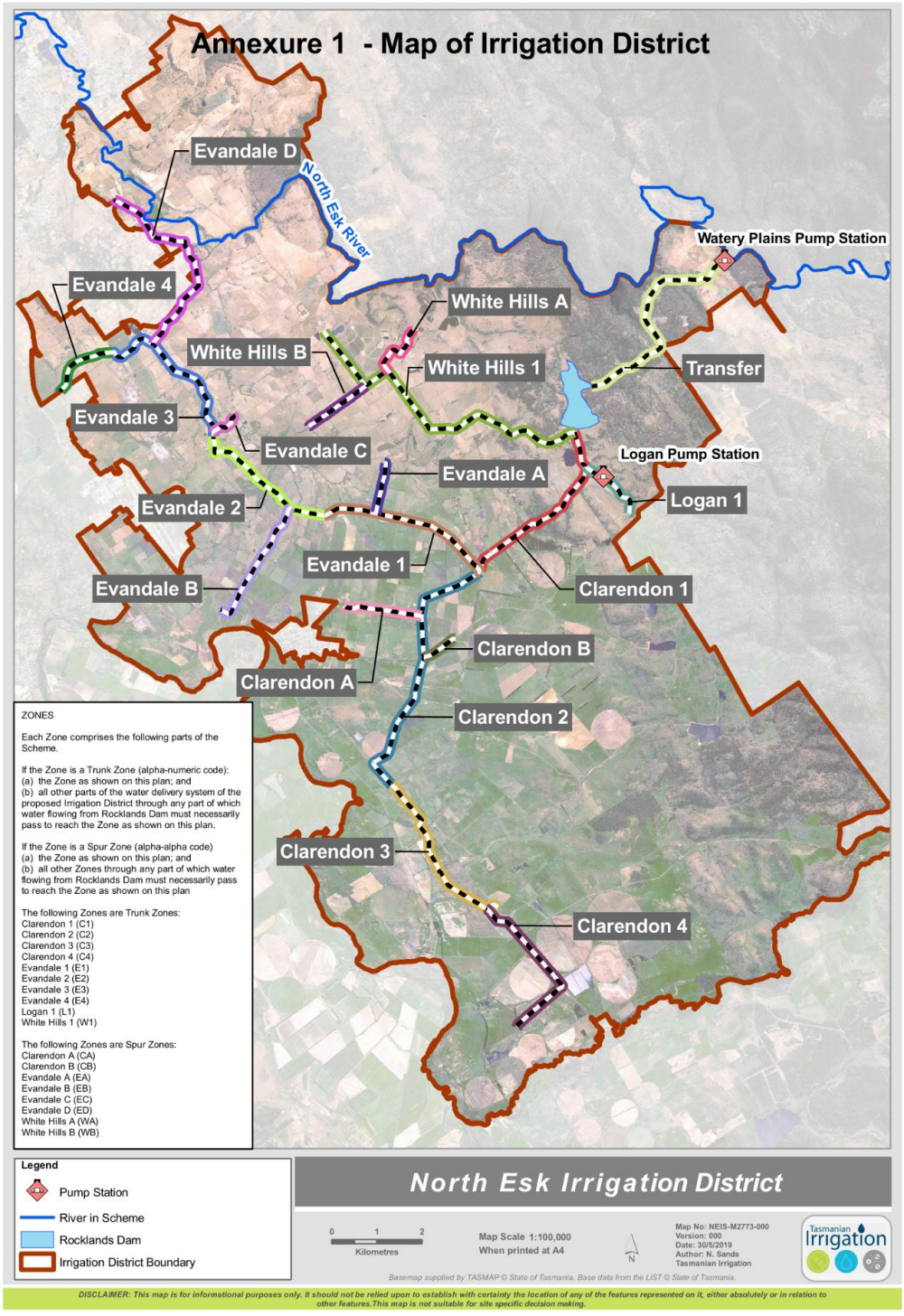


Image 16 North Esk Irrigation District map (source Tasmanian Irrigation)

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Engineering Services Report

Prepared for Traders in Purple

Proposed Mixed Use Residential Development

Evandale

Logan Road, Evandale Tasmania

11th December 2023 (Rev C)

MRC CONSULTING ENGINEERS

Project: Proposed Mixed Use Development – Evandale

Document Title: Engineering Services Report

Project No: J22125

Document Verification					
Rev No.	*Date*	*Amendment Details*	*Author*	*Verifier*	*Approved*
A	14.06.2022	Preliminary Issue	MH	RA	MH
B	19.01.2023	Rezoning Application Issue	MH	RA	MH
C	11.12.2023	Rezoning Application Issue	MH	RA	MH

.....

Mark Harrison Date: 11/12/2023

Director / Principal Civil Engineer

BEng (Hon) MIEAust NER CPESC RPEQ

Tasmania BSP-Civil-924661903

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Appendix B – Detail Survey
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Appendix H – DBYD Drawings Existing Electrical / Communication Drawings
Appendix I – TasWater Correspondence

Figure 1 - Site Location (Source: Nearmap)

Figure 2 – Council GIS Flood Map (Northern Midlands Council)

1.0 INTRODUCTION

MRC Consulting Engineers Pty Ltd has been commissioned by Traders in Purple to prepare an Engineering Services Report for their proposed rezoning located at Logan Road in Evandale, Tasmania.

The future development will generally consist of the following;

- Approx 182 General Residential Lots (between 450m2-850m^2)
- 82 Rural Lots (greater than 1500m^2)
- Two super lots of approximately 62,000m^2 and 24,000m2, with potential future uses as retirement living, townhouse, and childcare.
- Public Open Space – 58,700m^2

This report has been prepared to illustrate the existing services that are located within the vicinity of the proposed development, as well as identify proposed servicing arrangements to service the proposed development. The project is being submitted to Northern Midlands Council as part of the rezoning application. This Engineering Services Report has been prepared as supporting information to accompany the rezoning application.

2.0 SITE CHARACTERISTICS

The proposed site is located at Logan Road in Evandale, Tasmania and is approximately 970,510m^2 (97.05ha) in size.

The real description of the land is as follows;

- Lot 1 on Plan 116759

The site is located in the Northern Midlands Council Area.

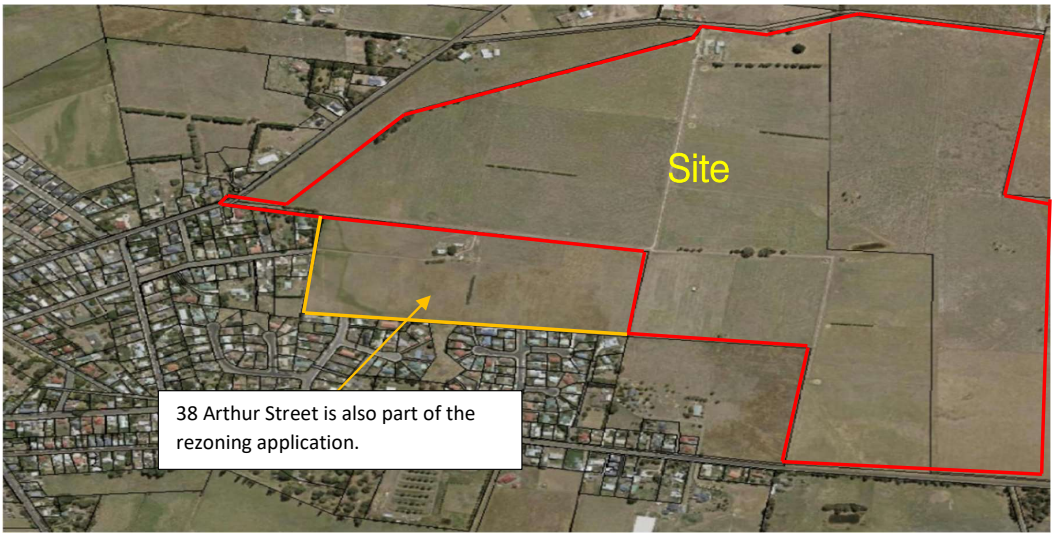


Figure 1 - Site Location (Source: Nearmap)

According to the Detailed Survey information provided by Michell Hodgetts Surveyors, site levels vary from RL 172.0 along the western side of the site down to RL160.0 at the low point along the northern

boundary, and RL161.0 along the southern boundary to Logan Road. Overall, the site generally grades towards the south-east to Logan Road. There is an existing smaller catchment within the site which falls to the north-east.

3.0 SITE FLOODING

Based on the flood overlay map provided by council from their GIS package, it does not appear that the existing development site is subject to inundation from a 1% Annual Exceedance Probability (AEP) event associated with river flooding from the South Esk River. Figure 2 below illustrates a council flood overlay map for the area around Evandale.

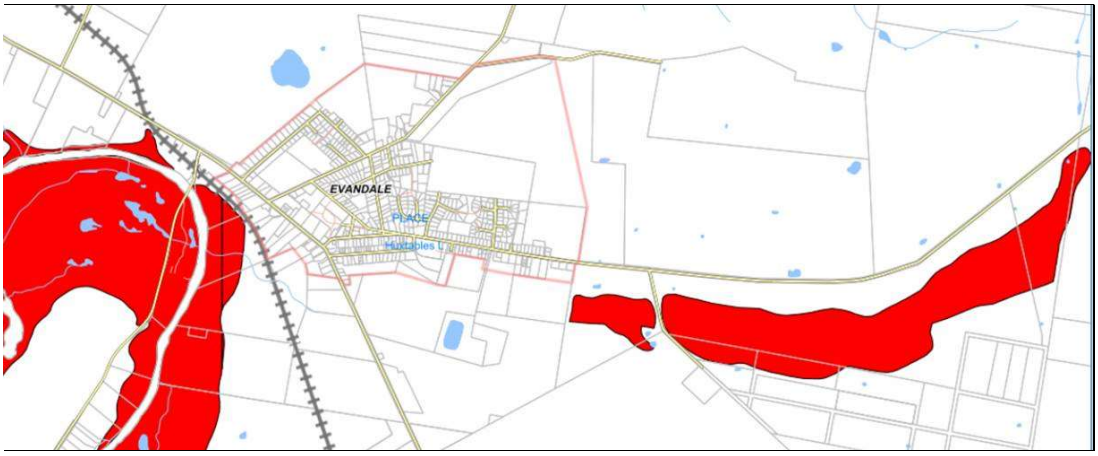


Figure 2 – Council GIS Flood Map

This map shows an area on the southern side of Logan Road, to the south of the proposed development site which is affected by flooding. This appears to be localised flooding associated with surrounding catchments, which drain towards this area. The main catchment from this proposed development will drain towards this lower lying area at Logan Road.

Based on the flood map, the water level in peak conditions gets close to RL160.50m along the existing land on the southern side of Logan Road. Existing (pre-development) levels of the proposed development site sit around RL161.58m, at the southern end of the site, where the internal roadway connects into the low point along Logan Road.

4.0 EROSION AND SEDIMENT CONTROL

During the construction phase of the proposed development, erosion and sediment control measures will be implemented. An Erosion and Sediment Control strategy will be designed in accordance with IECA (international Erosion Control Association) “Best Practice Erosion and Sediment Control” as well as all relevant Northern Midlands Council requirements for Erosion and Sediment Control.

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5.0 EARTHWORKS

A Bulk Earthworks Plan has not yet been prepared for the proposed development. As this is a rural style residential development, earthworks will be limited to what is required to shape the road corridors, verges, and allotments where required to suit servicing requirements.

The majority of the larger rural residential allotments around the northern perimeter of the site, will remain falling towards the north outside of the building envelope area.

All earthworks within the proposed development will be carried out in accordance with Northern Midlands Council requirements, and AS3798-2007 Guidelines of Earthworks for Commercial and Residential Developments.

Conceptual Bulk Earthworks plans will be prepared for the Development Application Phase of the proposed development illustrating proposed cut and fill locations across the site, as well proposed cut fill depths. Requirements for any retaining walls will also be assessed during the next design phase of the proposed development. Based on a preliminary review of proposed levels, it is envisaged that if any retaining walls are required, they will be contained within the internal smaller lot precincts within the central area of the site.

6.0 ROADWORKS AND ACCESS

There are two main access points proposed for the new development;

The first point of access allows the proposed development to connect into White Hills Road to the north-west of the site.

The second point of access allows the proposed development to connect into Logan Road which runs east-west along the southern side of the development.

At this stage, two additional access points have been shown, which allow for future connection to Lot 38 to allow for future development of this lot. If Lot 38 was to be developed at some stage in the future, the road network could then connect in with both Coachmans Road, and Stockmans Road.

The proposed roadways within the development will be designed as a mix of Collector Roads, Local Through Roads, and Cul-De-Sacs, and will be designed to satisfy the requirements of Northern Midlands Council.

Appendix G contains a proposed Road Hierarchy plan for the proposed development.

7.0 STORMWATER DRAINAGE

It is proposed that the stormwater within the site will be collected where required and conveyed to the proposed lawful points of discharge via an underground stormwater drainage network catering for the minor storm, and via the internal roadways and overland flow paths for events over and above the minor storm events. Based on the preliminary design levels across the site, it is envisaged that there will be one main Lawful Point of Discharge for the site for stormwater drainage, which will be for the main overall site catchment which falls towards Logan Road.

There are a number of large rural residential allotments around the northern and southern end of the site, which likely drain in their current (existing) state. Whilst these lots will have a residential dwelling/s on them, earthworks will likely be limited to creating a pad for the dwelling and any ancillary structures

associated with them. Due to the size of these lots, an interallotment roofwater drainage system is not envisaged as being required.

Appendix C of this report contains conceptual stormwater drainage layout plans highlighting how stormwater will be dealt with. These drawings also illustrate high-level concepts of stormwater treatment and detention zones being proposed. Appendix F contains two Water Sensitive Urban Design Options which will be developed in greater detail during the Development Application Phase of the project in conjunction with Northern Midlands Council and the Urban Designer/Landscape Architect for the proposed development.

Stormwater Quantity and Quality requirements will be met to ensure the proposed development complies with the Northern Midlands Council stormwater requirements. A detailed Site Based Stormwater Management Plan (SBSMP) will be prepared by MRC Consulting Engineers during the Development Application Phase of the proposed development, which will illustrate in greater detail how these stormwater requirements will be met.

8.0 SEWERAGE RETICULATION

There is existing sewerage reticulation at various locations within the vicinity of the proposed development.

- There is an existing Taswater 100mm diameter uPVC sewer located within Coachmans Road to the south of Lot 38.
- There is an existing 100mm diameter uPVC sewer located at the top end of Stockmans Road to the south of Lot 38. (This may be the likely sewerage connection point if lot 38 was developed in the future).
- There is an existing 150mm dia uPVC sewer main located on the northern side of Logan Road to the southern side of the proposed development.

Based on the proposed design levels of the project it is not envisaged that the development can be connected into the surrounding Taswater sewerage infrastructure via gravity, so a sewerage pumping station will need to be installed. The proposal would require the sewerage pumping station to be installed in the south-west corner of the site, with a rising main to run west along Logan Road to a new discharge maintenance hole. This discharge maintenance hole can then gravity drain to the existing 150mm diameter uPVC sewer main located on Logan Road.

An application is currently being prepared for lodgement with Taswater illustrating the proposed sewerage arrangements for this proposed development.

A conceptual Sewerage Reticulation Servicing Plan has been included in Appendix D for reference.

9.0 WATER RETICULATION

There is existing water reticulation at various locations within the vicinity of the proposed development.

There is an existing 100mm diameter uPVC water main located on the south-eastern side of White Hills Road to the west of the proposed development. This is one potential connection point for the development.

There is also an existing 150mm diameter uPVC water main located on the southern side of Logan Road. This is also a proposed connection point for the development.

There is existing 100mm diameter water mains located withing Arthur Street, and Stockmans Road. Either of these could be a connection point at some time in the future, if Lot 38 was to be developed.

An application is currently being prepared for lodgement with Taswater illustrating the proposed water reticulation arrangements for this proposed development.

A conceptual water reticulation plan has been prepared and is included in Appendix E for reference which shows the proposed water reticulation for the development, including proposed connection points.

10.0 ELECTRICITY AND TELECOMMUNICATION

Detailed survey and Dial Before You Dig (DBYD) information has been obtained for the overall area. This information indicates that electricity, telecommunication services, and NBN are all available within the surrounding area.

There is existing overhead electrical in both White Hills Road, and along the southern side of Logan Road. Communications and NBN is also available along White Hills Road and Logan Road.

Based on the size of the proposed development, it is envisaged that several padmount transformers will likely be required to service the project. Final design and location of this infrastructure will be documented further in the detailed design phase of the development.

Underground electrical, streetlighting, and communications infrastructure will be designed and installed in compliance with the requirements of the relevant authorities.

Refer Appendix B for a copy of the detailed survey plan. Appendix H also contains existing electrical infrastructure.

11.0 CONCLUSION

MRC Consulting Engineers Pty Ltd has been commissioned by Traders in Purple to prepare an Engineering Services Report for their rezoning to be located at Logan Road in Evandale, Tasmania.

The intent of this report is to illustrate how the proposed development can be serviced in accordance with Northern Midlands Council and Taswater Requirements.

From a sewerage perspective, due to the depth of the existing sewer on Logan Road, a sewerage pumping station is being proposed. This will allow the site to be connected via rising main the existing 150mm dia PVC sewer on Logan Road

From a stormwater drainage perspective, the project has been shown conceptually at this stage, and will developed in greater detail during the Development Application Phase of the project. Where possible Water Sensitive Urban Design options will be included across the site to reduce end of line treatment options. These options will be further developed during the Development Application Phase of the project in conjunction with Northern Midlands Council and the Urban Designer/Landscape Architect for the proposed development.

Based on this preliminary investigation, there are existing services within the vicinity of the site to ensure that the proposed development, can be serviced.

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APPENDIX
A

Proposed Development Layout



PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINRY
Subdivision Master Plan

0 25 50m
Sheet 1 of 1
6 December 2023
Issue H

Traders In Purple

LANGE design

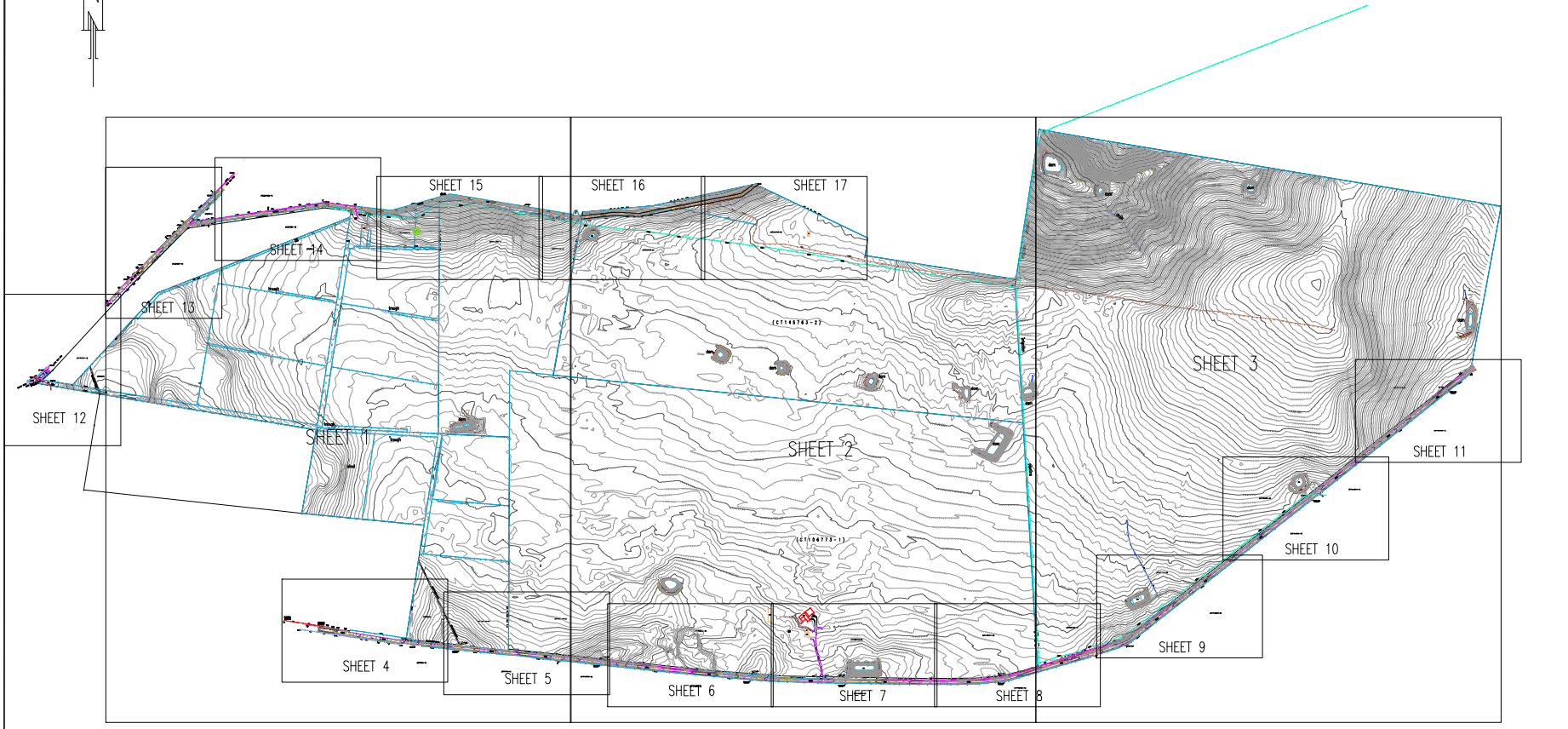
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APPENDIX B

Detail Survey

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania

INDEX SHEET



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE VERIFIED ON SITE.
NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN
BOUNDARIES ARE INDICATIVE ONLY
A FULL REMARK SURVEY WOULD BE REQUIRED TO DETERMINE THEIR EXACT LOCATION
CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT

Notes :

Co-ordinates are on Australian Map Grid – Zone 55/GDA94
MGA bearing based on SPM 10521
Levels are on Australian Height Datum 1983
All measurements are in metres .

MICHELL HODGETTS SURVEYORS
A.C.N. 109 596 152
AUTHORISED SURVEYORS
DEVONPORT – WYNYARD – SMITHTON – LAUNCESTON – SCOTTSDALE
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Telephone (03) 6424 5144
Fax (03) 6423 4090

DETAIL SURVEY

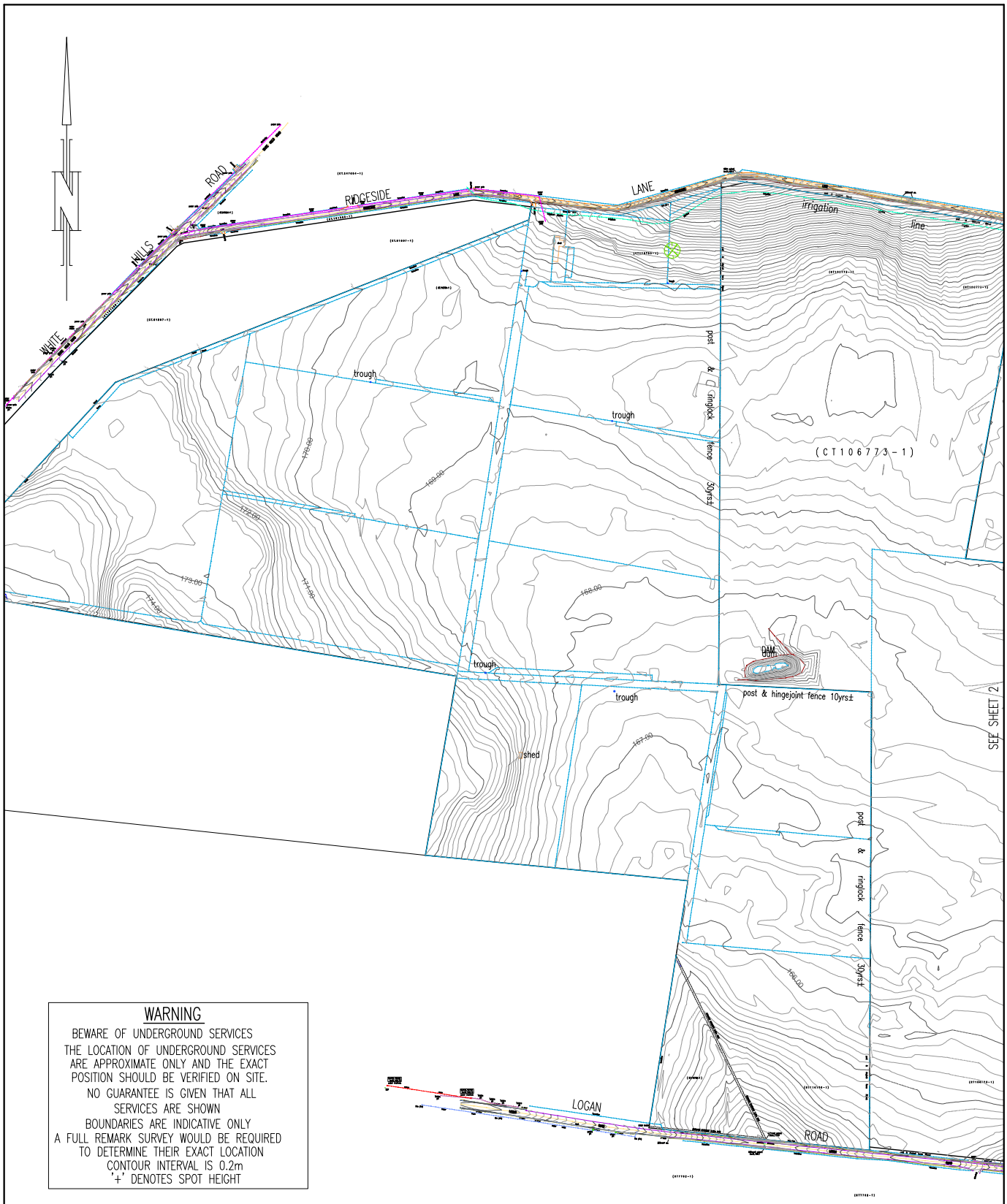
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple

Drawn : J.A.T | Scale : 1:5000 (A1) | Date :06/12/21

PAUL HODGETTS – Registered Surveyor

Drawing No.

221214–dt1



MICHELL HODGETTS SURVEYORS
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Detail Survey
Logan Road – Ridgeside Lane, Evandale
Traders in Purple

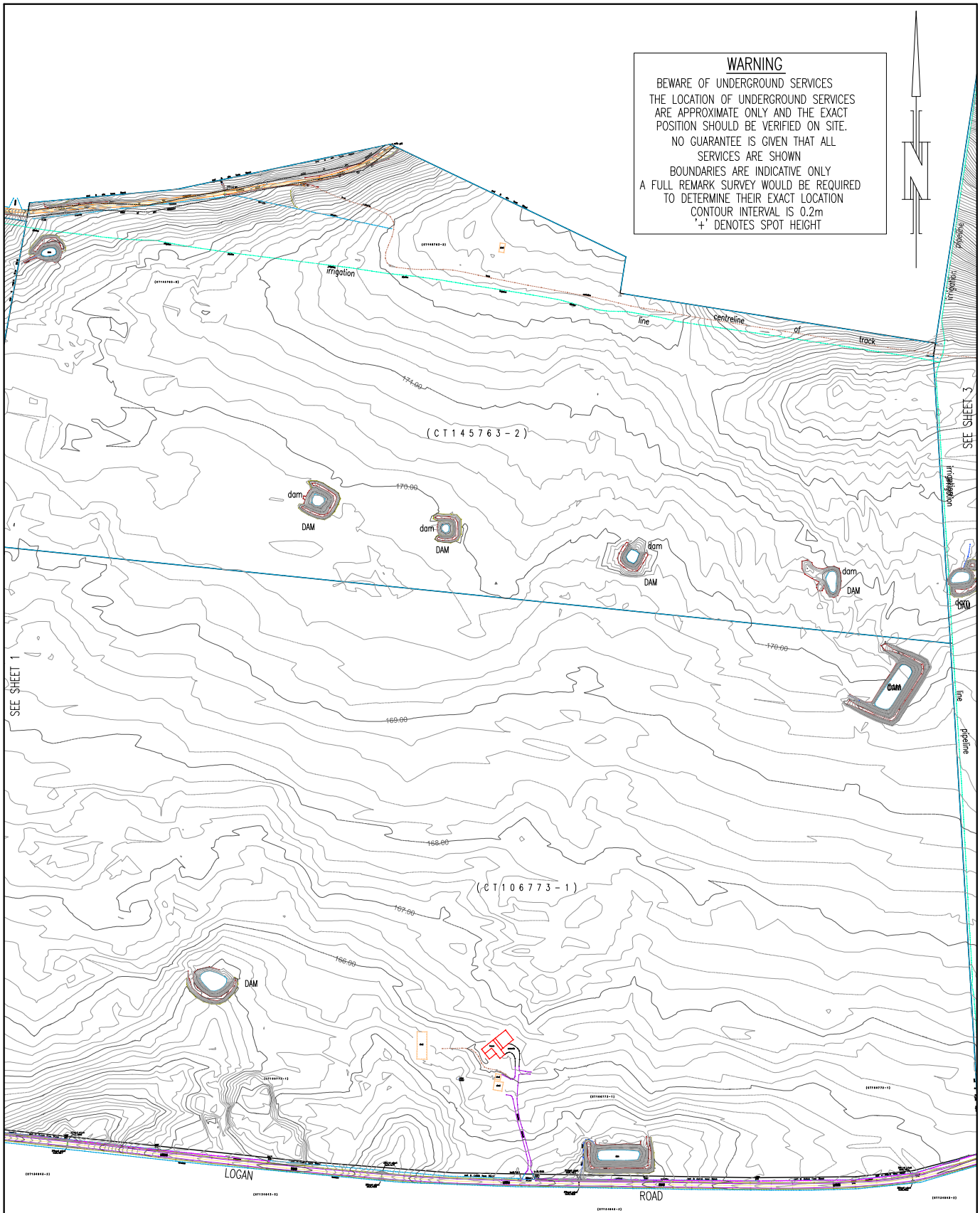
Notes:
All measurements are in metres
Co-ordinates are plane based on GDA94
& levels are AHD with SPM.10521 as origin

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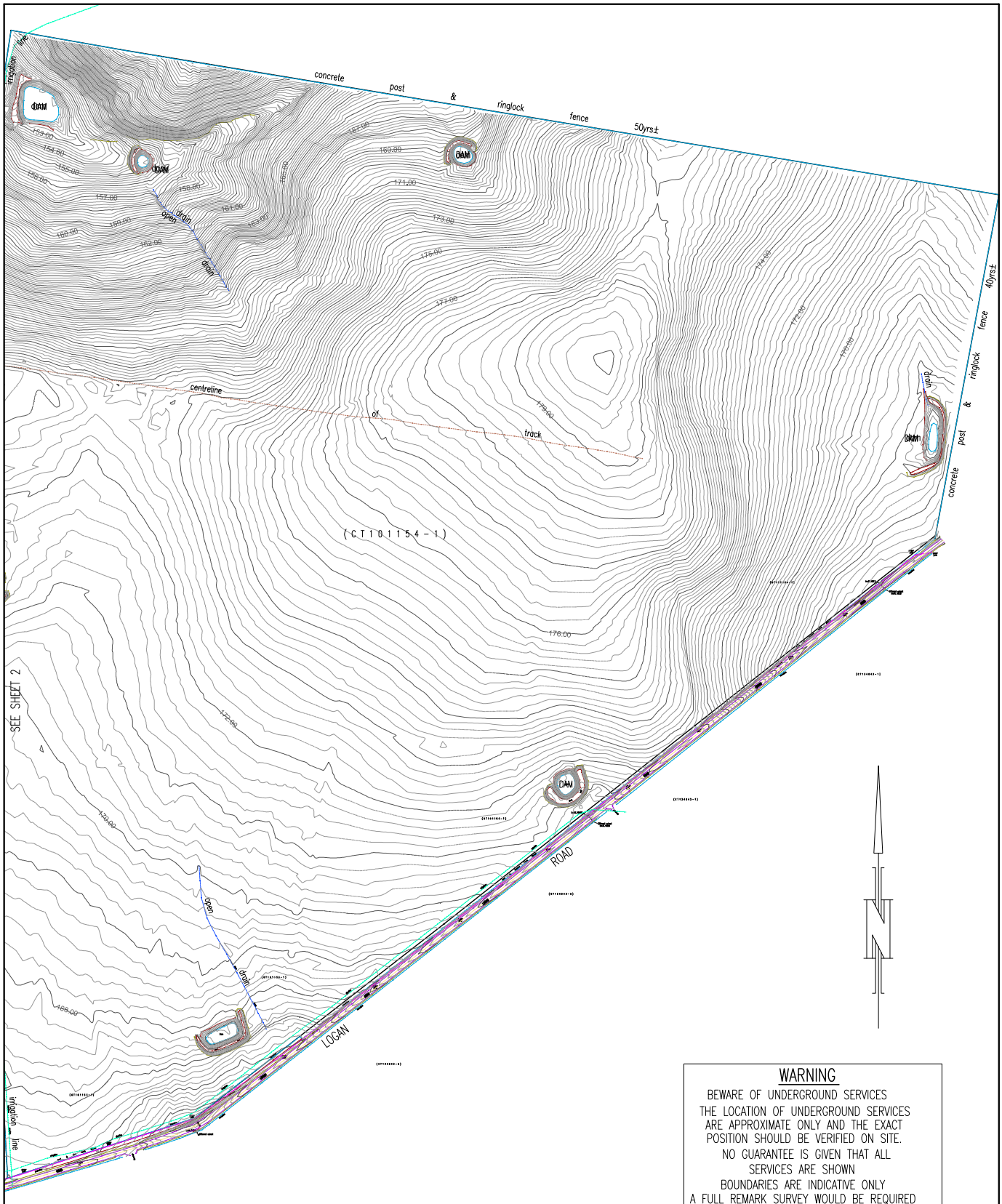
Drawing No. 221214

SHEET 1 OF 17 SHEETS

Paul Hodgetts – registered surveyor



MICHELL HODGETTS SURVEYORS A.C.N. 109 596 152 AUTHORISED SURVEYORS DEVONPORT – SMITHTON – LAUNCESTON – SCOTTSDALE P.O. Box 712 , Devonport 7310 Telephone (03) 6424 5144 AUSDOC DX 70346 , Devonport Fax (03) 6423 4090 E.Mail : mhasurv@bigpond.net.au	*Detail Survey* *Logan Road – Ridgeside Lane, Evandale* *Traders in Purple*	Drawing No. 221214 SHEET 2 OF 17 SHEETS
	Notes: All measurements are in metres Co-ordinates are plane based on GDA94 & levels are AHD with SPM.10521 as origin Drawn : J.A.T Scale : 1:4000(A3) Date :06/12/21	Paul Hodgetts – registered surveyor



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AUTHORISED SURVEYORS
DEVONPORT – SMITHTON – LAUNCESTON – SCOTTSDALE
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AUSDOC DX 70346 , Devonport
Telephone (03) 6424 5144
Fax (03) 6423 4090
E.Mail : mhasurv@bigpond.net.au

Detail Survey
Logan Road – Ridgeside Lane, Evandale
Traders in Purple

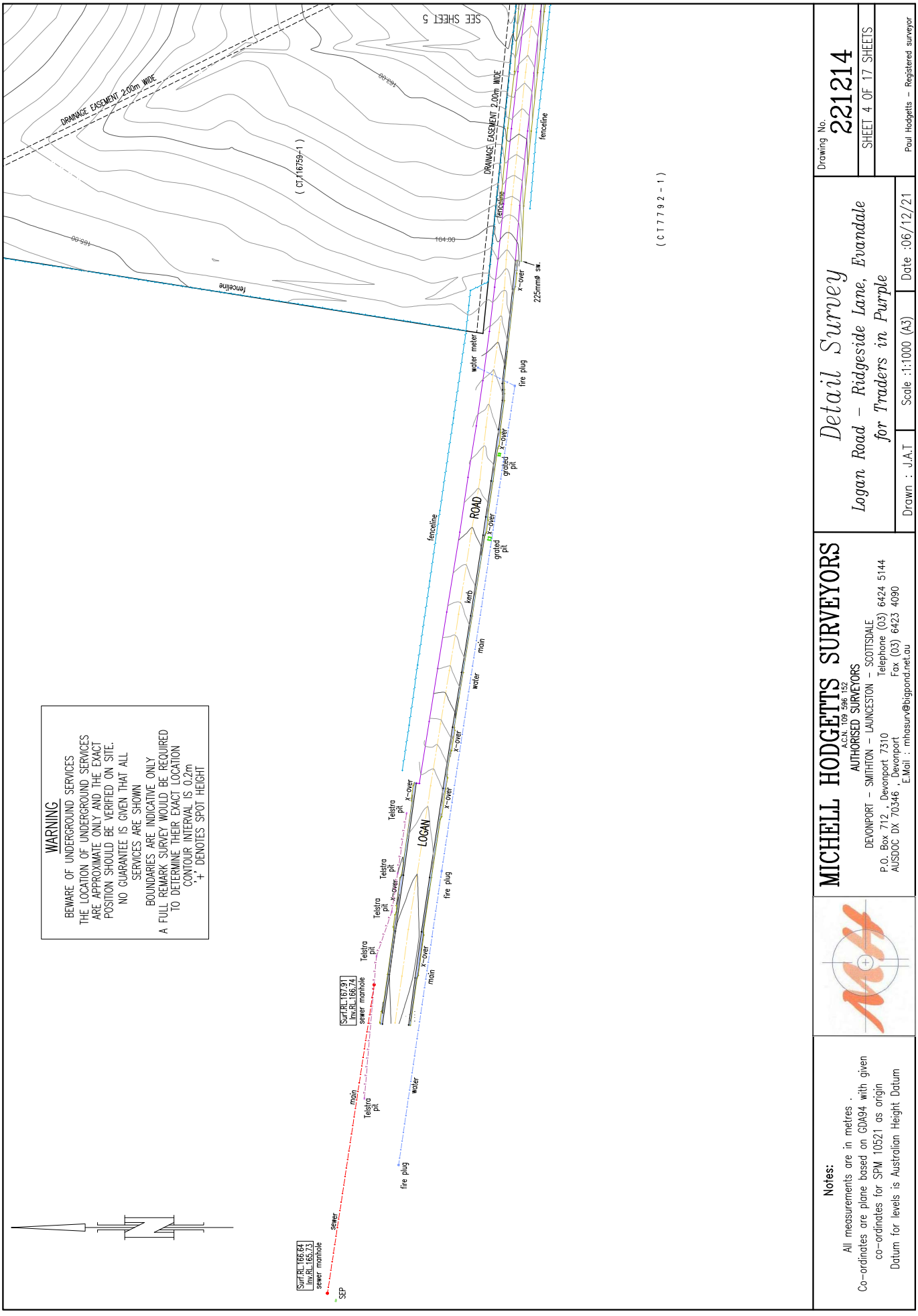
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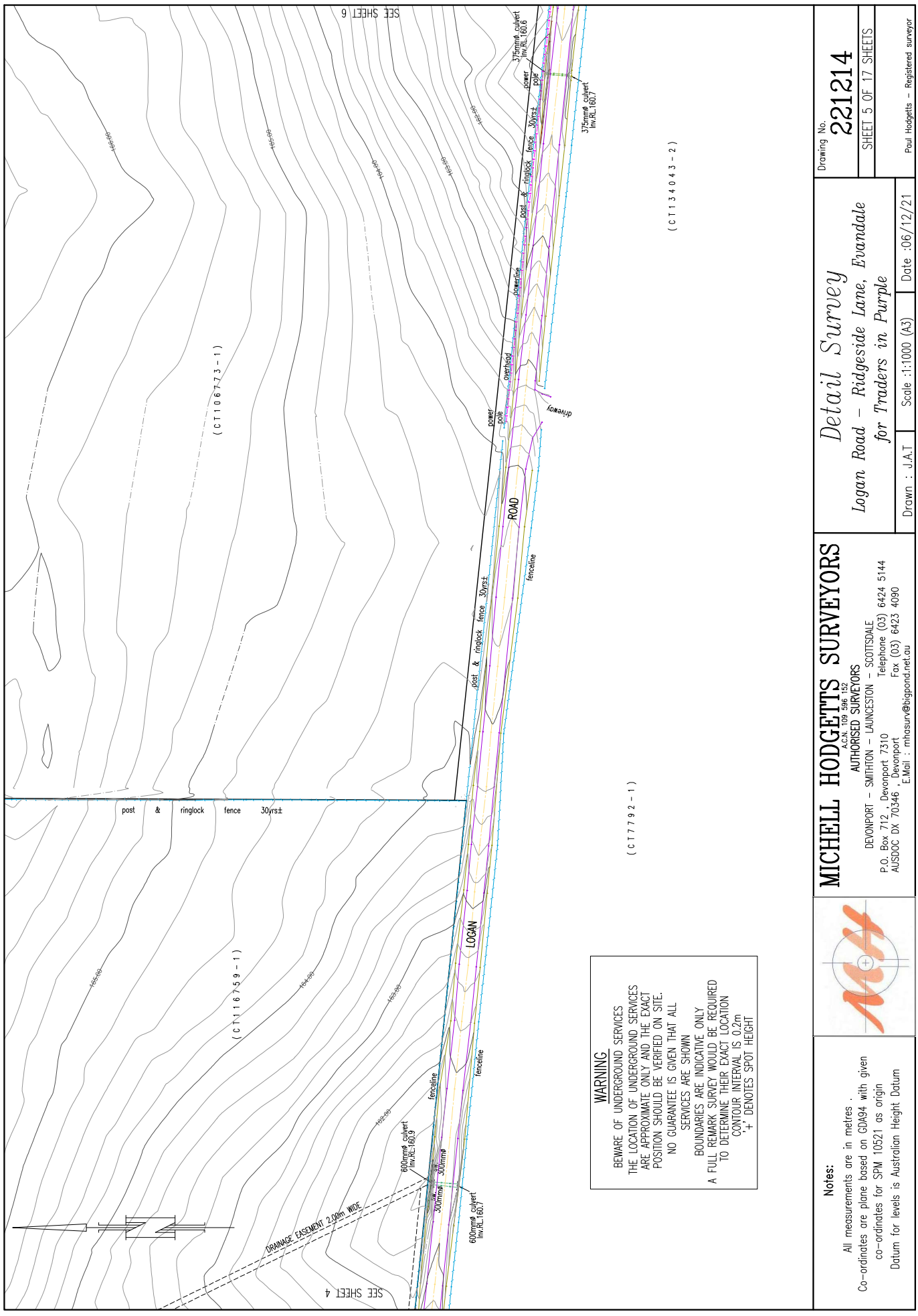
SHEET 3 OF 17 SHEETS

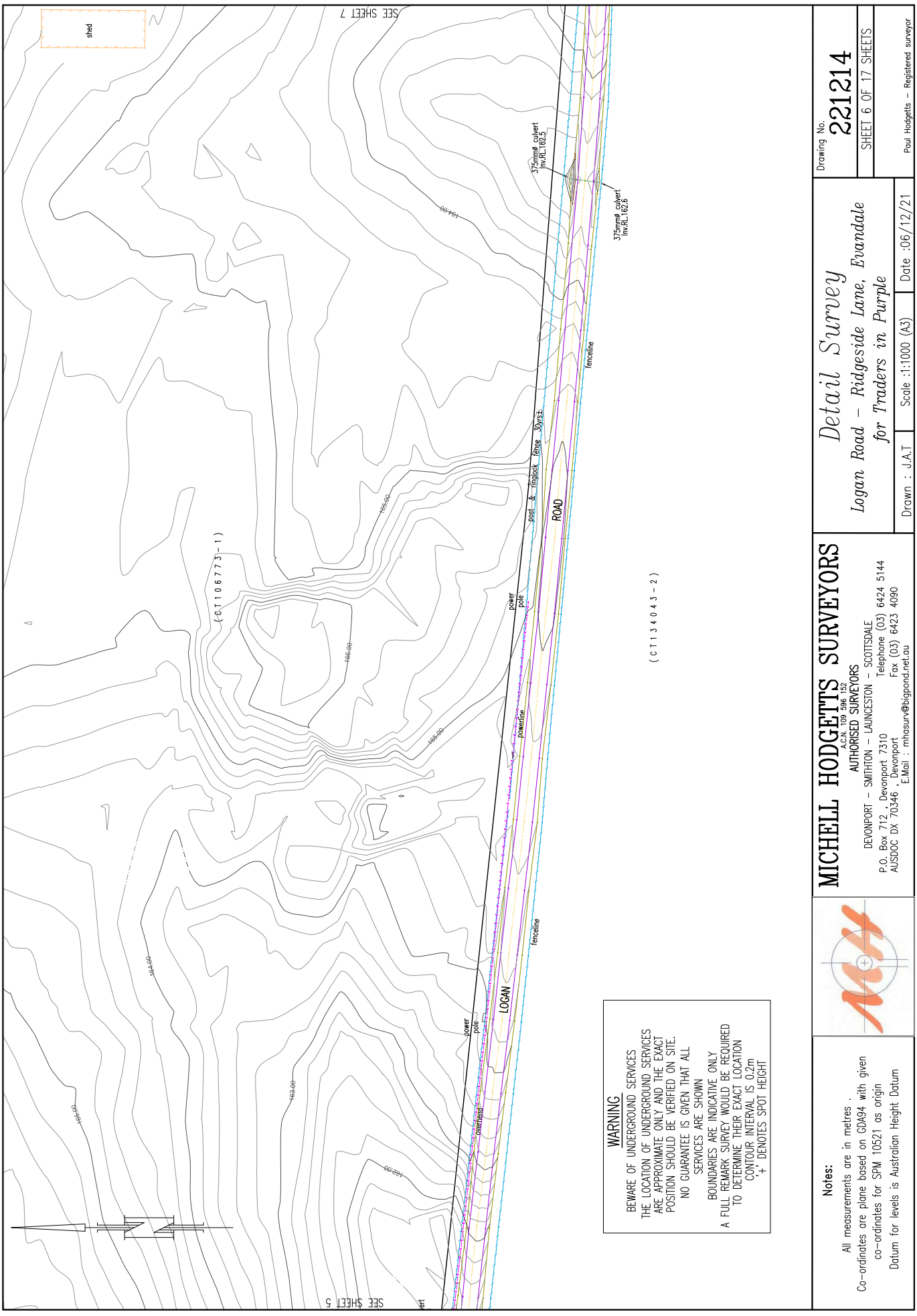
Notes:
All measurements are in metres
Co-ordinates are plane based on GDA94
& levels are AHD with SPM.10521 as origin

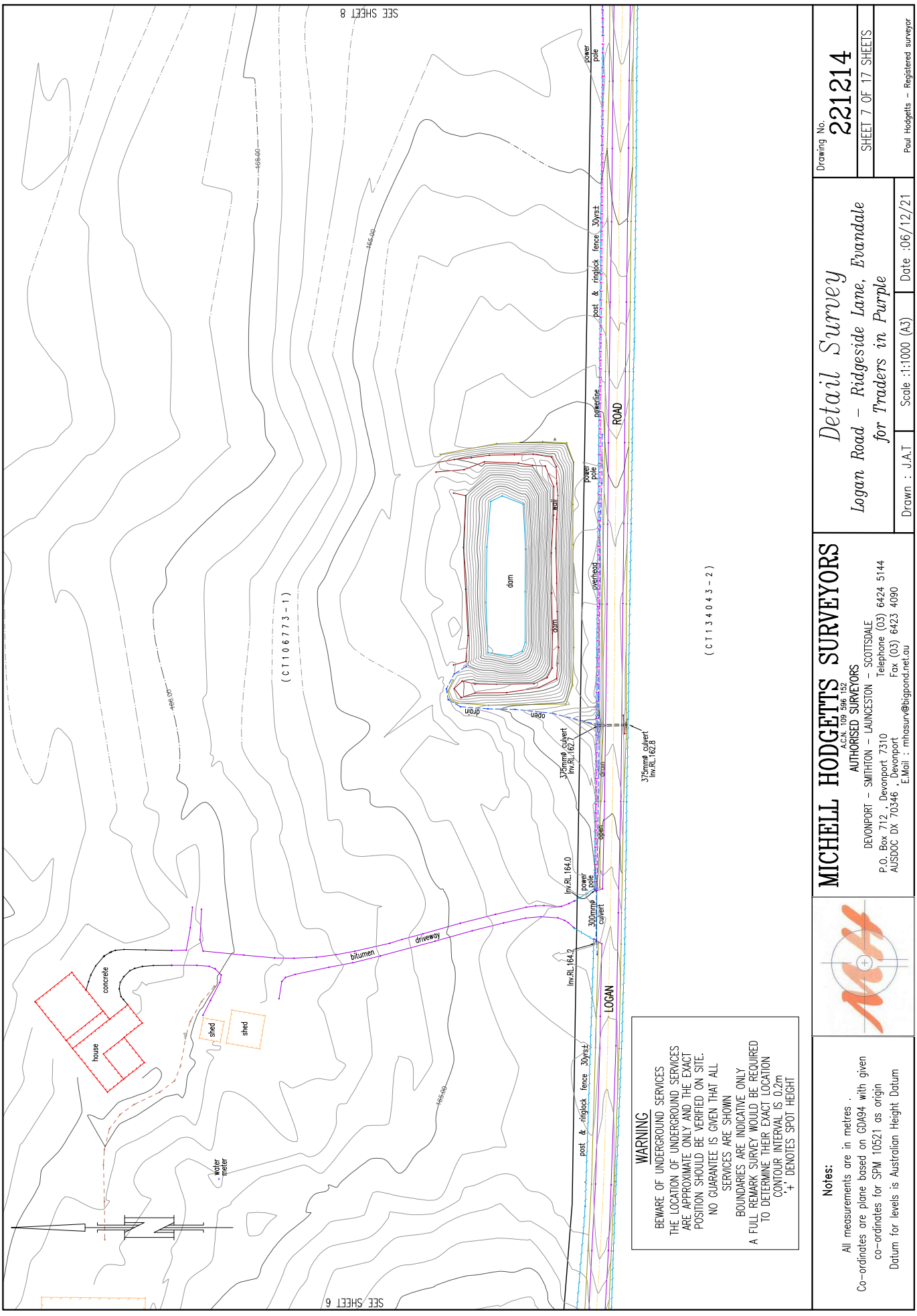
Drawn : J.A.T | Scale : 1:4000(A3) | Date :06/12/21

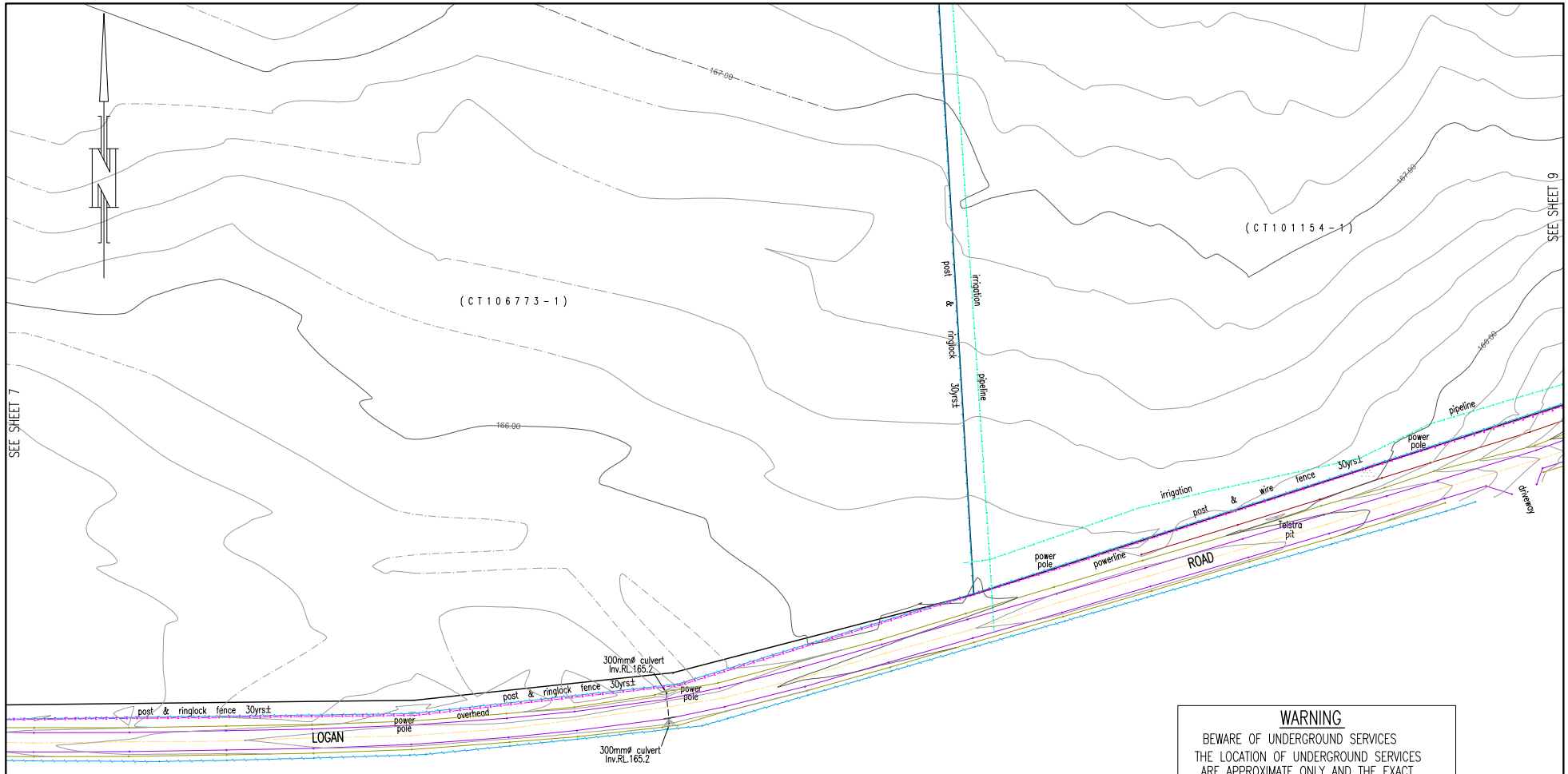
Paul Hodgetts – registered surveyor


WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE VERIFIED ON SITE.
NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN
BOUNDARIES ARE INDICATIVE ONLY.
A FULL REMARK SURVEY WOULD BE REQUIRED TO DETERMINE THEIR EXACT LOCATION
CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT
SEE SHEET 5
DRAINAGE EASEMENT 2.00m WIDE
(CT.116759-1)
(C T 7 7 9 2 - 1)
LOGAN ROAD
fenceline
water meter
fire plug
x-over
grated pit
kerb
main
water
Telstra pit
Surf.RL 167.97
Inv.RL 166.74
sewer manhole
Surf.RL 166.64
Inv.RL 165.73
sewer manhole
SEP
sewer
225mm# sw.
Notes:
All measurements are in metres .
Co-ordinates are plane based on GDA94 with given co-ordinates for SPM 10521 as origin
Datum for levels is Australian Height Datum
MICHELL HODGETTS SURVEYORS
A.C.N. 109 596 152
AUTHORISED SURVEYORS
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Detail Survey
Logan Road - Ridgeside Lane, Evandale
for Traders in Purple
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 4 OF 17 SHEETS
Paul Hodgetts - Registered surveyor


SEE SHEET 6
SEE SHEET 4
(C T 1 0 6 7 3 - 1)
(C T 1 1 6 7 5 9 - 1)
(C T 1 7 7 9 2 - 1)
(C T 1 3 4 0 4 3 - 2)
LOGAN ROAD
post & ringlock fence 30yrs±
fenceline
overhead powerline
power pole
driveway
375mmø culvert Inv.RL 160.6
375mmø culvert Inv.RL 160.7
600mmø culvert Inv.RL 160.9
600mmø culvert Inv.RL 160.7
300mmø
DRAINAGE EASEMENT 2.00m WIDE
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'+' DENOTES SPOT HEIGHT
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Detail Survey
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Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 5 OF 17 SHEETS
Paul Hodgetts - Registered surveyor


SEE SHEET 7
SEE SHEET 5
shed
LOGAN
ROAD
power pole
powerline
fenceline
post & ringlock fence 30yrs+
375mmø culvert Inv.RL:162.5
375mmø culvert Inv.RL:162.6
(C1106773-1)
(C1134043-2)
164.00
165.00
166.00
163.00
162.00
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'+' DENOTES SPOT HEIGHT
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Detail Survey
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Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 6 OF 17 SHEETS
Paul Hodgetts - Registered surveyor


SEE SHEET 8
SEE SHEET 6
(C T 1 1 0 6 7 7 3 - 1)
(C T 1 3 4 0 4 3 - 2)
ROAD
LOGAN
dam
wall
open
drain
overhead powerline
power pole
post & ringlock fence 30yrs±
375mmø culvert Inv.RL.162.7
375mmø culvert Inv.RL.162.8
300mmø culvert
Inv.RL.164.0
Inv.RL.164.2
driveway
bitumen
concrete
house
shed
shed
water meter
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for Traders in Purple
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 7 OF 17 SHEETS
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CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT

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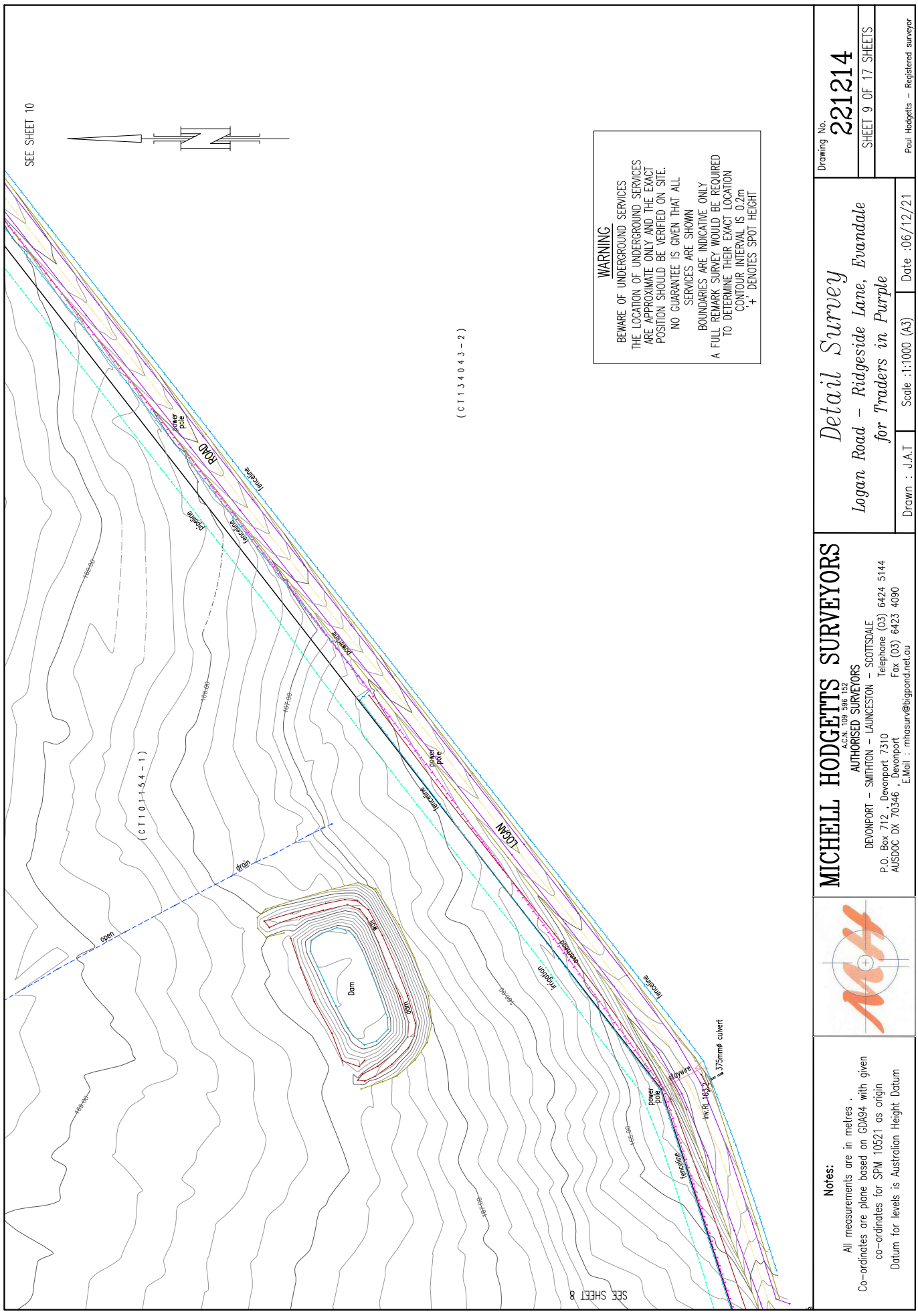
Detail Survey

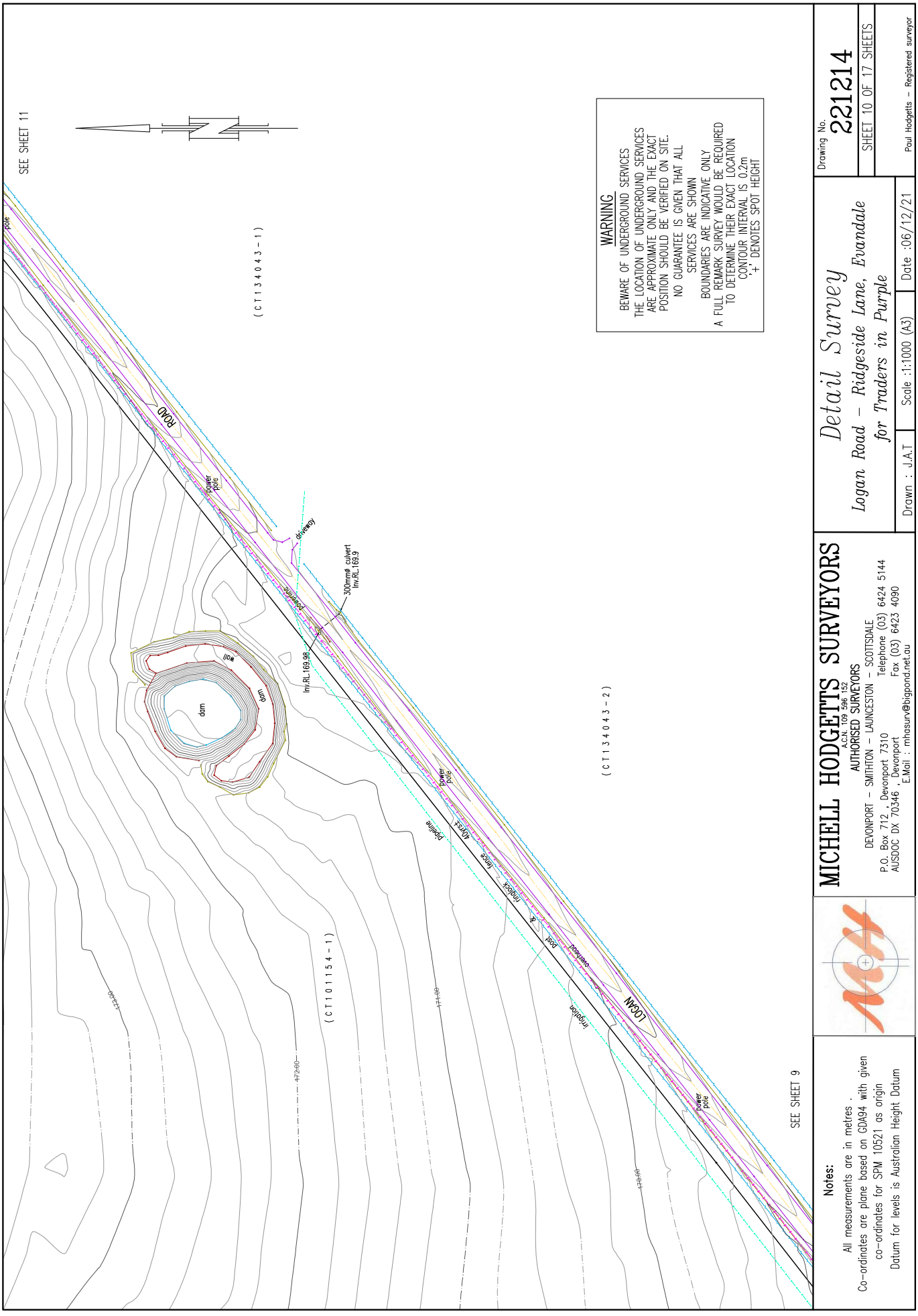
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple

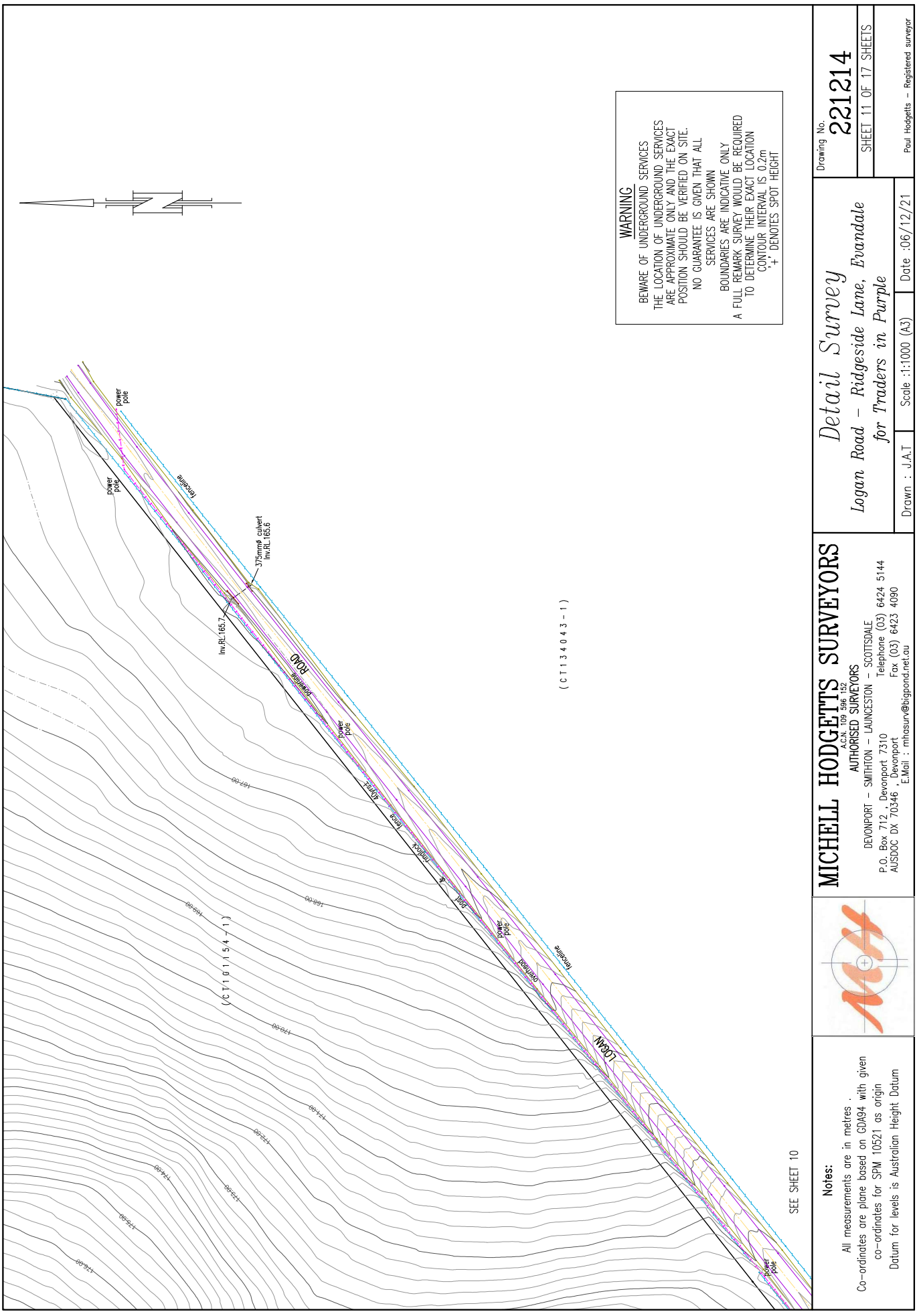
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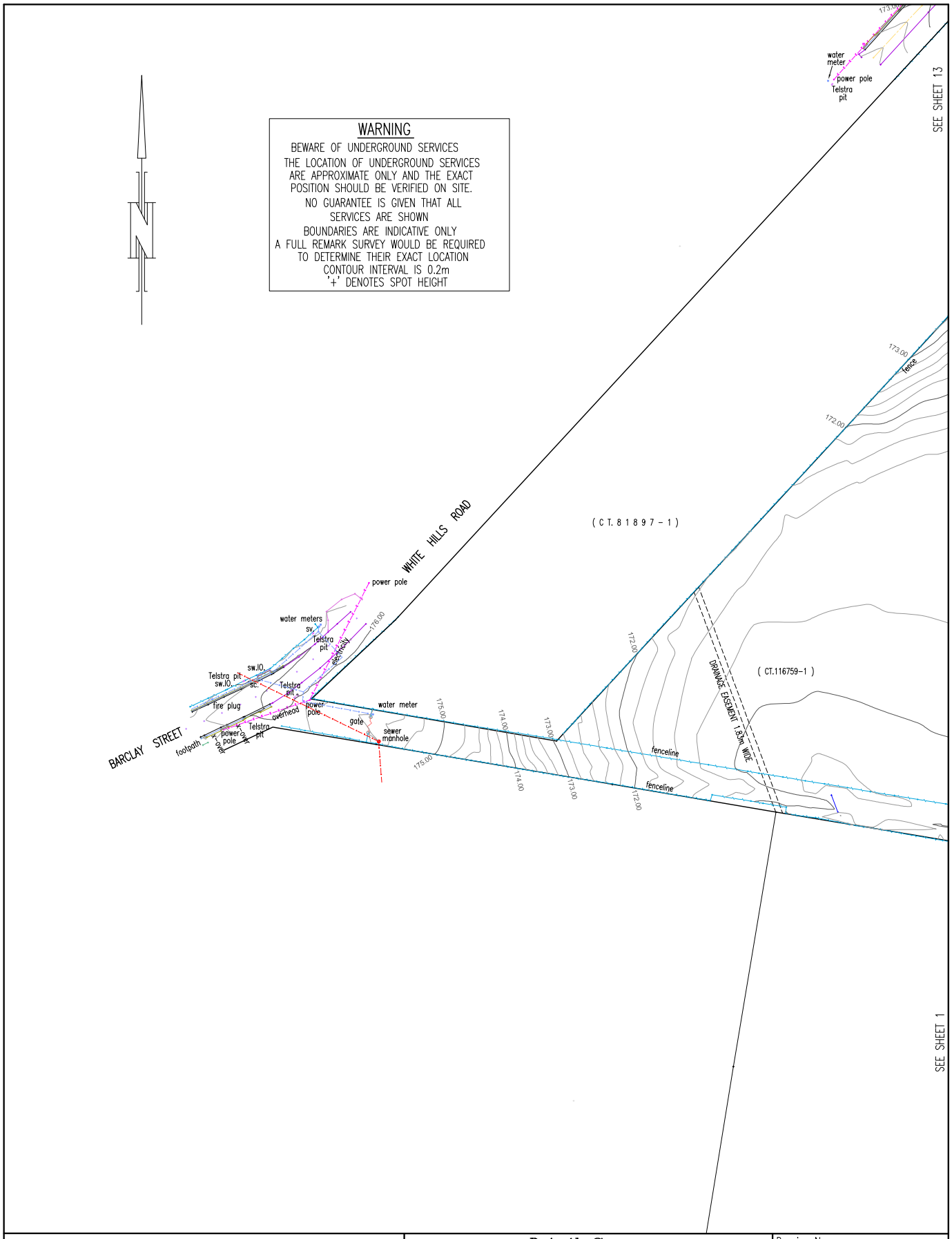
Drawing No. 221214
SHEET 8 OF 17 SHEETS

Paul Hodgetts – Registered surveyor


SEE SHEET 10
SEE SHEET 8
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'+' DENOTES SPOT HEIGHT
(C T 1 3 4 0 4 3 - 2)
(C T 1 0 1 - 5 4 - 1)
ROAD
LOCAN
Dam
drain
open
power pole
fenceline
powerline
375mmø culvert
Detail Survey
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple
Drawing No. 221214
SHEET 9 OF 17 SHEETS
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Paul Hodgetts – Registered surveyor
MICHELL HODGETTS SURVEYORS
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AUTHORISED SURVEYORS
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Notes:
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SEE SHEET 11
SEE SHEET 9
(C T 1 3 4 0 4 3 – 1)
(C T 1 3 4 0 4 3 – 2)
(C T 1 0 1 1 5 4 – 1)
ROAD
LOGAN
dam
wall
300mm culvert
Inv.RL 169.98
Inv.RL 169.9
driveway
power pole
overhead
underground
fence
rock
post
gate
footpath
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+ DENOTES SPOT HEIGHT
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Detail Survey
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 10 OF 17 SHEETS
Paul Hodgetts – Registered surveyor


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CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT
N
Detail Survey
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 11 OF 17 SHEETS
Paul Hodgetts – Registered surveyor
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Datum for levels is Australian Height Datum
SEE SHEET 10
LOGAN
ROAD
fenceline
power pole
375mmØ culvert
Inv.RL.165.6
Inv.RL.165.7
overhead
(CT134043-1)
(CT101154-1)



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Detail Survey
Logan Road – Ridgeside Lane, Evandale
Traders in Purple

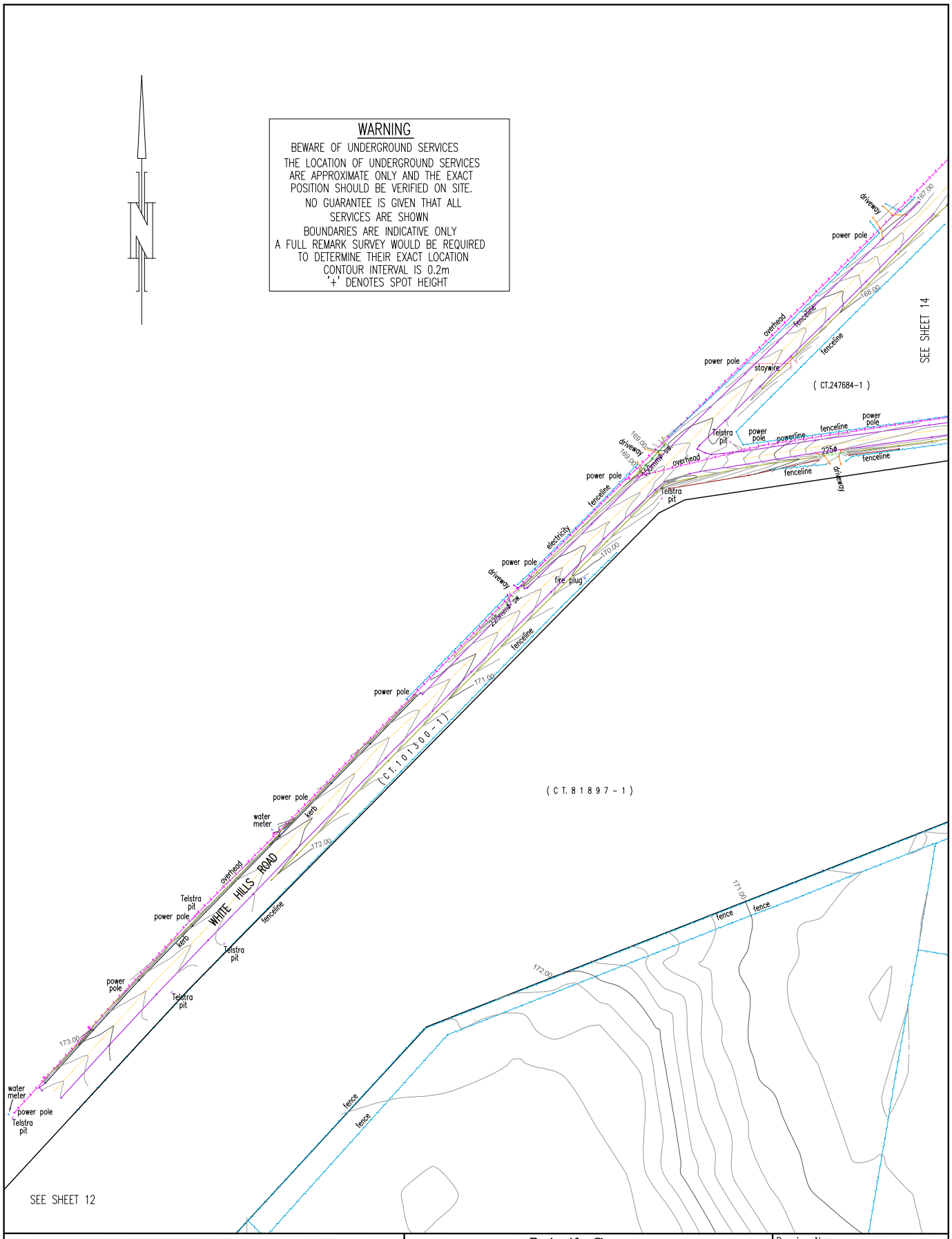
Notes:
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Drawn : J.A.T | Scale : 1:1000(A3) | Date :06/12/21

Drawing No.
221214

SHEET 12 OF 17 SHEETS

Paul Hodgetts – Registered surveyor



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Detail Survey
Logan Road – Ridgeside Lane, Evandale
Traders in Purple

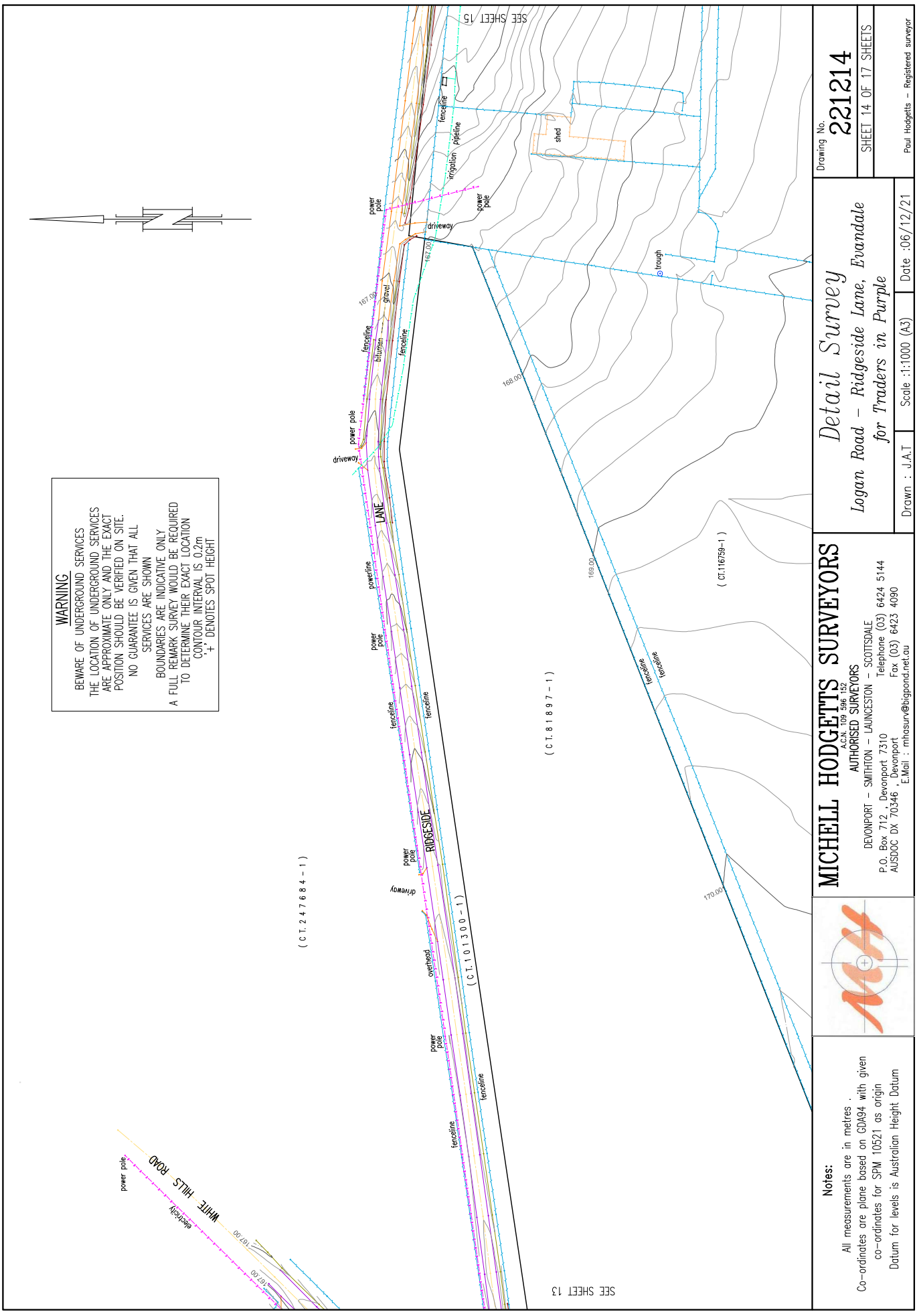
Notes:
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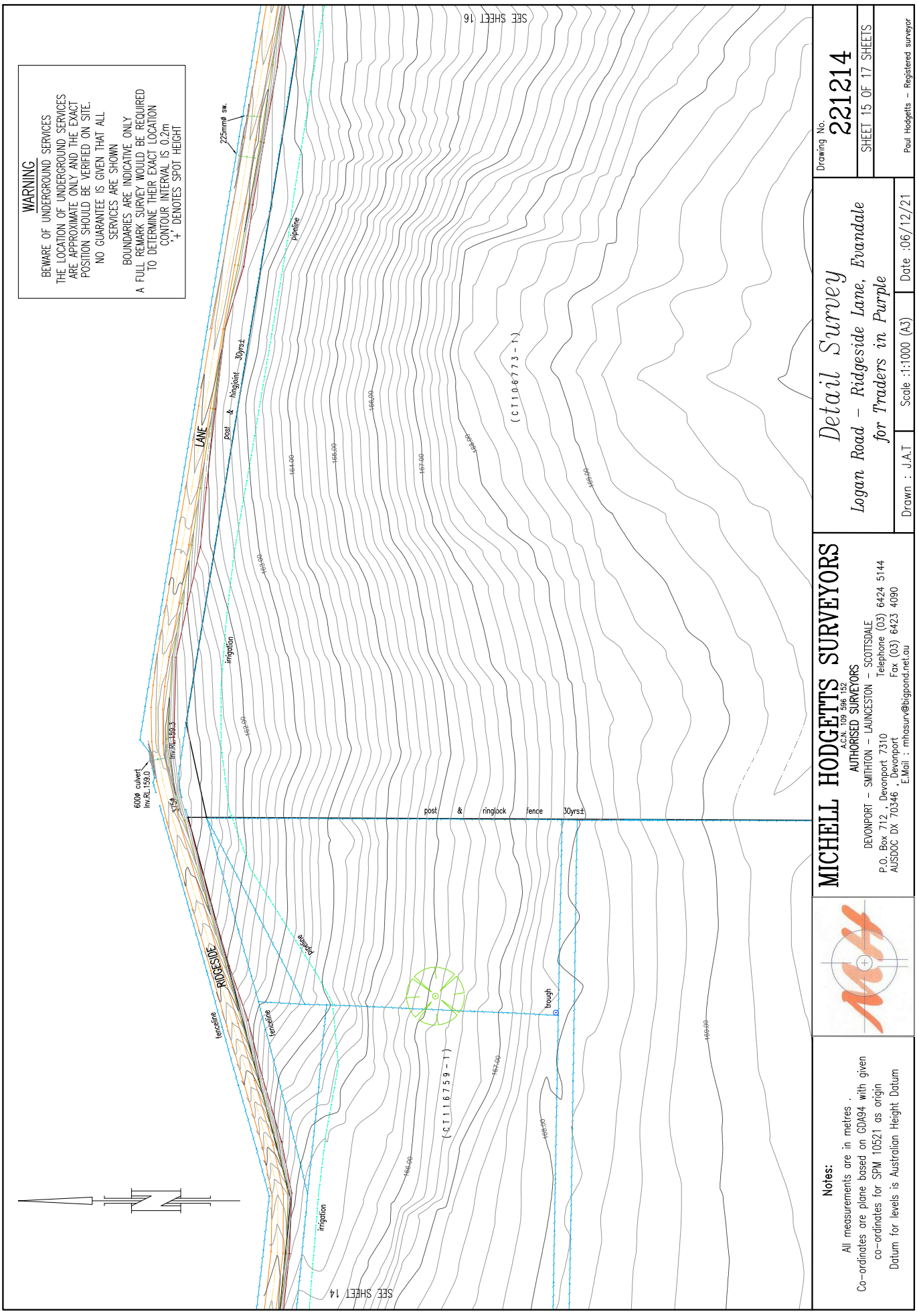
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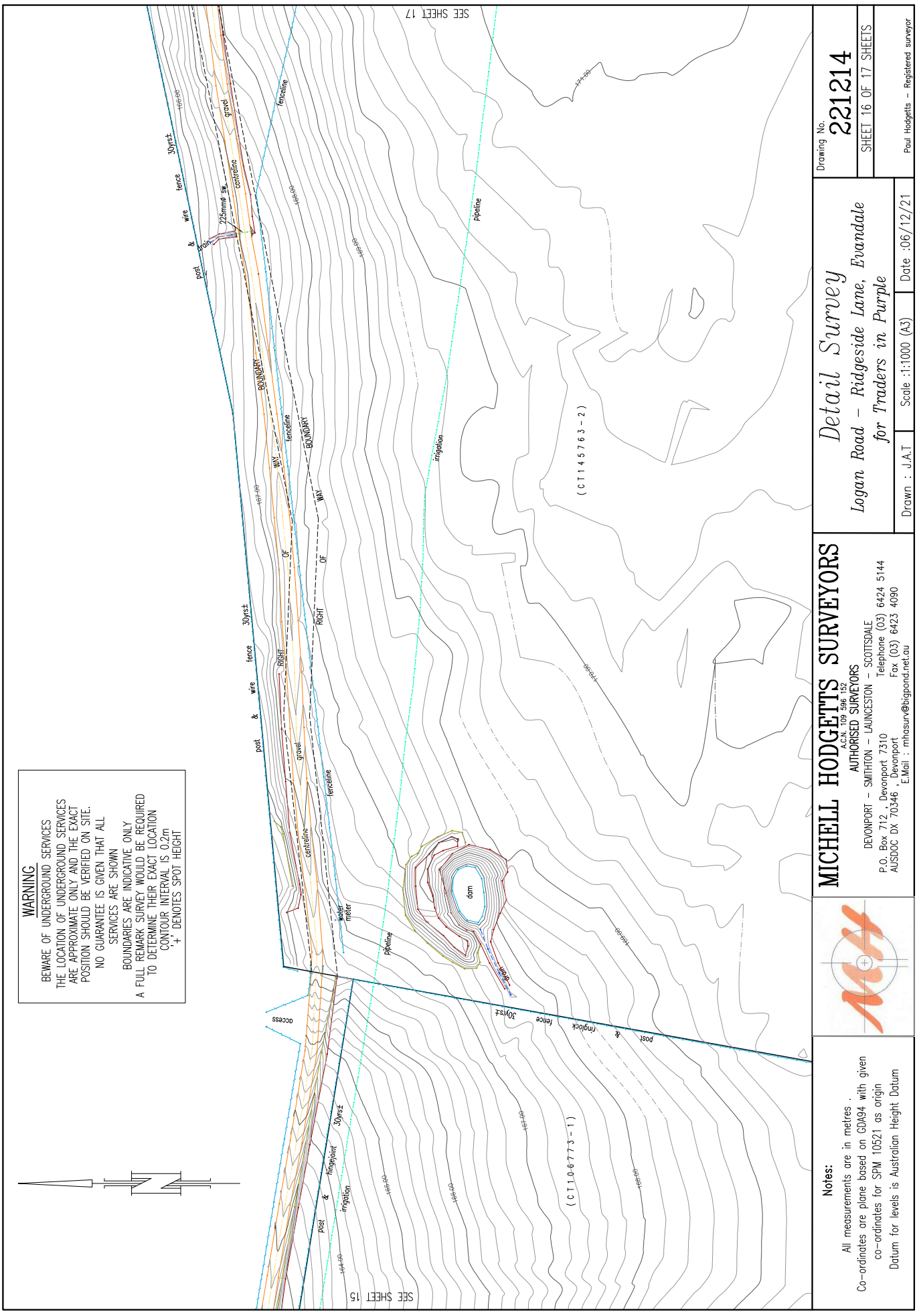
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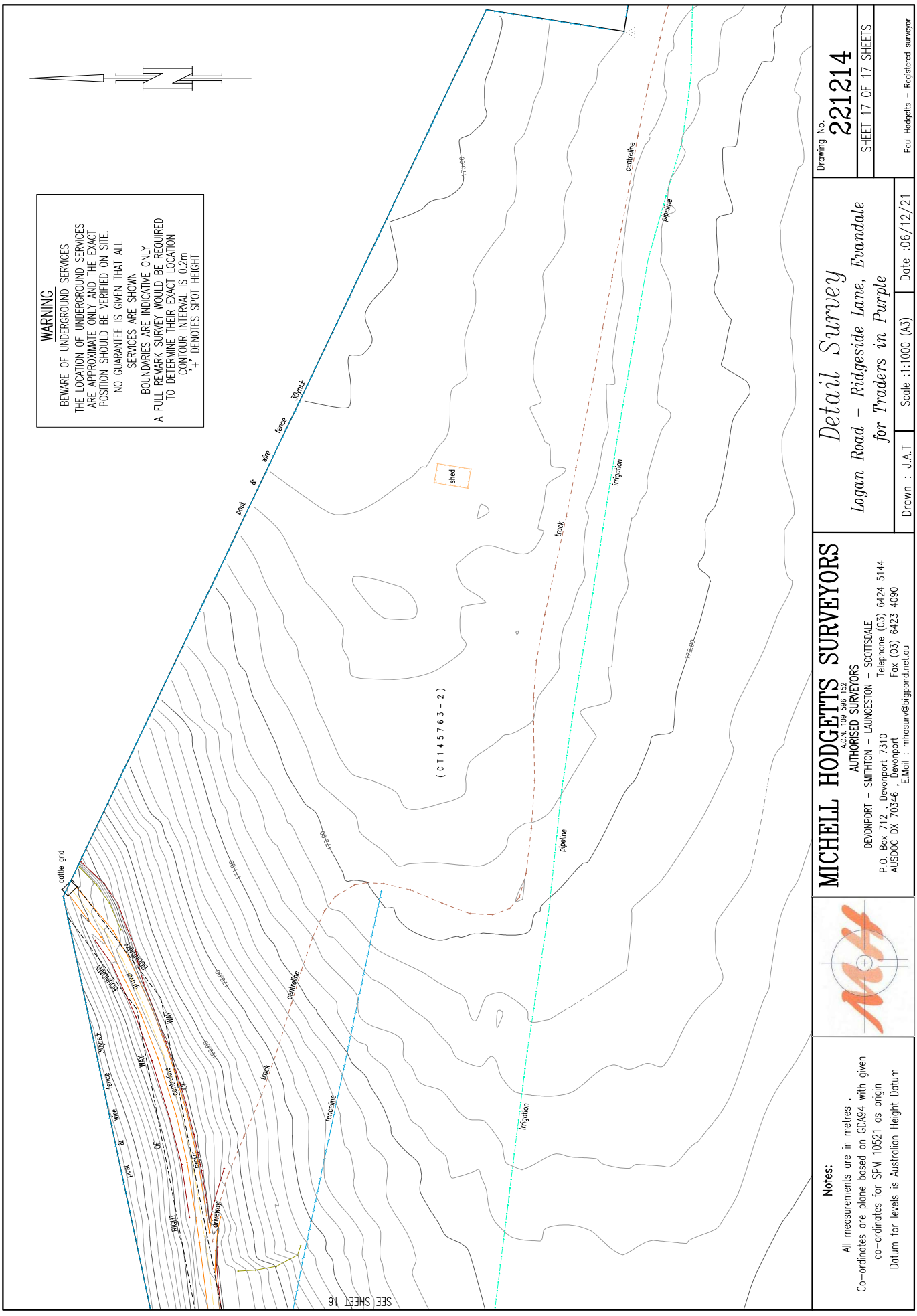
SHEET 13 OF 17 SHEETS

Paul Hodgetts – Registered surveyor


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CONTOUR INTERVAL IS 0.2m
+ DENOTES SPOT HEIGHT
SEE SHEET 15
SEE SHEET 13
LANE
RIDGESIDE
WHITE HILLS ROAD
(C.T. 247684-1)
(C.T. 181897-1)
(C.T. 101300-1)
(CT.116759-1)
power pole
driveway
fenceline
powerline
overhead
electricity
irrigation pipeline
shed
trough
gravel
bitumen
167.00
168.00
169.00
170.00
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Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Drawing No. 221214
SHEET 14 OF 17 SHEETS
Paul Hodgetts - Registered surveyor
Notes:
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CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT
SEE SHEET 16
SEE SHEET 14
LANE
RIDGESIDE
225mmø sw.
pipeline
post & ringlock fence 30yrs±
irrigation
fenceline
trough
600ø culvert Inv.RL:159.0
Inv.RL:159.3
(CT106773-1)
(CT116759-1)
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Drawing No. 221214
SHEET 15 OF 17 SHEETS
Paul Hodgetts - Registered surveyor
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CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT
SEE SHEET 17
SEE SHEET 15
(C T 1 4 5 7 6 3 - 2)
(C T 1 1 0 6 7 7 3 - 1)
fence
wire
&
post
30yrs±
gravel
centreline
225mmø sw.
drain
BOUNDARY
WAY
OF
RIGHT
pipeline
irrigation
dam
water meter
access
gate
Notes:
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Date :06/12/21
Drawing No. 221214
SHEET 16 OF 17 SHEETS
Paul Hodgetts - Registered surveyor

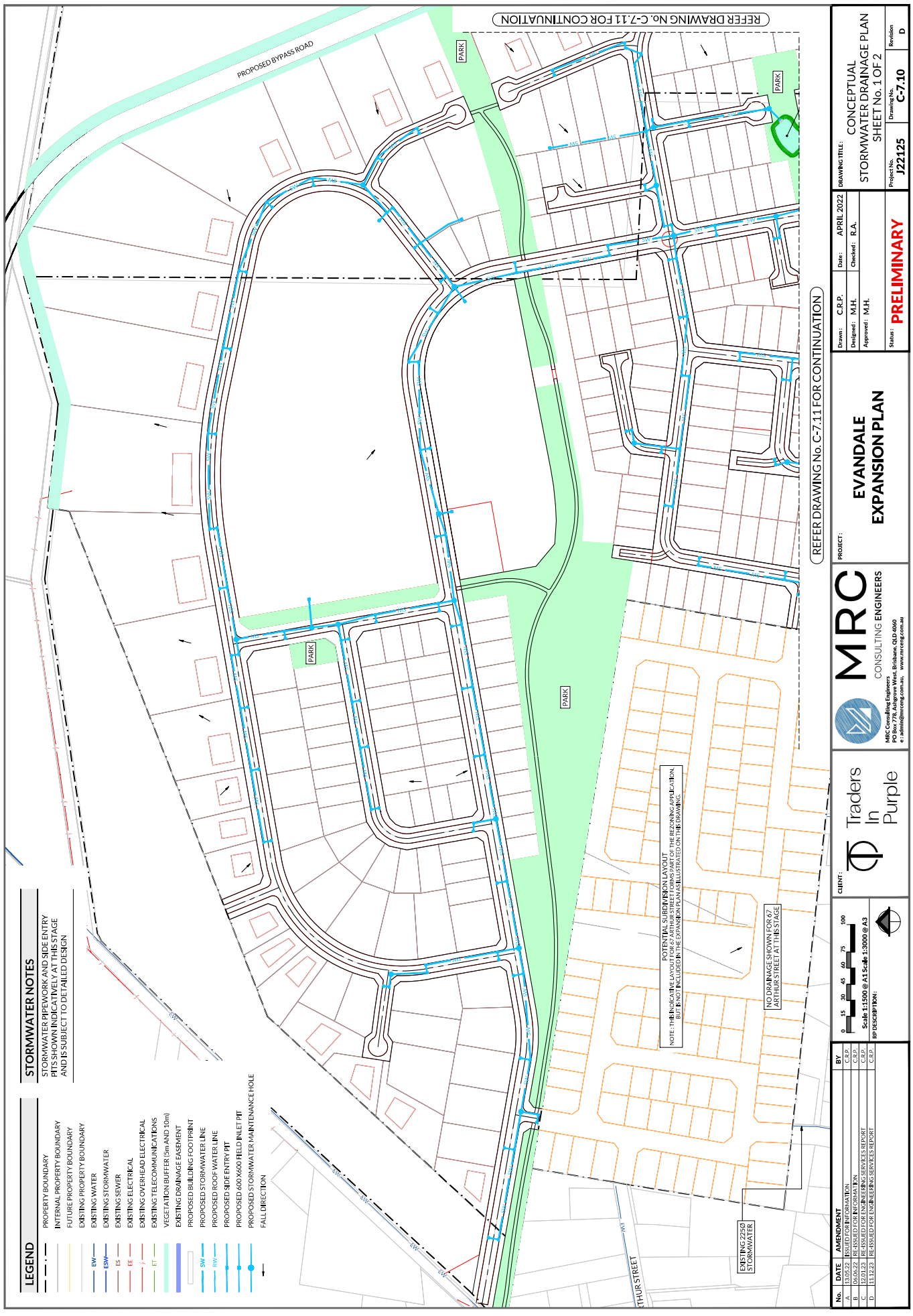

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE VERIFIED ON SITE.
NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN
BOUNDARIES ARE INDICATIVE ONLY
A FULL REMARK SURVEY WOULD BE REQUIRED TO DETERMINE THEIR EXACT LOCATION
CONTOUR INTERVAL IS 0.2m
'+' DENOTES SPOT HEIGHT
Detail Survey
Logan Road – Ridgeside Lane, Evandale
for Traders in Purple
Drawing No. 221214
SHEET 17 OF 17 SHEETS
Drawn : J.A.T
Scale :1:1000 (A3)
Date :06/12/21
Paul Hodgetts – Registered surveyor
MICHELL HODGETTS SURVEYORS
A.C.N. 109 596 152
AUTHORISED SURVEYORS
DEVONPORT – SMITHTON – LAUNCESTON – SCOTTSDALE
P.O. Box 712 , Devonport 7310
AUSDOC DX 70346 , Devonport
Telephone (03) 6424 5144
Fax (03) 6423 4090
E.Mail : mhasurv@bigpond.net.au
Notes:
All measurements are in metres .
Co-ordinates are plane based on GDA94 with given co-ordinates for SPM 10521 as origin
Datum for levels is Australian Height Datum
(C T 1 1 4 5 7 6 3 – 2)
shed
track
pipeline
irrigation
centreline
fenceline
post & wire fence
dog box
cattle grid
driveway
BOUNDARY
SEE SHEET 16

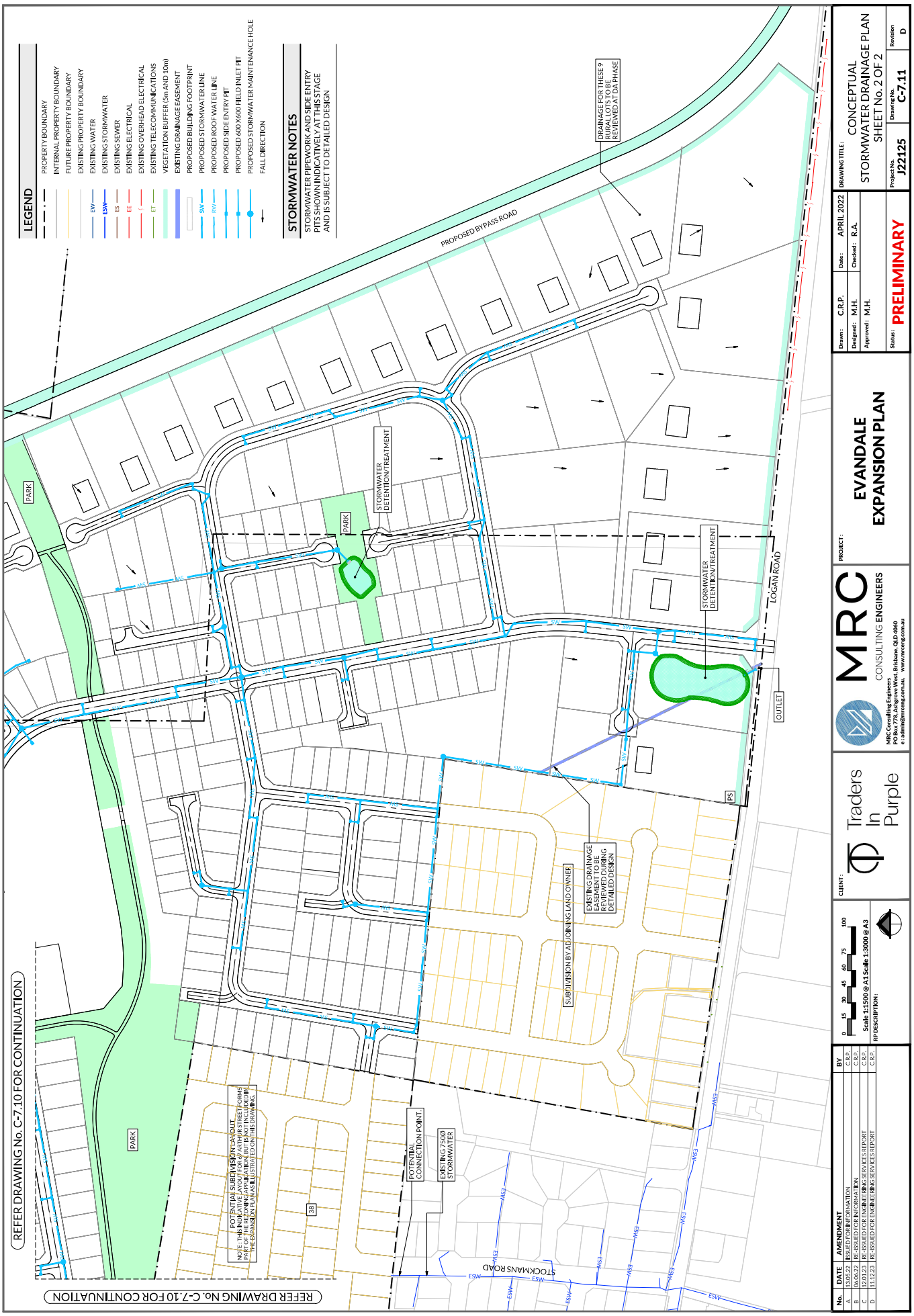
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CONSULTING ENGINEERS

APPENDIX C

Conceptual Stormwater Drainage Plans

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania


LEGEND
PROPERTY BOUNDARY
INTERNAL PROPERTY BOUNDARY
FUTURE PROPERTY BOUNDARY
EXISTING PROPERTY BOUNDARY
EXISTING WATER
EXISTING STORMWATER
EXISTING SEWER
EXISTING ELECTRICAL
EXISTING OVERHEAD ELECTRICAL
EXISTING TELECOMMUNICATIONS
VEGETATION BUFFER (5m AND 10m)
EXISTING DRAINAGE EASEMENT
PROPOSED BUILDING FOOTPRINT
PROPOSED STORMWATER LINE
PROPOSED ROOF WATER LINE
PROPOSED SIDE ENTRY PIT
PROPOSED 600 X600 FIELD INLET PIT
PROPOSED STORMWATER MAINTENANCE HOLE
FALL DIRECTION
STORMWATER NOTES
STORMWATER PIPEWORK AND SIDE ENTRY PITS SHOWN INDICATIVELY AT THIS STAGE AND IS SUBJECT TO DETAILED DESIGN
REFER DRAWING No. C-7.11 FOR CONTINUATION
PROPOSED BYPASS ROAD
PARK
POTENTIAL SUBDIVISION LAYOUT
NOTE: THIS INDICATIVE LAYOUT FOR 67 ARTHUR STREET FORMS PART OF THE REZONING APPLICATION, BUT IS NOT INCLUDED IN THE EXPANSION PLAN AS ILLUSTRATED ON THIS DRAWING.
NO DRAINAGE SHOWN FOR 67 ARTHUR STREET AT THIS STAGE
EXISTING 2250 STORMWATER
ARTHUR STREET
REFER DRAWING No. C-7.11 FOR CONTINUATION
No. DATE AMENDMENT BY
A 13.05.22 ISSUED FOR INFORMATION C.R.P.
B 06.09.22 RE-ISSUED FOR INFORMATION C.R.P.
C 12.01.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
D 11.12.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
0 15 30 45 60 75 100
Scale 1:1500 @ A1 Scale 1:3000 @ A3
RP DESCRIPTION:
CLIENT:
Traders In Purple
MRC CONSULTING ENGINEERS
MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e: admin@mrceng.com.au www.mrceng.com.au
PROJECT:
EVANDALE EXPANSION PLAN
Drawn: C.R.P. Date: APRIL 2022
Designed: M.H. Checked: R.A.
Approved: M.H.
Status: PRELIMINARY
DRAWING TITLE:
CONCEPTUAL STORMWATER DRAINAGE PLAN SHEET No. 1 OF 2
Project No. J22125
Drawing No. C-7.10
Revision D
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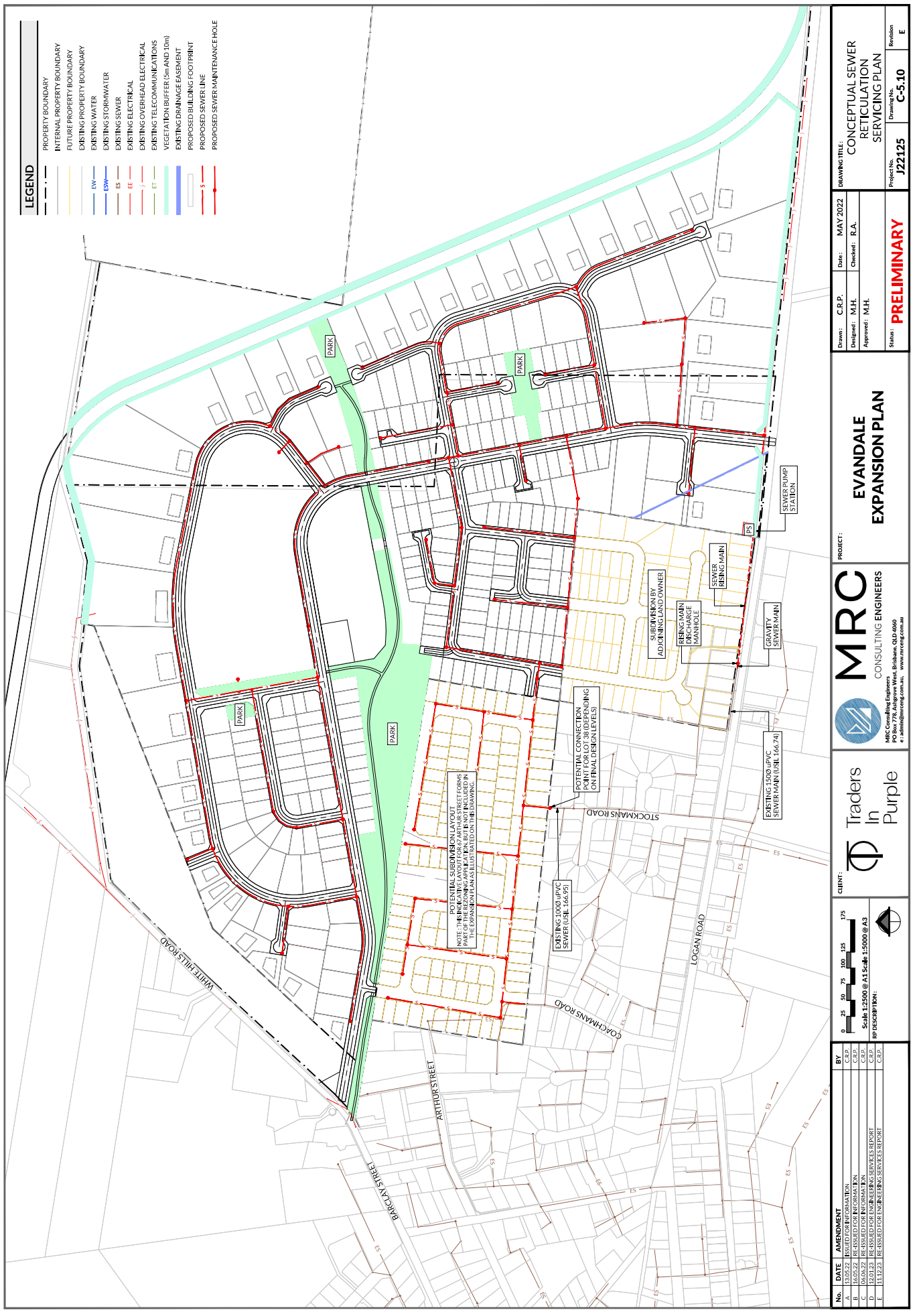

LEGEND
PROPERTY BOUNDARY
INTERNAL PROPERTY BOUNDARY
FUTURE PROPERTY BOUNDARY
EXISTING PROPERTY BOUNDARY
EXISTING WATER
EXISTING STORMWATER
EXISTING SEWER
EXISTING ELECTRICAL
EXISTING OVERHEAD ELECTRICAL
EXISTING TELECOMMUNICATIONS
VEGETATION BUFFER (5m AND 10m)
EXISTING DRAINAGE EASEMENT
PROPOSED BUILDING FOOTPRINT
PROPOSED STORMWATER LINE
PROPOSED ROOF WATER LINE
PROPOSED SIDE ENTRY PIT
PROPOSED 600X600 HELD INLET PIT
PROPOSED STORMWATER MAINTENANCE HOLE
FALL DIRECTION
STORMWATER NOTES
STORMWATER PIPEWORK AND SIDE ENTRY PITS SHOWN INDICATIVELY AT THIS STAGE AND IS SUBJECT TO DETAILED DESIGN
PROPOSED BYPASS ROAD
LOGAN ROAD
STOCKMANS ROAD
PARK
STORMWATER DETENTION/TREATMENT
OUTLET
PS
DRAINAGE FOR THESE 9 RURAL LOTS TO BE REVIEWED AT DA PHASE
EXISTING DRAINAGE EASEMENT TO BE REVIEWED DURING DETAILED DESIGN
SUBDIVISION BY ADJOINING LAND OWNER
POTENTIAL SUBDIVISION LAYOUT
NOTE: THE INDICATIVE LAYOUT FOR 6 ARTHUR STREET FORMS PART OF THE REZONING APPLICATION BUT IS NOT INCLUDED IN THE EXPANSION AS IT IS STATED ON THE DRAWING.
POTENTIAL CONNECTION POINT.
EXISTING 750Ø STORMWATER
38
REFER DRAWING No. C-7.10 FOR CONTINUATION
REFER DRAWING No. C-7.10 FOR CONTINUATION
No. | DATE | AMENDMENT | BY
A | 13.05.22 | ISSUED FOR INFORMATION | C.R.P.
B | 06.09.22 | RE-ISSUED FOR INFORMATION | C.R.P.
C | 12.01.23 | RE-ISSUED FOR ENGINEERING SERVICES REPORT | C.R.P.
D | 11.12.23 | RE-ISSUED FOR ENGINEERING SERVICES REPORT | C.R.P.
0 15 30 45 60 75 100
Scale 1:1500 @ A1 Scale 1:3000 @ A3
RP DESCRIPTION:
CLIENT:
Traders In Purple
MRC CONSULTING ENGINEERS
MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e: admin@mrceng.com.au www.mrceng.com.au
PROJECT:
EVANDALE EXPANSION PLAN
Drawn: C.R.P. Date: APRIL 2022
Designed: M.H. Checked: R.A.
Approved: M.H.
Status: PRELIMINARY
DRAWING TITLE:
CONCEPTUAL STORMWATER DRAINAGE PLAN SHEET No. 2 OF 2
Project No. J22125
Drawing No. C-7.11
Revision D
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APPENDIX D

Conceptual Sewerage Reticulation Plan

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania

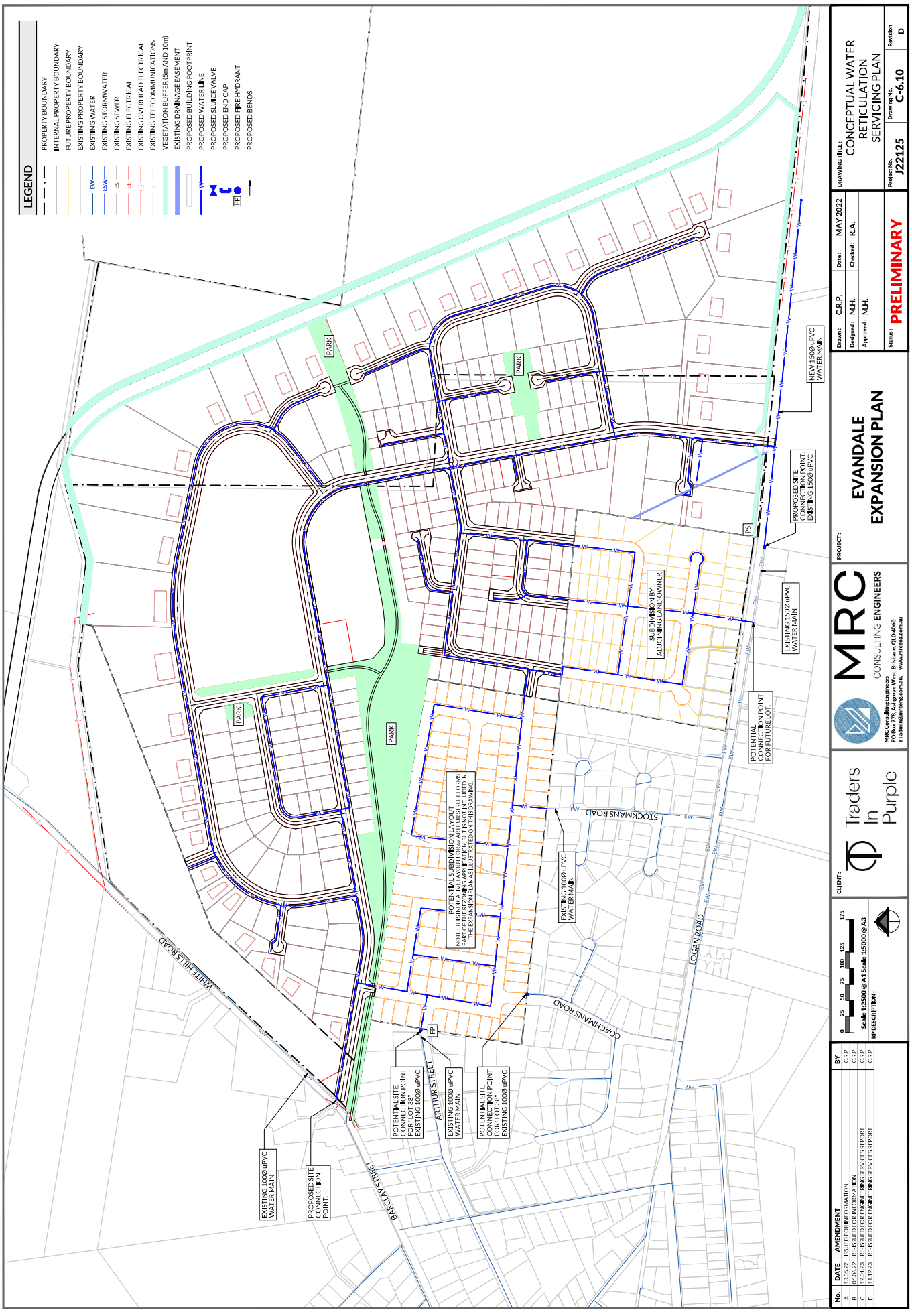

LEGEND
PROPERTY BOUNDARY
INTERNAL PROPERTY BOUNDARY
FUTURE PROPERTY BOUNDARY
EXISTING PROPERTY BOUNDARY
EXISTING WATER
EXISTING STORMWATER
EXISTING SEWER
EXISTING ELECTRICAL
EXISTING OVERHEAD ELECTRICAL
EXISTING TELECOMMUNICATIONS
VEGETATION BUFFER (5m AND 10m)
EXISTING DRAINAGE EASEMENT
PROPOSED BUILDING FOOTPRINT
PROPOSED SEWER LINE
PROPOSED SEWER MAINTENANCE HOLE
PARK
WHITE HILLS ROAD
ARTHUR STREET
BAD CLAY STREET
COACHMANS ROAD
LOGAN ROAD
STOCKMANS ROAD
POTENTIAL SUBDIVISION LAYOUT
NOTE: THE ABOVE LAYOUT IS FOR INDICATIVE STREET FORMS ONLY AND IS NOT INCLUDED IN PART OF THE REZONING APPLICATION, BUT IS NOT INCLUDED IN THE EXPANSION PLAN AS ILLUSTRATED ON THIS DRAWING.
POTENTIAL CONNECTION POINT FOR LOT 38 (DEPENDING ON FINAL DESIGN LEVELS)
EXISTING 1000 uPVC SEWER (USIL 166.95)
EXISTING 1500 uPVC SEWER MAIN (USIL 166.74)
SUBDIVISION BY ADJOINING LAND OWNER
RISING MAIN DISCHARGE MANHOLE
SEWER RISING MAIN
GRAVITY SEWER MAIN
PS
SEWER PUMP STATION
No. DATE AMENDMENT BY
A 13.05.22 ISSUED FOR INFORMATION C.R.P.
B 16.05.22 RE-ISSUED FOR INFORMATION C.R.P.
C 26.08.22 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
D 06.09.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
E 11.12.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
0 25 50 75 100 125 175
Scale 1:2500 @ A1 Scale 1:5000 @ A3
RP DESCRIPTION:
CLIENT:
Traders In Purple
MRC CONSULTING ENGINEERS
MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e: admin@mrceng.com.au www.mrceng.com.au
PROJECT:
EVANDALE EXPANSION PLAN
Drawn: C.R.P. Date: MAY 2022
Designed: M.H. Checked: R.A.
Approved: M.H.
Status: PRELIMINARY
DRAWING TITLE:
CONCEPTUAL SEWER RETICULATION SERVICING PLAN
Project No. J22125
Drawing No. C-5.10
Revision E
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APPENDIX
E

Conceptual Water Reticulation Plan

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania

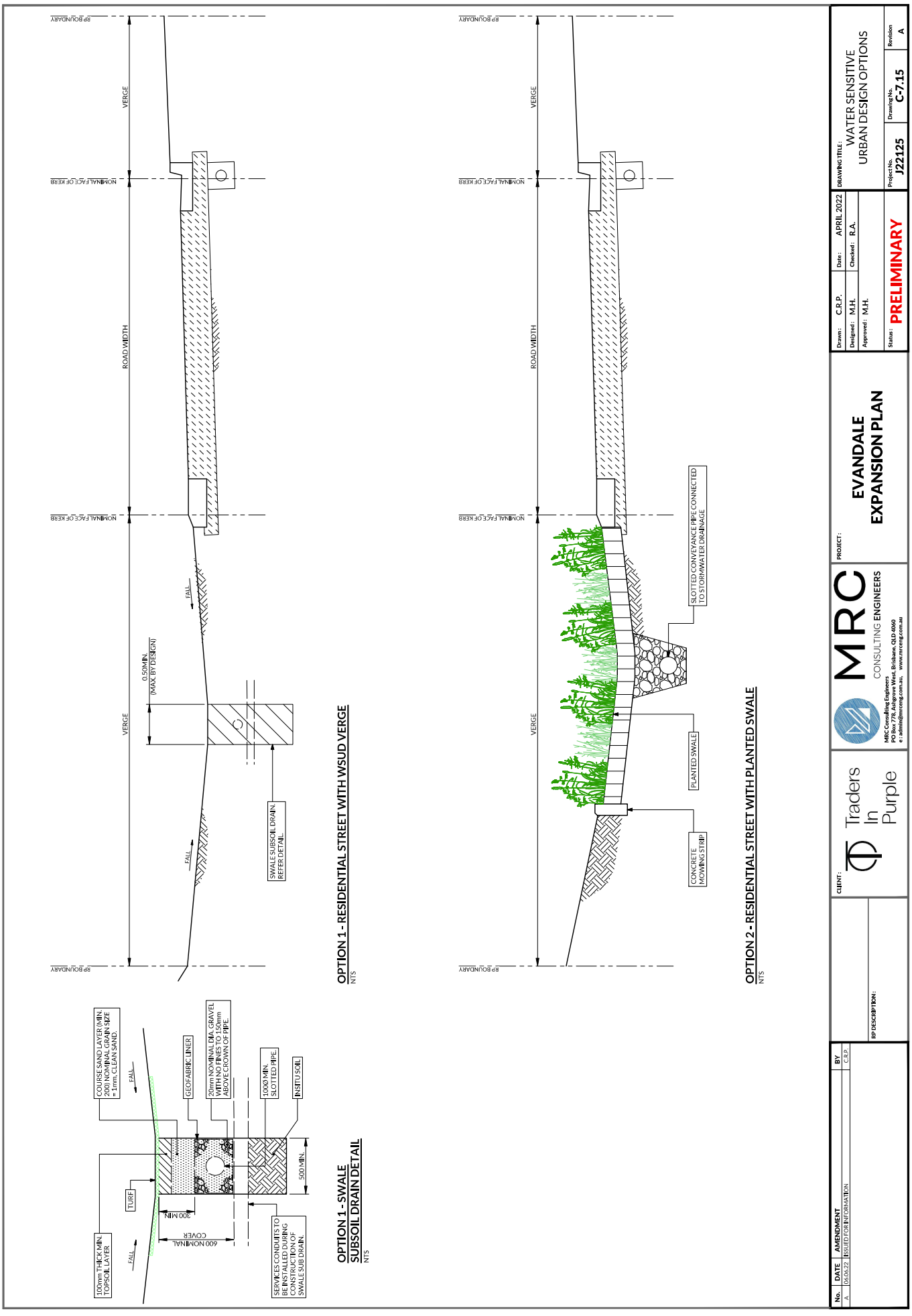

LEGEND
PROPERTY BOUNDARY
INTERNAL PROPERTY BOUNDARY
FUTURE PROPERTY BOUNDARY
EXISTING PROPERTY BOUNDARY
EXISTING WATER
EXISTING STORMWATER
EXISTING SEWER
EXISTING ELECTRICAL
EXISTING OVERHEAD ELECTRICAL
EXISTING TELECOMMUNICATIONS
VEGETATION BUFFER (5m AND 10m)
EXISTING DRAINAGE EASEMENT
PROPOSED BUILDING FOOTPRINT
PROPOSED WATER LINE
PROPOSED SLUICE VALVE
PROPOSED END CAP
PROPOSED FIRE HYDRANT
PROPOSED BENDS
EVANDALE EXPANSION PLAN
MRC CONSULTING ENGINEERS
Traders In Purple
CONCEPTUAL WATER RETICULATION SERVICING PLAN
PRELIMINARY
J22125
C-6.10
D
WHITE HILLS ROAD
BACKLAY STREET
ARTHUR STREET
COACHMANS ROAD
LOGAN ROAD
STOCKMANS ROAD
PARK
PS
EXISTING 1000 uPVC WATER MAIN
PROPOSED SITE CONNECTION POINT.
POTENTIAL SITE CONNECTION POINT FOR LOT 38 EXISTING 1000 uPVC
EXISTING 1000 uPVC WATER MAIN
POTENTIAL SUBDIVISION LAYOUT
NOTE: THE ABOVE LAYOUT AND STREET FORMS PART OF THE REZONING APPLICATION, BUT IS NOT INCLUDED IN THE EXPANSION PLAN AS ILLUSTRATED ON THIS DRAWING.
SUBDIVISION BY ADJOINING LAND OWNER
POTENTIAL CONNECTION POINT FOR FUTURE LOT.
EXISTING 1500 uPVC WATER MAIN
PROPOSED SITE CONNECTION POINT. EXISTING 1500 uPVC
NEW 1500 uPVC WATER MAIN
Scale 1:2500 @ A1 Scale 1:5000 @ A3
Drawn: C.R.P.
Designed: M.H.
Approved: M.H.
Date: MAY 2022
Checked: R.A.
Project No. J22125
Drawing No. C-6.10
Revision D
Status: PRELIMINARY
No. DATE AMENDMENT BY
A 13.05.22 ISSUED FOR INFORMATION C.R.P.
B 06.09.22 RE-ISSUED FOR INFORMATION C.R.P.
C 12.01.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
D 11.12.23 RE-ISSUED FOR ENGINEERING SERVICES REPORT C.R.P.
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APPENDIX F

Conceptual Water Sensitive Urban Design Options

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania

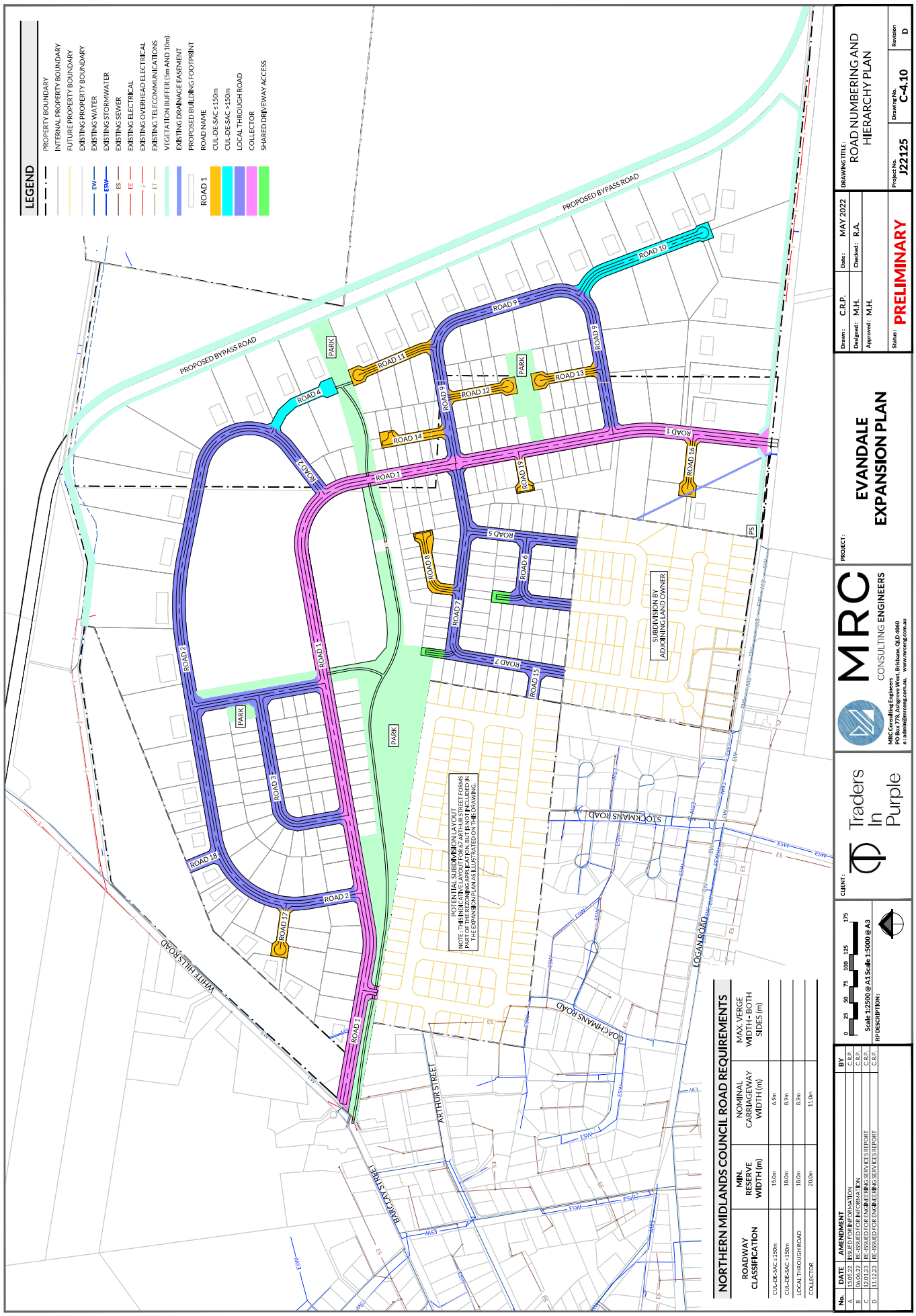

RP BOUNDARY
VERGE
NOMINAL FACE OF KERB
ROAD WIDTH
FALL
0.50MIN. (MAX. BY DESIGN)
SWALE SUBSOIL DRAIN REFER DETAIL
OPTION 1 - RESIDENTIAL STREET WITH WSUD VERGE
NTS
SLOTTED CONVEYANCE PIPE CONNECTED TO STORMWATER DRAINAGE
PLANTED SWALE
CONCRETE MOWING STRIP
OPTION 2 - RESIDENTIAL STREET WITH PLANTED SWALE
NTS
COURSE SAND LAYER (MIN. 200) NOMINAL GRAIN SIZE ≥ 1mm, CLEAN SAND.
GEOFABRIC LINER
20mm NOMINAL DIA. GRAVEL WITH NO FINES TO 150mm ABOVE CROWN OF PIPE.
100Ø MIN. SLOTTED PIPE
INSITU SOIL
100mm THICK MIN. TOPSOIL LAYER
TURF
300 MIN
600 NOMINAL COVER
500 MIN.
SERVICES CONDUITS TO BE INSTALLED DURING CONSTRUCTION OF SWALE SUB DRAIN.
OPTION 1 - SWALE SUBSOIL DRAIN DETAIL
NTS
No. DATE AMENDMENT BY
A 06.06.22 ISSUED FOR INFORMATION C.R.P.
RP DESCRIPTION:
CLIENT: Traders In Purple
MRC CONSULTING ENGINEERS
MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e: admin@mrceng.com.au www.mrceng.com.au
PROJECT: EVANDALE EXPANSION PLAN
Drawn: C.R.P. Date: APRIL 2022
Designed: M.H. Checked: R.A.
Approved: M.H.
Status: PRELIMINARY
DRAWING TITLE: WATER SENSITIVE URBAN DESIGN OPTIONS
Project No. J22125
Drawing No. C-7.15
Revision A
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APPENDIX G

Conceptual Road Hierarchy Plan

Proposed Mixed Use Residential Development
Logan Road, Evandale Tasmania



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APPENDIX H

Existing DBYD / Electrical /Comms

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www.1100.com.au

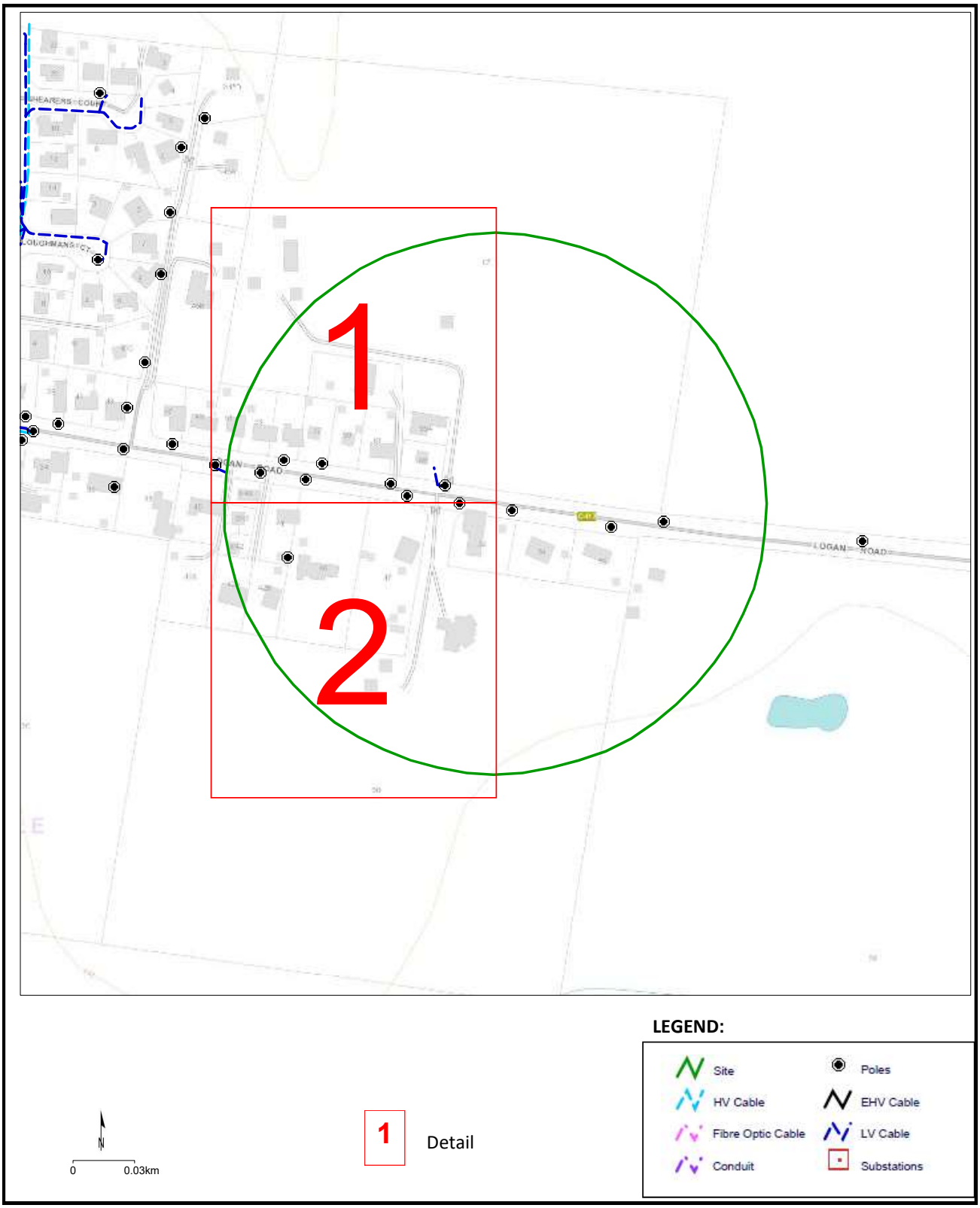
Overview Map

Job No: 31711106

Sequence No: 209995745

52 Logan Road Evandale

TasNetworks contact details: 1300 137 008 (enquiries) or 132 004 (emergency only), email customer.enquiries@tasnetworks.com.au



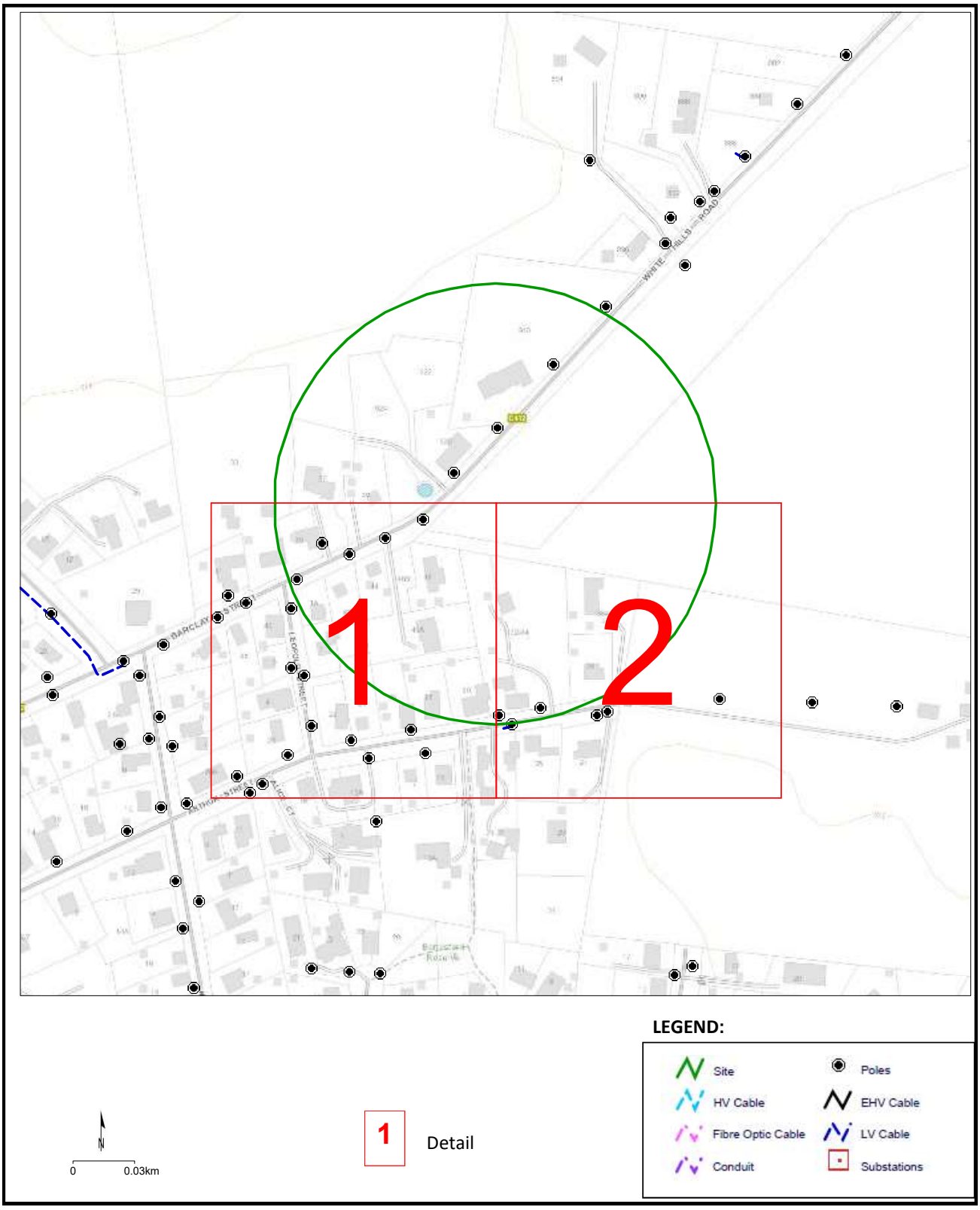
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Overview Map **Job No:** 31711085 **Sequence No:** 209995630

920 White Hills Road Evandale

TasNetworks contact details: 1300 137 008 (enquiries) or 132 004 (emergency only), email customer.enquiries@tasnetworks.com.au



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APPENDIX I

TasWater Correspondence

RE: Evandale Project - TasWater Application for Development Services

TasWater Development Mailbox <Development@taswater.com.au>
Tue 22/02/2022 1:04 PM
To: Mark Harrison (MRC Engineering) <mark.harrison@mrceng.com.au>

1 attachments (860 KB)
Further Asset Strategy advice; TWSI 2019/00022-NMC; 98 RIDGESIDE LANE, EVANDALE; Ridgeside Lane Proposal;

TasWater Reference: SI 2019/00022-NMC

Hi Mark,
I've been waiting on information form our asset strategy team and I'm told that
The previous growth forecasting prepared predicted this development area.
The only thing that would affect us would be based on staging of what developments occur first.

In terms of our original response form greg Clausen, we don't believe there is anything new to add.

Regards,
Anthony Cengia
Senior Assessment Officer

M 0474 933 293
F 1300 862 066
A GPO Box 1393, Hobart TAS 7001
169 Main Road, Moonah, TAS 7009
E anthony.cengia@taswater.com.au
W http://www.taswater.com.au/

Please note that I am working from both home and the office on a 9 day fortnight, every second Monday is my non-work day.

From: Mark Harrison (MRC Engineering) <mark.harrison@mrceng.com.au>
Sent: Friday, 14 January 2022 9:38 AM

To: Taylor, Jason <Jason.Taylor@taswater.com.au>
Subject: [SUSPICIOUS MESSAGE] Re: Evandale Project - TasWater Application for Development Services

---

Hi Jason,

Happy New Year. Hope you are well.

Just wanted to update you on the Evandale Project we were discussing in our teleconference just prior to Christmas.

Summary

- I have attached a copy of the proposed site layout (Evandale Growth Plan). This is an additional portion of land that the Developer has purchased, which will now likely form the FIRST part of the overall master planned development.
- The project has now been presented to Northern Midlands Council and they are supportive of the concept.
- We are now in the process of looking at functional roadworks plans, preliminary stormwater concepts, servicing arrangements, etc, to move towards lodging a Development Application for this first part of the overall project.
- I have also included the ORIGINAL Ridgeside Lane MASTERPLAN - This is the masterplan we put in front of have been put in front of Taswater previously, and represents the balance of what Traders in Purple is wanting to deliver to the area over a 10-15 year period. (i have included this for full transparency of what is being proposed for the overall development.

Moving Forward

-

- How best would you like to move forward on this project? As previously discussed, due to the overall size of the project, we would like to start discussions with TasWater ultimately about how the project could be serviced.
- We would now like to start looking into servicing requirements, capacities of existing infrastructure, proposed staging of works, etc for the FIRST section of the development (Evandale Growth Plan)
- Would you like me to submit an Application for Development Services application form with the proposed plans attached FOR A WATER/SEWER SERVICE ENQUIRY?

Happy to set up a time next week for a phone discussion if that would work for you?

Kind Regards

Mark Harrison | Principal Engineer | **M** 0401 071 353

BEng MIEAust NER RPEQ CPESC

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MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e admin@mrceng.com.au | w www.mrceng.com.au
Queensland | New South Wales | Tasmania

From: Taylor, Jason <Jason.Taylor@taswater.com.au>
Sent: Wednesday, 1 December 2021 5:50 PM
To: Mark Harrison (MRC Engineering) <mark.harrison@mrceng.com.au>
Subject: RE: Evandale Project - TasWater Application for Development Services

Hi Mark,

In the first instance, if we could have a phone conversation to determine what we need to discuss, then arrange appropriate people to attend Teams/Zoom meeting, that would be helpful.

I understand the most current advice is as attached and at this point I do not suspect much has changed.

I am report writing on Monday of next week so am free for most of the day to take a call.

How about we lock in 10:30am? If this doesn't suit let me know another time for the day.

Regards

Jason Taylor
Development Assessment Manager

0459 167 683

From: Mark Harrison (MRC Engineering) <mark.harrison@mrceng.com.au>
Sent: Wednesday, 1 December 2021 1:01 PM
To: Taylor, Jason <Jason.Taylor@taswater.com.au>
Subject: Re: Evandale Project - TasWater Application for Development Services

Hi Jason,

Hope you are well. It has been a while since we have spoken as this project has been sitting on hold for a little while.

Quick Summary

- I was discussing this proposed project with yourself and Greg Clausen back in 2019.
- Since then the developer Traders in Purple has acquired some additional land holdings, between the proposed Evandale Development and the town of Evandale.
- I have attached a high-level concept plan showing an option that is currently being reviewed for more residential lots, retirement, child care facility, etc (this has not been made public as yet)

What i would like to do if it suits you, is look to arrange a suitable time when i could set up a Teams/Zoom meeting with yourself (and your team if required at this stage), to have some high level discussions around the development as a whole, water, sewerage, infrastructure etc.

Would there be a suitable time sometime next week, where we could arrange a time for a preliminary discussion?

Kind Regards

Mark Harrison | Principal Engineer | **M** 0401 071 353

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Preliminary Water and Sewerage Report

Prepared for Traders in Purple

Proposed Evandale Expansion Plan

Evandale, Tasmania

9th October 2024

MRC CONSULTING ENGINEERS

Project: Proposed Evandale Expansion Plan

Document Title: Preliminary Water & Sewerage Report

Project No: J22125

Document Verification					
Issue	*Date*	*Issuer Details*	*Author*	*Verifier*	*Approved*
A	03.10.2024	Preliminary Issue	MH	RA	MH
B	09.10.2024	Preliminary Issue	MH	RA	MH



.....

Mark Harrison Date: 09/10/2024
BEng MIEAust NER RPEQ CPESC

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This report has been prepared for Traders in Purple.

MRC Consulting Engineers cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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2.0	***BACKGROUND***	***5***
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3.0	***DESIGN CRITERIA***	***6***
3.1	**Design Criteria**	**6**
3.2	**Potable Water Supply Demand Requirements**	**6**
3.3	**Fire Fighting Requirements**	**7**
4.0	***DEMAND CALCULATIONS***	***8***
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5.0	***CONCLUSION***	***10***
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Appendix B – Preliminary Staging Plan

Appendix C – Conceptual Sewer Reticulation Servicing Plan

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Table 2 - Water Supply Demand & Peaking Factors (Drinking Water Only)

Table 3 – Minimum Service Pressures

Table 4 - Fire Flows from Hydrants

Table 5 – Sewer – Equivalent Tenement (ET) Catchment Loadin

Table 6 – Proposed Sewerage Loading

Table 7 – Water – Equivalent Tenement (ET) Catchment Loading

Table 8 – Proposed Water Loading

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Figure 1: Site Location

1.0 INTRODUCTION

MRC Consulting Engineers Pty Ltd have been commissioned by Traders in Purple to prepare a Preliminary Water and Sewerage Report for further discussions with TasWater in relation to their proposed residential development located at Evandale in Tasmania.

The following water and sewerage supply report is a high-level assessment illustrating the proposed loadings, flows, and demands based on the current Proposed Evandale Expansion Plan prepared by Lange Design. The calculations are based on the TasWater desired standards of service and are set out in accordance with the TasWater supplements to both the Water Supply Code of Australia WSA-03, and the Sewerage Code of Australia WSA-02.

2.0 BACKGROUND

2.1 Site Description

The proposed site is located on Logan Road at Evandale in Tasmania. The real description of the land is CT116759/1 and CT106773/1. The site is located in the Northern Midlands Council area.

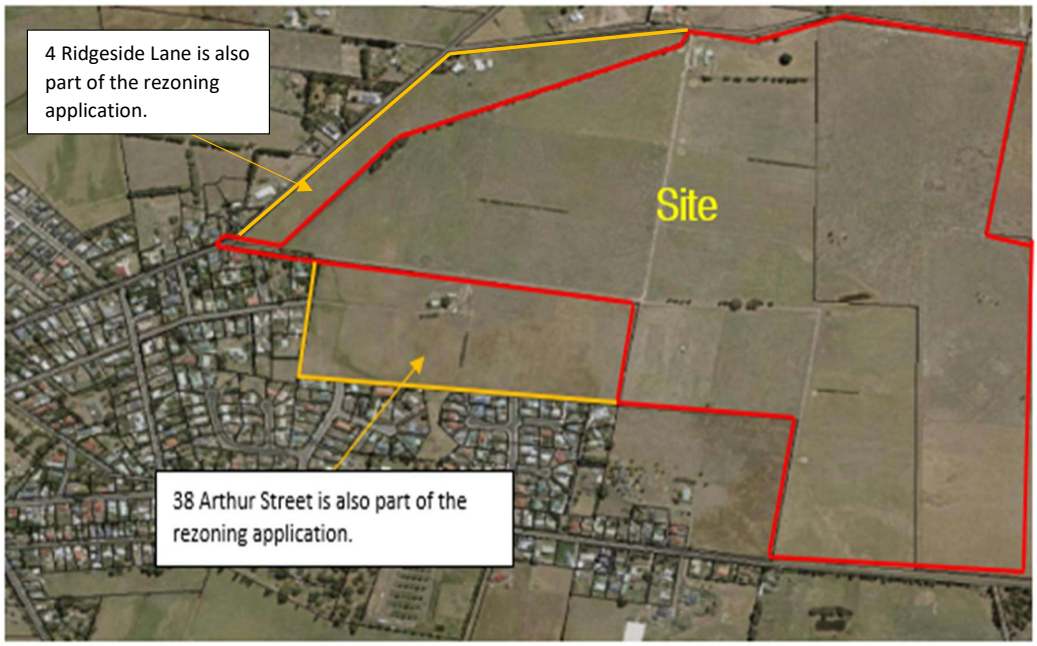


Figure 1 - Site Location (Source: Nearmap)

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3.0 DESIGN CRITERIA

3.1 Design Criteria

Water

The design for the portable water supply for the proposed development will be based on the following:

- TasWater supplement to water supply code of Australia – WSA03 – 2011 – 3.1 MRWA Edition V2.0
- WSA-03-2011 Water Supply Code of Australia Part 1: Planning & Design, Water Services Association of Australia, Version 3.1, 2011

Sewer

The design for the sewerage reticulation for the proposed development is based on the following:

- TasWater Supplement to WSA 02-2014-3.1 (Version 2.1) – WSAA Gravity Sewerage Code of Australia (Melbourne Retail Water Agencies Edition)
- WSA 02-2014–Gravity Sewerage Code of Australia Part 1: Planning & Design, Water Services Association of Australia

3.2 Potable Water Supply Demand Requirements

General Demands

As this is a new development and the number of equivalent tenements is greater than 100, we have based our calculations on an average day demand (AD) of 250kL/ET/Annum which equates to 685L/ET/Day.

The value of 250kL/ET/Annum allows for the following contributions.

Table 1: New Water Supply Demands

Contribution	kL/ET/annum	L/ET/day
Average annual residential water allowance	200	548
Community use @ 2.5%	5	14
System Losses @ 22.5%	45	123
Total (AD)	250	685

(Source: TW WSA03-2011-3.1 MRWA V2.0 Supplement)

Potable Water Supply Demand Requirements

The potable water supply demand and peaking factor requirements are shown in table 2 below. These have been reproduced from TW WSA03-2011-3.1 MRWA V2.0 supplement.

Table 2: Water Supply Demand & Peaking Factors (Drinking Water Only)

Property Type	Average Day Demand (L/ET/Day)	Peaking Factors (Average Day)		
		MDMM/AD	PD/AD	PH/AD
Residential (single detached)	685	1.5	2.25	2.0
Multi-residential	685	1.5	2.25	2.0
Commercial/Public	685	1.5	2.25	2.0

(Source: TW WSA03-2011-3.1 MRWA V2.0 Supplement)

Legend

- MDMM – Mean Day Maximum Month Demand
- PD – Peak Day Demand
- AD – Average Day Demand
- PH – Peak Hour Demand

TasWater's Minimum Service Pressures shall be as per the table 3 below.

Table 3: Minimum Service Pressures

Pressure at the connection point1,2	Residential Flat Grade3 (≤ 18%)	Residential Steep Grade3 (> 18%)	Non-Residential
Minimum Pressure at PH	220kPa (22m)	250kPa (25m)	250kPa (25m)

(Source: Table 2.5.3.3: Minimum Service Pressures)

1 Excluding fire fighting and measured at the connection point with the relevant supplying water storage reservoir not more than one third full at PH – generally deemed to be at the property road frontage but for internal lots commonly know as 'hammerhead style blocks' the minimum pressure at PH is to be achieved at the 'lot proper' boundary.

2 The minimum pressures at PH are based on Section 3 Sizing of Water Services and Appendix C of AS/NZS3500.1.2:2003 for a double storey dwelling fed from a DN20 metered service connection, a 40m Index Length and achieving a 50kPa working head at the most disadvantaged fixture without on-property storage tanks or booster pumps and a demand of 0.1l/s. Where the Index Length is greater than 40m or smaller pipe diameters are used then additional pipe losses shall be allowed for.

3 Measure on the high side of the street from the connection point to the highest contour on the block.

3.3 Fire Fighting Requirements

The required fire fighting flow design parameters are listed in table 4 below.

Table 4: Fire Flows from Hydrants

Zoning	Unassisted Feed Hydrant Demand	Design Fire Flows	System Residual Pressure	Background Demand
General Residential Inner Residential Urban Mixed Use Village (if serviced) Low Density Residential Rural Living Environmental Living	10 l/s @ 200kPa minimum residual pressure from one hydrant for a period of 4 hours	10 l/s @ 250 kPa (new) or 300 kPa (old) minimum residual pressure from one hydrant for a period of 4 hours	100 kPa in entire service zone	2/3PH (not less than AD)

(Source: TW WSA03-2011-3.1 MRWA V2.0 Supplement)

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4.0 DEMAND CALCULATIONS

4.1 Sewer – Proposed Sewerage Catchment Loading

Table 5 below illustrates the proposed sewerage catchment loading for the proposed development based on current Equivalent Tenement rates.

Table 5: Sewerage – Equivalent Tenement (ET) Catchment Loading

Evandale Sewer	No. of Lots	Area/No	ET Rate	Per	ET Code	Total ET
Stage 1	43		1	Lot	RC01	43
Stage 2	45		1	Lot	RC01	45
Stage 3	31		1	Lot	RC01	31
Stage 4a	59		1	Lot	RC01	59
Stage 4b - Restaurant /Café		300	0.008	m2	MP01	2.4
Stage 4b - Recreation/Sports Facilities		24	0.6	fixture	CF00	14.4
Stage 5	6		1	Lot	RC01	6
Stage 6	48		1	Lot	RC01	48
Stage 7	34		1	Lot	RC01	34
Stage 8 - Aged Care		100	0.971	Per bed	AP01	97.1
Stage 8 - Child Care		80	0.1	Per Child	CF01	8
Stage 8 - Medical		8	0.6	Per Room	BE07	4.8
TOTAL	**266**					**392.7**

Equivalent Tenement (ET) loading rate is 450 L/ET/day for new residences (Post 2014) in accordance with clause 2.4.1 of the TasWater supplement to WSA 02-2014-3.1 WSAA Gravity Sewerage Code of Australia (MRWA Edition)

Sewerage Loading Formulas

- *Average Dry Weather Flow (ADWF)*

  ADWF (L/s) = ET x 450 L/ET/DAY x 0.000012

- *Peak Dry Weather Flow (PDWF)*

  PDWF (L/s) = D x ET x 450 L/ET/DAY x 0.000012

  "d" = peaking factor (Figure B.1 – WSA02)
  Gross development area = 2.89ha ∴ d= 5.7

Table 6 below summarises the Average Dry Weather Flow (ADWF) and Peak Dry Weather Flow (PDWF) loading for each proposed stage of the development.

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Table 6: Proposed Sewerage Loading

Sewer	Total ET	Average Dry Weather Flow	d	Peak Dry Weather Flow
		ADWF (L/s)		PDWF (L/s)
Stage 1	43	0.232	3.50	0.813
Stage 2	45	0.243	4.25	1.033
Stage 3	31	0.167	5.20	0.870
Stage 4	75.8	0.409	4.75	1.944
Stage 5	6	0.032	4.35	0.141
Stage 6	48	0.259	4.40	1.140
Stage 7	34	0.184	4.30	0.789
Stage 8	109.9	0.593	4.60	2.730
Total	**392.7**	**2.121**		**9.461**

4.2 Water – Demand Calculations

Table 7 below illustrates the proposed water reticulation catchment loading for the proposed development based on current Equivalent Tenement rates.

Table 7: Water – Equivalent Tenement (ET) Catchment Loading

Evandale - Water	No. of Lots	Area/No	ET Rate	Per	ET Code	Total ET
Stage 1	43		1	Lot	RC01	43
Stage 2	45		1	Lot	RC01	45
Stage 3	31		1	Lot	RC01	31
Stage 4a	59		1	Lot	RC01	59
Stage 4b - Restaurant /Café		300	0.005	m2	MP01	1.5
Stage 4b - Recreation/Sports Facilities		24	0.4	fixture	CF00	9.6
Stage 5	6		1	Lot	RC01	6
Stage 6	48		1	Lot	RC01	48
Stage 7	34		1	Lot	RC01	34
Stage 8 - Aged Care		100	0.657	Per bed	AP01	65.7
Stage 8 - Child Care		80	0.06	Per Child	CF01	4.8
Stage 8 - Medical		8	0.4	Per Room	BE07	3.2
TOTAL	**266**					**350.8**

(Source: Table A1: Equivalent Tenement Rates – Appendix A – TW WSA03 – 2011 – 3.1 MRWA V2.0 Supplement).

Water Reticulation Loading Formulas

- Average Day (AD) = 685L/ET/day
- Mean Day Max Month (MDMM) = 1.5 x AD

- Peak Day Demand (PD) = 2.25 x AD
- Peak Hour Demand (PH) = 2.0 x PD

Table 8: Proposed Water Loading

Water	Total ET	Average Day	Mean Day Max Month	Peak Demand	Peak Hour Demand
		AD (L/s)	MDMM (L/s)	PD (L/s)	PH (L/s)
Stage 1	43	0.341	0.511	0.767	1.534
Stage 2	45	0.357	0.535	0.803	1.605
Stage 3	31	0.246	0.369	0.553	1.106
Stage 4	70.1	0.556	0.834	1.250	2.501
Stage 5	6	0.048	0.071	0.107	0.214
Stage 6	48	0.381	0.571	0.856	1.713
Stage 7	34	0.270	0.404	0.607	1.213
Stage 8	73.7	0.584	0.876	1.315	2.629
Total		**2.781**	**4.172**	**6.258**	**12.516**

5.0 CONCLUSION

MRC Consulting Engineers Pty Ltd have been engaged by Traders in Purple to prepare a Preliminary Water and Sewerage Report for further discussions with TasWater in relation to their proposed residential development located at Evandale in Tasmania.

The following water and sewerage supply report is a high-level assessment illustrating the proposed loadings, flows, and demands based on the current Proposed Evandale Expansion Plan prepared by Lange Design. The calculations are based on the TasWater desired standards of service and are set out in accordance with the TasWater supplements to both the Water Supply Code of Australia WSA-03, and the Sewerage Code of Australia WSA-02.

6.0 REFERENCES

TasWater 2017, *TasWater Supplement to WSA 02-2014-3.1 (Version 2.1) – WSAA Gravity Sewerage Code of Australia (Melbourne Retail Water Agencies Division)*, TasWater, Tasmania.

TasWater 2023, *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition V2.0 Public 05*, TasWater, Tasmania.

Water Services Association of Australia 2014, *WSA-02-2014-3.1* - Gravity *Sewerage Code of Australia: Part 1 – Planning & Design*, Water Services Association of Australia.

Water Services Association of Australia 2011, WSA-03-2011-3.1 -*Water Supply Code of Australia: Part 1 – Planning & Design*, Water Services Association of Australia.

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APPENDIX A

Proposed Development Layout



LEGEND

- Existing general residential lots within Evandale.
- Potential future road reserve layout in the adjoining large lot properties.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (6.25 Ha).
- Proposed road network as per NMC Evandale SAP section NOR-S5.8.4 Roads.
- 188 x Proposed general residential lots varying in size from 550m2 to 850m2.
- 75 x Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- 2 x Proposed community purpose lots, 62,200m2 and 37,000m2.
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1. Potential for additional land acquisition to provide a safer intersection such as a roundabout.
2. Public open space corridor for pedestrian and cyclist connections to Barclay Street.
3. Road connections to adjoining current and future residential precincts.
4. Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.
5. Local pocket parks to accommodate surrounding residents.
6. Local Business Zone for neighbourhood retail (2,800m2).
7. Existing farm dam to be retained top protect existing frog habitat.
8. Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.
9. Intersection to Logan Road.
10. Possible future by-pass road allowing heavy trucks to by-pass Russell Street and to relieve Sunday Market traffic congestion.
11. 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
12. 10m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
13. Future Ridgeside Lane driveway adjustment required due to possible future by-pass road.
14. Future White Hills Road intersection adjustment required due to possible future by-pass road.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Subdivision Master Plan

0 25 50m
Sheet 1 of 1
22 September 2024
Issue K

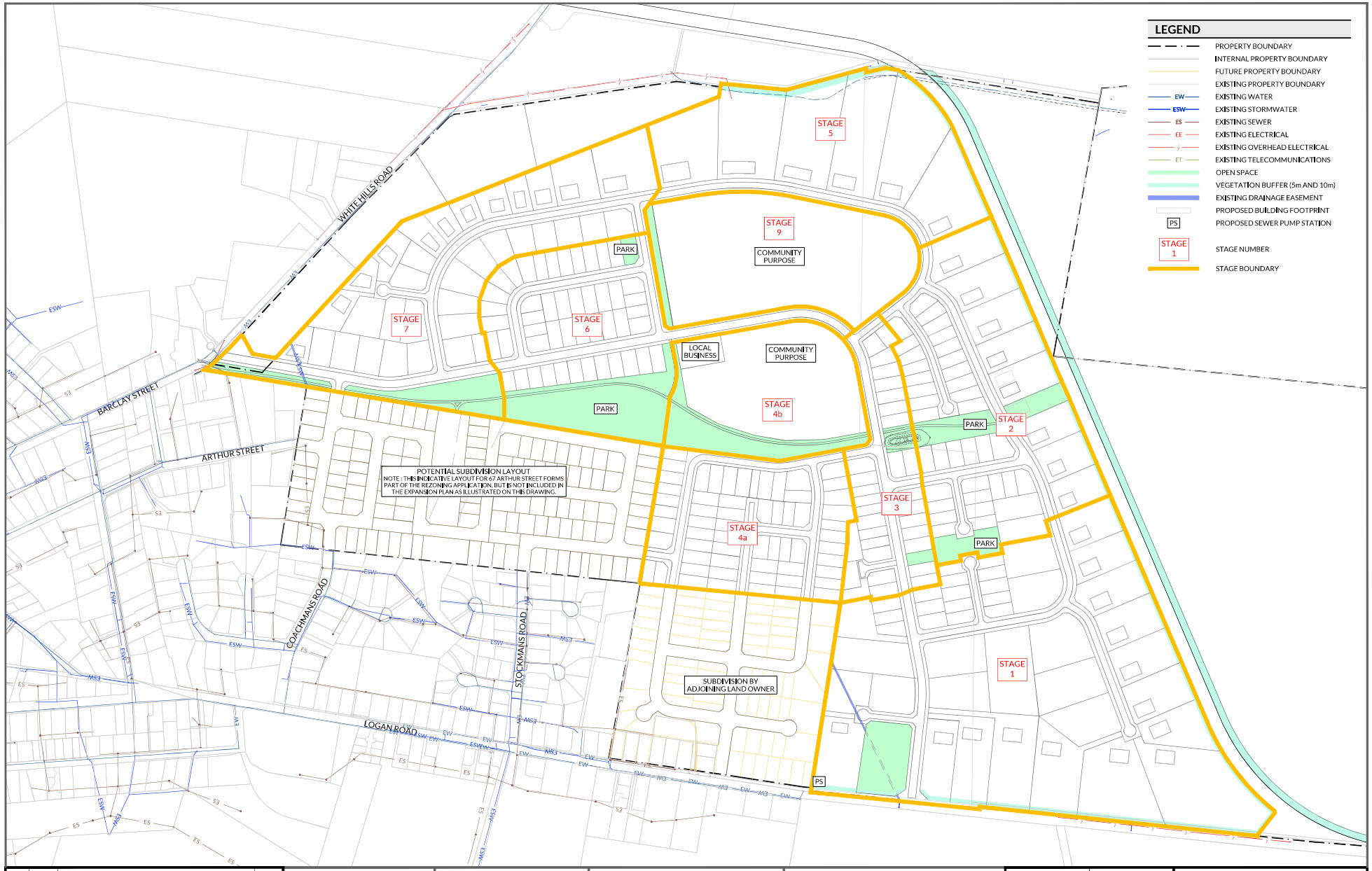
Traders In Purple

LANGE design landscape architecture

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APPENDIX B

Preliminary Staging Plan



No.	DATE	AMENDMENT	BY
A	03.10.24	PRELIMINARY ISSUE	E.K.

0 25 50 75 100 125 175
Scale 1:2500 @ A1 Scale 1:5000 @ A3
RP DESCRIPTION :

CLIENT : Traders In Purple

MRC CONSULTING ENGINEERS
MRC Consulting Engineers
PO Box 778, Ashgrove West, Brisbane, QLD 4060
e : admin@mrceng.com.au, www.mrceng.com.au

PROJECT : **EVANDALE EXPANSION PLAN**

Drawn : C.R.P.	Date : MAY 2022		
Designed : M.H.	Checked : R.A.		
Approved : M.H.			
Status : **PRELIMINARY**			

DRAWING TITLE : PRELIMINARY STAGING PLAN

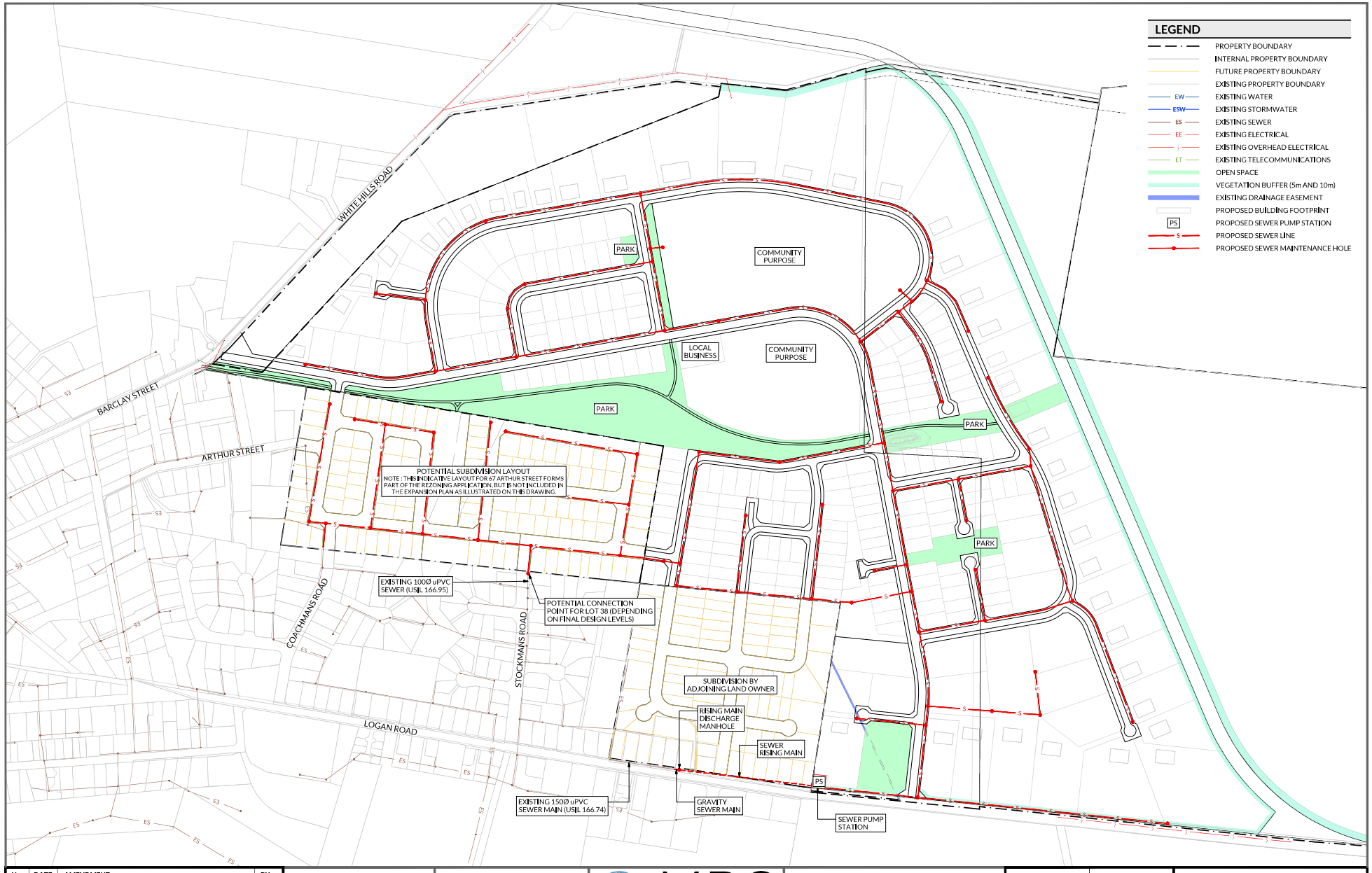
Project No.	Drawing No.	Revision
J22125	C-SK2	A

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APPENDIX C

Conceptual Sewer Reticulation Servicing Plan



No.	DATE	AMENDMENT	BY
A	13.05.22	ISSUED FOR INFORMATION	C.R.P.
B	16.05.22	RE-ISSUED FOR INFORMATION	C.R.P.
C	06.06.22	RE-ISSUED FOR INFORMATION	C.R.P.
D	12.01.23	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.
E	11.12.23	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.
F	03.10.24	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.

0 25 50 75 100 125 175
Scale 1:2500 @ A1 Scale 1:5000 @ A3
RP DESCRIPTION :

CLIENT : Traders In Purple

MRC CONSULTING ENGINEERS
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PO Box 778, Ashgrove West, Brisbane, QLD 4060
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PROJECT : **EVANDALE EXPANSION PLAN**

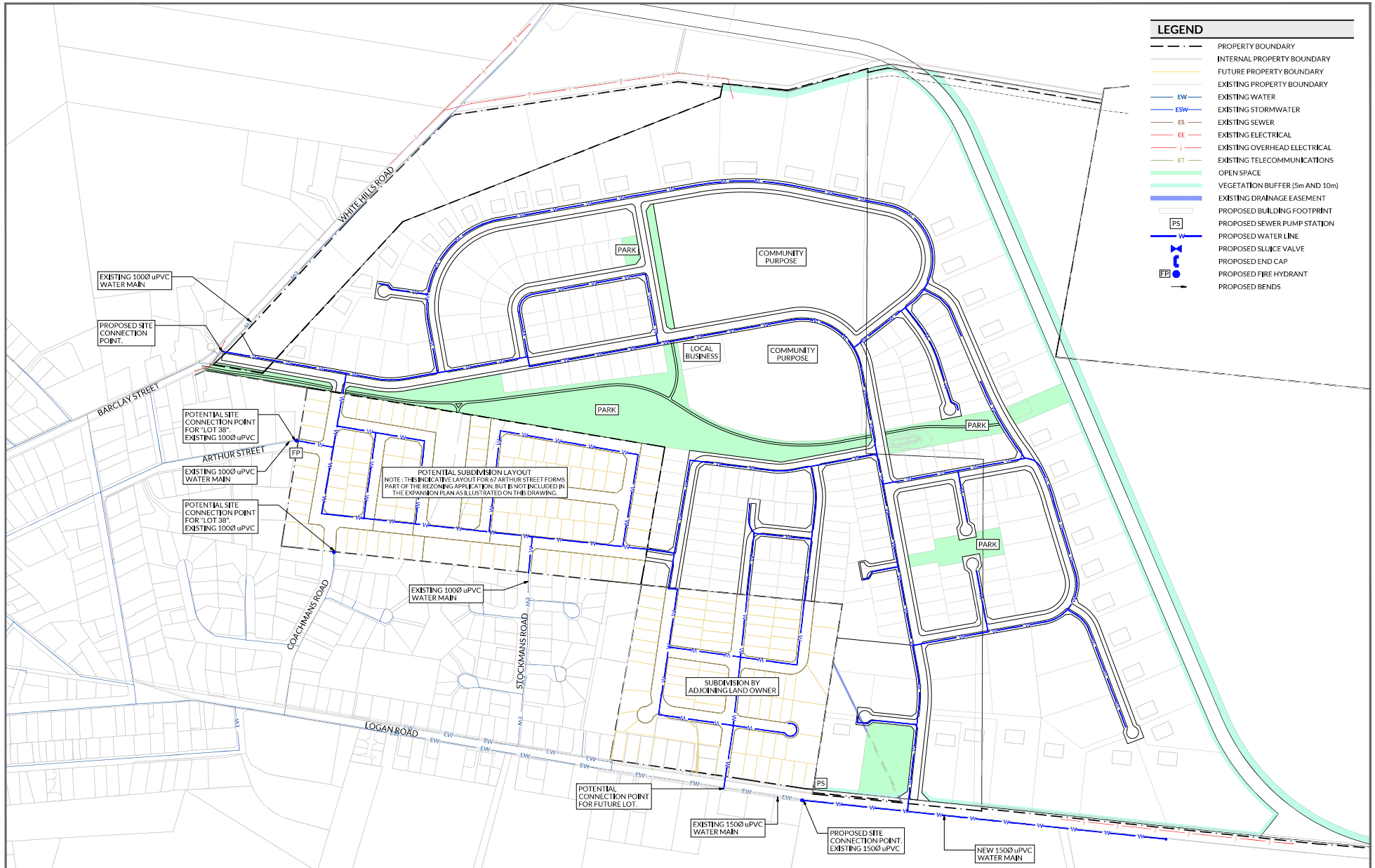
Drawn : C.R.P.	Date : MAY 2022	DRAWING TITLE : CONCEPTUAL SEWER RETICULATION SERVICING PLAN	
Designed : M.H.	Checked : R.A.		
Approved : M.H.			
Status : **PRELIMINARY**		Project No. J22125	Drawing No. C-5.10
			Revision F

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APPENDIX D

Conceptual Water Reticulation Servicing Plan



No.	DATE	AMENDMENT	BY
A	13.05.22	ISSUED FOR INFORMATION	C.R.P.
B	06.06.22	RE-ISSUED FOR INFORMATION	C.R.P.
C	12.01.23	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.
D	11.12.23	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.
E	03.10.24	RE-ISSUED FOR ENGINEERING SERVICES REPORT	C.R.P.

0 25 50 75 100 125 175

Scale 1:2500 @ A1 Scale 1:5000 @ A3

RP DESCRIPTION :

CLIENT : Traders In Purple

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PROJECT : **EVANDALE EXPANSION PLAN**

Drawn : C.R.P.	Date : MAY 2022	DRAWING TITLE : CONCEPTUAL WATER RETICULATION SERVICING PLAN	
Designed : M.H.	Checked : R.A.		
Approved : M.H.			
Status : **PRELIMINARY**		Project No. J22125	Drawing No. C-6.10
			Revision E

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Evandale Expansion Masterplan

Traffic Impact Assessment

Prepared for
Ireneinc Planning & Urban Design

Client representative
Phil Gartrell

Date
20 December 2024

Rev02



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Appendix B — SIDRA Modelling Results - Existing
Appendix C — SIDRA Modelling Results - PD
Appendix D — SIDRA Modelling Results – 10-Years PD

Prepared by — Rebekah Ramm		**Date —** 20 December 2024
Reviewed by — Ross Mannering		**Date —** 20 December 2024
Authorised by — Ross Mannering		**Date —** 20 December 2024

Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
00	Traffic Impact Assessment	LA	RLR	RLR	02/02/2023
01	TIA (minor updates)	LA	RLR	RLR	29/01/2024
02	TIA (minor updates)	RLR	RSM	RSM	20/12/2024

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1. Introduction

1.1 Evandale Expansion Plan

Traders in Purple (TiP) have developed a Masterplan for land to the east of Evandale in Northern Tasmania.

They are seeking to rezone the following titles:

- 4 Ridgeside Lane (81897/9)
- Logan Road (116759/1)
- Portion of 211 Logan Road (106773/1); and
- 38 Arthur Street (227117/1).

Whilst these form part of the rezoning, only the following titles are intended for development by TiP:

- Logan Road; and
- Portion of 211 Logan Road.

This development is known as the *Evandale Expansion Masterplan* (the Masterplan) and replaces the former *Ridgeside Lane Development* initially proposed for an adjacent area.

Figure 1 shows the land corresponding to the rezoning in the local context. The initial stage of the Masterplan comprises of rezoning the land from Agricultural to General Residential zoning.

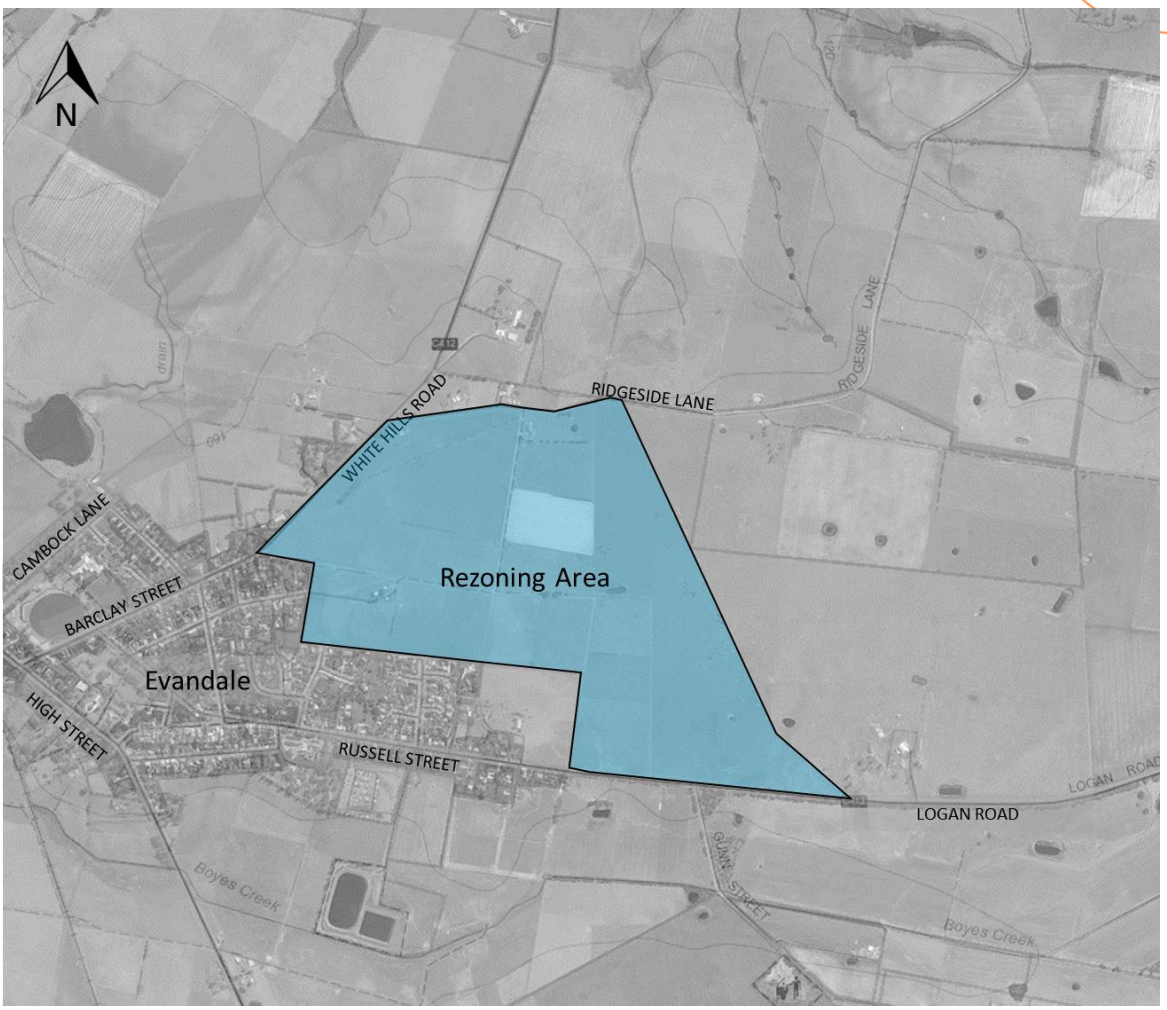


Figure 1: Study area in local context (aerial source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

1.2 Traffic Impact Assessment (TIA) scope

Ireneinc Planning & Urban Design on behalf of their client TiP have engaged pitt&sherry to undertake a Traffic Impact Assessment to support the application for rezoning.

This report has been prepared in accordance with the Department of State Growth's (State Growth's) *Framework for Undertaking Traffic Impact Assessments* and the *Tasmanian Planning Scheme – Northern Midlands* (the Planning Scheme)

2. Existing conditions

2.1 TIA study area

The land corresponding to the Masterplan (study area) is located approximately 500 metres east of the Evandale Town Centre. The site is currently vacant and has a land use classification of 21.0 Agriculture under the Planning Scheme.

Access to the site is currently from White Hills Road, noting that White Hills Road becomes Barclay Street at the Evandale Town Centre.

The site also has a frontage to Logan Road which becomes Russell Street at the Evandale Town Centre. Both Barclay Street and Russell Street intersect with High Street at the Evandale Town Centre. High Street connects Evandale with Launceston Airport, the Midland Highway and Launceston.

Please refer to Figure 1 above which shows the study area in the local context.

2.2 Surrounding road network

2.2.1 Overview

White Hills Road

White Hills Road (shown in Figure 2 and Figure 3) is a Council owned two-way rural road configured with a single lane in each direction. White Hills Road travels in a north-east south-west direction. Near the Evandale Town Centre, White Hills Road becomes Barclay Street.

White Hills Road in the vicinity of the study area has a posted speed limit of 70km/h.



Figure 2: White Hills Road - facing north-east (image source: Google Street View, November 2016)



Figure 3: White Hills Road - facing south-west (image source: Google Street View, November 2016)

Barclay Street

Barclay Street (shown in Figure 4 and Figure 5) is a Council owned two-way road configured with a single lane in each direction. Barclay Street is an urban street that travels in an east west direction through the Evandale Town Centre. On the eastern outskirts of the Evandale Town Centre, Barclay Street becomes the rural White Hills Road.

Barclay Street has a posted speed limit of 50km/h.



Figure 4: Barclay Street - facing east (image source: Google Street View, January 2010)



Figure 5: Barclay Street - facing west (image source: Google Street View, January 2010)

Cambock Lane

Cambock Lane (shown in Figure 6 and Figure 7) is a Council owned urban two-way road operating between High Street and Barclay Street. Cambock Lane is configured with a single lane in each direction. From its intersection with High Street, Cambock Lane travels in a north-east south west direction for approximately 500m. At this point, there is a 90-degree bend along the road, following which, Cambock Lane travels in a north-west south-east direction.

There are no posted speed limit signs present along Cambock Lane subjecting it to the Tasmanian Urban Speed Limit of 50km/h.



Figure 6: Cambock Lane - facing north-east



Figure 7: Cambock Lane - facing-west

Logan Road

Logan Road (shown in Figure 8 and Figure 9) is a Council owned two-way road configured with a single lane in each direction. Logan Road travels in an east went direction in the vicinity of the site. Closer to the Evandale Town Centre, Logan Road becomes Russell Street.

Near the Evandale Town Centre, Logan Road has a posted speed limit of 50km/h. In the vicinity of the study area, Logan Road operates with the Tasmania Sealed Rural Speed Limit of 100km/h.



Figure 8: Logan Road - facing east (image source: Google Street View, September 2022)



Figure 9: Logan Road - facing west (image source: Google Street View, September 2022)

Russell Street

Russell Street (shown in Figure 10 and Figure 11) is a Council owned urban road that travels in an east west direction. Russel Street is configured with a single lane in each direction. Near the eastern outskirts of the Evandale Town Centre, Russell Street becomes Logan Road.

Russel Street has a posted speed limit of 50km/h.



Figure 10: Russell Street - facing east (image source: Google Street View, September 2022)



Figure 11: Logan Road - facing west (image source: Google Street View, September 2022)

High Street

High Street is a two-way road that travels in a north-west south-east direction. It is configured with a single lane in each direction and has a posted speed limit of 60km/h in the town of Evandale.

To the north of the High Street/ Russell Street intersection, the road is a Department of State Growth owned road known as Evandale Main Road. Evandale Main Road connects the town of Evandale to Launceston Airport as well as to Midland Highway which in turn connects to Launceston and Hobart.

To the south of the High Street/ Russell Street intersection, the road is Council owned and is known as Nile Road.



Figure 12: High Street - facing north-west (image source: Google Street View, September 2022)



Figure 13: High Street - facing south-east (image source: Google Street View, September 2022)

2.2.2 Road widths and carriageway form

The road width along each of the roads surrounding the study area have been measured. The road width was observed to vary frequently and therefore in sections with varying road widths, the minimum (or worst case) road width was adopted. Road widths and classifications at several locations are detailed in Table 1.

Table 1: Road widths and classification

Road Name	Location	Minimum Measured Road Carriageway Width	Carriageway Form
White Hills Road	West of Ridgeside Lane	6.8m	Two lanes
	East of Ridgeside Lane	6.0m	Two lanes
Barclay Street	East of High Street	9.0m	One or two lanes, dependent on parked cars
	West of Cambock Lane	9.0m	One or two lanes, dependent on parked cars
Cambock Lane	East of High Street	9.0m	One or two lanes, dependent on parked cars
	North of Barclay Street	9.0m	One or two lanes, dependent on parked cars
Logan Road	West of No. 58	8.8m	Two lanes
	East of No. 58	5.3m	Two lanes
Russell Street	High Street to Logan Road	8.1m	One or two lanes, dependent on parked cars

2.2.3 Road function

The Tasmanian Local Government Road Hierarchy, shown in Figure 14, gives guidance to the function of a road.

Tasmanian local government road hierarchy.

Source: Tasmanian Government Local Government Division: Department of Premier and Cabinet

Classification	1. Arterial	2. Collector	3. Link	4. Local Access	5. Minor Access	Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between urban centres and rural regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between urban areas, or in some cases rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties and in some cases commercial properties, at a local level.	Provide access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non constructed/ maintained road reserves or roads that have a very low level of services.
Connectivity description	High connectivity - connecting precincts, localities, suburbs, and rural population centres.	High connectivity - supplements arterial roads in connecting suburbs, business districts and localised facilities.	Medium connectivity - connects traffic at a neighbourhood level with collector and arterial roads.	Low - connects individual properties within a neighbourhood to link roads.	Low - provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>10000 vehicles per day (vpd)	3000–10000 vpd	1000–3000vpd	50–1000vpd	<50vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT/ EHV)	>1000 AADTT or > 10% EHV	250–1000 AADTT or > 10% EHV	<250 AADTT or > 10% EHV	N/A	N/A	N/A
Public Transport Route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed	Sealed/ unsealed	Sealed/ unsealed	Unformed

Figure 14: Tasmanian Local Government Road Hierarchy

Based on the above, the classification of each of the roads surrounding the study area based on their function and predominant purpose is shown in Table 2.

Table 2: Road classification

Road Name	Road Classification
White Hills Road	Link
Barclay Street	Link
Cambock Lane	Link
Logan Road	Link
Russell Street	Link

2.2.4 Intersections

Several intersections are present in the vicinity of the study area. The larger intersections in the vicinity of the study area are as follows:

- Russell Street/ Macquarie Street/ Rodgers Lane (sign-controlled cross intersection)
- Russell Street/ High Street (sign-controlled T-intersection)
- Barclay Street/ High Street (sign-controlled T-intersection)
- Barclay Street/ Murray Street (sign-controlled T-intersection); and
- Barclay Street/ Macquarie Street (sign-controlled T-intersection).

The above intersections relative to the study area are shown in Figure 15.



Figure 15: Intersection locations relative to study area (Aerial Source: https://maps.thelist.tas.gov.au)

2.3 Traffic volumes

2.3.1 Traffic data collection

Tube count data collected in April 2018 along Barclay Street/ White Hills Road and Logan Road was provided by TiP and is summarised in Table 3.

Table 3: Tube count traffic data provided by TiP

Road	Road Link	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
Barclay Street/ White Hills Road	West of Ridgeside Lane	517	438
	East of Ridgeside Lane	487	391
Logan Road	West of No. 58	176	271
	East of No. 58	133	173

In addition to the tube count data, vehicle turning movement counts were undertaken by Matrix Traffic and Transport Data on Thursday 4 April 2019 and on Sunday 7 April 2019. Surveys were undertaken for a 24-hour period at the following intersections:

- High Street/ Cambock Lane intersection (sign-controlled T-intersection)
- High Street/ Barclay Street intersection (sign-controlled T-intersection)
- High Street/ Russell Street intersection (sign-controlled T-intersection)
- Barclay Street/ Macquarie Street/ Cambock Lane intersection (sign-controlled cross intersection); and
- Russel Street/ Macquarie Street intersection (sign-controlled T-intersection).

Although not typically a busy traffic day, Sunday is significant for additional traffic and parking in Evandale due to the Evandale Sunday Markets which occur between 8:00am and 1:00pm on Sunday mornings in the centre of Evandale.

These intersections were chosen as they are expected to be impacted the most by the Masterplan. It is noted that there is no data for the Barclay Street/ High Street intersection for Sunday 7 April as the camera was tampered with.

It was determined from the survey data that the weekday network AM peak hour occurs between 8:30am and 9:30am and the weekday PM peak hour occurs between 4:45pm and 5:45pm. The Sunday midday peak hour was determined to occur between 10:30am and 11:30am

Covid-19 impacts.

As the tube count data and turning movement counts were completed in 2018 and 2019 respectively, the expected 2023 traffic volumes have to be calculated using a compounding growth rate. Due to the COVID-19 pandemic, there has been an overall reduction in traffic growth along road networks in Tasmania and as such it has been necessary to determine the COVID-19 impact on the traffic growth rate in Evandale.

To determine the COVID-19 impact on the growth rate in Evandale, tube count data was collected along Barclay Street/ White Hills Road and Logan Road for a one-week period in April 2022. This collected traffic data has been compared with the 2018 tube count data collected at the same location and the growth rate at these locations have been determined.

The overall growth rate has been determined to be 0.2% per year and has been applied to all existing available traffic data to calculate the expected 2023 traffic volumes.

2.3.2 Existing peak hourly intersection traffic volumes

A summary of the calculated 2023 existing weekday AM and PM peak hour traffic volumes are shown in Figure 16 and Figure 17 while a summary of the calculated existing 2023 Sunday midday peak hour traffic volumes are shown in Figure 18.

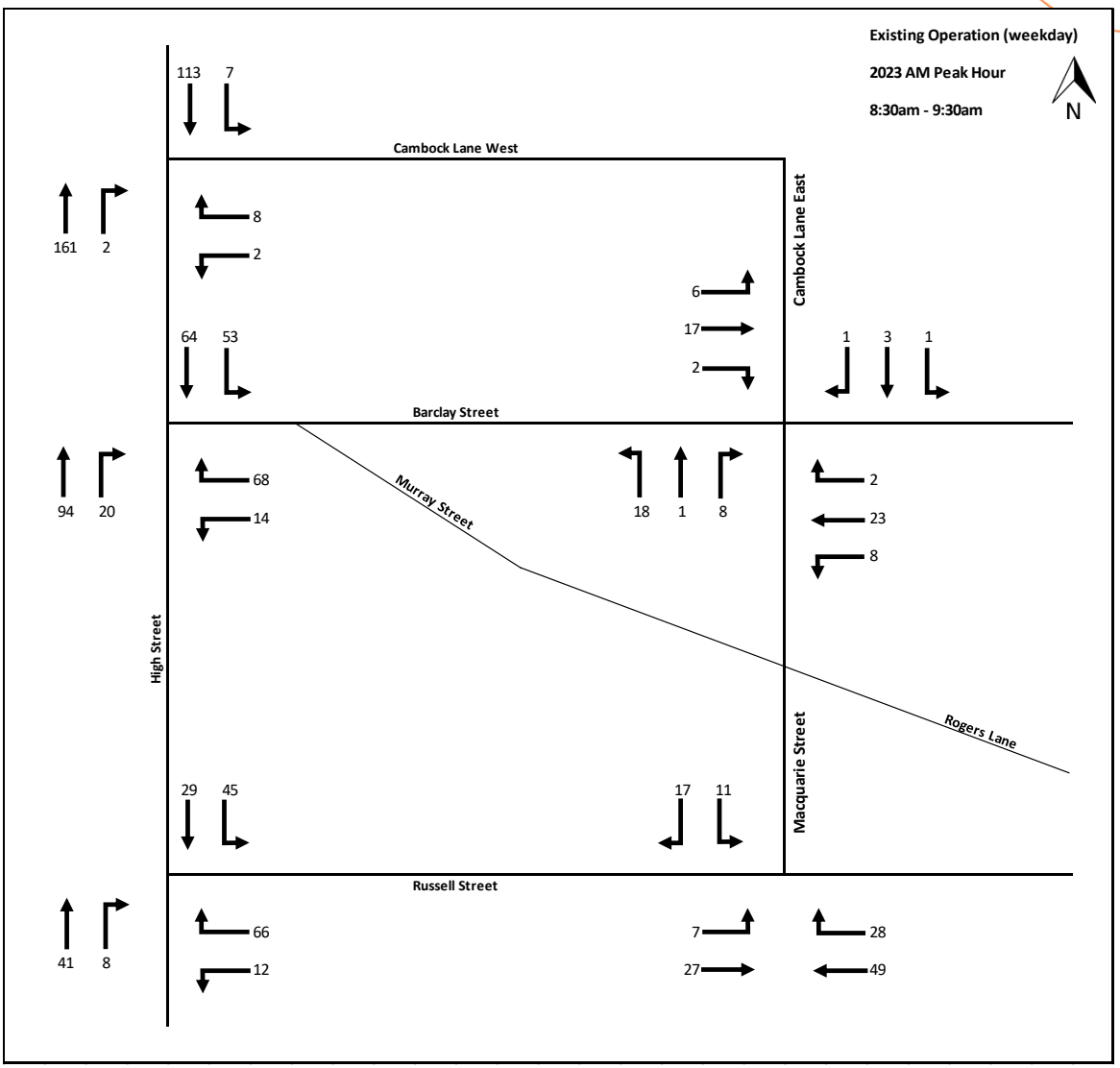


Figure 16: Calculated (2023) weekday AM peak hour traffic volumes

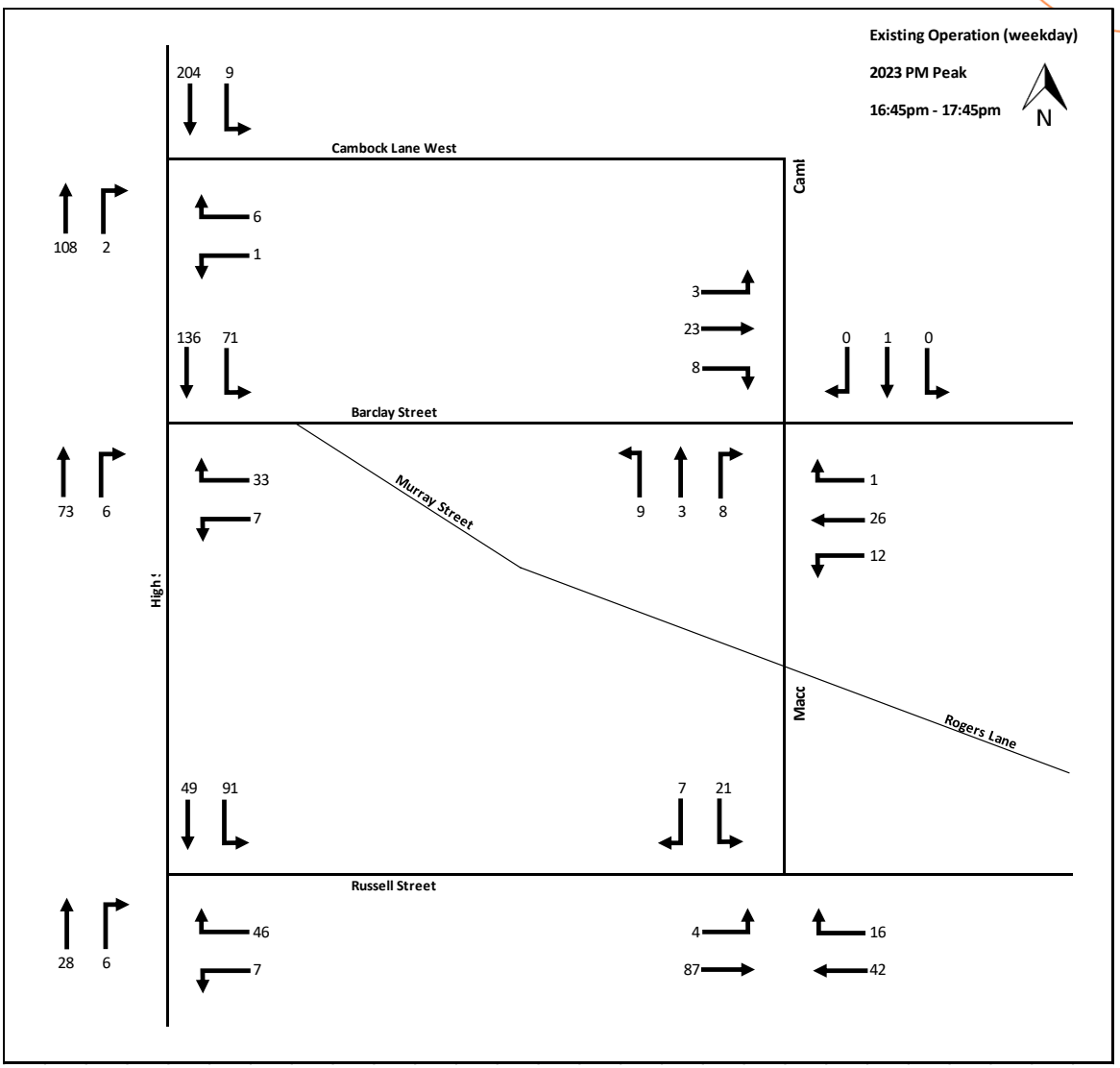


Figure 17: Calculated (2023) weekday PM peak hour traffic volumes

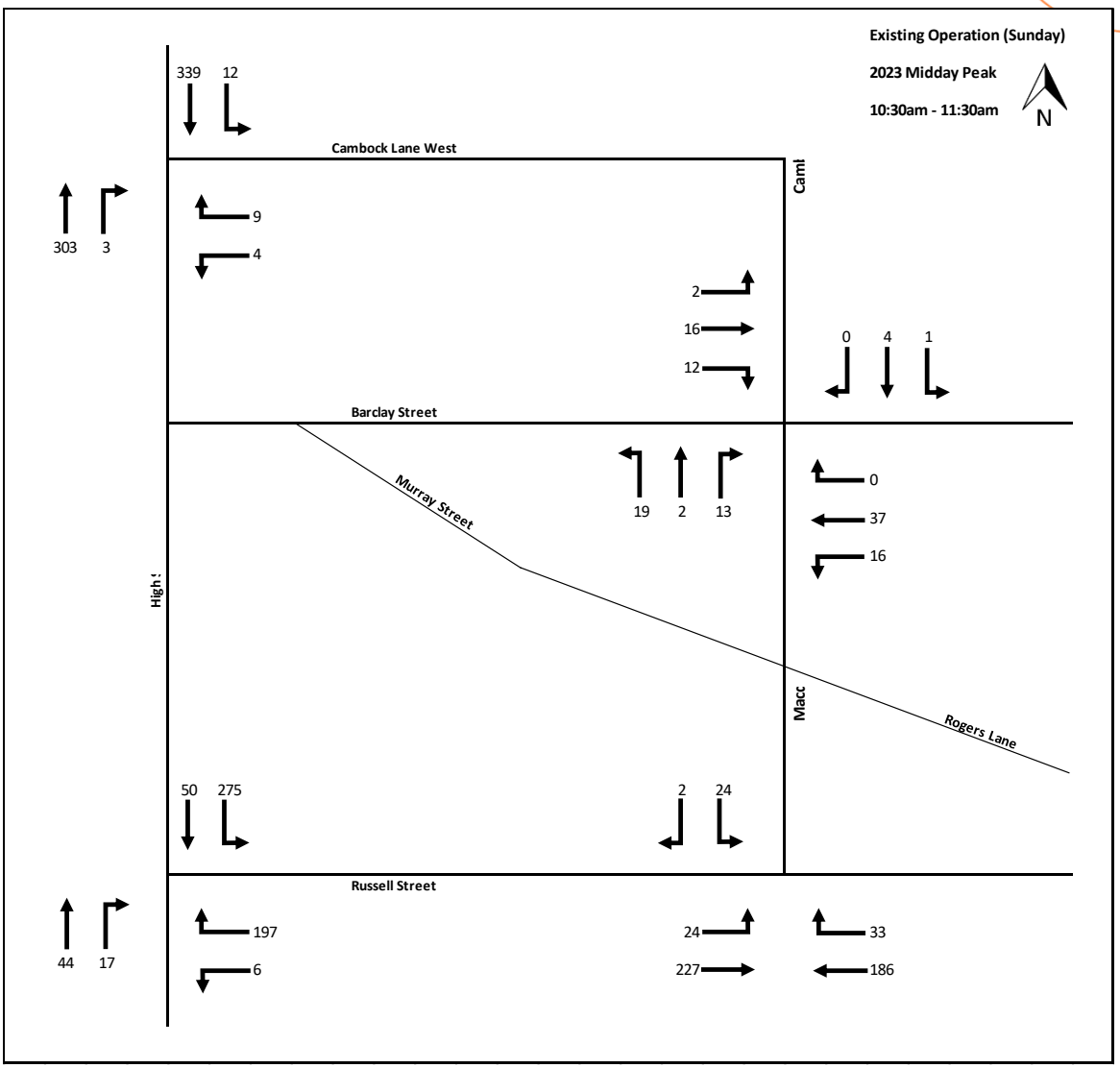


Figure 18: Calculated (2023) Sunday peak hour traffic volumes

2.3.3 Daily mid-block traffic volumes

Daily mid-block traffic volume data is available based on the intersection turning movement counts and tube count data from April 2018 which was provided by TiP. To calculate the 2023 daily mid-block traffic volumes, the calculated 0.2% growth rate has been applied.

The daily mid-block traffic volumes for 2023 are shown in Table 4.

Table 4: Daily mid-block traffic volumes

Road	Road Link	Data Source	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
White Hills Road	West of Ridgeside Lane	Tube count	522	442
	East of Ridgeside Lane	Tube count	492	395
Barclay Street	High Street to Murray Street	Turning movement count	1,472	1,500 (estimate)
	Murray Street to Macquarie Street	Turning movement count	877	767
	Macquarie Street to White Hills Road	Turning movement count	741	677
Cambock Lane	East of High Street	Turning movement count	258	251
	North of Barclay Street	Turning movement count	132	124
Logan Road	West of No. 58	Tube count	178	274
	East of No. 58	Tube count	134	175
Russell Street	High Street to Scone Street	Turning movement count	1,645	3,117
	Scone Street to Macquarie Street	Turning movement count	1,401	2,770
	Macquarie Street to Logan Road	Turning movement count	1,508	2,844

2.4 Intersection performance

2.4.1 Traffic modelling software

The operation of the counted intersections has been modelled using SIDRA Intersection traffic modelling software. SIDRA Intersection rates the performance of the intersections based on the vehicle delay and the corresponding Level of Service (LOS). It is generally accepted that LOS D or better is an acceptable level of operation. Table 5 shows the criteria that SIDRA Intersection adopts in assessing the LOS.

Table 5: SIDRA Intersection Level of Service (LOS) criteria

LOS	Delay per Vehicle (secs)		
	Signals	Roundabout	Sign Control
A	10 or less	10 or less	10 or less
B	10 to 20	10 to 20	10 to 15
C	20 to 35	20 to 35	15 to 25
D	35 to 55	35 to 50	25 to 35
E	55 to 80	50 to 70	35 to 50
F	Greater than 80	Greater than 80	Greater than 50

2.4.2 Traffic modelling intersection layouts

The geometry of the intersections used for the SIDRA intersection traffic models was developed with reference to aerial photography obtained from LISTmap. The aerial photography informed the number, width and length of trafficable lanes as well as speed limits.

It is noted that for a number of intersections, the model has been developed with two lanes on the minor approach to the intersection. The second lane is a short lane that provides sufficient width for two vehicles to queue side by side at the intersection.

2.4.3 Traffic modelling results – weekday

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 19 and Figure 20. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 6. Full results are presented in Appendix B.

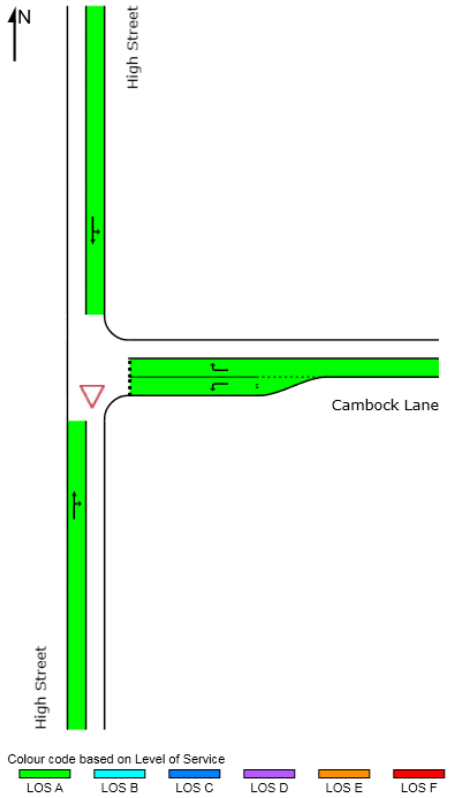


Figure 19: High Street/ Cambock Lane - Existing Weekday AM Peak Hour Approach LOS

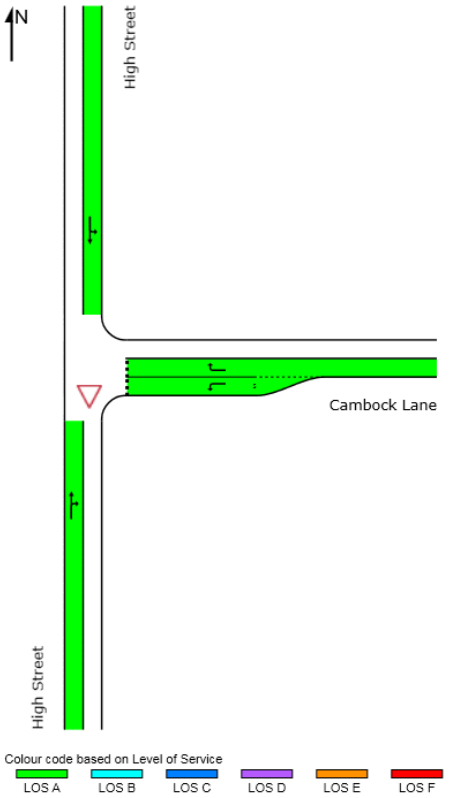


Figure 20: High Street/ Cambock Lane Existing Weekday PM Peak Hour Approach LOS

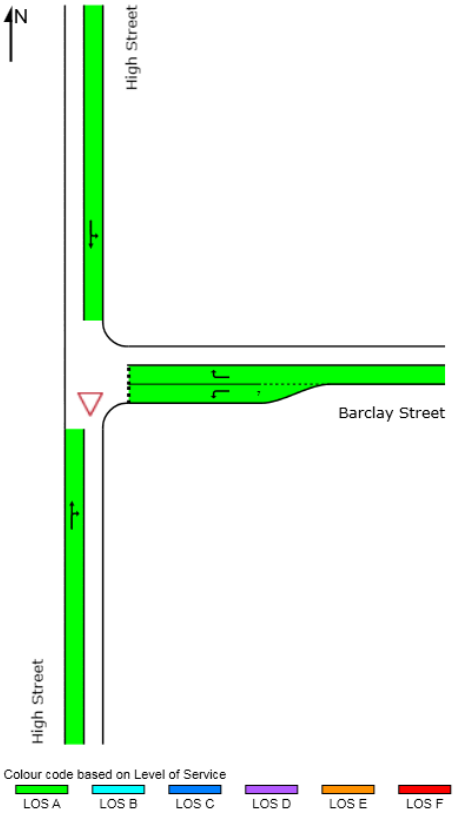
Table 6: High Street/ Cambock Lane Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.09	0	0
East (Cambock Lane)		0.01	6	0
North (High Street)		0.07	0	0
All Movements		**0.09**	**0**	**0**
South (High Street)	PM	0.06	0	0
East (Cambock Lane)		0.01	7	0
North (High Street)		0.12	0	0
All Movements		**0.12**	**0**	**0**

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 21 and Figure 22. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in

Table 7. Full results are presented in Appendix B.



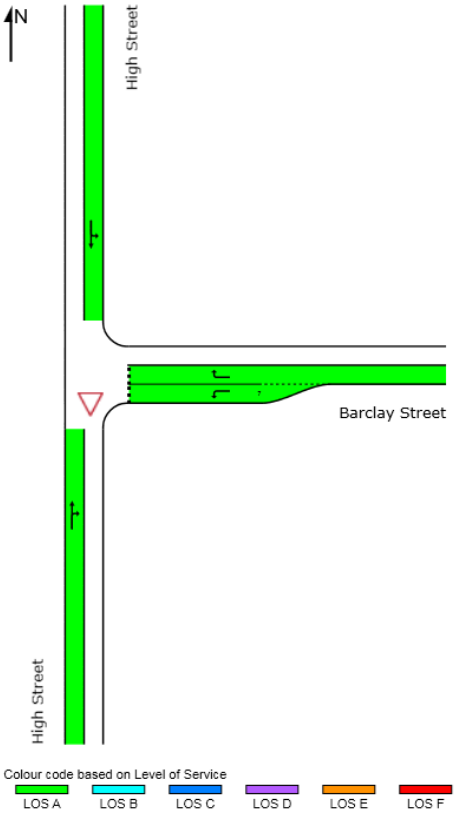


Figure 21: High Street/ Barclay Street Existing Weekday AM Peak Hour Approach LOS

Figure 22: High Street/ Barclay Street Existing Weekday PM Peak Hour Approach LOS

Table 7:High Street/ Barclay Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.07	1	1
East (Barclay Street)		0.10	5	3
North (High Street)		0.07	3	0
All Movements		**0.10**	**3**	**3**
South (High Street)	PM	0.05	1	0
East (Barclay Street)		0.05	6	1
North (High Street)		0.12	2	0
All Movements		**0.12**	**2**	**1**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 23 and Figure 24. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 8. Full results are presented in Appendix B.

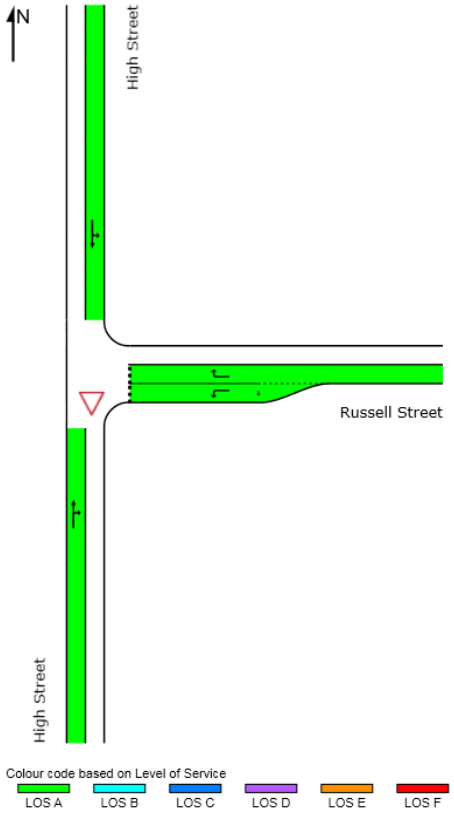


Figure 23: High Street/ Russell Street Existing Weekday AM Peak Hour Approach LOS

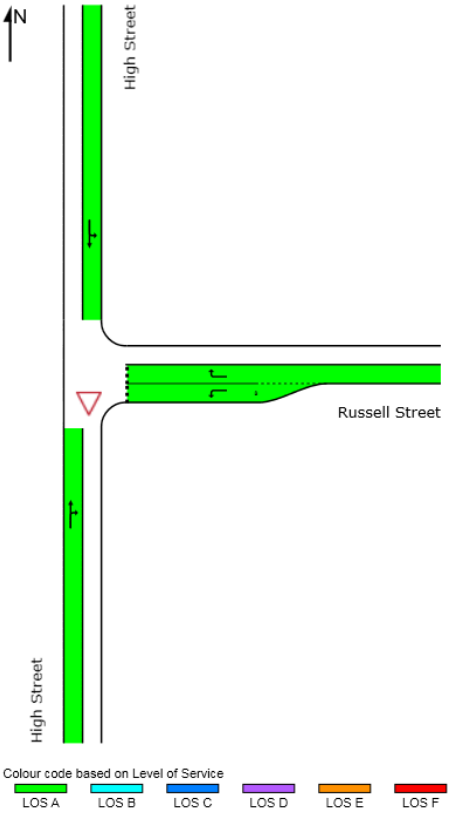


Figure 24: High Street/ Russell Street Existing Weekday PM Peak Hour Approach LOS

Table 8: High Street/ Russell Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	1	0
East (Russell Street)		0.08	5	2
North (High Street)		0.04	3	0
All Movements		**0.08**	**4**	**2**
South (High Street)	PM	0.02	1	0
East (Russell Street)		0.06	6	2
North (High Street)		0.08	4	0
All Movements		**0.08**	**4**	**2**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 25 and Figure 26. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 9. Full results are presented in Appendix B.

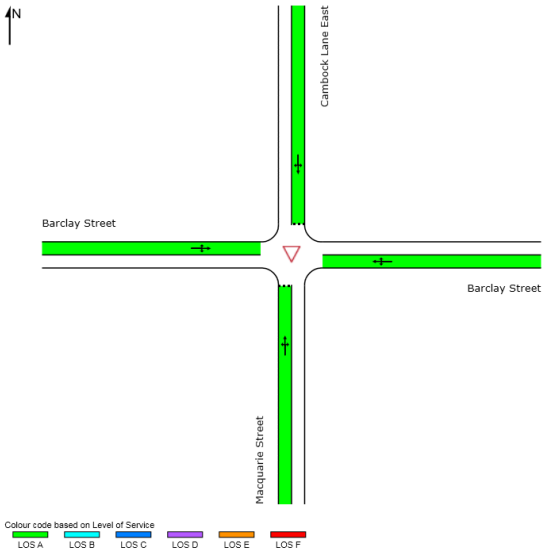


Figure 25: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday AM Peak Hour Approach LOS

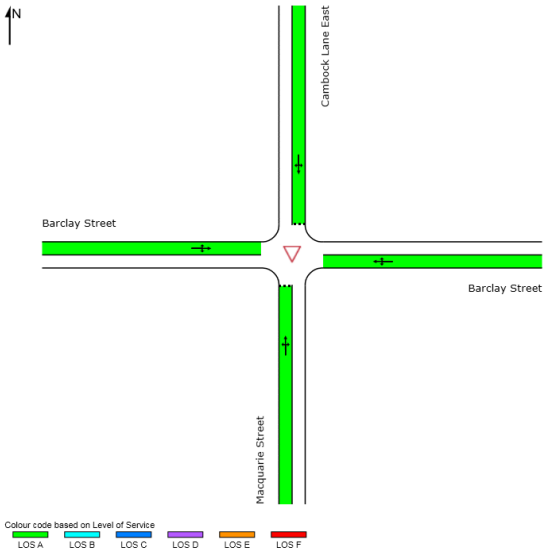


Figure 26: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday PM Peak Hour Approach LOS

Table 9: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.02	5	1
East (Barclay Street)		0.02	2	0
North (Cambock lane East)		0.01	5	0
West (Barclay Street)		0.01	2	0
All Movements		**0.02**	**3**	**1**
South (Macquarie Street)	PM	0.02	5	1
East (Barclay Street)		0.02	2	0
North (Cambock lane East)		0.00	6	0
West (Barclay Street)		0.02	2	0
All Movements		**0.02**	**2**	**1**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 27 and Figure 28. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 10. Full results are presented in Appendix B.



Figure 27: Russell Street/ Macquarie Street Existing Weekday AM Peak Hour Approach LOS



Figure 28: Russell Street/ Macquarie Street Existing Weekday PM Peak Hour Approach LOS

Table 10: Russell Street/ Macquarie Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.05	2	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.02	1	0
All Movements		**0.05**	**2**	**1**
East (Russell Street)	PM	0.04	1	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.05	0	0
All Movements		**0.05**	**1**	**1**

Discussion

Based on the results above, all modelled intersections currently operate with minimal queues and delays. All intersections operate at LOS A during both the weekday AM and PM peak hours.

The traffic modelling results align with observations made on site during the weekday AM and PM peak hours.

2.4.4 Traffic modelling results – Sunday

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 29. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 11. Full results are presented in Appendix C.

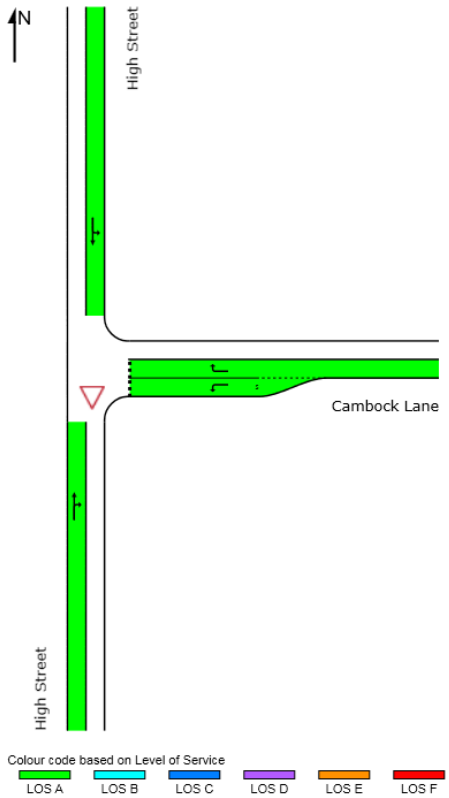


Figure 29: High Street/ Cambock Lane Existing Sunday Peak Hour Approach LOS

Table 11:High Street/ Cambock Lane Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	Sunday	0.19	0	0
East (Cambock Lane)		0.01	8	0
North (High Street)		0.15	0	0
All Movements		**0.19**	**0**	**0**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 30. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 12. Full results are presented in Appendix C.

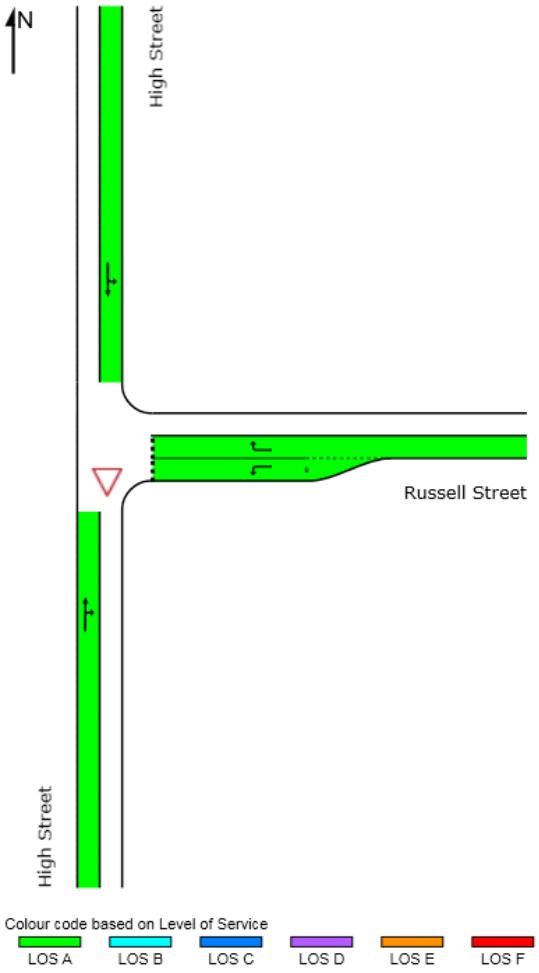


Figure 30: High Street/ Russell Street Existing Sunday Peak Hour Approach LOS

Table 12:High Street/ Russell Street Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	Sunday	0.04	1	1
East (Russell Street)		0.29	6	8
North (High Street)		0.13	5	0
All Movements		**0.29**	**5**	**8**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 31. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 13. Full results are presented in Appendix C.

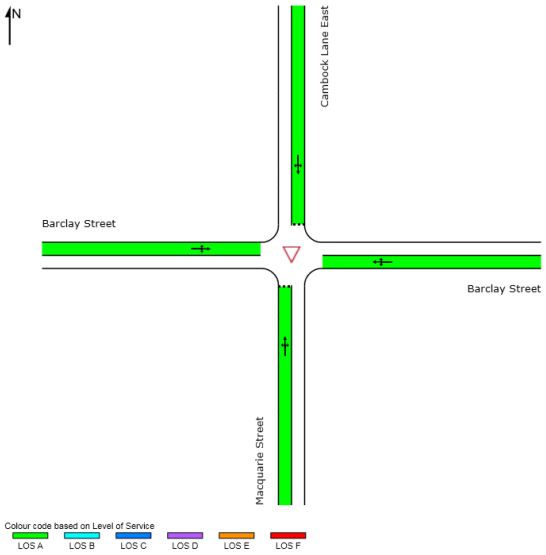


Figure 31: Barclay Street/ Macquarie Street/ Cambock Lane Existing Sunday Peak Hour Approach LOS

Table 13: Barclay Street/ Macquarie Street/ Cambock Lane Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	Sunday	0.03	5	1
East (Barclay Street)		0.02	1	0
North (Cambock lane East)		0.01	5	0
West (Barclay Street)		0.02	1	0
All Movements		**0.03**	**3**	**1**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 32. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 14. Full results are presented in Appendix C.

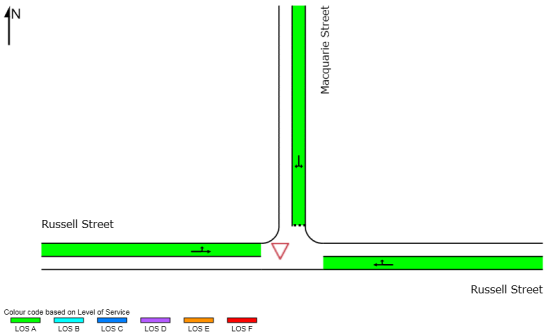


Figure 32: Russell Street/ Macquarie Street Existing Sunday Peak Hour Approach LOS

Table 14: Russell Street/ Macquarie Street Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	Sunday	0.14	1	1
North (Macquarie Street)		0.02	3	1
West (Russell Street)		0.09	1	0
All Movements		**0.14**	**1**	**1**

Discussion

Based on the results above, all modelled intersections currently operate with minimal queues and delays. All intersections operate at LOS A during the Sunday peak hour.

The traffic modelling results align with observations made on site during the Sunday peak hour.

2.1 Mid-Block Capacity

2.1.1 Parking Demand - Weekday

Parking occupancy surveys were completed on Barclay Street and Russell Street on Wednesday 5 December 2018 which represents a typical weekday. The parking occupancy surveys were undertaken at regular intervals - every hour between 8:00am and 6:00pm. The parking supply was determined by measuring the road length where vehicles can park (excluding driveways a no parking/ no-stopping zones) and then dividing the length by 7 metres and conservatively rounding down.

While detailed parking occupancy surveys have not been completed in 2023, general observations and spot parking occupancy surveys were completed on Tuesday 17 January 2023. Based on the observations and spot surveys, the current parking occupancy is considered to be consistent with that recorded in 2018.

The result of the parking occupancy surveys completed in 2018 is discussed in detail below.

Barclay Street

Parking occupancy surveys were completed along the length of Barclay Street. In order to understand how the parking demand changed along the road, the survey recorded the section of the road the car was parked on as well as the side of the road the car was parked on (north or south). The sections of the road where parking surveys were recorded along Barclay Street is shown in Figure 33 while the results of the parking surveys are summarised in Table 15.



Figure 33: Barclay Street parking survey locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 15: Barclay Street parking survey results - weekday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Murray Street	08:30	30	20	0	0	0	0%
	09:00			0	1	1	2%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			0	0	0	0%
	14:00			0	0	0	0%
	15:00			0	0	0	0%
	16:00			0	0	0	0%
	17:00			0	0	0	0%
	18:00			0	0	0	0%
2 – Murray Street to Macquarie Street	08:30	19	12	0	1	1	3%
	09:00			0	2	2	6%
	10:00			0	1	1	3%
	11:00			1	1	2	6%
	12:00			0	1	1	3%
	13:00			0	1	1	3%
	14:00			0	0	0	0%
	15:00			0	0	0	0%
	16:00			0	0	0	0%
	17:00			1	1	2	6%
	18:00			1	1	2	6%
3 – Macquarie Street to White Hills Road	08:30	21	13	0	3	3	9%
	09:00			1	2	3	9%
	10:00			0	2	2	6%
	11:00			0	2	2	6%
	12:00			0	3	3	9%
	13:00			0	3	3	9%
	14:00			0	3	3	9%
	15:00			0	3	3	9%
	16:00			0	3	3	9%
	17:00			0	2	2	6%
	18:00			0	1	1	3%

Based on the above, the parking demand on Barclay Street is low with less than 10% occupancy always on all sections.

Russell Street

Parking occupancy surveys were also taken along the length of Russell Street. In order to understand how the parking demand changed along the road, the survey recorded the section of the road the car was parked on as well as the side of the road the car was parked on (north or south). The sections of the road where parking surveys were recorded along Barclay Street is shown in Figure 34 while the results of the parking surveys are summarised in Table 16.



Figure 34: Russell Street parking survey locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 16: Russell Street parking survey results - weekday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Scone Street	08:30	12	14	0	6	6	23%
	09:00			3	9	12	46%
	10:00			7	5	12	46%
	11:00			5	7	12	46%
	12:00			1	5	6	23%
	13:00			2	7	9	35%
	14:00			3	6	9	35%
	15:00			5	6	11	42%
	16:00			3	3	6	23%
	17:00			1	1	2	8%
	18:00			1	1	2	8%
2 – Scone Street to Macquarie Street	08:30	21	19	2	4	6	15%
	09:00			1	3	4	10%
	10:00			5	5	10	25%
	11:00			5	10	15	38%
	12:00			7	7	14	35%
	13:00			9	9	18	45%
	14:00			3	6	9	23%
	15:00			4	3	7	18%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	16:00			2	8	10	25%
	17:00			5	7	12	30%
	18:00			1	3	4	10%
3 – Macquarie Street to Coachmans Road	08:30	13	22	0	1	1	4%
	09:00			0	1	1	4%
	10:00			3	0	3	11%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			1	0	1	13%
	14:00			0	0	0	0%
	15:00			0	1	1	4%
	16:00			1	1	2	7%
	17:00			0	1	1	4%
	18:00			0	2	2	7%

Based on the above, the overall parking demand on Russell Street is less than 50% at all times on all sections. It can be expected that the equivalent of not more than one side of the road is filled on a typical weekday.

It was noted during the parking survey that although the parking demand is low, parking was observed on both sides of the road near the café and hotel.

2.1.2 Parking Demand – Sunday

In addition to the weekday parking occupancy surveys presented above, parking occupancy surveys were also completed on Barclay Street, Russell Street and Cambock Lane. Similar to the Weekday parking occupancy surveys, Sunday parking occupancy surveys were taken at regular intervals at least every hour between 8:00am and 2:00pm. The parking supply was determined by measuring the road length where vehicles can parallel park and then dividing the length by 7 metres and conservatively rounding down. The result of the parking occupancy surveys on the Sunday is discussed in detail below.

Barclay Street

Parking surveys were completed along the length of Barclay Street. Similar to the weekday parking surveys, the parking occupancy was recorded by the side of the road the car was parked (north or south) and which section of the road the car was parked. The sections for Barclay Street are shown in Figure 33 while the results of the Sunday parking occupancy survey are summarised in Table 17.

Table 17: Barclay Street parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Murray Street	08:00	30	20	0	0	0	0%
	09:00			0	0	0	0%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			0	0	0	0%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
2 – Murray Street to Macquarie Street	08:00	19	12	0	1	1	5%
	09:00			0	1	1	5%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			1	0	1	5%
3 – Macquarie Street to White Hills Road	08:00	21	13	0	1	1	3%
	09:00			0	1	1	3%
	10:00			1	1	2	6%
	11:00			0	1	1	3%
	12:00			0	1	1	3%
	13:00			0	0	0	0%

Based on the above, the parking demand on Barclay Street is considered to be low with less than 10% occupancy at all times on all sections.

Russell Street

Parking surveys were completed along the length of Russell Street. Similar to the weekday parking surveys, the parking occupancy was recorded by the side of the road the car was parked (north or south) and which section of the road the car was parked. The sections for Russell Street is shown in Figure 34 while the results of the Sunday parking occupancy survey are summarised in Table 18.

Table 18: Russell Street parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Scone Street	08:00	12	14	2	1	3	12%
	09:00			4	4	8	31%
	10:00			9	7	16	62%
	11:00			10	12	22	85%
	12:00			11	12	23	88%
	13:00			9	11	20	77%
2 – Scone Street to Macquarie Street	08:00	21	19	1	4	5	13%
	09:00			19	11	30	75%
	10:00			19	15	34	85%
	11:00			19	16	35	88%
	12:00			19	11	30	75%
	13:00			19	14	33	83%
3 – Macquarie Street to White Hills Road	08:00	13	22	10	6	16	46%
	09:00			10	6	16	46%
	10:00			11	7	18	51%
	11:00			11	11	22	63%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	12:00			11	6	17	49%
	13:00			13	3	16	46%

Based on the above, the overall parking demand on Russell Street is generally high with demand typically exceeding 80% between 11:00am and 2:00pm.

It was noted during the parking survey that in Section 3 (between Huxtables Lane and Coachmans Road), a bus zone operated on the north side of the road on Sundays between 7:00am and 3:00pm and a parking restriction was present on the south side of the road between 7:00am and 3:00pm. It was also noted that a number of parking spaces in Section 1 were occupied with road works signage.

Cambock Lane

In addition to Barclay Street and Russell Street, Sunday occupancy parking surveys were also taken along the length of Cambock Lane West and East. To understand how the parking demand changes along the road, the parking occupancy was recorded by the side of the road the car was parked (north or south along Cambock Lane West and east and west along Cambock Lane East) and which section of road the car was parked. The sections for Cambock Lane West and East are shown in Figure 35 while results of the parking surveys are summarised in Table 19.



Figure 35: Cambock Lane West and East Parking Survey Locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 19: Cambock Lane parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
Cambock Lane West	08:00	57	63	5	4	9	8%
	09:00			5	5	10	8%
	10:00			6	5	11	9%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	11:00			5	4	9	8%
	12:00			5	5	10	8%
	13:00			5	4	9	8%
Cambock Lane East	08:00	24	32	1	0	1	2%
	09:00			1	0	1	2%
	10:00			1	1	2	4%
	11:00			1	0	1	2%
	12:00			1	0	1	2%
	13:00			2	2	4	7%

Based on the above, the parking demand on Cambock Lane West and East is considered to be low with less than 10% occupancy at all times.

2.1.1 Mid-block traffic capacity – urban roads

The traffic capacity of a road is generally impacted by the road width and carriageway form. Typical carriageway forms for different urban road widths are shown in the Local Government Association of Tasmania (LGAT) Standard Drawings. A visualisation from the LGAT drawings is shown in Figure 36.

It is noted that parking affects the road mid-block demand. Cars parked on one side of the road would allow for two travel lanes whereas cars parked on both sides of the road would allow for one travel lane and therefore a significantly reduced road capacity.

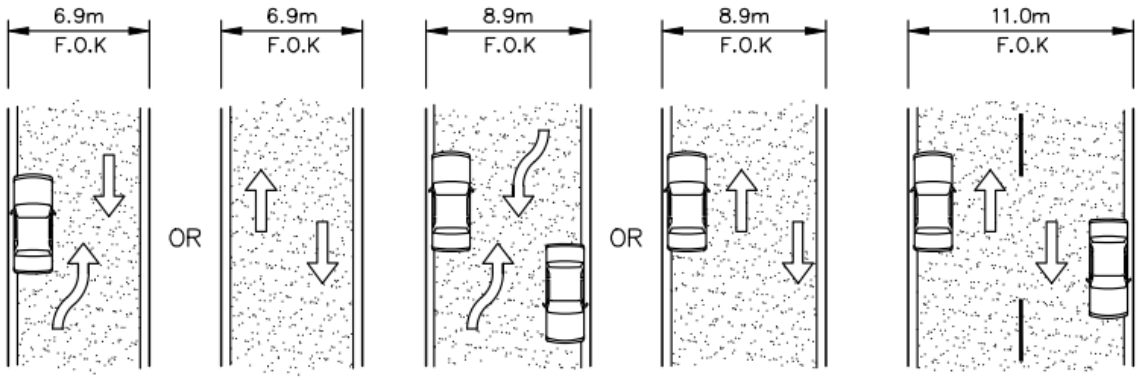


Figure 36: Typical Carriageway Forms (Source: LGAT Standard Drawing TSD – R06 – v1))

The Tasmanian Local Government Road Hierarchy, shown in Figure 14, gives guidance to the amount of traffic that should be travelling on each road classification based on several criteria and metrics including the road function and carriageway form. It is noted that the roads could physically carry more traffic than the guidance metric. However, these traffic volumes would be considered as appropriate for the road function and carriageway form from a safety and amenity perspective.

In addition, Table 4.6 in the *RMS Guide to Traffic Generating Developments* provides guidance regarding environmental capacity performance standards on residential streets. An excerpt of Table 4.6 from the RMS Guide is shown in Figure 37.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Figure 37: Excerpt of RMS Environmental Capacity Performance Standards on Residential Streets

The hierarchy, combined with the parking data above, has been used as the basis for determining the road capacity of the urban roads within the network.

Car parking is generally not expected to impact the width of the rural roads as vehicles are permitted to park informally on the road verge.

2.1.2 Mid-block traffic capacity – rural roads

The LGAT Standard Drawings specify the allowable daily traffic for different widths of road seal. The allowable traffic for each seal width is summarised in Table 20.

Table 20: Rural Road Traffic Capacity

Code	AADT	Existing Infrastructure	New Development
		(w) Sealed Traffic Width	(w) Sealed Traffic Width
S1	<30	4000 (s)	-
S2	30 – 100	4000 (s)	-
S3	100 – 300	5500 (D)	5500 (D)
S4	300 – 2000	6000 (D)	6000 (D)
S5	>2000	7000 (D)	7000 (D)

2.1.3 Mid- Block Capacity and Demand

Based on the information above, the mid-block capacity and demand for each road section is shown in Table 21 to Table 24.

It is noted that Logan Road east of No.58 has been assessed as a Rural S5 category road as it is understood that TiP are committed to widening Logan Road 0.7m up to the eastern site boundary by 0.7m to provide a 6.0m road width as part of the proposed development.

Table 21: Existing Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	Existing Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	522	1,478
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	1,472	1,528
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	877	2,123
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	741	2,259
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	258	742
	North of Barclay Street	Urban – Local Access	7%	2	1,000	132	868
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	178	1,822
	East of No. 58	Rural – S5	N/A	2	2,000	134	1,866
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	1,645	1,355
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	1,041	1,959
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	1,508	1,492

Table 22: Existing Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	Existing Traffic Volume (vph)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	Existing Traffic Volume (vph)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	76	224	N/A	2	58	242
	East of Ridgeside Lane	Rural – S4	300	N/A	2	76	224	N/A	2	58	242
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	155	345	0%	2	117	383
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	67	433	6%	2	69	431
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	59	441	6%	2	47	453
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	23	277	N/A	2	26	274
	East of No. 58	Rural – S5	300	N/A	2	18	282	N/A	2	18	282
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	131	369	8%	2	150	350
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	100	400	30%	2	100	400
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	115	385	4%	2	115	385

Table 23: Existing Road Capacity – Sunday Daily

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	Existing Traffic Volume (Sunday) (vpd)	Spare Traffic Capacity (Sunday) (vpd)
White Hills Road	West of Ridgeside Lane	Rural – S4	N/A	2	2,000	442	1,558
	East of Ridgeside Lane	Rural – S4	N/A	2	2,000	395	1,605
Barclay Street	High Street to Murray Street	Urban – Link	0%	2	3,000	1500 (approx.)	1,500
	Murray Street to Cambock Lane	Urban – Link	5%	2	3,000	767	2,233
	Cambock Lane to White Hills Road	Urban – Link	6%	2	3,000	677	2,323
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	251	749
	North of Barclay Street	Urban – Local Access	7%	2	1,000	124	876
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	274	1,726
	East of No. 58	Rural – S5	N/A	2	2,000	175	1,825
Russell Street	High Street to Scone Street	Urban – Link	85%	1	3,000	3,117	0
	Scone Street to Macquarie Street	Urban – Link	88%	1	3,000	2,770	230
	Macquarie Street to Logan Road	Urban – Link	63%	1	3,000	2,844	156

Table 24: Existing Road Capacity – Sunday Peak Hour

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vph)	Existing Traffic Volume (Sunday) (vph)	Spare Traffic Capacity (Sunday) (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	N/A	2	300	41	259
	East of Ridgeside Lane	Rural – S4	N/A	2	300	41	259
Barclay Street	High Street to Murray Street	Urban – Link	0%	2	500	155	320
	Murray Street to Cambock Lane	Urban – Link	5%	2	500	86	414
	Cambock Lane to White Hills Road	Urban – Link	3%	2	500	83	417
Cambock Lane	East of High Street	Urban – Local Access	8%	2	300	28	272
	North of Barclay Street	Urban – Local Access	2%	2	300	9	291
Logan Road	West of No. 58	Rural – S5	N/A	2	300	37	263
	East of No. 58	Rural – S5	N/A	2	300	30	270
Russell Street	High Street to Scone Street	Urban – Link	85%	1	500	495	5
	Scone Street to Macquarie Street	Urban – Link	88%	1	500	439	61
	Macquarie Street to Logan Road	Urban – Link	4%	2	500	470	30

Based on the results above, all road sections excluding Russell Street have significant spare capacity during the scenarios assessed (i.e. weekday AM peak hour, weekday PM peak hour, weekday daily, Sunday peak hour and Sunday daily). Russell Street approaches or exceeds capacity on Sundays (i.e. Sunday peak hour and Sunday daily) but is noted to have significant spare capacity during the weekday (i.e. weekday AM peak hour, weekday PM peak hour, weekday daily).

The spare traffic capacity is the number of vehicles that can be added to the road without unreasonably compromising the amenity, safety and efficiency of the road.

It is noted that Russell Street exceeds capacity on Sundays as it provides the primary connection to the Evandale Sunday Markets and accommodates the majority of the parking associated with the markets. Exceeding the capacity of a road generally results in the road operating at a higher classification which in turn may affect the amenity, safety and/ or efficiency of a road. For Russell Street, due to the nature of the traffic generated on Sundays (i.e. predominantly people parking and attending the markets), the safety and amenity of the street is not unreasonably compromised but rather vehicle speeds along the road reduce and there is an impact on the efficiency of the road. Based on traffic modelling results presented above, while there is a reduction in the efficiency of the road on Sundays compared to weekdays, all upstream and downstream intersections continue to operate well. As such, the impact of exceeding the capacity along Russell Street on Sundays is generally minimal.

2.2 Public Transport

Public transport options within Evandale are limited with only one bus route available. The bus route is operated by Tassielink and travels between Launceston, Evandale, Perth, Longford and Cressy.

During weekdays, three buses in each direction operate on the Launceston – Evandale – Perth – Longford – Cressy Route.

2.3 Pedestrian and Cycling Facilities

Pedestrian and cycling facilities along White Hills Road and Logan Road in the vicinity of the site are limited as there are no footpaths or bike routes available.

Near the Evandale town centre, footpaths are present on one side of the road along all roads. No on-road cycle lanes are available in Evandale.

3. Development proposal

3.1 Overview

The initial stage is to rezone approximately 100ha of land from Agricultural to General Residential zoning.

The Masterplan site is approximately 78ha in size and is envisaged to accommodate the following:

- 182 general residential lots
- 82 rural residential lots
- 1 super lot of 62,200m^2
- 1 super lot of 24,700m^2; and
- 60,000m^2 public open space.

There are a range of potential developments options for the super lots that are yet to be finalised. The development of these lots could include one or several of the following:

- Retirement Living/ Aged Care
- Childcare centre
- Small local shops; and
- Affordable housing.

It is understood that the Masterplan will begin to be developed from late 2024 and developed over a 10-year period, subject to market demand.

4. Traffic impact assessment

4.1 Traffic generation

4.1.1 General and rural residential lots

The traffic generation of developments is dependent on numerous factors including but not limited to the location of the development and type of development.

Based on the demographic of the population of Evandale combined with the facilities and location of Evandale, it is expected that the traffic generation rate for residential (general and rural) and townhouse developments in Evandale would be less than the rate sourced from the *Roads and Maritime Services (RMS) Guide to Traffic generating developments Technical Direction TDT2013/04a* (RMS Technical Direction).

To determine the expected traffic generation for residential (general and rural) and townhouse developments in Evandale, the methodology outlined in the *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Developments (AGTM Part 12)* was adopted, and traffic data was collected for a one-week period in June 2022 along the following streets in Evandale:

- Honeysuckle Grove
- Coachmans Road; and
- Stockmans Road.

The above roads were chosen as they are residential cul-de-sacs that are unlikely to be impacted by through traffic.

By analysing the collected traffic data, the following traffic generation rates were identified for in Evandale:

- Weekday AM Peak Hour 0.5 trips per dwelling
- Weekday PM Peak Hour 0.5 trips per dwelling; and
- Daily 3.5 trips per dwelling.

4.1.2 Remaining Uses

When considering the other uses to the site and their traffic generation, the following observations/ assumptions can be made:

- Childcare centres and small local shops generally tend to generate traffic from the local area and therefore would likely have low traffic generation from outside the development
- Retirement living/ aged care would likely generate trips to/ from outside the local area; and
- Affordable housing tends to generate lower traffic volumes than general residential.

Based on the above, it is considered that retirement living would have the potential to generate the highest volume of traffic. It has been indicated that a facility would likely include 100 retirement living units. Traffic generation rates for retirement living units has been sourced from the RMS Technical Direction and is as follows:

- Weekday AM Peak Hour NIL (weekday AM peak hour does not coincide with the network peak hour)
- Weekday PM Peak Hour 0.4 trips per dwelling; and
- Daily 2.1 trips per dwelling.

Based on the generation rates presented above, the expected traffic generation of the proposed development on a typical weekday is as follows:

- Weekday AM Peak Hour 325 vehicle movements
- Weekday PM Peak Hour 365 vehicle movements; and
- Daily 1615 vehicle movements.

It is noted that traffic generation for the proposed development has been considered only for the weekday AM and PM peak hour and daily scenarios as the proposed development is expected to have the biggest impact on the road network on weekdays. On Sundays, traffic generation for the proposed development is expected to be minimal resulting in minimal impact on the road network.

4.2 Directional split of traffic

The directional split of traffic (i.e. the ratio of inbound and outbound traffic movements) that has been identified for the proposed development in Evandale is as follows:

- Weekday AM Peak Hour 30% in/ 70% out
- Weekday PM Peak Hour 60% in/ 40% out; and
- Daily 50% in/ 50% out.

4.3 Traffic distribution and assignment

The distribution of the traffic generated by the proposed development is based on several factors including:

- The location of major traffic distribution roads around the site
- The location of traffic generating developments; and
- Existing traffic patterns.

The distribution of generated traffic is shown in Figure 38.

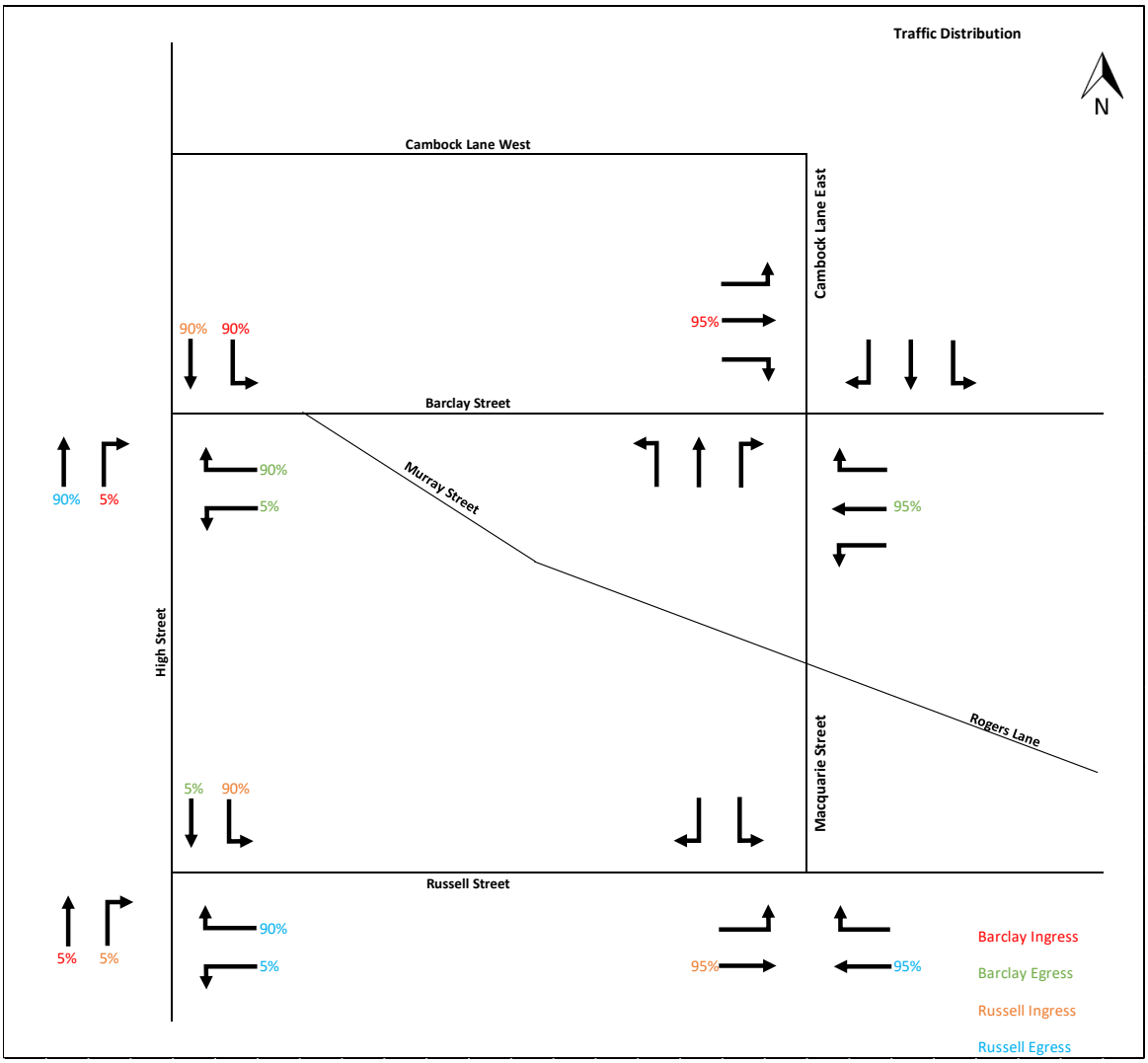


Figure 38: Distribution of generated traffic

4.4 Post development (2024) performance

4.4.1 Traffic Volumes

The traffic impacts for the proposed development have been estimated for the post development 2024 scenario. The expected post development traffic volumes for the weekday AM and PM peak hours are shown in Figure 39 and Figure 40.

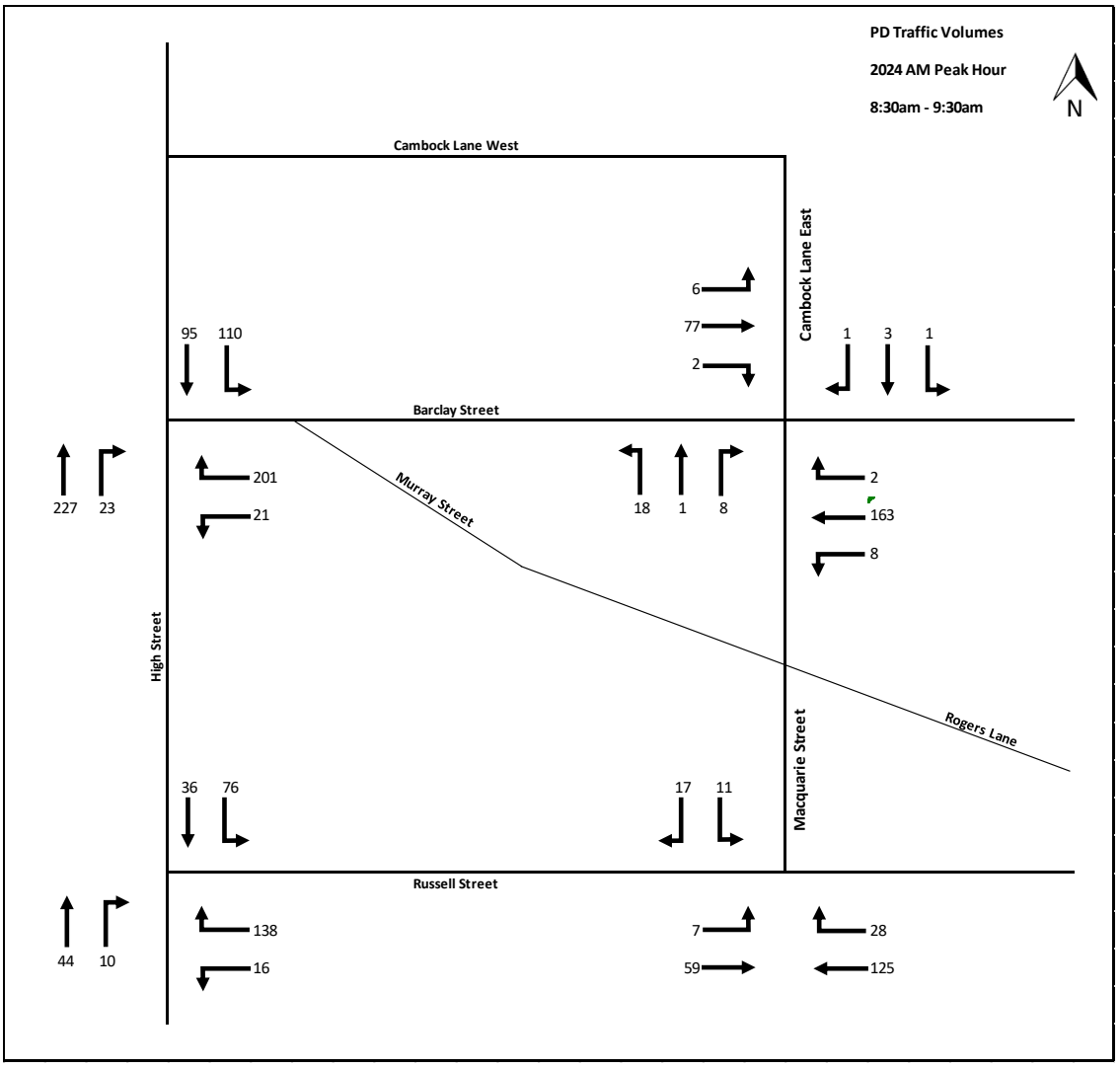


Figure 39: PD 2024 weekday AM peak hour traffic volumes

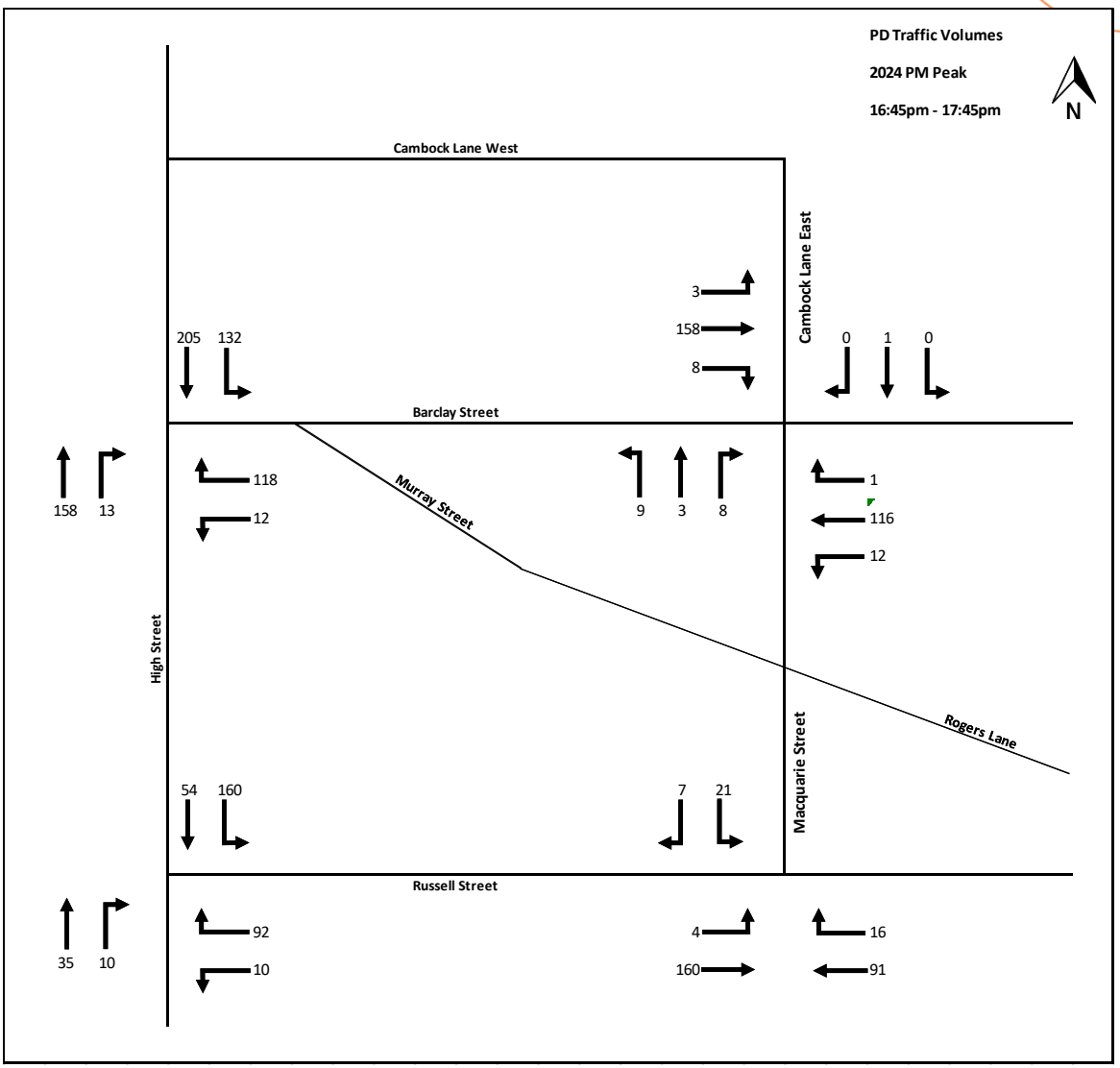


Figure 40: PD 2024 weekday PM peak hour traffic volumes

4.4.2 Traffic modelling results – intersection operation

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 41 and Figure 42. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 25. Full results are presented in Appendix C.

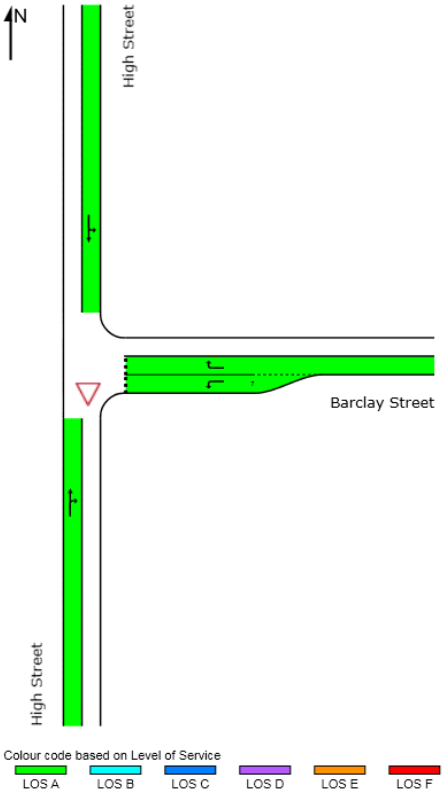


Figure 41: High Street/ Barclay Street PD Weekday AM Peak Hour Approach LOS

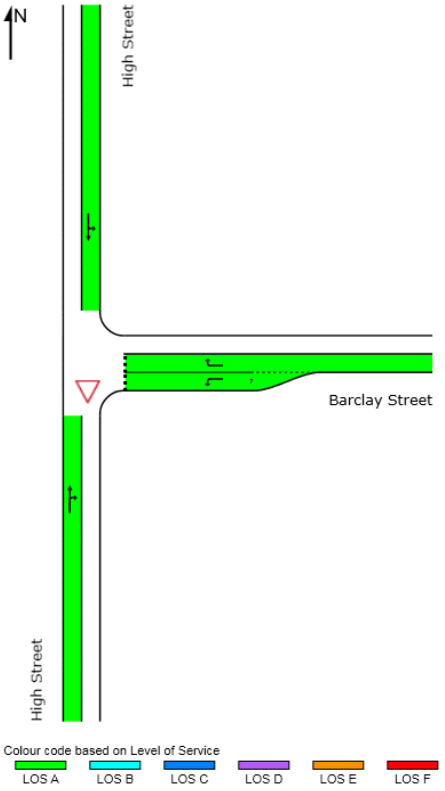


Figure 42: High Street/ Barclay Street PD Weekday PM Peak Hour Approach LOS

Table 25:High Street/ Barclay Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.15	1	2
East (Barclay Street)		0.38	10	14
North (High Street)		0.12	3	0
All Movements		**0.38**	**4**	**14**
South (High Street)	PM	0.10	1	1
East (Barclay Street)		0.24	9	7
North (High Street)		0.20	2	0
All Movements		**0.24**	**3**	**7**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 43 and Figure 44. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 26. Full results are presented in Appendix C.

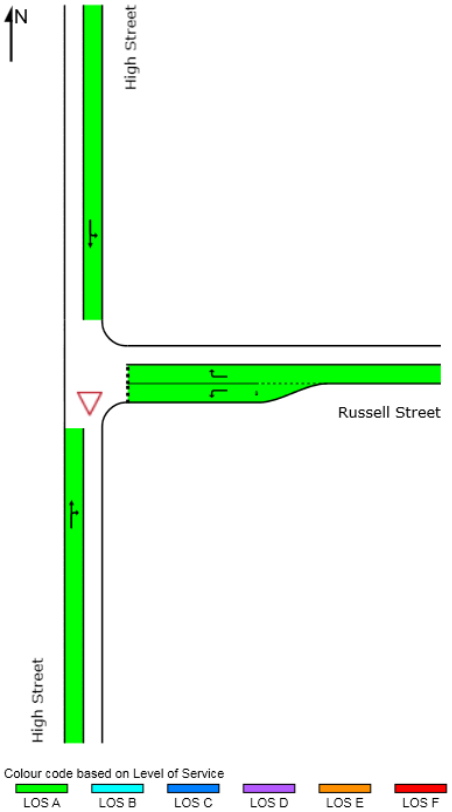


Figure 43: High Street/ Russell Street PD Weekday AM Peak Hour Approach LOS

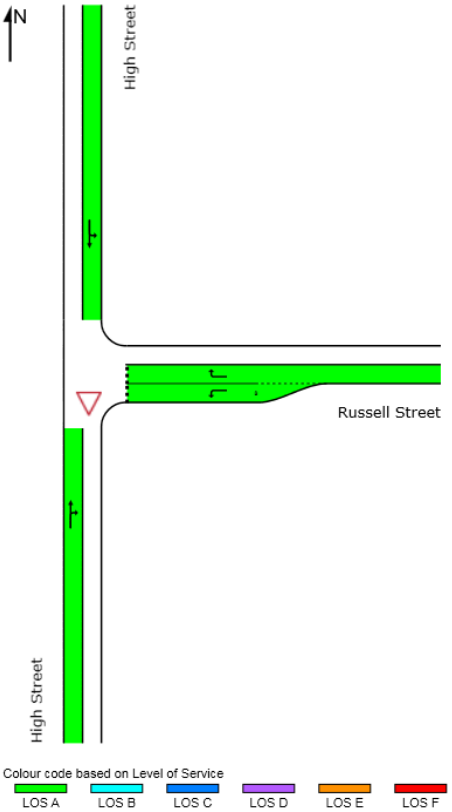


Figure 44: High Street/ Russell Street PD Weekday PM Peak Hour Approach LOS

Table 26: High Street/ Russell Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	1	1
East (Russell Street)		0.17	6	5
North (High Street)		0.07	4	0
All Movements		**0.17**	**4**	**5**
South (High Street)	PM	0.03	2	1
East (Russell Street)		0.13	6	3
North (High Street)		0.13	4	0
All Movements		**0.13**	**4**	**3**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 45 and Figure 46. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 27. Full results are presented in Appendix C.

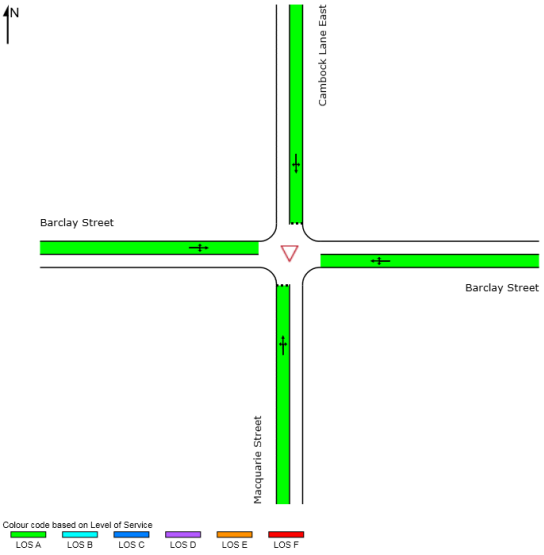


Figure 45: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday AM Peak Hour Approach LOS

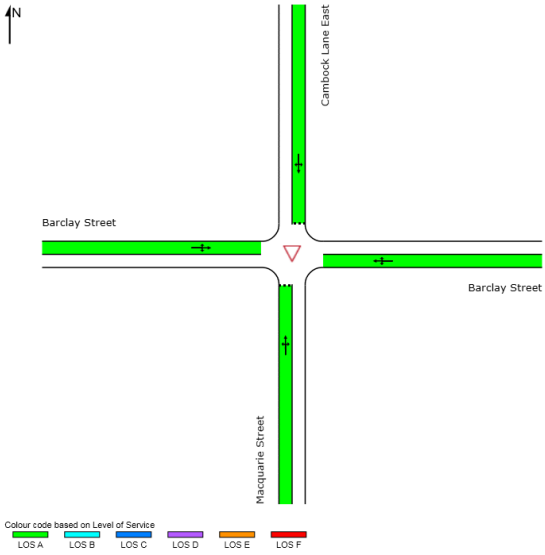


Figure 46: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday PM Peak Hour Approach LOS

Table 27: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.03	6	1
East (Barclay Street)		0.10	0	0
North (Cambock lane East)		0.01	7	0
West (Barclay Street)		0.05	1	0
All Movements		**0.10**	**1**	**1**
South (Macquarie Street)	PM	0.03	6	1
East (Barclay Street)		0.08	1	0
North (Cambock lane East)		0.01	7	0
West (Barclay Street)		0.10	0	1
All Movements		**0.10**	**1**	**1**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 47 and Figure 48. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 28. Full results are presented in Appendix C.

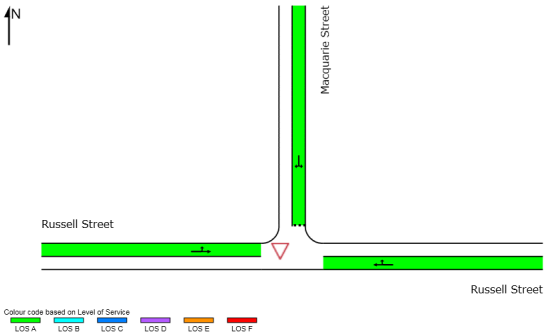


Figure 47: Russell Street/ Macquarie Street PD Weekday AM Peak Hour Approach LOS



Figure 48: Russell Street/ Macquarie Street PD Weekday PM Peak Hour Approach LOS

Table 28: Russell Street/ Macquarie Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.09	1	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.04	1	0
All Movements		**0.09**	**1**	**1**
East (Russell Street)	PM	0.06	1	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.09	0	0
All Movements		**0.09**	**1**	**1**

Discussion

Based on the results above, all modelled intersections are expected to operate with minimal queues and delays post development. All intersections will continue to operate at LOS A during both the weekday AM and PM peak hours.

4.4.3 Access operation

Based on the traffic modelling results above, the proposed accesses at White Hills Road and Logan Road would be expected to operate similar to the surrounding intersections with minimal queues and delays post development and a LOS A.

4.4.4 Mid-block operation

The mid-block capacity and demand for each road section post development is shown in Table 29 and Table 30.

Table 29: PD Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	1,070	930
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	2,757	243
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	2,943	56
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	1,371	1,628
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	180	820
	North of Barclay Street	Urban – Local Access	7%	2	1,000	140	860
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	1,163	837
	East of No. 58	Rural – S5	N/A	2	2,000	814	1,186
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	2,714	286
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	2,081	919
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	2,874	126

Table 30: PD Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	184	116	N/A	2	107	193
	East of Ridgeside Lane	Rural – S4	300	N/A	2	184	116	N/A	2	107	193
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	356	144	0%	2	276	224
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	268	232	6%	2	294	206
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	260	240	6%	2	137	363
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	163	137	N/A	2	116	184
	East of No. 58	Rural – S5	300	N/A	2	131	169	N/A	2	81	219
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	239	261	8%	2	271	229
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	208	292	30%	2	261	239
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	223	277	4%	2	287	213

Based on the results above, all road sections are expected to have spare capacity during the weekday AM peak hour, weekday PM peak hour and weekday daily scenarios. This result shows that the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road immediately post completion in 2024.

It is noted that the mid-block capacity on Sundays has not been assessed due to the expected low level of traffic generated by the proposed development on Sundays, leading to limited impact on the road network. As discussed, despite Russell Street currently exceeding capacity on Sundays, it still maintains its safety, amenity and efficiency. The proposed development is not expected to worsen the current conditions on Russell Street as the increase in traffic on Sundays will be negligible.

4.5 10-years post development (2034) performance

4.5.1 Traffic Volumes

The traffic impacts for the proposed development have been estimated for the 10-years post development 2034 scenario. The expected post development traffic volumes for the weekday AM and PM peak hours are shown in Figure 49 and Figure 50.

It is noted that in order to represent future growth on the road network, the calculated compounding growth rate of 0.2% per year has been applied to the existing traffic volumes. It is noted that the traffic volumes for the proposed development have not been increased beyond the development year as the size and intensity of use of the development is not expected to increase once completed.

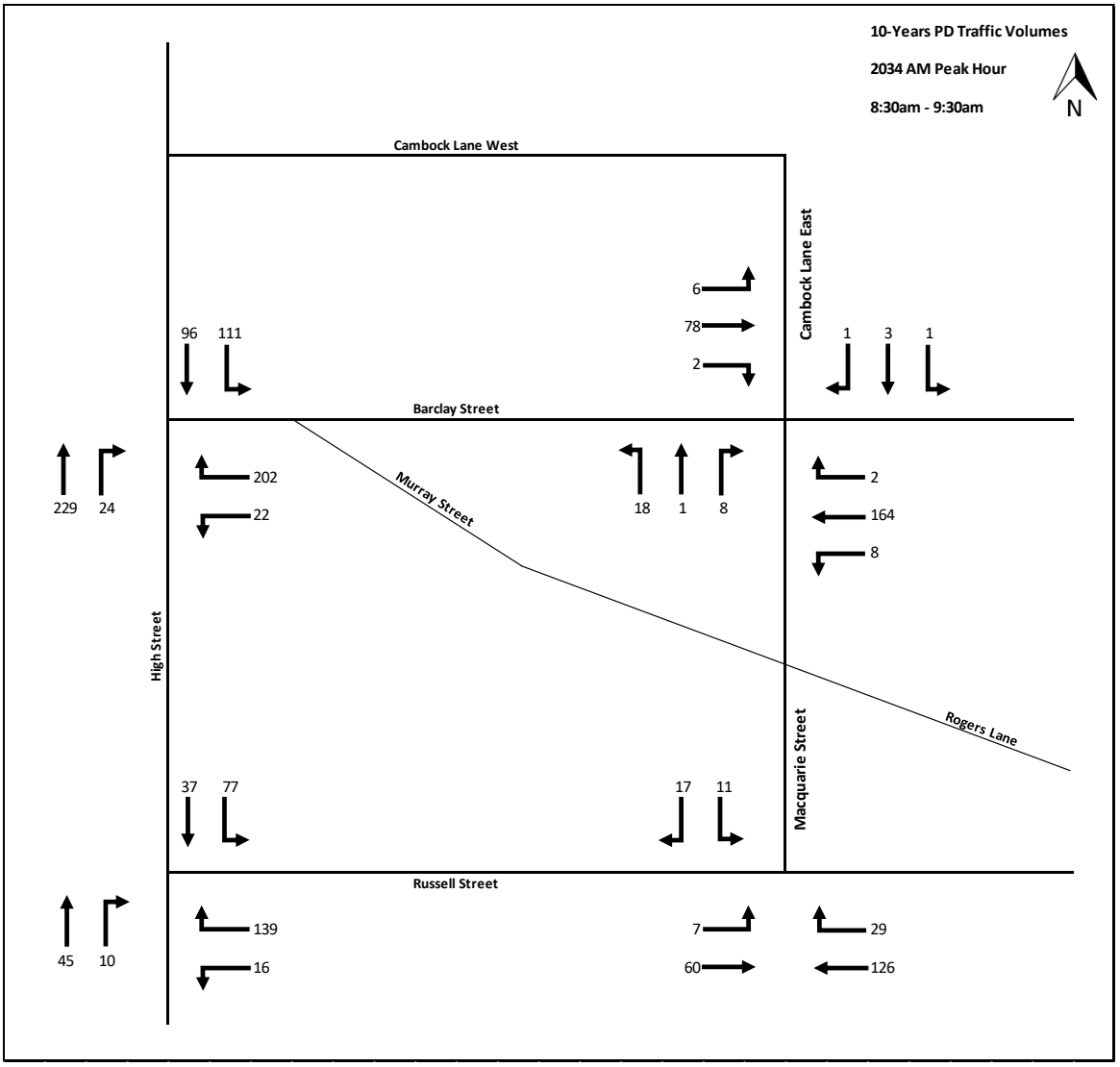


Figure 49: 10-years PD 2034 weekday AM peak hour traffic volumes

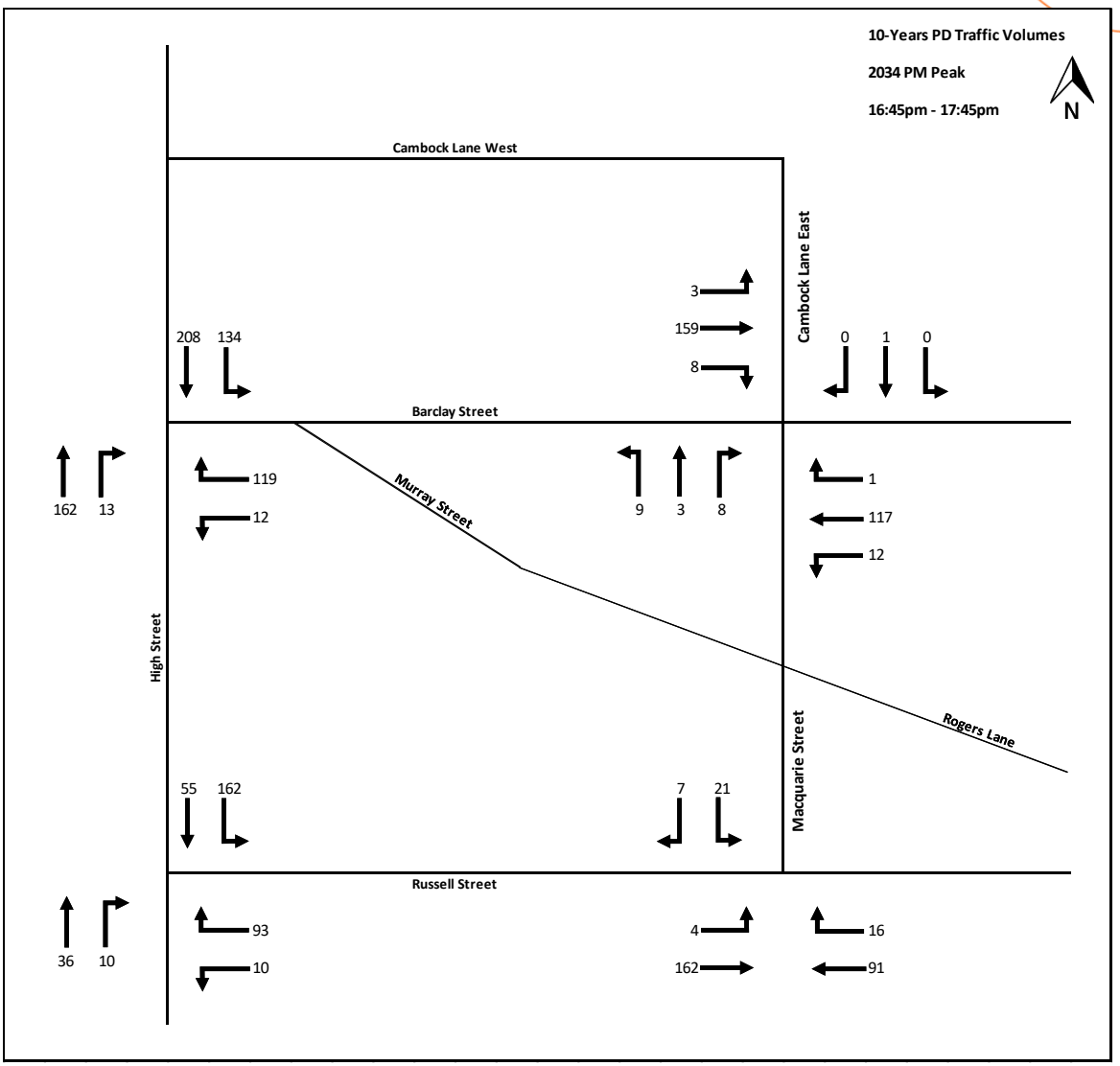


Figure 50: 10-Years PD 2034 weekday PM peak hour traffic volumes

4.5.2 Traffic modelling results – intersection operation

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 51 and Figure 52. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 31. Full results are presented in Appendix D.

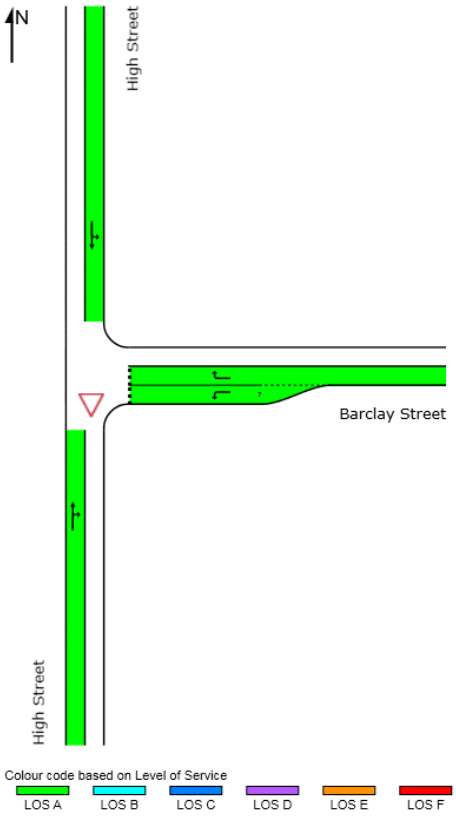


Figure 51: High Street/ Barclay Street 10-Years PD Weekday AM Peak Hour Approach LOS

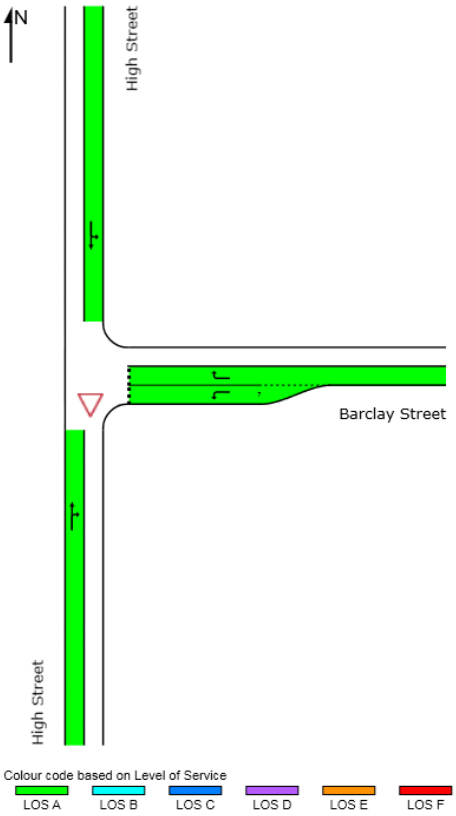


Figure 52: High Street/ Barclay Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 31:High Street/ Barclay Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.15	1	2
East (Barclay Street)		0.38	10	14
North (High Street)		0.12	3	0
All Movements		**0.38**	**4**	**14**
South (High Street)	PM	0.10	1	1
East (Barclay Street)		0.24	9	7
North (High Street)		0.20	2	0
All Movements		**0.24**	**3**	**7**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 53 and Figure 54. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 32. Full results are presented in Appendix D.

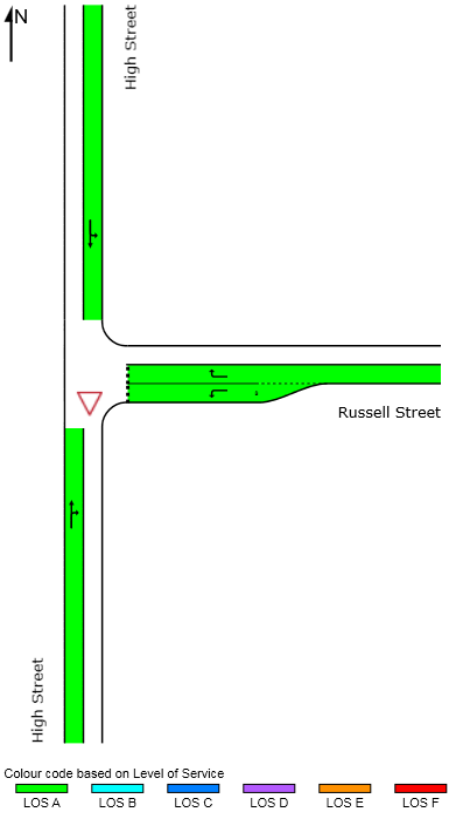


Figure 53: High Street/ Russell Street 10-Years PD Weekday AM Peak Hour Approach LOS

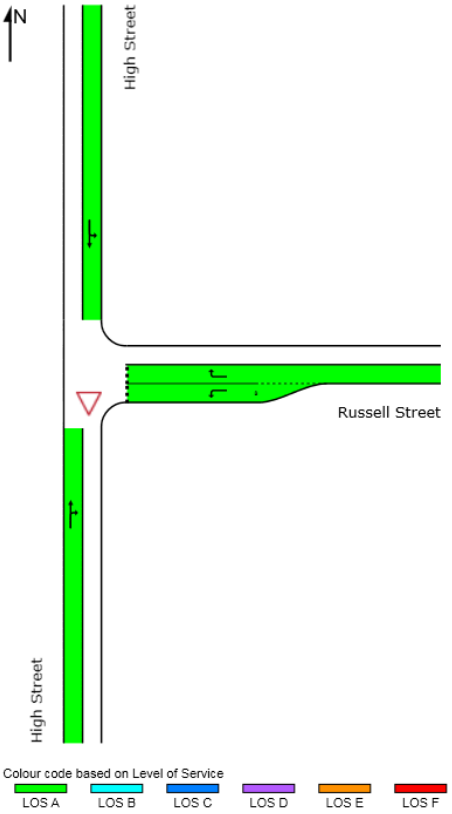


Figure 54: High Street/ Russell Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 32: High Street/ Russell Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	1	1
East (Russell Street)		0.17	6	5
North (High Street)		0.07	4	0
All Movements		**0.17**	**4**	**5**
South (High Street)	PM	0.03	2	1
East (Russell Street)		0.13	6	3
North (High Street)		0.13	4	0
All Movements		**0.13**	**4**	**3**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 55 and Figure 56. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 33. Full results are presented in Appendix D.

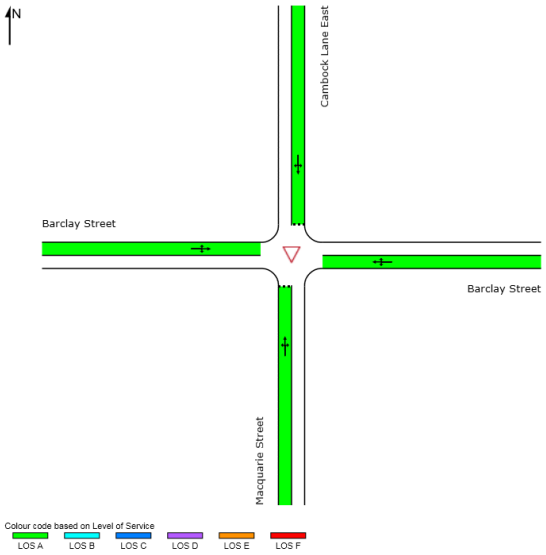


Figure 55: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday AM Peak Hour Approach LOS

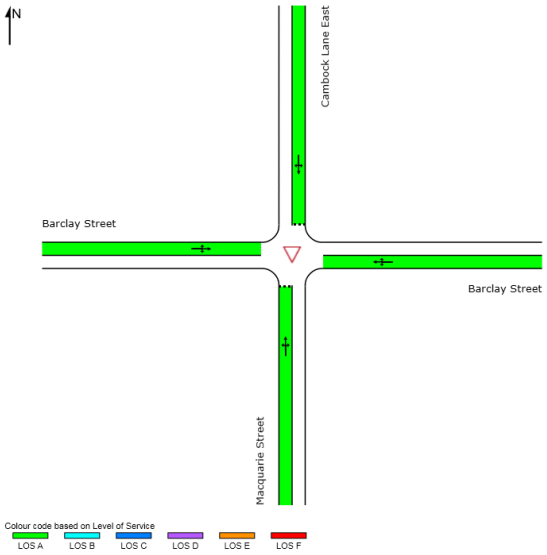


Figure 56: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday PM Peak Hour Approach LOS

Table 33: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.03	6	1
East (Barclay Street)		0.10	0	0
North (Cambock lane East)		0.01	7	0
West (Barclay Street)		0.05	1	0
All Movements		**0.10**	**1**	**1**
South (Macquarie Street)	PM	0.03	6	1
East (Barclay Street)		0.08	1	0
North (Cambock lane East)		0.01	7	0
West (Barclay Street)		0.10	0	1
All Movements		**0.10**	**1**	**1**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 57 and Figure 58. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 34. Full results are presented in Appendix D.



Figure 57: Russell Street/ Macquarie Street 10-Years PD Weekday AM Peak Hour Approach LOS



Figure 58: Russell Street/ Macquarie Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 34: Russell Street/ Macquarie Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.09	1	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.04	1	0
All Movements		**0.09**	**1**	**1**
East (Russell Street)	PM	0.06	1	1
North (Macquarie Street)		0.03	3	1
West (Russell Street)		0.09	0	0
All Movements		**0.09**	**1**	**1**

Discussion

Based on the results above, all modelled intersections are expected to operate with minimal queues and delays 10-years post development. All intersections will continue to operate at LOS A during both the weekday AM and PM peak hours.

4.5.3 Access operation

Based on the traffic modelling results above, the proposed accesses at White Hills Road and Logan Road would be expected to operate similar to the surrounding intersections with minimal queues and delays 10-years post development and a LOS A.

4.5.4 Mid-block operation

The mid-block capacity and demand for each road section post development is shown in Table 35 and Table 36.

Table 35: PD Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	1082	918
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	2,782	218
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	2,957	42
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	2,968	32
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	180	820
	North of Barclay Street	Urban – Local Access	7%	2	1,000	142	857
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	1,168	832
	East of No. 58	Rural – S5	N/A	2	2,000	817	1,183
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	2,744	256
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	2,101	899
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	2,907	93

Table 36: PD Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	186	114	N/A	2	108	192
	East of Ridgeside Lane	Rural – S4	300	N/A	2	186	114	N/A	2	108	192
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	359	141	0%	2	278	222
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	269	231	6%	2	296	204
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	261	239	6%	2	297	203
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	164	136	N/A	2	117	183
	East of No. 58	Rural – S5	300	N/A	2	131	169	N/A	2	82	218
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	242	258	8%	2	274	226
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	210	290	30%	2	264	236
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	225	275	4%	2	291	209

Based on the results above, all road sections are expected to have spare capacity during the weekday AM peak hour, weekday PM peak hour and weekday daily scenarios. This result shows that the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road 10-years post completion in 2034.

5. Planning scheme assessment

5.1 C2.0 Parking and sustainable transport code

As the proposed development is for a rezoning and detailed plans for each lot have not been prepared, the C2.0 Parking and sustainable transport code of the Planning Scheme has not been assessed.

This code will need to be assessed when detailed plans are available.

5.2 C3.0 Road and railway assets code

The proposed development has been assessed against the Use Standards of the Planning Scheme's Road and Railways Asset Code as shown below.

It is noted that the Development Standards of the Planning Scheme's Road and Railways Asset Code has not been assessed as the proposed development is not within a road or railway attenuation area.

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

Objective:

To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.

Acceptable Solution/ Performance Criteria	Comment
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; or c) A new level crossing **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. **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 **Acceptable Solution A1.4**	**Acceptable Solution A1.1 and A1.3 not applicable. Complies with Acceptable Solution A1.5. Satisfies Performance Criteria P1 in place of A1.2 and A1.4** As the proposed development is not located along a category 1 road, a limited access road or the rail network, Acceptable Solution A1.1 and A1.3 are not applicable. As written consent for the new accesses locations required has not been issued, it does not meet Acceptable Solution A1.2. As there is potential for up to 370 vehicle movements to be generated during the peak hours to and from the site, it does not comply with Acceptable Solution A1.4. It does, however, satisfy performance Criteria P1 as follows: a) Based on the SIDRA modelling results and mid-block assessment presented in this report, the traffic generated by the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road network surrounding the site b) The proposed development is expected to generate predominantly light vehicle traffic which is already catered for on the surrounding road network c) Based on the mid-block assessment presented in this report, there is spare capacity in the road network

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

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; or

b) Allowed by a licence issued under Part IVA of the *Roads and Jetties Act 1935* in respect to a limited access road.

Acceptable Solution A1.5

Vehicular traffic must be able to enter and leave a major road in a forward direction.

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.

surrounding the site to accommodate the traffic generated by the proposed development

d) The roads surrounding the proposed development are generally subject to a 50km/h speed limit. This speed limit is consistent with the safe and efficient access to the proposed development

e) There are no alternative accesses to the proposed development

f) The proposed development will provide additional residential properties in Evandale

g) This TIA has been prepared for the proposed development and identifies that the development is not expected to have any major impacts on the safety and operation of the surrounding road network; and

h) The Northern Midlands Council own and maintain the local road network in the vicinity of the site. No written advice has been received from the rail or road authority.

As vehicles can exit and enter the site in a forward direction, the proposed development complies with Acceptable Solution A1.5.

6. Conclusion

Traders in Purple have developed the Evandale Expansion Masterplan which incorporates several land parcels to the east of Evandale. The initial stage of the Masterplan comprises of rezoning the land from Agricultural to General Residential zoning. Ireneinc Planning & Urban Design on behalf of their client Traders in Purple have engaged pitt&sherry to undertake a Traffic Impact Assessment to support the application for rezoning. The assessment presented within this report may be summarised as follows:

- The Masterplan site is approximately 78ha in size and is envisaged to accommodate the following:
  - 182 general residential lots
  - 82 rural residential lots
  - 1 super lot of 62,200m^2
  - 1 super lot of 24,700m^2
  - 60,000m^2 public open space
- The Masterplan will begin to be developed as soon as possible (envisaged to be late 2024) and will be fully developed within 10-years
- All modelled intersections are expected to operate within minimal queues and delays post development and 10-years post development; and
- the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road immediately delays post development and 10-years post development.

Important information about your report

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

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Evandale Expansion Masterplan

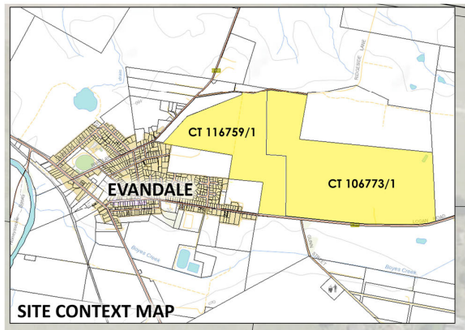
Appendix A

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EVANDALE - Proposed Additional Lots

LANGE Design 15 February 2022



POSSIBLE FUTURE BY-PASS ROAD
RIDGESIDE LANE
WHITE HILLS ROAD
100m Setback from Agricultural Land Use
200m Setback from Agricultural Land Use
BARCLAY STREET
LEOPOLD
ARTHUR STREET
MACQUARIE STREET
COACHMANS ROAD
STOCKMANS ROAD
RUSSELL STREET
LOGAN ROAD
GUNN
POSSIBLE FUTURE BY-PASS ROAD
200m Setback from Agricultural Land Use
100m Setback from Agricultural Land Use

LEGEND

- Existing general residential lots within Evandale.
- Example of potential future road reserve layout in the adjoining property.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (60,000m2).
- Proposed road network.
- 182 x Proposed general residential lots varying in size from 450m2 to 850m2.
- 82 x Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- 2 x Proposed super lots, 62,200m2 and 24,700m2.
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1. Potential for additional land acquisition to provide a safer intersection such as a roundabout.
2. Public open space corridor for pedestrian and cyclist connections to Barclay Street.
3. Road connections to adjoining properties.
4. Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.
5. Local pocket parks to accommodate surrounding residents.
6. Road connection into future land use.
7. Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.
8. Intersection to Logan Road.
9. Possible future by-pass road allowing heavily trucks to by-pass Russell Street and to relieve Sunday Market traffic congestion.
10. 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
11. 10m (w) Vegetation butter along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
12. Future Ridgeside Lane driveway adjustment required due to possible future by-pass road.
13. Future White Hills Road intersection adjustment required due to possible future by-pass road.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Master Plan

0 25 50m
Sheet 1 of 1
25 July 2022
Issue F

N

Traders In Purple

LANGE design landscape architecture

SIDRA Modelling Results - Existing

Appendix B

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	29	10.0	0.021	0.1	LOS A	0.0	0.3	0.10	0.10	0.10	58.6
6	R2	6	10.0	0.021	6.1	LOS A	0.0	0.3	0.10	0.10	0.10	52.5
Approach		36	10.0	0.021	1.2	NA	0.0	0.3	0.10	0.10	0.10	57.4
East: Russell Street												
7	L2	7	10.0	0.006	4.8	LOS A	0.0	0.2	0.14	0.49	0.14	49.1
9	R2	48	10.0	0.058	5.6	LOS A	0.2	1.5	0.26	0.56	0.26	48.4
Approach		56	10.0	0.058	5.5	LOS A	0.2	1.5	0.24	0.55	0.24	48.5
North: High Street												
10	L2	96	10.0	0.083	5.7	LOS A	0.0	0.0	0.00	0.38	0.00	54.7
11	T1	52	10.0	0.083	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	56.6
Approach		147	10.0	0.083	3.7	NA	0.0	0.0	0.00	0.38	0.00	55.4
All Vehicles		239	10.0	0.083	3.7	NA	0.2	1.5	0.07	0.38	0.07	53.9

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.019	4.7	LOS A	0.1	0.5	0.12	0.51	0.12	46.9
2	T1	3	2.0	0.019	4.7	LOS A	0.1	0.5	0.12	0.51	0.12	50.3
3	R2	8	5.0	0.019	5.0	LOS A	0.1	0.5	0.12	0.51	0.12	46.4
Approach		21	4.6	0.019	4.8	LOS A	0.1	0.5	0.12	0.51	0.12	47.2
East: Barclay Street												
4	L2	13	5.0	0.023	4.6	LOS A	0.0	0.1	0.01	0.18	0.01	48.5
5	T1	27	10.0	0.023	0.0	LOS A	0.0	0.1	0.01	0.18	0.01	49.0
6	R2	1	2.0	0.023	5.6	LOS A	0.0	0.1	0.01	0.18	0.01	51.4
Approach		41	8.3	0.023	1.6	NA	0.0	0.1	0.01	0.18	0.01	48.9
North: Cambock Lane East												
7	L2	1	2.0	0.003	5.7	LOS A	0.0	0.1	0.13	0.53	0.13	53.5
8	T1	1	2.0	0.003	4.7	LOS A	0.0	0.1	0.13	0.53	0.13	53.7
9	R2	1	2.0	0.003	6.1	LOS A	0.0	0.1	0.13	0.53	0.13	53.0
Approach		3	2.0	0.003	5.5	LOS A	0.0	0.1	0.13	0.53	0.13	53.4
West: Barclay Street												
10	L2	3	2.0	0.020	5.7	LOS A	0.1	0.4	0.07	0.18	0.07	52.1
11	T1	24	10.0	0.020	0.0	LOS A	0.1	0.4	0.07	0.18	0.07	49.1
12	R2	8	5.0	0.020	4.7	LOS A	0.1	0.4	0.07	0.18	0.07	48.1
Approach		36	8.1	0.020	1.6	NA	0.1	0.4	0.07	0.18	0.07	49.1
All Vehicles		101	7.2	0.023	2.4	NA	0.1	0.5	0.05	0.26	0.05	48.7

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	3	2.0	0.011	2.3	LOS A	0.0	0.1	0.01	0.10	0.01	48.4
2	T1	17	5.0	0.011	0.0	LOS A	0.0	0.1	0.01	0.10	0.01	49.4
3	R2	1	2.0	0.011	2.2	LOS A	0.0	0.1	0.01	0.10	0.01	47.5
Approach		21	4.4	0.011	0.5	NA	0.0	0.1	0.01	0.10	0.01	49.1
East: Rodgers Lane												
4	L2	1	2.0	0.003	4.7	LOS A	0.0	0.1	0.10	0.49	0.10	43.6
5	T1	1	2.0	0.003	3.4	LOS A	0.0	0.1	0.10	0.49	0.10	46.7
6	R2	1	2.0	0.003	4.8	LOS A	0.0	0.1	0.10	0.49	0.10	46.2
Approach		3	2.0	0.003	4.3	LOS A	0.0	0.1	0.10	0.49	0.10	45.8
North: Macquarie Street												
7	L2	1	2.0	0.014	4.6	LOS A	0.0	0.1	0.01	0.04	0.01	49.2
8	T1	24	5.0	0.014	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	49.5
9	R2	1	2.0	0.014	4.6	LOS A	0.0	0.1	0.01	0.04	0.01	48.7
Approach		26	4.8	0.014	0.4	NA	0.0	0.1	0.01	0.04	0.01	49.4
West: Rodgers Lane												
10	L2	1	2.0	0.007	4.6	LOS A	0.0	0.2	0.11	0.51	0.11	46.5
11	T1	1	2.0	0.007	3.4	LOS A	0.0	0.2	0.11	0.51	0.11	46.5
12	R2	5	2.0	0.007	4.8	LOS A	0.0	0.2	0.11	0.51	0.11	43.1
Approach		7	2.0	0.007	4.6	LOS A	0.0	0.2	0.11	0.51	0.11	44.5
All Vehicles		58	4.1	0.014	1.2	NA	0.0	0.2	0.03	0.15	0.03	48.2

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	44	10.0	0.035	0.1	LOS A	0.1	0.7	0.12	0.15	0.12	48.8
6	R2	17	5.0	0.035	4.9	LOS A	0.1	0.7	0.12	0.15	0.12	46.3
Approach		61	8.6	0.035	1.4	NA	0.1	0.7	0.12	0.15	0.12	48.4
North: Macquarie Street												
7	L2	7	5.0	0.032	2.7	LOS A	0.1	0.8	0.24	0.49	0.24	45.4
9	R2	22	5.0	0.032	3.1	LOS A	0.1	0.8	0.24	0.49	0.24	44.6
Approach		29	5.0	0.032	3.0	LOS A	0.1	0.8	0.24	0.49	0.24	44.8
West: Russell Street												
10	L2	4	5.0	0.052	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	25.2
11	T1	92	10.0	0.052	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		96	9.8	0.052	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.7
All Vehicles		186	8.6	0.052	1.1	NA	0.1	0.8	0.08	0.14	0.08	48.2

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	169	10.0	0.094	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
6	R2	2	2.0	0.094	6.0	LOS A	0.0	0.1	0.01	0.01	0.01	53.6
Approach		172	9.9	0.094	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.8
East: Cambock Lane												
7	L2	2	2.0	0.002	5.0	LOS A	0.0	0.0	0.22	0.48	0.22	49.1
9	R2	8	2.0	0.012	6.5	LOS A	0.0	0.3	0.38	0.59	0.38	48.1
Approach		11	2.0	0.012	6.2	LOS A	0.0	0.3	0.35	0.57	0.35	48.3
North: High Street												
10	L2	7	2.0	0.069	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.9
11	T1	119	10.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		126	9.5	0.069	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		308	9.5	0.094	0.4	NA	0.0	0.3	0.02	0.04	0.02	59.2

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	99	10.0	0.068	0.1	LOS A	0.1	1.1	0.10	0.10	0.10	58.7
6	R2	21	10.0	0.068	6.1	LOS A	0.1	1.1	0.10	0.10	0.10	52.5
Approach		120	10.0	0.068	1.2	NA	0.1	1.1	0.10	0.10	0.10	57.5
East: Barclay Street												
7	L2	15	10.0	0.012	4.9	LOS A	0.0	0.3	0.16	0.49	0.16	49.0
9	R2	72	10.0	0.095	6.2	LOS A	0.3	2.5	0.35	0.61	0.35	47.9
Approach		86	10.0	0.095	6.0	LOS A	0.3	2.5	0.31	0.59	0.31	48.1
North: High Street												
10	L2	56	10.0	0.069	5.7	LOS A	0.0	0.0	0.00	0.27	0.00	55.6
11	T1	67	10.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	57.6
Approach		123	10.0	0.069	2.6	NA	0.0	0.0	0.00	0.27	0.00	56.7
All Vehicles		329	10.0	0.095	3.0	NA	0.3	2.5	0.12	0.29	0.12	54.4

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	43	10.0	0.029	0.1	LOS A	0.1	0.4	0.07	0.10	0.07	58.8
6	R2	8	10.0	0.029	5.9	LOS A	0.1	0.4	0.07	0.10	0.07	52.6
Approach		52	10.0	0.029	1.0	NA	0.1	0.4	0.07	0.10	0.07	57.7
East: Russell Street												
7	L2	13	10.0	0.009	4.8	LOS A	0.0	0.3	0.10	0.50	0.10	49.2
9	R2	69	10.0	0.080	5.4	LOS A	0.3	2.1	0.23	0.55	0.23	48.4
Approach		82	10.0	0.080	5.3	LOS A	0.3	2.1	0.21	0.54	0.21	48.5
North: High Street												
10	L2	47	10.0	0.044	5.7	LOS A	0.0	0.0	0.00	0.36	0.00	54.9
11	T1	31	10.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	56.8
Approach		78	10.0	0.044	3.4	NA	0.0	0.0	0.00	0.36	0.00	55.7
All Vehicles		212	10.0	0.080	3.6	NA	0.3	2.1	0.10	0.37	0.10	53.1

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.024	4.7	LOS A	0.1	0.6	0.09	0.51	0.09	46.5
2	T1	1	2.0	0.024	4.6	LOS A	0.1	0.6	0.09	0.51	0.09	49.8
3	R2	8	5.0	0.024	4.9	LOS A	0.1	0.6	0.09	0.51	0.09	46.0
Approach		28	4.9	0.024	4.8	LOS A	0.1	0.6	0.09	0.51	0.09	46.5
East: Barclay Street												
4	L2	8	5.0	0.019	4.6	LOS A	0.0	0.1	0.02	0.17	0.02	48.7
5	T1	24	10.0	0.019	0.0	LOS A	0.0	0.1	0.02	0.17	0.02	49.2
6	R2	2	2.0	0.019	5.6	LOS A	0.0	0.1	0.02	0.17	0.02	51.7
Approach		35	8.3	0.019	1.5	NA	0.0	0.1	0.02	0.17	0.02	49.2
North: Cambock Lane East												
7	L2	1	2.0	0.006	5.6	LOS A	0.0	0.2	0.13	0.52	0.13	53.8
8	T1	3	2.0	0.006	4.6	LOS A	0.0	0.2	0.13	0.52	0.13	54.0
9	R2	1	2.0	0.006	6.1	LOS A	0.0	0.2	0.13	0.52	0.13	53.3
Approach		5	2.0	0.006	5.1	LOS A	0.0	0.2	0.13	0.52	0.13	53.8
West: Barclay Street												
10	L2	6	2.0	0.014	5.6	LOS A	0.0	0.1	0.02	0.18	0.02	52.8
11	T1	18	10.0	0.014	0.0	LOS A	0.0	0.1	0.02	0.18	0.02	49.8
12	R2	2	5.0	0.014	4.7	LOS A	0.0	0.1	0.02	0.18	0.02	48.7
Approach		26	7.7	0.014	1.7	NA	0.0	0.1	0.02	0.18	0.02	50.4
All Vehicles		95	6.8	0.024	2.7	NA	0.1	0.6	0.05	0.29	0.05	48.9

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	2.0	0.020	2.3	LOS A	0.0	0.1	0.01	0.14	0.01	48.2
2	T1	26	5.0	0.020	0.0	LOS A	0.0	0.1	0.01	0.14	0.01	49.1
3	R2	1	2.0	0.020	2.2	LOS A	0.0	0.1	0.01	0.14	0.01	47.3
Approach		37	4.1	0.020	0.7	NA	0.0	0.1	0.01	0.14	0.01	48.8
East: Rodgers Lane												
4	L2	1	2.0	0.003	4.6	LOS A	0.0	0.1	0.10	0.49	0.10	43.6
5	T1	1	2.0	0.003	3.4	LOS A	0.0	0.1	0.10	0.49	0.10	46.7
6	R2	1	2.0	0.003	4.8	LOS A	0.0	0.1	0.10	0.49	0.10	46.2
Approach		3	2.0	0.003	4.3	LOS A	0.0	0.1	0.10	0.49	0.10	45.8
North: Macquarie Street												
7	L2	1	2.0	0.012	4.6	LOS A	0.0	0.1	0.01	0.05	0.01	49.2
8	T1	21	5.0	0.012	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	49.4
9	R2	1	2.0	0.012	4.7	LOS A	0.0	0.1	0.01	0.05	0.01	48.7
Approach		23	4.7	0.012	0.4	NA	0.0	0.1	0.01	0.05	0.01	49.3
West: Rodgers Lane												
10	L2	1	2.0	0.010	4.7	LOS A	0.0	0.2	0.13	0.52	0.13	46.4
11	T1	1	2.0	0.010	3.4	LOS A	0.0	0.2	0.13	0.52	0.13	46.5
12	R2	8	2.0	0.010	4.9	LOS A	0.0	0.2	0.13	0.52	0.13	43.0
Approach		11	2.0	0.010	4.7	LOS A	0.0	0.2	0.13	0.52	0.13	44.0
All Vehicles		74	3.9	0.020	1.3	NA	0.0	0.2	0.03	0.18	0.03	47.9

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	52	10.0	0.046	0.1	LOS A	0.2	1.2	0.08	0.20	0.08	48.6
6	R2	29	5.0	0.046	4.7	LOS A	0.2	1.2	0.08	0.20	0.08	46.0
Approach		81	8.2	0.046	1.8	NA	0.2	1.2	0.08	0.20	0.08	48.0
North: Macquarie Street												
7	L2	12	5.0	0.029	2.4	LOS A	0.1	0.7	0.12	0.47	0.12	45.8
9	R2	18	5.0	0.029	2.8	LOS A	0.1	0.7	0.12	0.47	0.12	45.0
Approach		29	5.0	0.029	2.7	LOS A	0.1	0.7	0.12	0.47	0.12	45.3
West: Russell Street												
10	L2	7	5.0	0.020	4.6	LOS A	0.0	0.0	0.00	0.11	0.00	24.9
11	T1	28	10.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	49.3
Approach		36	9.0	0.020	1.0	NA	0.0	0.0	0.00	0.11	0.00	44.2
All Vehicles		146	7.7	0.046	1.7	NA	0.2	1.2	0.07	0.23	0.07	46.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	114	10.0	0.064	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
6	R2	2	2.0	0.064	6.3	LOS A	0.0	0.1	0.01	0.01	0.01	53.6
Approach		116	9.9	0.064	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.7
East: Cambock Lane												
7	L2	1	2.0	0.001	5.4	LOS A	0.0	0.0	0.32	0.49	0.32	48.9
9	R2	6	2.0	0.009	6.8	LOS A	0.0	0.2	0.41	0.60	0.41	47.8
Approach		7	2.0	0.009	6.6	LOS A	0.0	0.2	0.39	0.58	0.39	48.0
North: High Street												
10	L2	9	2.0	0.122	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
11	T1	215	10.0	0.122	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		224	9.7	0.122	0.2	NA	0.0	0.0	0.00	0.03	0.00	59.7
All Vehicles		347	9.6	0.122	0.3	NA	0.0	0.2	0.01	0.03	0.01	59.4

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	77	10.0	0.047	0.1	LOS A	0.0	0.4	0.06	0.05	0.06	59.3
6	R2	6	10.0	0.047	6.4	LOS A	0.0	0.4	0.06	0.05	0.06	53.0
Approach		83	10.0	0.047	0.6	NA	0.0	0.4	0.06	0.05	0.06	58.8
East: Barclay Street												
7	L2	7	10.0	0.006	5.2	LOS A	0.0	0.2	0.26	0.50	0.26	48.8
9	R2	35	10.0	0.050	6.6	LOS A	0.2	1.2	0.37	0.62	0.37	47.7
Approach		42	10.0	0.050	6.3	LOS A	0.2	1.2	0.35	0.60	0.35	47.9
North: High Street												
10	L2	75	10.0	0.121	5.7	LOS A	0.0	0.0	0.00	0.20	0.00	56.2
11	T1	143	10.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	58.2
Approach		218	10.0	0.121	2.0	NA	0.0	0.0	0.00	0.20	0.00	57.5
All Vehicles		343	10.0	0.121	2.2	NA	0.2	1.2	0.06	0.21	0.06	56.4

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Sunday AM Peak]

10:30-11:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	14	2.0	0.032	2.4	LOS A	0.1	0.4	0.03	0.18	0.03	47.9
2	T1	38	2.0	0.032	0.0	LOS A	0.1	0.4	0.03	0.18	0.03	48.8
3	R2	8	2.0	0.032	2.2	LOS A	0.1	0.4	0.03	0.18	0.03	47.0
Approach		60	2.0	0.032	0.9	NA	0.1	0.4	0.03	0.18	0.03	48.4
East: Rodgers Lane												
4	L2	1	2.0	0.003	4.7	LOS A	0.0	0.1	0.11	0.49	0.11	43.6
5	T1	1	2.0	0.003	3.6	LOS A	0.0	0.1	0.11	0.49	0.11	46.7
6	R2	1	2.0	0.003	5.0	LOS A	0.0	0.1	0.11	0.49	0.11	46.2
Approach		3	2.0	0.003	4.4	LOS A	0.0	0.1	0.11	0.49	0.11	45.8
North: Macquarie Street												
7	L2	1	2.0	0.023	4.7	LOS A	0.1	0.6	0.11	0.23	0.11	47.9
8	T1	24	2.0	0.023	0.1	LOS A	0.1	0.6	0.11	0.23	0.11	47.1
9	R2	17	2.0	0.023	4.7	LOS A	0.1	0.6	0.11	0.23	0.11	47.5
Approach		42	2.0	0.023	2.1	NA	0.1	0.6	0.11	0.23	0.11	47.3
West: Rodgers Lane												
10	L2	2	2.0	0.006	4.7	LOS A	0.0	0.1	0.14	0.50	0.14	46.4
11	T1	1	2.0	0.006	3.6	LOS A	0.0	0.1	0.14	0.50	0.14	46.5
12	R2	3	2.0	0.006	5.1	LOS A	0.0	0.1	0.14	0.50	0.14	43.0
Approach		6	2.0	0.006	4.7	LOS A	0.0	0.1	0.14	0.50	0.14	45.2
All Vehicles		112	2.0	0.032	1.6	NA	0.1	0.6	0.07	0.22	0.07	47.6

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	8	2.0	0.025	2.3	LOS A	0.0	0.2	0.01	0.12	0.01	48.3
2	T1	35	2.0	0.025	0.0	LOS A	0.0	0.2	0.01	0.12	0.01	49.2
3	R2	3	2.0	0.025	2.2	LOS A	0.0	0.2	0.01	0.12	0.01	47.4
Approach		46	2.0	0.025	0.6	NA	0.0	0.2	0.01	0.12	0.01	48.9
East: Rodgers Lane												
4	L2	1	2.0	0.003	4.6	LOS A	0.0	0.1	0.07	0.50	0.07	43.7
5	T1	1	2.0	0.003	3.5	LOS A	0.0	0.1	0.07	0.50	0.07	46.8
6	R2	1	2.0	0.003	4.9	LOS A	0.0	0.1	0.07	0.50	0.07	46.3
Approach		3	2.0	0.003	4.3	LOS A	0.0	0.1	0.07	0.50	0.07	45.9
North: Macquarie Street												
7	L2	3	2.0	0.013	4.7	LOS A	0.0	0.3	0.09	0.25	0.09	47.8
8	T1	13	2.0	0.013	0.1	LOS A	0.0	0.3	0.09	0.25	0.09	46.9
9	R2	8	2.0	0.013	4.7	LOS A	0.0	0.3	0.09	0.25	0.09	47.4
Approach		24	2.0	0.013	2.3	NA	0.0	0.3	0.09	0.25	0.09	47.3
West: Rodgers Lane												
10	L2	6	2.0	0.018	4.7	LOS A	0.1	0.4	0.13	0.52	0.13	46.4
11	T1	1	2.0	0.018	3.5	LOS A	0.1	0.4	0.13	0.52	0.13	46.4
12	R2	12	2.0	0.018	4.9	LOS A	0.1	0.4	0.13	0.52	0.13	42.9
Approach		19	2.0	0.018	4.8	LOS A	0.1	0.4	0.13	0.52	0.13	44.8
All Vehicles		93	2.0	0.025	2.0	NA	0.1	0.4	0.06	0.25	0.06	47.3

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	242	2.0	0.141	0.1	LOS A	0.2	1.2	0.06	0.05	0.06	49.6
6	R2	23	2.0	0.141	5.2	LOS A	0.2	1.2	0.06	0.05	0.06	47.6
Approach		265	2.0	0.141	0.5	NA	0.2	1.2	0.06	0.05	0.06	49.5
North: Macquarie Street												
7	L2	19	2.0	0.024	2.9	LOS A	0.1	0.6	0.27	0.49	0.27	45.1
9	R2	5	2.0	0.024	5.1	LOS A	0.1	0.6	0.27	0.49	0.27	44.3
Approach		24	2.0	0.024	3.4	LOS A	0.1	0.6	0.27	0.49	0.27	44.9
West: Russell Street												
10	L2	23	2.0	0.088	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	25.1
11	T1	145	2.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.6
Approach		168	2.0	0.088	0.6	NA	0.0	0.0	0.00	0.07	0.00	46.1
All Vehicles		458	2.0	0.141	0.7	NA	0.2	1.2	0.05	0.08	0.05	48.0

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	20	2.0	0.032	4.7	LOS A	0.1	0.8	0.13	0.51	0.13	46.5
2	T1	2	2.0	0.032	4.8	LOS A	0.1	0.8	0.13	0.51	0.13	49.8
3	R2	14	2.0	0.032	5.0	LOS A	0.1	0.8	0.13	0.51	0.13	46.1
Approach		36	2.0	0.032	4.8	LOS A	0.1	0.8	0.13	0.51	0.13	46.5
East: Barclay Street												
4	L2	17	2.0	0.030	4.6	LOS A	0.0	0.1	0.00	0.17	0.00	48.6
5	T1	39	2.0	0.030	0.0	LOS A	0.0	0.1	0.00	0.17	0.00	49.1
6	R2	1	2.0	0.030	5.5	LOS A	0.0	0.1	0.00	0.17	0.00	51.5
Approach		57	2.0	0.030	1.5	NA	0.0	0.1	0.00	0.17	0.00	49.0
North: Cambock Lane East												
7	L2	1	2.0	0.007	5.6	LOS A	0.0	0.2	0.15	0.52	0.15	53.8
8	T1	4	2.0	0.007	4.8	LOS A	0.0	0.2	0.15	0.52	0.15	54.0
9	R2	1	2.0	0.007	6.3	LOS A	0.0	0.2	0.15	0.52	0.15	53.3
Approach		6	2.0	0.007	5.2	LOS A	0.0	0.2	0.15	0.52	0.15	53.8
West: Barclay Street												
10	L2	2	2.0	0.018	5.7	LOS A	0.1	0.5	0.11	0.25	0.11	51.4
11	T1	17	2.0	0.018	0.1	LOS A	0.1	0.5	0.11	0.25	0.11	48.5
12	R2	13	2.0	0.018	4.7	LOS A	0.1	0.5	0.11	0.25	0.11	47.6
Approach		32	2.0	0.018	2.3	NA	0.1	0.5	0.11	0.25	0.11	48.3
All Vehicles		131	2.0	0.032	2.8	NA	0.1	0.8	0.07	0.30	0.07	48.3

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	319	2.0	0.168	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
6	R2	3	2.0	0.168	6.7	LOS A	0.0	0.2	0.01	0.01	0.01	53.6
Approach		322	2.0	0.168	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
East: Cambock Lane												
7	L2	9	2.0	0.006	5.5	LOS A	0.0	0.2	0.39	0.52	0.39	48.7
9	R2	4	2.0	0.004	5.8	LOS A	0.0	0.1	0.35	0.60	0.35	48.5
Approach		14	2.0	0.006	5.5	LOS A	0.0	0.2	0.38	0.54	0.38	48.6
North: High Street												
10	L2	13	2.0	0.192	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.1
11	T1	357	2.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		369	2.0	0.192	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		705	2.0	0.192	0.3	NA	0.0	0.2	0.01	0.02	0.01	59.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	362	2.0	0.190	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	59.9
6	R2	2	2.0	0.190	6.7	LOS A	0.0	0.1	0.01	0.00	0.01	53.7
Approach		364	2.0	0.190	0.0	NA	0.0	0.1	0.01	0.00	0.01	59.9
East: Cambock Lane												
7	L2	4	2.0	0.004	5.6	LOS A	0.0	0.1	0.35	0.51	0.35	48.8
9	R2	6	2.0	0.014	9.9	LOS A	0.0	0.3	0.57	0.72	0.57	46.0
Approach		11	2.0	0.014	8.2	LOS A	0.0	0.3	0.48	0.64	0.48	47.1
North: High Street												
10	L2	11	2.0	0.145	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.0
11	T1	267	2.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		278	2.0	0.145	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		653	2.0	0.190	0.3	NA	0.0	0.3	0.01	0.02	0.01	59.6

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	46	2.0	0.038	0.5	LOS A	0.1	0.9	0.25	0.17	0.25	57.5
6	R2	18	2.0	0.038	6.7	LOS A	0.1	0.9	0.25	0.17	0.25	51.7
Approach		64	2.0	0.038	2.3	NA	0.1	0.9	0.25	0.17	0.25	55.8
East: Russell Street												
7	L2	6	2.0	0.005	4.8	LOS A	0.0	0.1	0.14	0.49	0.14	49.4
9	R2	207	2.0	0.276	6.7	LOS A	1.1	7.8	0.43	0.67	0.43	47.9
Approach		214	2.0	0.276	6.7	LOS A	1.1	7.8	0.42	0.67	0.42	47.9
North: High Street												
10	L2	289	2.0	0.185	5.6	LOS A	0.0	0.0	0.00	0.49	0.00	54.2
11	T1	53	2.0	0.185	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	55.7
Approach		342	2.0	0.185	4.7	NA	0.0	0.0	0.00	0.49	0.00	54.4
All Vehicles		620	2.0	0.276	5.1	NA	1.1	7.8	0.17	0.52	0.17	52.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	57	2.0	0.039	0.2	LOS A	0.1	0.7	0.15	0.12	0.15	58.4
6	R2	14	2.0	0.039	6.3	LOS A	0.1	0.7	0.15	0.12	0.15	52.4
Approach		71	2.0	0.039	1.4	NA	0.1	0.7	0.15	0.12	0.15	57.1
East: Russell Street												
7	L2	13	2.0	0.009	4.7	LOS A	0.0	0.3	0.12	0.50	0.12	49.4
9	R2	231	2.0	0.287	6.2	LOS A	1.2	8.3	0.38	0.63	0.38	48.2
Approach		243	2.0	0.287	6.2	LOS A	1.2	8.3	0.37	0.63	0.37	48.3
North: High Street												
10	L2	191	2.0	0.125	5.6	LOS A	0.0	0.0	0.00	0.48	0.00	54.3
11	T1	41	2.0	0.125	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	55.8
Approach		232	2.0	0.125	4.6	NA	0.0	0.0	0.00	0.48	0.00	54.6
All Vehicles		545	2.0	0.287	4.9	NA	1.2	8.3	0.18	0.50	0.18	51.8

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

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Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Tuesday, 17 December 2024 3:35:37 PM
Project: C:\Users\ecalvert\Downloads\Evandale Intersections - Existing Sunday updated.sip8

MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Sunday Midday Peak]

10:30-11:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	196	2.0	0.127	0.2	LOS A	0.3	2.0	0.14	0.09	0.14	49.2
6	R2	35	2.0	0.127	5.6	LOS A	0.3	2.0	0.14	0.09	0.14	46.9
Approach		231	2.0	0.127	1.0	NA	0.3	2.0	0.14	0.09	0.14	49.0
North: Macquarie Street												
7	L2	25	2.0	0.026	3.3	LOS A	0.1	0.7	0.34	0.51	0.34	45.0
9	R2	2	2.0	0.026	5.7	LOS A	0.1	0.7	0.34	0.51	0.34	44.2
Approach		27	2.0	0.026	3.5	LOS A	0.1	0.7	0.34	0.51	0.34	44.9
West: Russell Street												
10	L2	25	2.0	0.138	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	25.1
11	T1	239	2.0	0.138	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.7
Approach		264	2.0	0.138	0.5	NA	0.0	0.0	0.00	0.05	0.00	47.3
All Vehicles		522	2.0	0.138	0.9	NA	0.3	2.0	0.08	0.09	0.08	47.9

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

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Project: C:\Users\ecalvert\Downloads\Evandale Intersections - Existing Sunday updated.sip8

MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	25	2.0	0.033	4.7	LOS A	0.1	0.9	0.10	0.51	0.10	46.5
2	T1	1	2.0	0.033	4.7	LOS A	0.1	0.9	0.10	0.51	0.10	49.8
3	R2	13	2.0	0.033	5.0	LOS A	0.1	0.9	0.10	0.51	0.10	46.0
Approach		39	2.0	0.033	4.8	LOS A	0.1	0.9	0.10	0.51	0.10	46.4
East: Barclay Street												
4	L2	9	2.0	0.020	4.6	LOS A	0.0	0.1	0.01	0.15	0.01	48.7
5	T1	27	2.0	0.020	0.0	LOS A	0.0	0.1	0.01	0.15	0.01	49.2
6	R2	1	2.0	0.020	5.6	LOS A	0.0	0.1	0.01	0.15	0.01	51.7
Approach		38	2.0	0.020	1.3	NA	0.0	0.1	0.01	0.15	0.01	49.2
North: Cambock Lane East												
7	L2	1	2.0	0.005	5.7	LOS A	0.0	0.1	0.16	0.52	0.16	53.6
8	T1	2	2.0	0.005	4.7	LOS A	0.0	0.1	0.16	0.52	0.16	53.8
9	R2	1	2.0	0.005	6.3	LOS A	0.0	0.1	0.16	0.52	0.16	53.1
Approach		4	2.0	0.005	5.3	LOS A	0.0	0.1	0.16	0.52	0.16	53.6
West: Barclay Street												
10	L2	2	2.0	0.023	5.7	LOS A	0.1	0.4	0.06	0.15	0.06	52.1
11	T1	31	2.0	0.023	0.0	LOS A	0.1	0.4	0.06	0.15	0.06	49.2
12	R2	9	2.0	0.023	4.7	LOS A	0.1	0.4	0.06	0.15	0.06	48.2
Approach		42	2.0	0.023	1.4	NA	0.1	0.4	0.06	0.15	0.06	49.1
All Vehicles		123	2.0	0.033	2.6	NA	0.1	0.9	0.06	0.28	0.06	48.4

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

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SIDRA Modelling Results - PD

Appendix C

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	37	10.0	0.028	0.3	LOS A	0.1	0.6	0.17	0.13	0.17	58.1
6	R2	11	10.0	0.028	6.4	LOS A	0.1	0.6	0.17	0.13	0.17	52.1
Approach		47	10.0	0.028	1.6	NA	0.1	0.6	0.17	0.13	0.17	56.7
East: Russell Street												
7	L2	11	10.0	0.008	4.9	LOS A	0.0	0.2	0.15	0.49	0.15	49.0
9	R2	97	10.0	0.125	6.1	LOS A	0.4	3.3	0.33	0.60	0.33	48.1
Approach		107	10.0	0.125	6.0	LOS A	0.4	3.3	0.31	0.59	0.31	48.1
North: High Street												
10	L2	168	10.0	0.128	5.7	LOS A	0.0	0.0	0.00	0.44	0.00	54.3
11	T1	57	10.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	56.2
Approach		225	10.0	0.128	4.2	NA	0.0	0.0	0.00	0.44	0.00	54.7
All Vehicles		380	10.0	0.128	4.4	NA	0.4	3.3	0.11	0.44	0.11	52.9

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.025	5.1	LOS A	0.1	0.6	0.30	0.55	0.30	46.3
2	T1	3	2.0	0.025	7.1	LOS A	0.1	0.6	0.30	0.55	0.30	49.6
3	R2	8	5.0	0.025	6.7	LOS A	0.1	0.6	0.30	0.55	0.30	45.8
Approach		21	4.6	0.025	6.0	LOS A	0.1	0.6	0.30	0.55	0.30	46.5
East: Barclay Street												
4	L2	13	5.0	0.075	4.7	LOS A	0.0	0.1	0.01	0.05	0.01	49.1
5	T1	122	10.0	0.075	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	49.7
6	R2	1	2.0	0.075	6.2	LOS A	0.0	0.1	0.01	0.05	0.01	52.2
Approach		136	9.5	0.075	0.5	NA	0.0	0.1	0.01	0.05	0.01	49.6
North: Cambock Lane East												
7	L2	1	2.0	0.005	6.3	LOS A	0.0	0.1	0.39	0.56	0.39	52.1
8	T1	1	2.0	0.005	7.0	LOS A	0.0	0.1	0.39	0.56	0.39	52.3
9	R2	1	2.0	0.005	8.8	LOS A	0.0	0.1	0.39	0.56	0.39	51.6
Approach		3	2.0	0.005	7.4	LOS A	0.0	0.1	0.39	0.56	0.39	52.0
West: Barclay Street												
10	L2	3	2.0	0.098	5.9	LOS A	0.1	0.5	0.03	0.04	0.03	52.8
11	T1	166	10.0	0.098	0.0	LOS A	0.1	0.5	0.03	0.04	0.03	49.8
12	R2	8	5.0	0.098	5.1	LOS A	0.1	0.5	0.03	0.04	0.03	48.7
Approach		178	9.6	0.098	0.4	NA	0.1	0.5	0.03	0.04	0.03	49.8
All Vehicles		338	9.2	0.098	0.8	NA	0.1	0.6	0.04	0.08	0.04	49.5

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	96	10.0	0.064	0.1	LOS A	0.1	0.9	0.10	0.08	0.10	49.2
6	R2	17	5.0	0.064	5.2	LOS A	0.1	0.9	0.10	0.08	0.10	47.0
Approach		113	9.3	0.064	0.9	NA	0.1	0.9	0.10	0.08	0.10	49.0
North: Macquarie Street												
7	L2	22	5.0	0.029	3.0	LOS A	0.1	0.8	0.30	0.50	0.30	45.1
9	R2	7	5.0	0.029	4.1	LOS A	0.1	0.8	0.30	0.50	0.30	44.3
Approach		29	5.0	0.029	3.3	LOS A	0.1	0.8	0.30	0.50	0.30	44.9
West: Russell Street												
10	L2	4	5.0	0.094	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	25.2
11	T1	168	10.0	0.094	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		173	9.9	0.094	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.3
All Vehicles		315	9.2	0.094	0.7	NA	0.1	0.9	0.06	0.08	0.06	48.9

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	46	10.0	0.032	0.1	LOS A	0.1	0.5	0.10	0.11	0.10	58.6
6	R2	11	10.0	0.032	6.0	LOS A	0.1	0.5	0.10	0.11	0.10	52.4
Approach		57	10.0	0.032	1.2	NA	0.1	0.5	0.10	0.11	0.10	57.4
East: Russell Street												
7	L2	17	10.0	0.013	4.8	LOS A	0.0	0.4	0.12	0.49	0.12	49.1
9	R2	145	10.0	0.174	5.7	LOS A	0.6	4.9	0.29	0.58	0.29	48.3
Approach		162	10.0	0.174	5.6	LOS A	0.6	4.9	0.27	0.57	0.27	48.4
North: High Street												
10	L2	80	10.0	0.067	5.7	LOS A	0.0	0.0	0.00	0.40	0.00	54.6
11	T1	38	10.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	56.5
Approach		118	10.0	0.067	3.8	NA	0.0	0.0	0.00	0.40	0.00	55.2
All Vehicles		337	10.0	0.174	4.2	NA	0.6	4.9	0.15	0.43	0.15	52.0

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.029	5.3	LOS A	0.1	0.8	0.31	0.55	0.31	46.0
2	T1	1	2.0	0.029	6.7	LOS A	0.1	0.8	0.31	0.55	0.31	49.3
3	R2	8	5.0	0.029	6.4	LOS A	0.1	0.8	0.31	0.55	0.31	45.6
Approach		28	4.9	0.029	5.7	LOS A	0.1	0.8	0.31	0.55	0.31	46.0
East: Barclay Street												
4	L2	8	5.0	0.100	4.7	LOS A	0.0	0.2	0.01	0.03	0.01	49.3
5	T1	172	10.0	0.100	0.0	LOS A	0.0	0.2	0.01	0.03	0.01	49.8
6	R2	2	2.0	0.100	5.8	LOS A	0.0	0.2	0.01	0.03	0.01	52.3
Approach		182	9.7	0.100	0.3	NA	0.0	0.2	0.01	0.03	0.01	49.8
North: Cambock Lane East												
7	L2	1	2.0	0.007	5.9	LOS A	0.0	0.2	0.34	0.55	0.34	52.6
8	T1	3	2.0	0.007	6.6	LOS A	0.0	0.2	0.34	0.55	0.34	52.7
9	R2	1	2.0	0.007	8.4	LOS A	0.0	0.2	0.34	0.55	0.34	52.0
Approach		5	2.0	0.007	6.8	LOS A	0.0	0.2	0.34	0.55	0.34	52.5
West: Barclay Street												
10	L2	6	2.0	0.049	5.7	LOS A	0.0	0.2	0.02	0.05	0.02	52.9
11	T1	81	10.0	0.049	0.0	LOS A	0.0	0.2	0.02	0.05	0.02	49.9
12	R2	2	5.0	0.049	5.2	LOS A	0.0	0.2	0.02	0.05	0.02	48.8
Approach		89	9.3	0.049	0.5	NA	0.0	0.2	0.02	0.05	0.02	50.1
All Vehicles		305	9.0	0.100	1.0	NA	0.1	0.8	0.05	0.10	0.05	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	132	10.0	0.090	0.1	LOS A	0.2	1.4	0.07	0.10	0.07	49.2
6	R2	29	5.0	0.090	4.8	LOS A	0.2	1.4	0.07	0.10	0.07	47.0
Approach		161	9.1	0.090	0.9	NA	0.2	1.4	0.07	0.10	0.07	49.0
North: Macquarie Street												
7	L2	12	5.0	0.032	2.6	LOS A	0.1	0.8	0.20	0.49	0.20	45.2
9	R2	18	5.0	0.032	3.6	LOS A	0.1	0.8	0.20	0.49	0.20	44.4
Approach		29	5.0	0.032	3.2	LOS A	0.1	0.8	0.20	0.49	0.20	44.7
West: Russell Street												
10	L2	7	5.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	25.1
11	T1	62	10.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach		69	9.5	0.038	0.5	NA	0.0	0.0	0.00	0.06	0.00	47.0
All Vehicles		260	8.7	0.090	1.1	NA	0.2	1.4	0.07	0.13	0.07	48.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	166	10.0	0.103	0.2	LOS A	0.1	1.0	0.09	0.05	0.09	59.2
6	R2	14	10.0	0.103	7.2	LOS A	0.1	1.0	0.09	0.05	0.09	52.9
Approach		180	10.0	0.103	0.7	NA	0.1	1.0	0.09	0.05	0.09	58.7
East: Barclay Street												
7	L2	13	10.0	0.012	5.6	LOS A	0.0	0.3	0.33	0.52	0.33	48.6
9	R2	124	10.0	0.238	9.5	LOS A	0.9	6.7	0.55	0.81	0.57	46.0
Approach		137	10.0	0.238	9.1	LOS A	0.9	6.7	0.53	0.78	0.55	46.2
North: High Street												
10	L2	139	10.0	0.198	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.9
11	T1	216	10.0	0.198	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		355	10.0	0.198	2.2	NA	0.0	0.0	0.00	0.23	0.00	57.1
All Vehicles		672	10.0	0.238	3.2	NA	0.9	6.7	0.13	0.29	0.14	54.9

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

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SIDRA Modelling Results – 10 Years PD

Appendix D

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	239	10.0	0.149	0.1	LOS A	0.2	1.5	0.08	0.06	0.08	59.2
6	R2	24	10.0	0.149	6.5	LOS A	0.2	1.5	0.08	0.06	0.08	52.9
Approach		263	10.0	0.149	0.7	NA	0.2	1.5	0.08	0.06	0.08	58.5
East: Barclay Street												
7	L2	22	10.0	0.018	5.1	LOS A	0.1	0.5	0.21	0.50	0.21	48.9
9	R2	212	10.0	0.379	10.1	LOS B	1.8	13.8	0.58	0.88	0.74	45.6
Approach		234	10.0	0.379	9.6	LOS A	1.8	13.8	0.54	0.84	0.69	45.9
North: High Street												
10	L2	116	10.0	0.121	5.7	LOS A	0.0	0.0	0.00	0.32	0.00	55.2
11	T1	100	10.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	57.2
Approach		216	10.0	0.121	3.0	NA	0.0	0.0	0.00	0.32	0.00	56.1
All Vehicles		713	10.0	0.379	4.3	NA	1.8	13.8	0.21	0.39	0.25	53.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	46	10.0	0.032	0.1	LOS A	0.1	0.5	0.10	0.11	0.10	58.6
6	R2	11	10.0	0.032	6.0	LOS A	0.1	0.5	0.10	0.11	0.10	52.4
Approach		57	10.0	0.032	1.2	NA	0.1	0.5	0.10	0.11	0.10	57.4
East: Russell Street												
7	L2	17	10.0	0.013	4.8	LOS A	0.0	0.4	0.12	0.49	0.12	49.1
9	R2	145	10.0	0.174	5.7	LOS A	0.6	4.9	0.29	0.58	0.29	48.3
Approach		162	10.0	0.174	5.6	LOS A	0.6	4.9	0.27	0.57	0.27	48.4
North: High Street												
10	L2	80	10.0	0.067	5.7	LOS A	0.0	0.0	0.00	0.40	0.00	54.6
11	T1	38	10.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	56.5
Approach		118	10.0	0.067	3.8	NA	0.0	0.0	0.00	0.40	0.00	55.2
All Vehicles		337	10.0	0.174	4.2	NA	0.6	4.9	0.15	0.43	0.15	52.0

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.029	5.3	LOS A	0.1	0.8	0.31	0.55	0.31	46.0
2	T1	1	2.0	0.029	6.7	LOS A	0.1	0.8	0.31	0.55	0.31	49.3
3	R2	8	5.0	0.029	6.4	LOS A	0.1	0.8	0.31	0.55	0.31	45.6
Approach		28	4.9	0.029	5.7	LOS A	0.1	0.8	0.31	0.55	0.31	46.0
East: Barclay Street												
4	L2	8	5.0	0.100	4.7	LOS A	0.0	0.2	0.01	0.03	0.01	49.3
5	T1	172	10.0	0.100	0.0	LOS A	0.0	0.2	0.01	0.03	0.01	49.8
6	R2	2	2.0	0.100	5.8	LOS A	0.0	0.2	0.01	0.03	0.01	52.3
Approach		182	9.7	0.100	0.3	NA	0.0	0.2	0.01	0.03	0.01	49.8
North: Cambock Lane East												
7	L2	1	2.0	0.007	5.9	LOS A	0.0	0.2	0.34	0.55	0.34	52.6
8	T1	3	2.0	0.007	6.6	LOS A	0.0	0.2	0.34	0.55	0.34	52.7
9	R2	1	2.0	0.007	8.4	LOS A	0.0	0.2	0.34	0.55	0.34	52.0
Approach		5	2.0	0.007	6.8	LOS A	0.0	0.2	0.34	0.55	0.34	52.5
West: Barclay Street												
10	L2	6	2.0	0.049	5.7	LOS A	0.0	0.2	0.02	0.05	0.02	52.9
11	T1	81	10.0	0.049	0.0	LOS A	0.0	0.2	0.02	0.05	0.02	49.9
12	R2	2	5.0	0.049	5.2	LOS A	0.0	0.2	0.02	0.05	0.02	48.8
Approach		89	9.3	0.049	0.5	NA	0.0	0.2	0.02	0.05	0.02	50.1
All Vehicles		305	9.0	0.100	1.0	NA	0.1	0.8	0.05	0.10	0.05	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	132	10.0	0.090	0.1	LOS A	0.2	1.4	0.07	0.10	0.07	49.2
6	R2	29	5.0	0.090	4.8	LOS A	0.2	1.4	0.07	0.10	0.07	47.0
Approach		161	9.1	0.090	0.9	NA	0.2	1.4	0.07	0.10	0.07	49.0
North: Macquarie Street												
7	L2	12	5.0	0.032	2.6	LOS A	0.1	0.8	0.20	0.49	0.20	45.2
9	R2	18	5.0	0.032	3.6	LOS A	0.1	0.8	0.20	0.49	0.20	44.4
Approach		29	5.0	0.032	3.2	LOS A	0.1	0.8	0.20	0.49	0.20	44.7
West: Russell Street												
10	L2	7	5.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	25.1
11	T1	62	10.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach		69	9.5	0.038	0.5	NA	0.0	0.0	0.00	0.06	0.00	47.0
All Vehicles		260	8.7	0.090	1.1	NA	0.2	1.4	0.07	0.13	0.07	48.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	166	10.0	0.103	0.2	LOS A	0.1	1.0	0.09	0.05	0.09	59.2
6	R2	14	10.0	0.103	7.2	LOS A	0.1	1.0	0.09	0.05	0.09	52.9
Approach		180	10.0	0.103	0.7	NA	0.1	1.0	0.09	0.05	0.09	58.7
East: Barclay Street												
7	L2	13	10.0	0.012	5.6	LOS A	0.0	0.3	0.33	0.52	0.33	48.6
9	R2	124	10.0	0.238	9.5	LOS A	0.9	6.7	0.55	0.81	0.57	46.0
Approach		137	10.0	0.238	9.1	LOS A	0.9	6.7	0.53	0.78	0.55	46.2
North: High Street												
10	L2	139	10.0	0.198	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.9
11	T1	216	10.0	0.198	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		355	10.0	0.198	2.2	NA	0.0	0.0	0.00	0.23	0.00	57.1
All Vehicles		672	10.0	0.238	3.2	NA	0.9	6.7	0.13	0.29	0.14	54.9

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	37	10.0	0.028	0.3	LOS A	0.1	0.6	0.17	0.13	0.17	58.1
6	R2	11	10.0	0.028	6.4	LOS A	0.1	0.6	0.17	0.13	0.17	52.1
Approach		47	10.0	0.028	1.6	NA	0.1	0.6	0.17	0.13	0.17	56.7
East: Russell Street												
7	L2	11	10.0	0.008	4.9	LOS A	0.0	0.2	0.15	0.49	0.15	49.0
9	R2	97	10.0	0.125	6.1	LOS A	0.4	3.3	0.33	0.60	0.33	48.1
Approach		107	10.0	0.125	6.0	LOS A	0.4	3.3	0.31	0.59	0.31	48.1
North: High Street												
10	L2	168	10.0	0.128	5.7	LOS A	0.0	0.0	0.00	0.44	0.00	54.3
11	T1	57	10.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	56.2
Approach		225	10.0	0.128	4.2	NA	0.0	0.0	0.00	0.44	0.00	54.7
All Vehicles		380	10.0	0.128	4.4	NA	0.4	3.3	0.11	0.44	0.11	52.9

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.025	5.1	LOS A	0.1	0.6	0.30	0.55	0.30	46.3
2	T1	3	2.0	0.025	7.1	LOS A	0.1	0.6	0.30	0.55	0.30	49.6
3	R2	8	5.0	0.025	6.7	LOS A	0.1	0.6	0.30	0.55	0.30	45.8
Approach		21	4.6	0.025	6.0	LOS A	0.1	0.6	0.30	0.55	0.30	46.5
East: Barclay Street												
4	L2	13	5.0	0.075	4.7	LOS A	0.0	0.1	0.01	0.05	0.01	49.1
5	T1	122	10.0	0.075	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	49.7
6	R2	1	2.0	0.075	6.2	LOS A	0.0	0.1	0.01	0.05	0.01	52.2
Approach		136	9.5	0.075	0.5	NA	0.0	0.1	0.01	0.05	0.01	49.6
North: Cambock Lane East												
7	L2	1	2.0	0.005	6.3	LOS A	0.0	0.1	0.39	0.56	0.39	52.1
8	T1	1	2.0	0.005	7.0	LOS A	0.0	0.1	0.39	0.56	0.39	52.3
9	R2	1	2.0	0.005	8.8	LOS A	0.0	0.1	0.39	0.56	0.39	51.6
Approach		3	2.0	0.005	7.4	LOS A	0.0	0.1	0.39	0.56	0.39	52.0
West: Barclay Street												
10	L2	3	2.0	0.098	5.9	LOS A	0.1	0.5	0.03	0.04	0.03	52.8
11	T1	166	10.0	0.098	0.0	LOS A	0.1	0.5	0.03	0.04	0.03	49.8
12	R2	8	5.0	0.098	5.1	LOS A	0.1	0.5	0.03	0.04	0.03	48.7
Approach		178	9.6	0.098	0.4	NA	0.1	0.5	0.03	0.04	0.03	49.8
All Vehicles		338	9.2	0.098	0.8	NA	0.1	0.6	0.04	0.08	0.04	49.5

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	96	10.0	0.064	0.1	LOS A	0.1	0.9	0.10	0.08	0.10	49.2
6	R2	17	5.0	0.064	5.2	LOS A	0.1	0.9	0.10	0.08	0.10	47.0
Approach		113	9.3	0.064	0.9	NA	0.1	0.9	0.10	0.08	0.10	49.0
North: Macquarie Street												
7	L2	22	5.0	0.029	3.0	LOS A	0.1	0.8	0.30	0.50	0.30	45.1
9	R2	7	5.0	0.029	4.1	LOS A	0.1	0.8	0.30	0.50	0.30	44.3
Approach		29	5.0	0.029	3.3	LOS A	0.1	0.8	0.30	0.50	0.30	44.9
West: Russell Street												
10	L2	4	5.0	0.094	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	25.2
11	T1	168	10.0	0.094	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		173	9.9	0.094	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.3
All Vehicles		315	9.2	0.094	0.7	NA	0.1	0.9	0.06	0.08	0.06	48.9

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

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pitt&sherry

Evandale Expansion Masterplan – Traffic Impact Assessment

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EVANDALE MASTERPLAN
PROPOSED RESIDENTIAL SUBDIVISION

TRAFFIC ENGINEERING PEER REVIEW

EVANDALE MASTERPLAN PROPOSED RESIDENTIAL SUBDIVISION
Client: Northern Midlands Council
Report Reference: 24200T
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Wednesday, May 01, 2024

Document Control

Version:	Prepared By:	Position:	Date:	Reviewed By:	Position:	Date:
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1 INTRODUCTION

SALT has been engaged by Northern Midlands Council to undertake a peer review of the Traffic Impact Assessment (TIA) prepared by pitt&sherry in support of a proposed amendment to the Planning Scheme to facilitate the rezoning of land in Evandale and the implementation of an associated development masterplan.

During the preparation of the peer review report, the following tasks have been undertaken:

- Development plans have been reviewed;
- The TIA report prepared by pitt&sherry has been reviewed;
- The subject site and its environs were inspected during a site visit;
- SIDRA modelling carried out by pitt&sherry has been evaluated;
- Available traffic volume data was reviewed; and
- Matters relating to traffic safety, sight lines at proposed accesses, etc. were reviewed.

The following sets out SALT's findings with respect to the traffic assessment prepared by pitt&sherry in support of the proposed amendment to the Planning Scheme.

2 EXISTING CONDITIONS

2.1 LOCATION & SITE DESCRIPTION

The subject site includes four (4) properties/titles immediately west of Evandale township, namely:

- 4 Ridgeside Lane;
- Logan Road;
- Portion of 211 Logan Road; and
- 38 Arthur Street.

The area is generally bounded by White Hills Road in the northwest, Ridgeside Lane in the north, Logan Road in the south, other properties/titles in the east, and Evandale township in the west. The total area comprises a combined extent of about 100 ha.

The location of the site with respect to the surrounding road network is shown below in **Figure 1**, followed by an aerial view of the site in **Figure 2**.

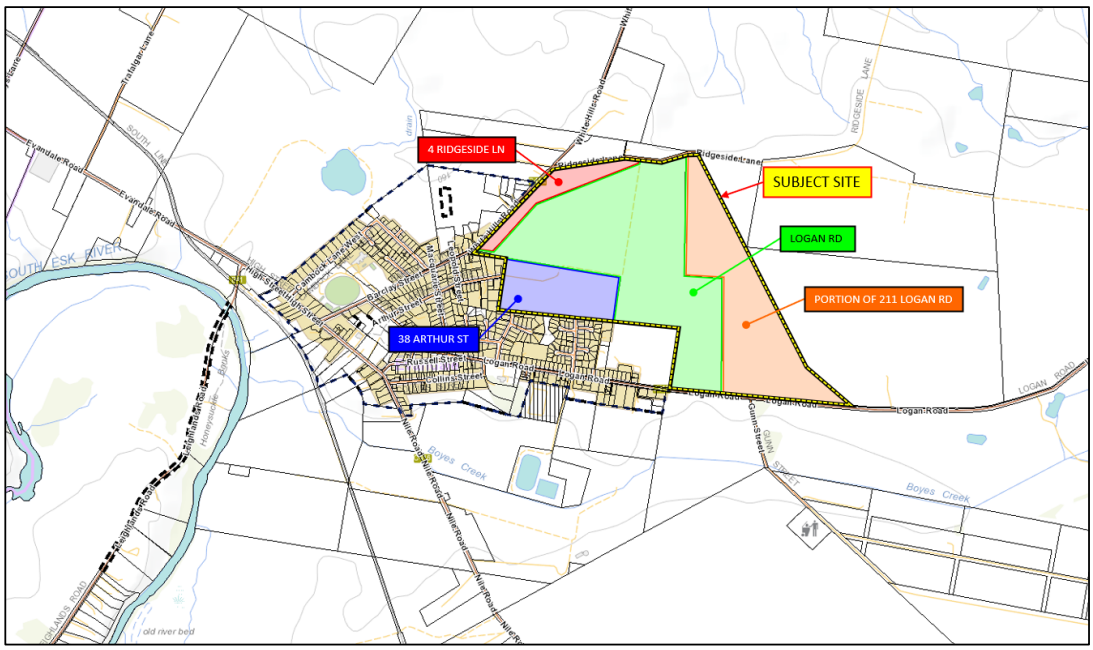


Figure 1 Subject Site location (Source: LISTmap)

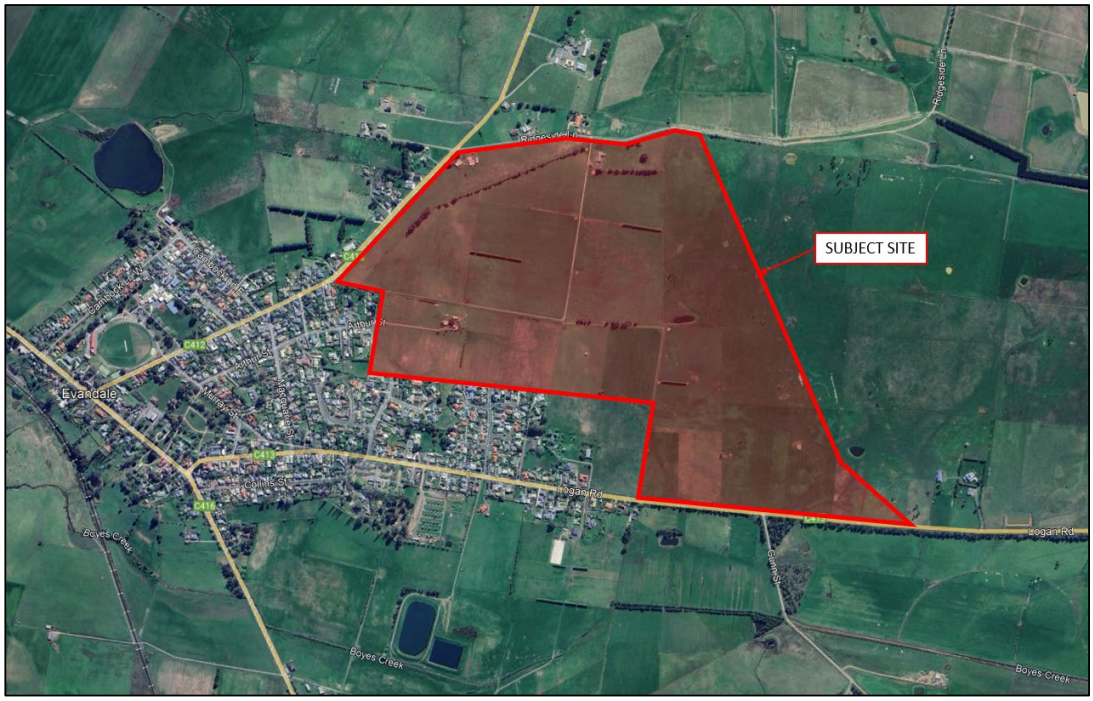


Figure 2 Aerial view of subject site (Source: Google Earth Pro)

It is noted that the subject site does not fall within the boundaries of the Evandale Specific Area Plan.

2.2 SURROUNDING LAND USE

To the west of the subject site, the land use primarily comprises of residential uses, as well as associated land uses such as recreation, open space, local business, and community purpose land uses. To the north, south, and east of the subject site, the land use is primarily agricultural and rural living.

2.3 ZONING & OVERLAYS

Northern Midlands Council is the responsible authority, and the zoning of the subject site is 'Agricultural'. The site is subject to an 'Airport obstacle limitation area' overlay, an 'Attenuation area' overlay, and a 'Bushfire-prone areas' overlay.

2.4 ROAD NETWORK

White Hills Road is a sealed collector road that follows a northeast-southwest alignment and is under the care and management of Council; White Hills Road becomes Barclay Street within Evandale township. The carriageway is approximately 6.8m wide but reduces to about 6.0m northeast of Ridgeside Lane. White Hills Road accommodates a single two-way carriageway with unsealed shoulders, although kerb & channel has been provided on the north-western side for a short section. An unpaved footpath, approximately 1.9m wide, has been provided on the south-eastern side between Barclay Street and Ridgeside Lane. The posted speed limit is 50 km/h, which becomes 100 km/h about 225m northeast of the intersection with Ridgeside Lane.

Views of White Hills Road are provided in below in **Figure 3** and **Figure 4**.



Figure 3 White Hills Rd looking northeast



Figure 4 White Hills Rd looking southwest

Barclay Street is a sealed collector road that follows a northeast–southwest alignment and is under the care and management of Council. The carriageway is approximately 8.7m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. Towards the southwest, paved footpaths that are about 1.7–1.8m wide have been provided on both sides, whereas towards the northeast, a 1.5m wide paved footpath has been provided on the southern side only. The posted speed limit is 50 km/h.

Views of Barclay Street are provided in below in **Figure 5** and **Figure 6**.



Figure 5 Barclay St looking northeast



Figure 6 Barclay St looking southwest

Logan Road is a sealed collector road that follows an east–west alignment and is under the care and management of Council. The carriageway accommodates two-way vehicular movement and is approximately 5.0m wide along the southern boundary of the subject site but increases to about 8.8m towards Evandale township.

The wider eastern section of Logan Road has kerb & channel on both sides, a 1.8m wide paved footpath on the northern side, a paved footpath that is about 1.4m wide on the southern side, a posted speed limit of 50 km/h, and parking is permitted on both sides.

Along the narrower western section, the shoulders are unsealed, footpaths have not been provided, and the posted speed limit is 100 km/h.

Views of Logan Road are provided below in **Figure 7** – **Figure 10**.



Figure 7 Logan Rd (East) looking east



Figure 8 Logan Rd (East) looking west



Figure 9 Logan Rd (West) looking east



Figure 10 Logan Rd (West) looking west

Russell Street is a sealed collector road that forms the western extension of Logan Road. It follows an east-west alignment and is under the care and management of Council. The carriageway is approximately 9.7m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. A paved footpath that is 2.5m wide has been provided on the northern side, and a paved footpath that is about 1.8m wide has been provided on the southern side. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

Views of Russell Street are provided below in **Figure 11** and **Figure 12**.



Figure 11 Russell St looking east



Figure 12 Russell St looking west

Cambock Lane East is a sealed local road that follows a northwest–southeast alignment and is under the care and management of Council. The carriageway is 8.9m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. A 1.8m wide paved footpath has been provided on the south-western side. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

Views of Cambock Lane East are provided below in **Figure 13** and **Figure 14**.



Figure 13 Cambock Ln East looking northwest



Figure 14 Cambock Ln East looking southeast

Cambock Lane West is a sealed local road that follows a northeast–southwest alignment and is under the care and management of Council. The carriageway is 8.9m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. A paved footpath that is 1.5m wide has been provided on the north-western side, and an unpaved footpath that is about 1.0m wide has been provided on the south-eastern side. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

Views of Cambock Lane West are provided below in **Figure 15** and **Figure 16**.



Figure 15 Cambock Ln West looking northeast



Figure 16 Cambock Ln West looking southwest

Arthur Street is a sealed local road that follows an east-west alignment and is under the care and management of Council. The carriageway is 7.8m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. A 1.5m wide paved footpath has been provided on the northern side. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

Views of Arthur Street are provided below in **Figure 17** and **Figure 18**.



Figure 17 Arthur St looking east



Figure 18 Arthur St looking west

Coachmans Road is a sealed local road that follows a north-south alignment and is under the care and management of Council. The carriageway is 8.9m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. Paved footpaths, 1.5m wide, have been provided on both sides. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

The northern end of the Coachmans Road Reservation intersects the southern boundary of the subject land. The existing cross section terminates at the site boundary and no turn around treatment is currently provided.

Views of Coachmans Road are provided below in **Figure 19** and **Figure 20**.



Figure 19 Coachmans Rd looking north



Figure 20 Coachmans Rd looking south

Stockmans Road is a sealed local road that follows a north-south alignment and is under the care and management of Council. The carriageway is 8.9m wide and accommodates two-way vehicular movement, with parking permitted and kerb & channel provided on both sides. Paved footpaths, 1.2m wide, have been provided on both sides. There is no posted speed limit, therefore the default speed limit of 50 km/h in urban areas applies.

The northern end of the Stockmans Road Reservation intersects the southern boundary of the subject land. The existing cross section terminates at the site boundary and no turn around treatment is currently provided.

Views of Stockmans Road are provided below in **Figure 21** and **Figure 22**.



Figure 21 Stockmans Rd looking north



Figure 22 Stockmans Rd looking south

Ridgeside Lane is a local road that follows an east-west alignment and is under the care and management of Council. A section of Ridgeside Lane is sealed, and it becomes an unsealed road about 375m east of White Hills Road. Both the sealed and unsealed sections of carriageway are approximately 3.6m wide and the shoulders are unsealed. Footpaths have not been provided on either side. There is no posted speed limit, therefore the default speed limit of 80 km/h on gravel roads applies; however, during the site inspection it was found that operating speeds of about 40 – 50 km/h are more prevalent.

Views of Ridgeside Lane are provided below in **Figure 23** – **Figure 26**.



Figure 23 Ridgeside Ln (sealed) looking east



Figure 24 Ridgeside Ln (sealed) looking west



Figure 25 Ridgeside Ln (unsealed) looking east



Figure 26 Ridgeside Ln (unsealed) looking west

2.5 SUSTAINABLE TRANSPORT

Pedestrian and cycling facilities are limited along the sections of White Hills Road and Logan Road that abut the subject site, with the only available facility being an unpaved footpath on the south-eastern side of White Hills Road. Within central Evandale, however, paved footpaths have been provided on at least one side of most of the roads. Bicycle lanes and/or paths have however not been provided.

In terms of public transport, only one (1) bus route, namely route 792 (Evandale via Hobart Road, Kings Meadows, Six Ways, South Launceston & Hospital, operated by Tassielink) operates in Evandale.

Two services operate during the weekday AM period, while one service operates during each of the weekday PM, Saturday AM & PM, and Sunday AM & PM periods.

2.6 CRASH HISTORY

A review of the Tasmanian vehicle crash data for the most recent 5-year period available, ending 24 October 2021, has been undertaken and is summarized in **Table 1**. The crash history review included Barclay Street, High Street, Russell Street, and Logan Road.

Table 1 Most recent 5-year crash history

Road	DCA	Description	Quantity	Severity
Barclay Street	110	Cross traffic	1	Property damage only
	160	Parked	2	Property damage only; Minor
	162	Accident or broken down	1	Property damage only
High Street	110	Cross traffic	1	Minor
	149	Other manoeuvring	1	Property damage only
	160	Parked	1	Property damage only
Russell Street	142	Leaving parking	1	Property damage only
	144	Parking vehicles only	2	First aid; Property damage only
	154	Pulling out (rear end)	1	Property damage only
	191	Load or missile struck vehicle	1	Property damage only
Logan Road	139	Other same direction (including vehicle rolling backwards)	1	Property damage only
	149	Other manoeuvring	1	Property damage only
	160	Parked	1	Property damage only
	169	Other on path	1	Property damage only

Table 1 above shows that the crash trend during the most recent 5-year period is generally characterised by low levels of severity, with property damage only making up most of the recorded crashes.

It is also noted that crashes involving parked and parking vehicles are prevalent, especially on Russell Street. This may be influenced by the high on-street parking demand that was observed on Russell Street during the site inspection, as well as its function as a 'feeder' to the Evandale Sunday Markets.

2.7 TRAFFIC VOLUMES

2.7.1 MIDBLOCK VOLUMES

In terms of existing midblock volumes, pitt&sherry references data provided by TiP on White Hills Road and Logan Road, which was collected in April 2018.

It is noted that pitt&sherry states that Sundays are not 'busy' days in terms of traffic but are nevertheless significant for additional traffic and parking due to the Sunday Markets that take place in central Evandale between 8:00am – 1:00pm.

The midblock two-way traffic volumes are provided in **Table 2**.

Table 2 Midblock traffic count data (Source: pitt&sherry TIA, 29 January 2024, p. 9)

Road	Location	Weekday Traffic Volume (vehicles per day)	Sunday Traffic Volume (vehicles per day)
White Hills Road	West of Ridgeside Lane	517	438
	East of Ridgeside Lane	487	391
Logan Road	West of no. 58	176	271
	East of no. 58	133	173

2.7.2 KEY INTERSECTIONS

Regarding intersection volumes, pitt&sherry references 24-hour vehicle turning movement counts that were undertaken on Thursday, 4th April 2019 and Sunday, 7th April 2019 by Matrix Traffic and Transport Data at the following key intersections:

1. High Street / Cambock Lane;
2. High Street / Barclay Street;
3. High Street / Russell Street;
4. Barclay Street / Macquarie Street / Cambock Lane; and
5. Russell Street / Macquarie Street.

The locations of the intersections with respect to the surrounding road network are shown in **Figure 27**.

Based on the results of the traffic surveys, the network peak hours were determined as follows:

- Weekday AM: 8:30am – 9:30am;
- Weekday PM: 4:45pm – 5:45pm; and
- Sunday midday: 10:30am – 11:30am.

It is noted that pitt&sherry has stated that the camera at the High Street / Barclay Street intersection was tampered with and consequently no traffic data is available at this intersection for Sunday, 7th April 2019.



Figure 27 Locations of surveyed intersections (Source: LISTmap)

2.7.3 ADJUSTED TRAFFIC VOLUMES

pitt&sherry has acknowledged that the tube counts and intersection turning movement counts were carried out in 2018 and 2019 and noted that these volumes should be adjusted using a compounding growth rate to represent the expected 2023 volumes. It has also stated that a slowing in traffic growth has occurred on the Tasmanian road networks due to post COVID-19 travel characteristics, which necessitates the determination of the extent of this impact on traffic growth in Evandale.

Reference is subsequently made to tube count data that was collected during a one-week period in April 2022 on White Hills Road and Logan Road, at the same locations as the previous (April 2018) midblock tube counts, and by comparing the data, pitt&sherry has determined an overall traffic growth rate of 0.2% per annum, which has subsequently been applied to all the available traffic data to estimate the relevant 2023 traffic volumes.

The resulting 'existing' 2023 (i.e., adjusted) intersection volumes are shown in **Figure 28** – **Figure 30**.

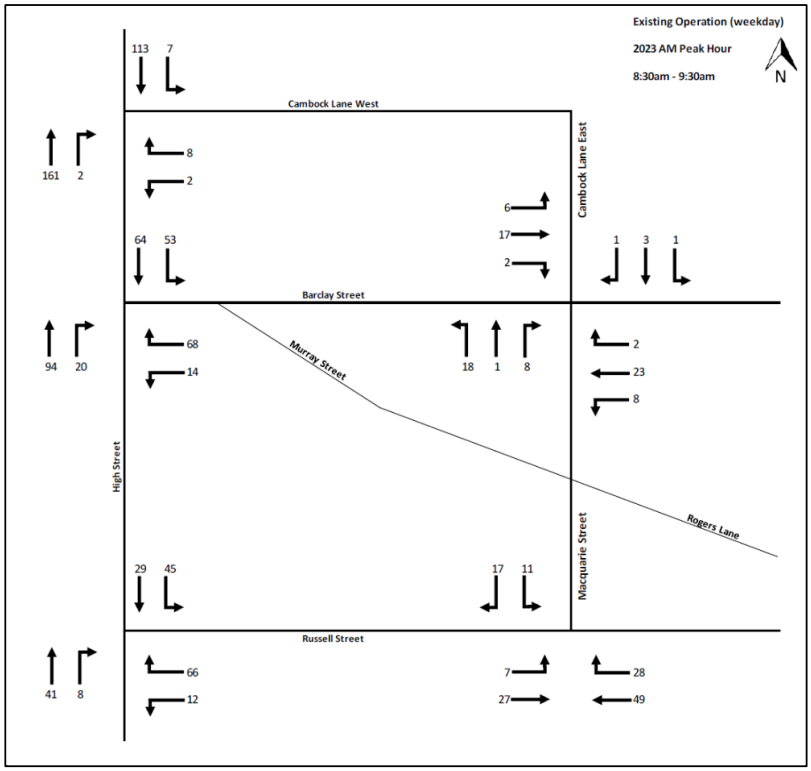


Figure 28 Weekday AM peak hour intersection volumes (Source: pitt&sherry TIA, 29 January 2024, p. 11)

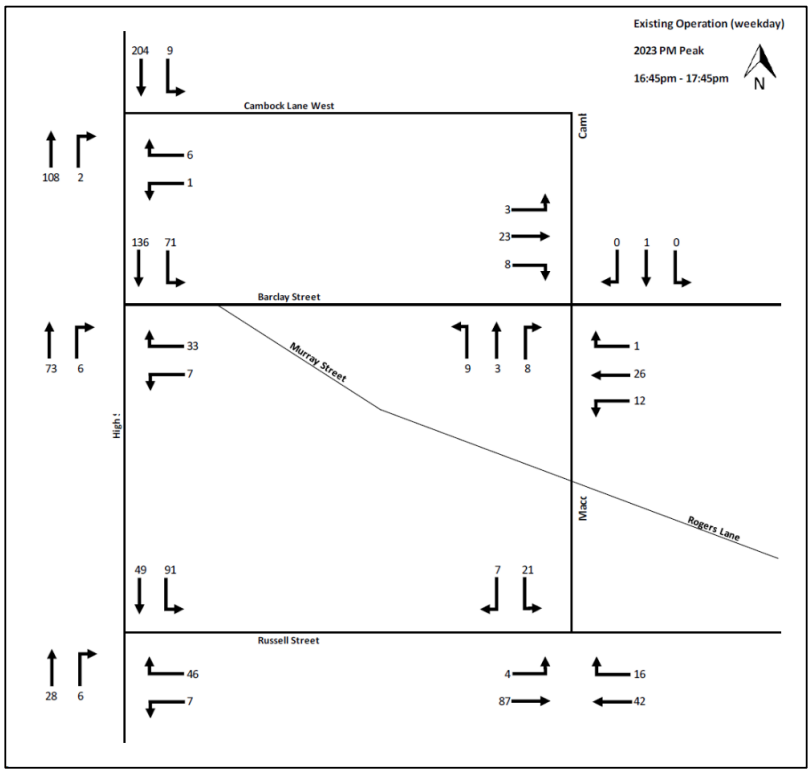


Figure 29 Weekday PM peak hour intersection volumes (Source: pitt&sherry TIA, 29 January 2024, p. 12)

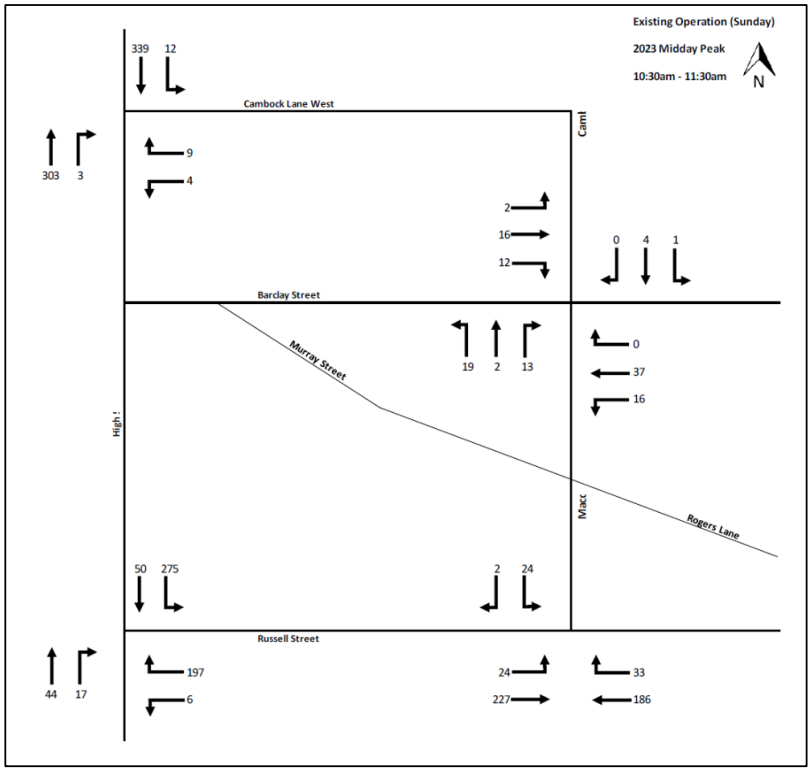


Figure 30 Sunday peak hour intersection volumes (Source: pitt&sherry TIA, 29 January 2024, p. 13)

Subsequent adjustments were also made to calculate the 'existing' 2023 daily midblock traffic volumes, which are shown in **Table 3**.

Table 3 Daily midblock traffic volumes (Source: pitt&sherry TIA, 29 January 2024, p. 14)

Road	Location	Source	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
White Hills Rd	West of Ridgeside Ln	Tube count	517	438
	East of Ridgeside Ln	Tube count	487	391
Barclay St	High St to Murray St	Turning movement count	1,472	1,500 (estimate)[7]
	Murray St to Macquarie St	Turning movement count	877	767
	Macquarie St to White Hills Rd	Turning movement count	741	677
Cambock Ln	East of High St	Turning movement count	258	251
	North of Barclay St	Turning movement count	132	124
Logan Rd	West of no. 58	Tube count	176	271
	East of no. 58	Tube count	133	173

Road	Location	Source	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
Russell St	High St to Scone St	Turning movement count	1,645	3,117
	Scone St to Macquarie St	Turning movement count	1,401	2,770
	Macquarie St to Logan Rd	Turning movement count	1,508	2,844

[1] Details pertaining to this estimated traffic volume have not been provided.

3 PROPOSAL

The proposal relates to the rezoning of approximately 100 ha of land from agricultural to general residential zone; however, pitt&sherry prepared a TIA specifically in support of a proposed Masterplan, which comprises about 78 ha of the total area. The total rezoning area encompasses all four (4) properties/titles, (refer to **Section 2.1**), while the proposed Masterplan relates to only two (2) of these properties/titles, namely Logan Road and Portion of 211 Logan Road (see **Figure 1**).

The proposed Masterplan is envisaged to include the following:

- 182 general residential lots;
- 82 rural residential lots;
- 1 super lot of 62,200 m^2;
- 1 super lot of 24,700 m^2; and
- 60,000 m^2 public open space.

The development options for the super lots are yet to be finalised, but could include any of the following land uses:

- Retirement living / Aged care;
- Childcare centre;
- Small local shops; and
- Affordable housing.

Development is proposed to commence from late 2024 over a 10-year period.

4 TRAFFIC CONSIDERATIONS

4.1 EXISTING TRAFFIC VOLUMES

pitt&sherry have included in their TIA the base/original results of the midblock tube counts that were carried out in April 2018 but have not included the base/original results of the turning movement counts from April 2019. Instead, only the 'existing' 2023 (i.e., adjusted) intersection volumes have been presented.

Additionally, prior to presenting the 'calculated' midblock traffic volumes, pitt&sherry have stated *"Daily mid-block traffic volume data is available based on the intersection turning movement counts and tube count data from April 2018 which was provided by TiP. To calculate the 2023 daily mid-block traffic volumes, the calculated 0.2% growth rate has been applied."* This statement is then followed by a table that provides the apparent 2023 midblock traffic volumes, which we have reproduced in **Table 3**.

Comparing **Table 2** (which is also a reproduction from pitt&sherry's TIA) with **Table 3** shows that the midblock volumes on White Hills Road and Logan Road have not changed. It therefore appears that no growth has been added to the original April 2018 traffic volumes. The reason for this is not apparent and should be clarified by pitt&sherry.

pitt&sherry have subsequently used additional tube count data that was collected at the same locations on White Hills Road and Logan Road during April 2022 to determine the impact of the COVID-19 pandemic on traffic growth in Evandale. This more recent tube count data has also not been presented.

It should furthermore be noted that the exact dates of the midblock tube counts are not specified and are only identified as "April 2018" and "April 2022". Term 1 for Tasmanian schools typically end around the middle of April, which means there is a possibility that the tube counts were carried out during the school holidays, which is not representative of usual traffic demand periods.

Our recommendation is thus that pitt&sherry should present the base/original results of all the referenced traffic surveys, as well as confirm whether the tube counts were carried out during or outside of the school holidays. If these surveys were indeed carried out during the school holidays, either additional traffic surveys should be carried out at appropriate times to ensure that representative data is collected, or the available data should be suitably adjusted to ensure that it is more representative of usual/typical traffic demands outside of the school holiday periods.

4.2 TRAFFIC GENERATION

4.2.1 GENERAL RESIDENTIAL & RURAL RESIDENTIAL

pitt&sherry have stated that the traffic generation rate for residential and townhouse developments specified in the *Roads and Maritime Services (RMS) Guide to Traffic generating developments Technical Direction TDT2013/04a* would likely overestimate the traffic generation of the proposal, given the specific demographic characteristics and location of Evandale. Instead, the methodology as per the *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Developments* was adopted, in addition to traffic data that was collected over a one-week period in June 2022 on the following streets in Evandale:

- Honeysuckle Grove;
- Coachmans Road; and
- Stockmans Road.

Analysis of the collected traffic data resulted in the following traffic generation rates:

- Weekday AM peak hour: 0.5 trips per dwelling;
- Weekday PM peak hour: 0.5 trips per dwelling; and
- Daily: 3.5 trips per dwelling.

Generally, we agree with the approach adopted by pitt&sherry to estimate the actual, location-specific traffic generation rates of general and rural residential lots, although we note that the proposed daily traffic generation rate is very low. For example, the NSW RMS (now TfNSW) Technical Direction TDT2013/04a specifies the following rates for low density residential developments in regional areas:

- Weekday AM peak hour: 0.78 trips per dwelling;
- Weekday PM peak hour: 0.71 trips per dwelling; and
- Daily: 7.4 trips per dwellings

We will also note that pitt&sherry did not include the referenced June 2022 survey traffic data in their TIA.

Our recommendation is thus that pitt&sherry should present the June 2022 surveyed traffic data to demonstrate the determination of the actual traffic generation rates and indicate whether the proposed daily generation rate is based on the surveyed traffic data.

4.2.2 REMAINING LAND USES

pitt&sherry have made the following assumptions regarding the anticipated traffic generation of the remaining land uses:

- Childcare centres and small local shops will likely generate traffic from the local area (i.e., internal, from within the subject site) and as such exhibit low external traffic generation (from outside the development);
- Traffic generation related to retirement living / aged care would likely be to/from outside the local area, i.e., external; and
- Affordable housing typically generates less traffic than general residential.

Based on these assumptions, pitt&sherry have concluded that retirement living would have the greatest traffic generation potential and is therefore the critical land use (for the proposed super lots). The following traffic generation rates provided by the RMS Technical Direction have been adopted:

- Weekday AM peak hour: NIL – the weekday AM peak hour does not coincide with the network peak hour;

- Weekday PM peak hour: 0.4 trips per dwelling; and
- Daily: 2.1 trips per dwelling.

These rates appear to have been incorrectly applied. The rate of '0.4 trips per dwelling' is the 'site peak hour' summary rate for metropolitan and regional sites. Appendix C2 of the Technical Direction indicates non-metropolitan sites generate PM peak hour traffic at around 0.28 trips per dwelling (if the outlier is excluded).

Moreover, Appendix C2 indicates the traffic survey periods did not capture the network AM peak, so whilst the Technical Direction notes the site AM peak hour and network AM peak hours do not typically overlap, retirement living / aged care sites will still generate some traffic during the network AM peak period that needs to be considered in any assessment.

pitt&sherry have stated that about 100 retirement living units would likely be developed, though it is not clear if this applies to one or both super lots.

Notwithstanding, pitt&sherry have provided the following in terms of the expected traffic generation of the overall development:

- Weekday AM peak hour: 325 vehicle movements;
- Weekday PM peak hour: 365 vehicle movements; and
- Daily: 1,615 vehicle movements.

SALT has applied all the aforementioned traffic generation rates to the proposed development parameters (182 general residential lots plus 82 rural residential lots, and 100 retirement living units), and have calculated different numbers of peak hour vehicle movements, as follows:

- Weekday AM peak hour: 132 vehicle movements;
- Weekday PM peak hour: 172 vehicle movements; and
- Daily: 1,134 vehicle movements.

The reason for these discrepancies is not clear, and pitt&sherry have not detailed their methodology for determining the expected traffic generation of the proposed development.

It is furthermore noted that pitt&sherry's TIA does not include the expected Sunday peak traffic generation of the proposed development; it has been stated that only the weekday AM, PM, and daily scenarios were considered since the development is expected to cause the biggest traffic impact on the road network on weekdays.

We do not agree with this approach for the following reasons:

- It is inconsistent considering pitt&sherry's inclusion of the Sunday peak hour in their assessment of the 'existing' traffic volumes on the road network; and
- Although the traffic generation of the development itself is likely to be reduced on Sundays, the Evandale Sunday Markets likely result in increased overall/background traffic demand on the road network, which could potentially be sensitive to any increase in traffic demand due to the proposed development. As detailed in the sections that follow, Sundays can reasonably be considered as the critical periods in terms of 'existing' traffic on the road network.

Our recommendations are thus that pitt&sherry should provide further detail regarding their methodology for determining the expected traffic generation of the proposed development, as well as include Sunday peak hour and daily traffic generation.

4.3 TRAFFIC DISTRIBUTION

pitt&sherry have presented the following directional splits of traffic (i.e., inbound vs. outbound traffic movements):

- Weekday AM peak hour: 30% in / 70% out;
- Weekday PM peak hour: 60% in / 40% out; and
- Daily: 50% in / 50% out

Generally, we agree that the adopted directional splits fall within the ranges that are typical for residential developments. It is however not clear whether pitt&sherry have based these directional splits on the results of the traffic surveys that were undertaken during June 2022 on the streets in Evandale.

In terms of the traffic distribution and assignment, pitt&sherry has stated that the traffic generated by the proposed development will be based on the following factors:

- The locality of the site in terms of the surrounding major road network;
- The location of traffic generating developments; and
- The current/existing traffic patterns on the road network.

Whilst we agree that the proposed development's traffic distribution will be influenced by the abovementioned matters, we note that no details have been provided, meaning it is not possible to assess the actual distribution parameters adopted by pitt&sherry.

Our recommendations are thus that pitt&sherry should confirm the basis of their adopted directional splits of traffic, as well as provide their adopted traffic distribution parameters (i.e., directional percentages). SALT notes that the existing turning movement volumes and peak hour tube count data could have been used as the basis for pitt&sherry's adopted traffic distribution; however, it is not clear whether this is indeed the case and should thus be clarified.

4.4 INTERSECTIONS

4.4.1 EXISTING OPERATIONAL PERFORMANCE OF INTERSECTIONS

pitt&sherry have carried out operational analyses of the key intersections in the area using SIDRA. The Sunday midday peak hour for the High Street / Barclay Street intersection was not included due to traffic data not being available – refer to **Section 2.7.2**.

The geometries of the intersections were based on aerial photography obtained from LISTmap. pitt&sherry have stated that *"for a number of intersections, the model has been developed with two lanes on the minor approach to the intersection."* What this means is that a second, short lane has been added to the minor road approach, which provides sufficient width for two vehicles to queue side-by-side at the give-way line. This is done given the actual additional width of the approach lane at the give-way line, which informally allows two vehicles to simultaneously wait for a gap in the major road traffic stream, in the case of one vehicle turning left and the other turning right. Although not explicitly stated by pitt&sherry, this method was applied to Cambock Lane, Barclay Street, and Russell Street, at the intersections of these streets with High Street.

Generally, pitt&sherry's analyses showed that all the intersections currently operate with minimal queues and delays, and all intersections furthermore operate at LOS A during all the relevant peak hours.

4.4.2 POST-DEVELOPMENT OPERATIONAL PERFORMANCE OF INTERSECTIONS

pitt&sherry have assessed two (2) post-development scenarios:

- 2024 post-development, which includes the 'existing' traffic on the road network plus traffic generated by the proposed development; and
- 2034 post-development, which includes the 'existing' traffic on the road network plus future traffic growth (compounding growth at 0.2% per annum over 10 years) plus traffic generated by the proposed development.

The analyses were carried out for the weekday AM and PM peak hours only. Based on their analyses, pitt&sherry found that – for both post-development scenarios – all the intersections will continue to operate with minimal queues and delays, and that all the intersections will also continue to operate at LOS A during both the weekday AM and PM peak hours.

4.4.3 SALT PEER REVIEW OF INTERSECTION OPERATIONAL ASSESSMENTS

We identify several matters of concern with pitt&sherry's operational analyses of intersections. Firstly, whilst we agree that the minor road approaches at the intersections on High Street are wide enough to accommodate two vehicles side-by-side at the yield line, it would nevertheless be prudent to analyse these intersections as providing only a single approach lane, since this is a more conservative approach and can also serve as a sensitivity check for the two-lane approach method. Furthermore:

- Vehicles on the minor road approach occasionally position themselves in such a way that the 'second' lane is effectively blocked to other vehicles, and the adopted two-lane method does not account for such an occurrence; and
- AustRoads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings specifically discourages two stand up lanes for sight lane safety reasons – refer Figure 31. Council should therefore be aiming to line mark the intersection in such a way to avoid this scenario.

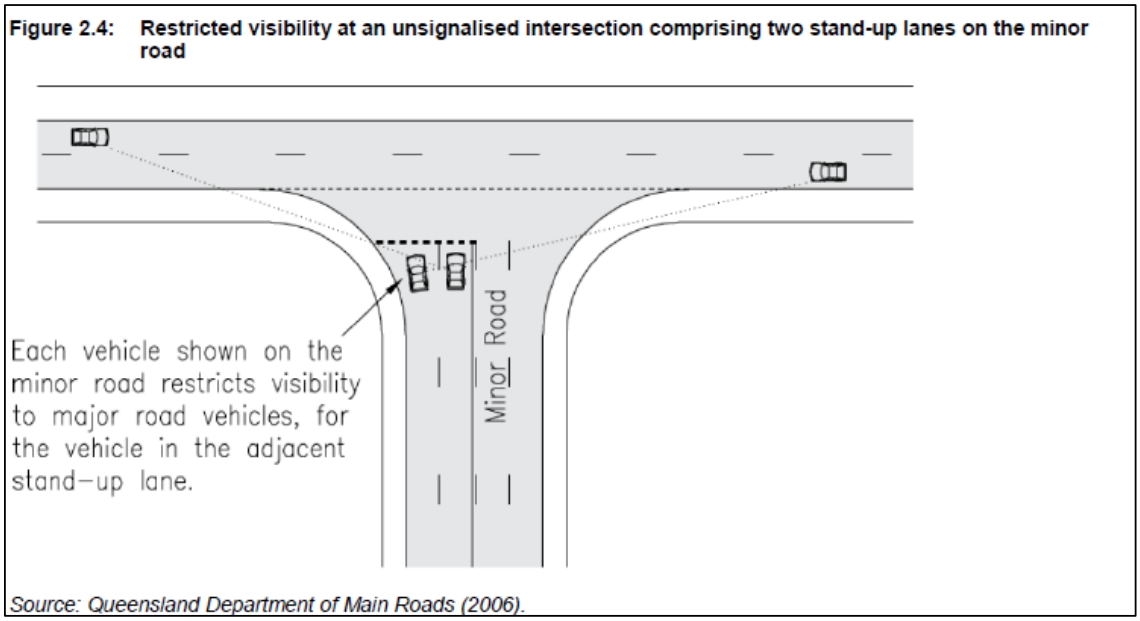


Figure 31 Restricted visibility with two stand up lanes (Source: AustRoads GtTM Part 6)

We also do not agree with the exclusion of the Sunday peak hour with respect to the post-development intersection analyses, as the Sunday peak hour can reasonably be considered as the critical road network period, regardless of the likely reduced traffic generation of the proposed development on Sundays. With reference to **Figure 28**, **Figure 29**, and **Figure 30**, the total traffic movement volumes (i.e., intersection throughput) are summarised in **Table 4** below.

Table 4 Total traffic volumes at intersections

Intersection	Intersection Total Volumes (vehicles per hour)		
	Weekday AM Peak	Weekday PM Peak	Sunday Peak
High St / Cambock Ln	293	330	670
High St / Barclay St	313	326	No data
High St / Russell St	201	227	589
Barclay St / Macquarie St / Cambock Ln	90	94	122
Russell St / Macquarie St	139	177	496

As shown in **Table 4**, the Sunday peak hour is clearly the critical road network period in terms of 'existing' traffic volumes, with higher traffic volumes at all the intersections compared to the weekday AM and PM peak hours. It is particularly noted that the traffic throughput at most of the intersections is more than double during the Sunday peak hour compared to the weekday AM and PM peak hours. Post-development analysis of the Sunday peak hour is thus clearly warranted.

Lastly, pitt&sherry have undertaken an additional assessment comprising application of a compounding 0.2% per annum growth rate over 10 years to determine the 10-year post-development performance of the intersections – the adopted growth rate is based on the overall growth rate obtained from comparing historical and more recent traffic volumes on White Hills Road and Logan Road – refer to **Section 2.7.3**. We would recommend that additional analyses be undertaken that include higher rates of traffic growth. Whilst we agree that the COVID-19 pandemic has had a significant effect on traffic growth, it is reasonable to expect the extent of these effects to reduce as

time progresses, and that growth rates will eventually return to 2–3% per annum, which is generally considered normal. Furthermore, utilising higher growth rates can serve as an additional means of sensitivity testing.

In summary, our recommendations are that pitt&sherry update their intersection analyses as follows:

- The Sunday peak hour should also be assessed for both post-development scenarios;
- Intersection geometries should be limited to single-lane approaches on the minor roads to ensure a conservative approach; and
- Higher traffic growth rates (e.g., 2–3%) should be applied to the 'existing' traffic volumes.

As an additional matter, pitt&sherry have not assessed the proposed intersections on White Hills Road and Logan Road that will provide access to the development – these intersections are indicated as Number 1 and Number 8 on the proposed Evandale expansion master plan layout (attached as **APPENDIX 1**). These intersections must also be assessed in terms of operational performance since they will accommodate all the traffic generated by the development. Our recommendation is that pitt&sherry's TIA should be updated to include analyses of these access intersections.

4.4.4 SALT PEER REVIEW OF SIDRA ANALYSES

Council has requested pitt&sherry's SIDRA models and have provided these to SALT for the purposes of this traffic engineering assessment peer review.

SALT has assessed the provided SIDRA models and have determined that adjusted gap acceptance values have been adopted by pitt&sherry, as detailed in **Table 5** below.

Table 5 SIDRA intersection gap acceptance values

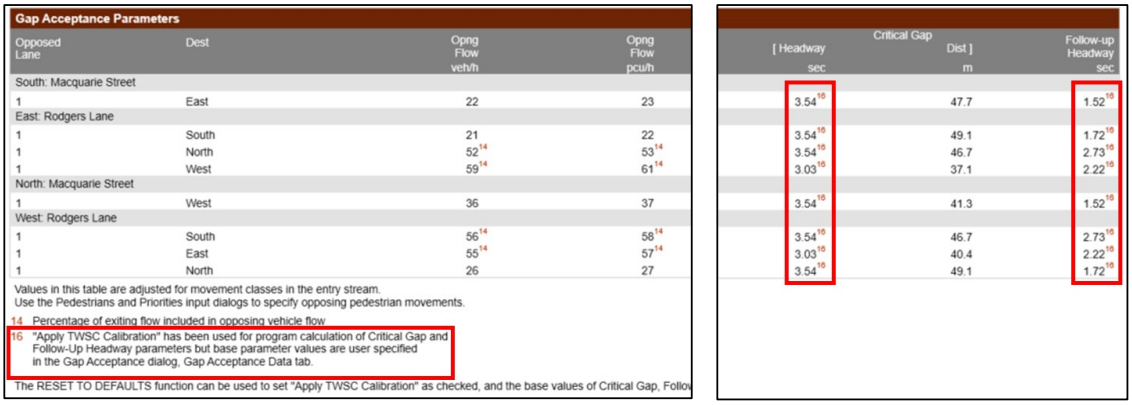
Number of Approaches	Road	Traffic Movement	Critical Gap (seconds)		Follow-up Headway (seconds)	
			SIDRA Default	Adjusted	SIDRA Default	Adjusted
Three (3)	Major	Right Turn	4.50	4.00	2.50	2.00
	Minor	Left turn	5.00	4.50	3.00	2.50
		Right Turn	7.00	5.50	4.00	3.50
Four (4)	Major	Right Turn	4.50	4.00	2.50	2.00
	Minor	Left turn	5.00	4.50	3.00	2.50
		Straight	6.50	5.00	3.50	3.00
		Right Turn	7.00	5.50	4.00	3.50

Based on the adjusted gap acceptance values shown in **Table 5**, it seems that pitt&sherry have adopted the critical gap and follow-up headway values specified in Table 3.5 of Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections.

Whilst the AustRoads values provide a more 'generalised' assessment than the default SIDRA values and methodology their use is not disputed if applied correctly. However, the reason SIDRA adopts these higher values is because it uses them as base values only. They are then adjusted using a method unique to SIDRA known as 'Two-Way Sign Control (TWSC)', which calibrates these base values based on various factors including intersection geometry and control, etc. This is a default setting.

When overriding the default SIDRA values with user-given values, the TWSC Calibration method should be unchecked to avoid further reductions to these values.

Regarding pitt&sherry's SIDRA model, it has been determined that this adjustment has not been made. This means that the intersection analyses utilised gap acceptance values that are lower than the Austroads values and a warning has been provided in the Sign Control Analysis outputs indicating that TWSC Calibration has been applied to user specified values.



Gap Acceptance Parameters

Opposed Lane	Dest	Opng Flow veh/h	Opng Flow pcu/h	Critical Gap [Headway sec	Critical Gap Dist] m	Follow-up Headway sec
South: Macquarie Street						
1	East	22	23	3.54[16]	47.7	1.52[16]
East: Rodgers Lane						
1	South	21	22	3.54[16]	49.1	1.72[16]
1	North	52[14]	53[14]	3.54[16]	46.7	2.73[16]
1	West	59[14]	61[14]	3.03[16]	37.1	2.22[16]
North: Macquarie Street						
1	West	36	37	3.54[16]	41.3	1.52[16]
West: Rodgers Lane						
1	South	56[14]	58[14]	3.54[16]	46.7	2.73[16]
1	East	55[14]	57[14]	3.03[16]	40.4	2.22[16]
1	North	26	27	3.54[16]	49.1	1.72[16]

Values in this table are adjusted for movement classes in the entry stream.
Use the Pedestrians and Priorities input dialogs to specify opposing pedestrian movements.

14 Percentage of exiting flow included in opposing vehicle flow

16 "Apply TWSC Calibration" has been used for program calculation of Critical Gap and Follow-Up Headway parameters but base parameter values are user specified in the Gap Acceptance dialog, Gap Acceptance Data tab.

The RESET TO DEFAULTS function can be used to set "Apply TWSC Calibration" as checked, and the base values of Critical Gap, Follow

pitt&sherry did not include details regarding gap acceptance parameters in their TIA, nor were any reasons provided for using adjusted values, and clarification should therefore be provided.

Accordingly, our recommendation is that pit&sherry should either use the SIDRA default gap acceptance parameters or disable the two-way sign control calibration to ensure conformity with the Austroads gap acceptance recommendations.

4.5 ROAD SECTIONS

4.5.1 ON-STREET PARKING DEMAND

pitt&sherry have referenced on-street parking occupancy surveys that were carried out on Barclay Street and Russell Street on Wednesday 5th December 2018, recorded every hour between 8:00am – 6:00pm, as well as additional surveys on a Sunday (date not specified) on these streets and Cambock Lane, recorded every hour between 8:00am – 2:00pm. Parking availability was determined by measuring the road section lengths, excluding driveways and no parking and/or no stopping zones, and dividing the lengths by 6.0m.

Subsequent general observations and spot on-street parking occupancy surveys were undertaken on Tuesday 17th January 2023, and pitt&sherry have stated that the more recently observed parking occupancies were consistent with the recorded observations of 2018.

Barclay Street

Barclay Street was divided into three (3) sections and parking occurs on both the northern and southern sides, with a total parking supply of 115 spaces:

- Section 1: High Street – Murray Street
  - Parking supply: 30 (N) & 20 (S)
- Section 2: Murray Street – Macquarie Street
  - Parking supply: 19 (N) & 12 (S)
- Section 3: Macquarie Street – White Hills Road
  - Parking supply: 21 (N) & 13 (S)

From the parking occupancy surveys the maximum parking demand along Barclay Street was found to be 3 parked cars (9% occupancy) on Section 3 during the weekday period and 2 parked cars (6% occupancy) on Section 3 during the Sunday period.

Russell Street

Russell Street was divided into three (3) sections and parking occurs on both the northern and southern sides, with a total parking supply of 101 spaces:

- Section 1: High Street – Scone Street
  - Parking supply: 12 (N) & 14 (S)
- Section 2: Scone Street – Macquarie Street
  - Parking supply: 21 (N) & 19 (S)
- Section 3: Macquarie Street – Coachmans Road

- Parking supply: 13 (N) & 22 (S)

From the parking occupancy surveys the maximum parking demand along Russell Street was found to be 18 parked cars (45% occupancy) on Section 2 during the weekday period and 35 parked cars (88% occupancy) on Section 2 during the Sunday period.

pitt&sherry have stated that between 7:00am – 3:00pm during the Sunday period, a bus zone operated on a part of the northern side of Section 3 and a parking restriction has been implemented on the southern side of Section 3. In addition, several parking spaces in Section 1 were occupied by roadworks signage.

Cambock Lane

Cambock Lane includes two sections, namely Cambock Lane east, which follows a northwest–southeast alignment and intersects with Barclay Street, and Cambock Lane west, which follows a northeast–southwest alignment and intersects with High Street. Parking occurs on both sides of each section and the total parking supply is 176 spaces:

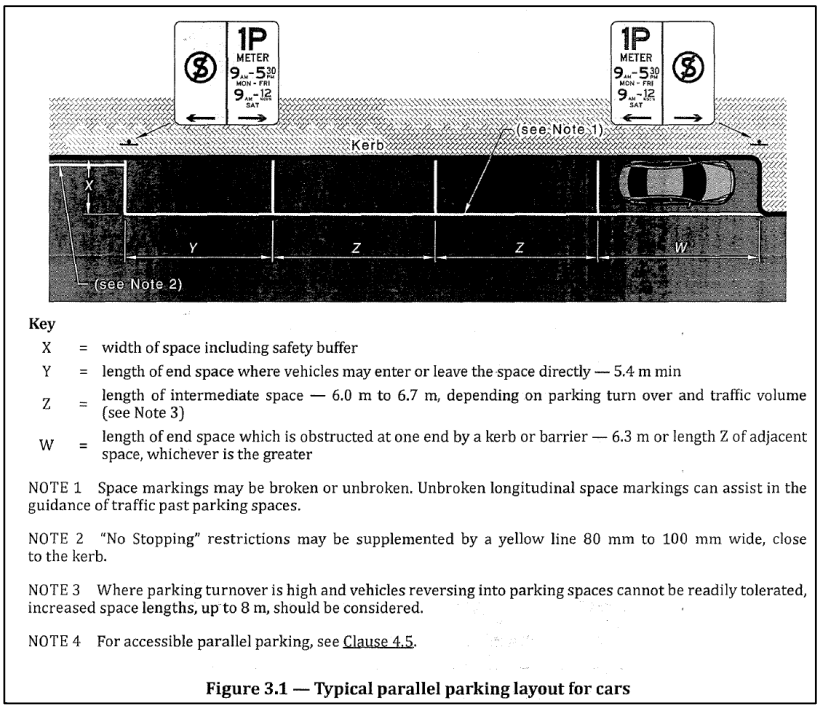
- Cambock Lane East
  - Parking supply: 24 (E) & 32 (W)
- Cambock Lane West
  - Parking supply: 57 (N) & 63 (S)

From the parking occupancy surveys the maximum parking demand along Cambock Lane was found to be 11 parked cars (9% occupancy) on Cambock Lane West during the Sunday period.

4.5.2 SALT PEER REVIEW OF ON-STREET PARKING DEMAND ASSESSMENT

As is the case with the traffic volumes in the area (refer to **Section 2.7**), we note that the presented data was obtained some time ago (about 5–6 years ago) and is thus considered dated. pitt&sherry have nevertheless carried out spot parking surveys more recently to determine the feasibility of using the dated data, although these more recent observations were undertaken during the school holidays. As such, the 2023 observed parking occupancies potentially do not represent typical peak parking demands.

Furthermore, the use of 6.0m to determine the availability of parking on-street is not considered appropriate. Table C2.3 of the Tasmanian Planning Scheme – State Planning Provisions specifies dimensions of car parking spaces, and the required length for parallel parking spaces is 6.7m. Conversely, Australian Standard AS2890.5 specifies various requirements for on-street parking, and the relevant dimensions are shown below in **Figure 32**.



Key

X = width of space including safety buffer
Y = length of end space where vehicles may enter or leave the space directly — 5.4 m min
Z = length of intermediate space — 6.0 m to 6.7 m, depending on parking turn over and traffic volume (see Note 3)
W = length of end space which is obstructed at one end by a kerb or barrier — 6.3 m or length Z of adjacent space, whichever is the greater

NOTE 1 Space markings may be broken or unbroken. Unbroken longitudinal space markings can assist in the guidance of traffic past parking spaces.

NOTE 2 "No Stopping" restrictions may be supplemented by a yellow line 80 mm to 100 mm wide, close to the kerb.

NOTE 3 Where parking turnover is high and vehicles reversing into parking spaces cannot be readily tolerated, increased space lengths, up to 8 m, should be considered.

NOTE 4 For accessible parallel parking, see Clause 4.5.

Figure 3.1 — Typical parallel parking layout for cars

Figure 32 On-street parallel parking requirements (Source: AS2890.5:2020 Part 5: On-street parking, p. 11)

As seen in **Figure 32**, the required lengths for intermediate parking spaces (which constitute most parallel on-street parking spaces) are between 6.0 – 6.7m and can even be as high as 8.0m in cases of significant parking turnover. For larger vehicles (such as SUV's and 4WD's) a 6.7m average is more appropriate.

Our recommendation is thus that additional spot parking occupancy surveys should be undertaken during normal periods (outside school holidays) to confirm the appropriateness of using the recorded parking demands of 2018. Additionally, the on-street parking availability should be determined using a typical length of 6.7m for one (1) parallel on-street parking space.

We note that the observed parking demands on Barclay Street and Cambock Lane are very low and will not be significantly sensitive to the above recommendations; however, Russell Street experiences substantial parking demands and should be assessed in accordance with the relevant requirements of the Planning Scheme and Australian Standards.

4.5.3 EXISTING MIDBLOCK TRAFFIC CAPACITY

pitt&sherry have assessed the midblock capacities of the relevant roads in the area according to specific provisions of the Local Government Association of Tasmania (LGAT) Standard Drawings, the Tasmanian Local Government Road Hierarchy (TLGRH), and the RMS Guide to Traffic Generating Developments.

The LGAT Standard Drawings detail typical carriageway forms for different urban road widths, and the TLGRH provides guidance on the amount of traffic that should typically be travelling on a road of a certain classification, although higher traffic volumes could be present on such roads. According to the TLGRH, White Hills Road, Barclay Street, Cambock Lane, Logan Road, and Russell Street are all classified as link roads. Table 4.6 of the RMS Guide details the environmental capacity performance standards of residential streets. Included in Table 4.6 are local and collector roads, with maximum peak hour volumes ranging from 100 – 500 vehicles per hour, depending on certain desired outcomes.

On-street parking affects the traffic capacity of urban road sections by effectively reducing the widths of carriageways. pitt&sherry have accordingly determined the capacities of the relevant roads based on the observed parking demands and traffic volumes in conjunction with the road hierarchies and associated characteristics. pitt&sherry have also stated that *"Car parking is generally not expected to impact the width of rural roads as vehicles are permitted to park informally on the road verge."*

The LGAT Standard Drawings also specify the allowable daily traffic on rural roads for different sealed road widths. According to pitt&sherry, TiP are committed to widening the section of Logan Road along the southern boundary of the subject site to an overall width of 6.0m as part of the proposed development. Accordingly, pitt&sherry has assessed this section of Logan Road as a rural S5 category road, which should accommodate AADT volumes greater than 2,000 vehicles and have a sealed width of 7.0m.

pitt&sherry's assessment of the road network's midblock traffic capacity included the weekday AM and PM peak hour traffic, weekday daily traffic, Sunday peak hour traffic, and Sunday daily traffic. Based on pitt&sherry's assessment, the road network generally experiences low traffic demands and the roads therefore have significant spare capacity. The exception is Russell Street, which approaches and exceeds capacity on Sundays. Notably, the spare traffic capacity is defined by pitt&sherry as *"the number of vehicles that can be added to the road without unreasonably compromising the amenity, safety and efficiency of the road."*

pitt&sherry subsequently details that Russell Street exceeding capacity during Sundays is due to it functioning as the principal connection to the Evandale Sunday Markets and is subject to most of the associated parking demands. It is also stated that if a road exceeds its capacity, it will in turn operate at a higher classification, which usually affects the amenity, safety and/or efficiency of the road. It is then argued that the safety and amenity of Russell Street is not unreasonably compromised based on the nature of traffic generated on Sundays, i.e., primarily persons visiting the markets, but that vehicle speeds are however reduced, which affects the efficiency of the road. pitt&sherry concludes that although Russell Street's efficiency is reduced on Sundays, the upstream and downstream intersections nevertheless operate well, and that the overall impact of exceeding capacity along Russell Street on Sundays is minimal.

4.5.4 POST-DEVELOPMENT MIDBLOCK TRAFFIC CAPACITY

pitt&sherry have analysed the midblock traffic capacities based on the same two (2) post-development scenarios described previously. Similarly, the analyses were carried out for the weekday AM and PM peak hours only, and pitt&sherry has stated *"It is noted that the mid-block capacity on Sundays has not been assessed due to the expected low level of traffic generated by the proposed development on Sundays, leading to limited impact on the road network."* pitt&sherry also note that Russell Street currently exceeds capacity on Sundays but that it

nevertheless maintains its safety, amenity, and efficiency, and that the proposed development will not have any adverse effects on Russell Street's current conditions.

pitt&sherry's post-development analyses of the road sections have yielded results similar to their post-development analyses of the intersections; in this instance, all road sections are expected to have adequate spare capacity during the weekday AM and PM peak hours, and the weekday daily scenarios.

The following observations are noted with respect to the results presented in pitt&sherry's TIA, excerpts of which are summarised in **Table 6** below.

Table 6 Excerpt of P-D midblock capacities (Source: pitt&sherry TIA, 29 January 2024, p. 46, 55)

Road	Section	Traffic Capacity (vpd)	Traffic Volume (vpd)	Spare Capacity (vpd)
Barclay St *(excl. traffic growth)*	High St to Murray St	3,000	2,757	243
	Murray St to Cambock Ln	3,000	2,943	56
	Cambock Ln to White Hills Rd	3,000	1,371	1,628
Barclay St *(incl. traffic growth)*	High St to Murray St	3,000	2,782	218
	Murray St to Cambock Ln	3,000	2,957	42
	Cambock Ln to White Hills Rd	3,000	2,968	32

Inspection of **Table 6** shows a significant difference in traffic volumes (or spare capacities) on Barclay Street between Cambock Lane and White Hills Road when comparing the post-development scenarios. The reason for this is not known and should be clarified by pitt&sherry.

It is also noted that for the post-development scenario that includes traffic growth, the daily traffic volume on Russell Street between Macquarie Street and Logan Road is 2,907 vpd (capacity of 3,000 vpd), which means that the spare capacity is relatively low at only 93 vpd. Given the adopted traffic generation figures are significantly lower than usual, it is possible that the 3,000 vpd target will be exceeded.

4.5.5 SALT PEER REVIEW OF MIDBLOCK TRAFFIC CAPACITY ASSESSMENT

Our peer review of pitt&sherry's post-development midblock traffic capacity assessment is generally similar to our preceding peer review of the intersection analyses. The principal concern is the exclusion of the Sunday peak hour, based on the reasons specified in **Section 4.4.3**. Furthermore, as highlighted in **Section 4.5.3**, pitt&sherry have stated that during the Sunday peak periods, the relevant intersections on Russell Street will continue to operate well, regardless of the reduced efficiencies along the road. Based on our preceding assessments and reviews, we do not agree with this statement, and as such recommend that it should be verified through suitable analyses of the Sunday peak period. This includes utilisation of higher traffic growth rates, as detailed previously.

With respect to the proposed widening of the section of Logan Road along the southern boundary of the subject site, the required sealed width is 7.0m, and the proponent is committed to widening the current sealed width to 6.0m. As such, it is reasonable to assume that the carriageway will ultimately be widened to 7.0m (either by Council or another future developer). Such a piecemeal approach to road widening should be avoided, and our recommendation is that the proponent undertake the full works, i.e., widening to 7.0m.

In summary, our recommendations are that pitt&sherry should analyse the midblock traffic capacities for the Sunday midday peak hour and daily scenarios, including both post-development cases, and that the proponent should widen the section of Logan Road along the subject site's southern boundary to the required 7.0m width.

5 PLANNING SCHEME CONSIDERATIONS

5.1 C2.0 PARKING AND SUSTAINABLE TRANSPORT CODE

pitt&sherry have stated that the proposal relates to a rezoning and that detailed plans for each lot have not been prepared, and accordingly the C2.0 Parking and sustainable transport code as per the Planning Scheme has not been assessed. It is furthermore stated that this code will have to be assessed when detailed plans are available.

We agree with pitt&sherry's recommendation.

5.2 C3.0 ROAD AND RAILWAY ASSETS CODE

pitt&sherry have assessed the proposal against the Use Standards of the Planning Scheme's Road and Railway Assets Code (C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction).

The following is noted according to pitt&sherry's assessment:

- Acceptable Solution A1.1 and A1.3 are not applicable;
- The proposed development complies with Acceptable Solution A1.5; and
- The proposed development satisfies Performance Criteria P1 instead of Acceptable Solution A1.2 and A1.4.

We have reviewed pitt&sherry's assessment against the Road and Railway Assets Code, as provided in **Table 7**.

Table 7 Road and railway assets code assessment (Source: pitt&sherry TIA, 29 January 2024, pp. 56–57)

Performance Criteria	pitt&sherry Response	SALT Response
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) Based on the SIDRA modelling results and mid-block assessment presented in this report, the traffic generated by the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road network surrounding the site (b) The proposed development is expected to generate predominantly light vehicle traffic which is already catered for on the surrounding road network (c) Based on the mid-block assessment presented in this report, there is spare capacity in the road network surrounding the site to accommodate the traffic generated by the proposed development (d) The roads surrounding the proposed development are generally subject to 50km/h speed limit. This speed limit is consistent with the safe and efficient access to the proposed development (e) There are no alternative accesses to the proposed development (f) The proposed development will provide additional residential properties in Evandale (g) This TIA has been prepared for the proposed development and identifies that the development is not expected to have any major impacts on the safety	(a) pitt&sherry should update their traffic modelling to include Sundays, higher traffic growth rates, and actual intersection geometries, and reassess the likely resulting traffic impacts on the amenity, safety, and efficiency of the surrounding road network. In addition, appropriate gap acceptance parameters should be used. Confirmation is also required of how the adopted traffic generation rate was determined. (b) No additional comments. (c) Refer to (a) above. (d) This is generally true, however the proposed access on Logan Road is at a point where the posted speed limit has increased to 100 km/h. This access is indicated as number 8 on the proposed Evandale expansion master plan layout, attached as **APPENDIX 1**.

	and operation of the surrounding road network; and (h) The Northern Midlands Council own and maintain the local road network in the vicinity of the site. No written advice has been received from the rail or road authority.	(e) Ridgeside Lane can potentially provide alternative access to the site. (f) No additional comments. (g) Refer to (a) above. (h) No additional comments.

Based on our review as summarised in **Table 7** above, our recommendation is that pitt&sherry should update their traffic analyses (as detailed previously in this report) and accordingly reassess the proposal against the Use Standards of the Planning Scheme's Road and Railway Assets Code.

5.3 OTHER APPLICABLE CODES

As specified in **Section 2.3**, the land is subject to an 'Airport obstacle limitation area' overlay, an 'Attenuation area' overlay, and a 'Bushfire-prone areas' overlay. The associated Planning Scheme codes are as follows:

- C16.0 Safeguarding of Airports Code;
- C9.0 Attenuation Code; and
- C13.0 Bushfire-Prone Areas Code.

In terms of traffic engineering, the Bushfire-Prone Areas Code is relevant as it specifies certain requirements/standards for, among other things roads and property access. pitt&sherry have not included an assessment of the proposed masterplan layout against the Bushfire-Prone Areas Code. Whilst we acknowledge that the layout is only preliminary at this stage, our recommendation is nevertheless that a high-level assessment against the Bushfire-Prone Areas Code should be undertaken, as the provisions and requirements thereof will apply regardless of the layout.

6 DESIGN CONSIDERATIONS

As stated in **Section 4.4.3**, pitt&sherry have not assessed the proposed access intersections in terms of either operational performance or design/layout requirements. Therefore, in addition to the preceding sections that deal with the contents of pitt&sherry's TIA, we have also carried out certain design-related assessments pertaining to the proposed development.

6.1 PROPOSED DEVELOPMENT ACCESSES

6.1.1 WHITE HILLS ROAD ACCESS

The White Hills Road access is identified by the number 1 (see **APPENDIX 1**) and is situated on the outside of a horizontal curve, opposite a decommissioned brick reservoir. The position of the proposed access is shown in **Figure 33**.

According to the proposed Evandale expansion master plan layout, number 1 is described as *"Potential for additional land acquisition to provide a safer intersection such as a roundabout."* This statement should be clarified, and the required intersection layout should be confirmed, based on both the operational analysis and safety requirements. Generally, we agree that a roundabout will likely be necessary to ensure a safe intersection layout; however, this may require a slight realignment of White Hills Road, which can only be accommodated on the south-eastern side given the existing dwellings on the north-western side.

Any possible land acquisition requirements should be determined and reserved as soon as possible, and our recommendation is that pitt&sherry should carry out a detailed investigation of the relevant requirements for this proposed intersection.

Additionally, SALT has undertaken a sight distance assessment at the approximate location of this proposed intersection. The sight distance assessment was undertaken according to the provisions of Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections.

For a frontage road with a design speed of 50 km/h, the minimum safe intersection sight distance (SISD) requirement is 97m. The available sight distance was determined to be greater than 200m towards both the northeast and southwest, thus complying with the minimum requirement.

The available sight distances are shown below in **Figure 34** and **Figure 35**.



Figure 33 White Hills Road proposed access



Figure 34 Sight distance looking northeast



Figure 35 Sight distance looking southwest

6.1.2 LOGAN ROAD ACCESS

The Logan Road access is identified by the number 8 and is situated on a straight section of the road. The position of the proposed access is shown in **Figure 36**.

The proposed access is located near changes in the posted speed limit; the speed limit signs are situated approximately 170m east and approximately 160m west of the proposed access. This means that vehicles to the east of the access (travelling westbound) will be decelerating from 100 km/h to 80 km/h, whereas vehicles to the west of the access (travelling eastbound) will be accelerating from 50 km/h to 100 km/h. Accordingly, an operating speed of 80 km/h has been adopted.

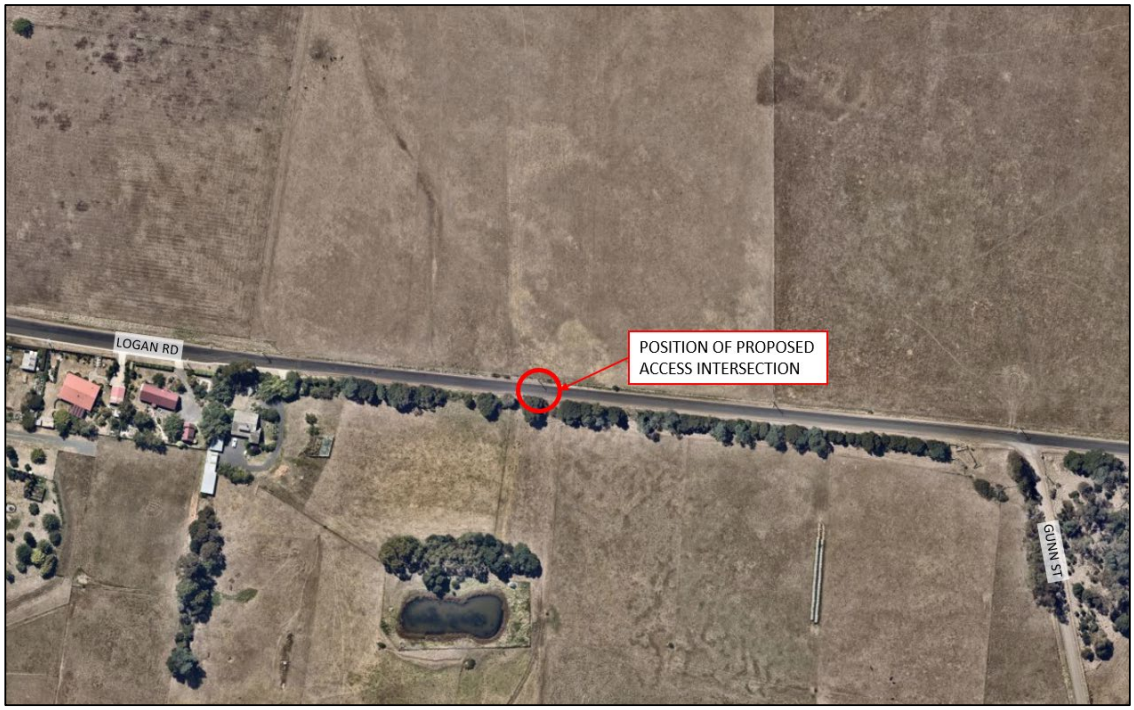


Figure 36 Logan Road proposed access

SALT has undertaken a high-level assessment of the likely required layout of the Logan Road access intersection, based on the following:

- Utilisation of the expected weekday AM and PM peak hour traffic generation and directional splits as presented by pitt&sherry;
  - Weekday AM peak hour: 325 vehicle movements (30% in / 70% out);
  - Weekday PM peak hour: 365 vehicle movements (60% in / 40% out)
- Assume that 50% of the development traffic will utilise the Logan Road access;
  - Weekday AM peak hour: 163 vehicle movements (49 in / 114 out);
  - Weekday PM peak hour: 183 vehicle movements (110 in / 73 out);
- All development traffic will be to/from the west (i.e., Evandale township);
- Traffic volumes on Logan Road are taken as the 10-year post development volumes east of No. 58, as provided in Table 38 on page 55 of pitt&sherry's TIA (two-directional total);
  - AM Peak hour: 131 vehicles per hour;
  - PM Peak hour: 82 vehicles per hour.

The warrants for turning lane treatments are specified in Section 2.3.6 of Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings. To determine the required turning lane treatments, the above traffic volumes have been applied to Figure 2.26 (b), which applies to design speeds between 70 – 100 km/h on the major road.

Application of the turning lane warrants are presented in **Figure 37** and **Figure 38**.

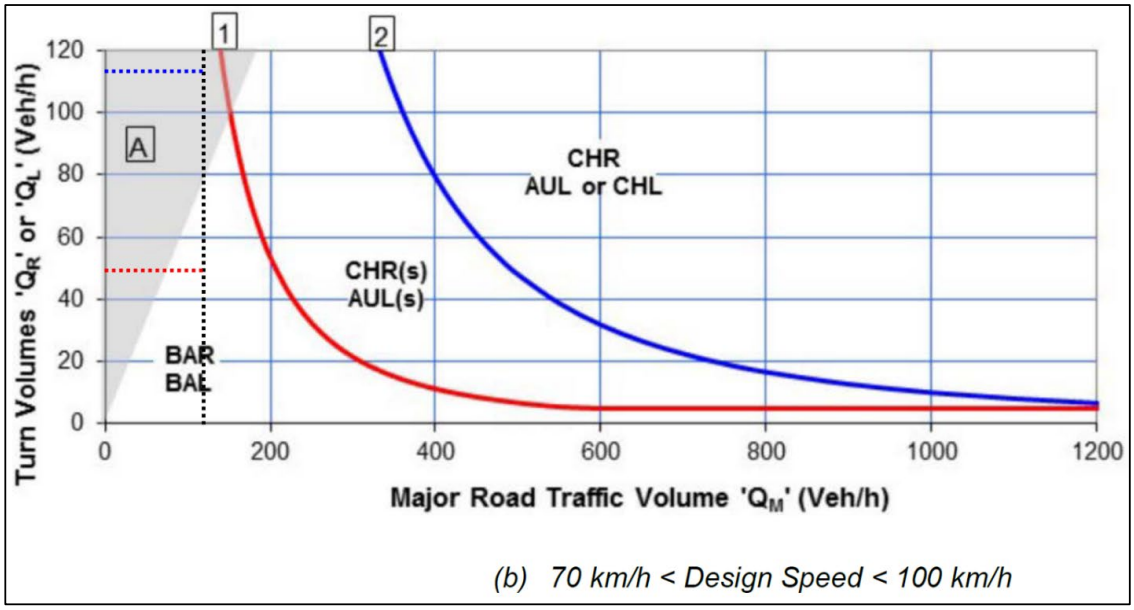


Figure 37 Access intersection turning lane warrants – weekday AM peak hour

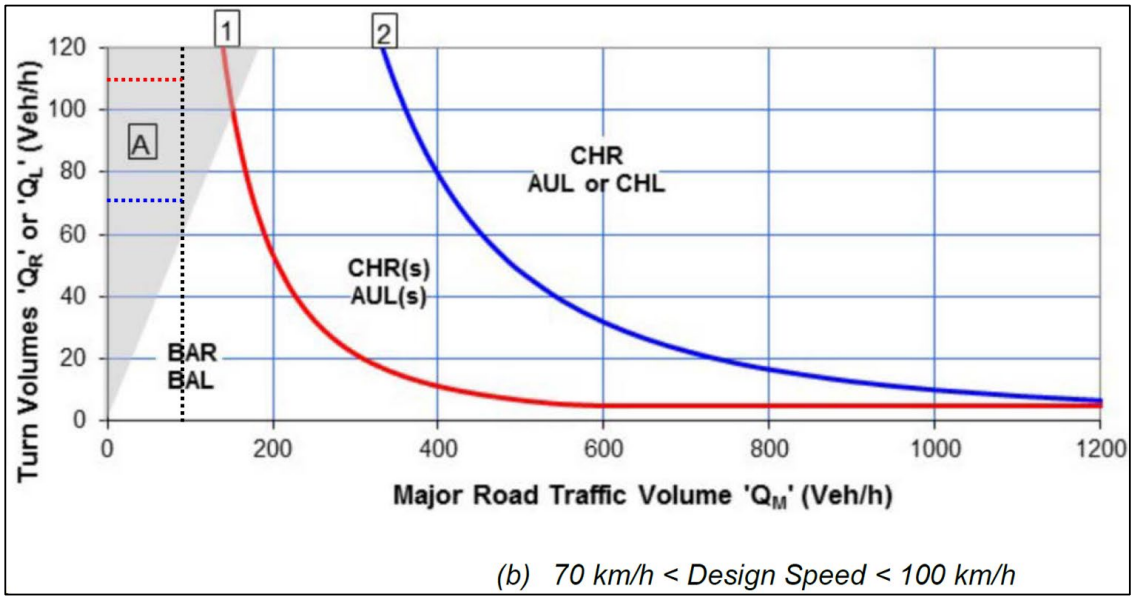


Figure 38 Access intersection turning lane warrants – weekday PM peak hour

Based on Figure 37 and Figure 38, Basic left turn (BAL) and Basic right turn (BAR) treatments are warranted for the proposed intersection. It should be noted, however, that this assessment is only indicative and based on quite broad assumptions overall.

Our recommendation is that pitt&sherry should undertake an assessment in terms of turning lane warrants based on the actual anticipated design volumes at this intersection. Any possible future widening should be considered, as this will likely involve land acquisition that should be determined and reserved as soon as possible, similar to the requirements for the proposed White Hills Road access intersection.

As with the proposed White Hills Road access, SALT has undertaken a sight distance assessment at the approximate location of the proposed Logan Road access. For a frontage road with a design speed of 80 km/h, the minimum SISD requirement in 181m. The available sight distance was determined to be about 172m towards the east and greater than 200m towards west. It is noted that during the site inspection, the sight distance

towards the west was somewhat affected by tall grass, which is considered a maintenance matter and can readily be resolved.

The sight distance assessment thus indicates that the proposed access will comply with the minimum SISD requirement towards the west, however, will not comply towards the east. The following observations should however be noted:

- The limiting factor relating to available sight distance is the rolling topography of the area, and the available sight distance was taken as the crest of a vertical curve on Logan Road. A vehicle travelling westbound on Logan Road will however be visible before it reaches the top of the crest, which effectively increases the available sight distance.
- Logan Road has been constructed in a slight fill and carrying out the sight distance assessment required standing in a 'ditch' next to the road, which exacerbated the effect of the crest on Logan Road. The access will be constructed at the same level as the carriageway of Logan Road, which will be beneficial for available sight distance.

The available sight distances are shown below in **Figure 39** and **Figure 40**.



Figure 39 Sight distance looking east



Figure 40 Sight distance looking west

Notwithstanding the above, it is recognised that the subdivision of the site and urbanisation of the area is likely to support the relocation of the existing 50km/h speed limit sign eastward, such that it applies to the length of Logan Road along the site frontage.

If this were to occur, an SISD requirement of 97 metres would apply which would be easily achievable.

6.2 BARCLAY ST / MACQUARIE ST / CAMBOCK LN INTERSECTION

SALT has also reviewed the other relevant intersections in Evandale during the site inspection and have determined that sight distance issues are prevalent at the Barclay Street / Macquarie Street / Cambock Lane intersection.

The primary issue is shown below in **Figure 41**. As can be seen, the adjacent property wall is directly in the line of sight, which limits the available sight distance to only about 77m, which is less than the required SISD of 97m. This assessment was carried out from inside a vehicle on the Cambock Lane approach, which was positioned immediately behind the give-way line.

The vehicle was subsequently moved forward until appropriate sight distance was achieved. This is shown in **Figure 42**. In this instance, it was required to move the vehicle forward until the front wheels were in-line/on top of the give-way line.

It is noted that this sight distance concern is existing and is not a result of the proposal. Nevertheless, the anticipated increase in traffic on Barclay Street resulting from the proposed development is likely to have an adverse impact on the amenity of this intersection, and measures to mitigate the sight distance concerns should be investigated, noting that any physical intersection upgrades would likely be impractical given the geometric constraints.



Figure 41 Substandard sight distance on Cambock Lane approach



Figure 42 Adequate sight distance on Cambock Lane approach

6.3 OTHER PROPOSED ACCESSES

As shown in **Figure 1**, the subject site includes the title 38 Arthur Street, which does not form part of the proposed masterplan. A separate title, 67 Logan Road, borders the subject site in the south. These sites will obtain access to/from the proposed development, while 38 Arthur Street will also be accessed via Arthur Street, Coachmans Road, and Stockmans Road The proposed layouts of these sites are shown in the attached **APPENDIX 2**.

During the site inspection, these roads were assessed at the proposed future access points, and no major concerns that would preclude future connections to these roads have been identified.

Views of these proposed access points are shown below in **Figure 43** – **Figure 45**.



Figure 43 Proposed Arthur Street access



Figure 44 Proposed Coachmans Road access



Figure 45 Proposed Stockmans Road access

6.4 POSSIBLE FUTURE BY-PASS ROAD

The proposed Evandale master plan layout, attached as **APPENDIX 1**, shows a possible future by-pass road along to the north and east of the subject site that provides a direct link between White Hills Road and Logan Road. The objective of this proposed by-pass road is to divert heavy vehicles from Russell Street, particularly during the Evandale Sunday Markets activities. Construction of this by-pass road is also expected to necessitate adjustments to the alignments of White Hills Road and Ridgeside Lane where these roads are shown to intersect with the by-pass road.

pitt&sherry have not addressed the proposed by-pass road in their TIA, and further details should be provided. It is necessary to specify the anticipated classification of this road (e.g., arterial, sub arterial, etc.), the responsible authority (Council or DSG), design speed, etc. SALT has undertaken a high-level review of the alignment of this proposed road and indicatively, it appears that the radius of the northern horizontal curve (at number 12) is about 235–240m, whereas the radius of the southern horizontal curve (between numbers 9 and 10) appears to be about 335–340m. These radii correspond with operating speeds of 80 – 90 km/h, based on Table 7.6 of Austroads Guide to Road Design Part 3: Geometric Design. The fundamental design parameters of this proposed road should be determined, and the associated minimum design requirements should be incorporated into the proposed Evandale expansion master plan layout.

The intersection between the proposed by-pass road and Logan Road (number 9) also raises concerns. The intersection is indicatively shown to feature a Y-shaped layout due to the alignment of the proposed by-pass road, as well as the intersection being situated at/on the tangent point of a horizontal curve. Y-shaped intersection layouts are not considered safe due to visibility issues associated with drivers having to look over their shoulders. Our recommendation is that the layout of this intersection should be improved by 'squaring' the by-pass road approach with respect to Logan Road. As with the proposed access intersections (see **Sections 6.1.1** and **6.1.2**), improving the alignment of this intersection will likely necessitate land acquisition, and this should be addressed as part of the application.

6.5 PROPOSED DEVELOPMENT INTERNAL ROADS

SALT has also undertaken high-level sight distance assessments at several key internal intersections within the proposed development area. A design speed of 50 km/h along all the internal roads has been assumed, which means that the minimum SISD requirement at intersections is 97m.

The sight distance requirements are shown graphically in **Figure 46** and **Figure 47**.

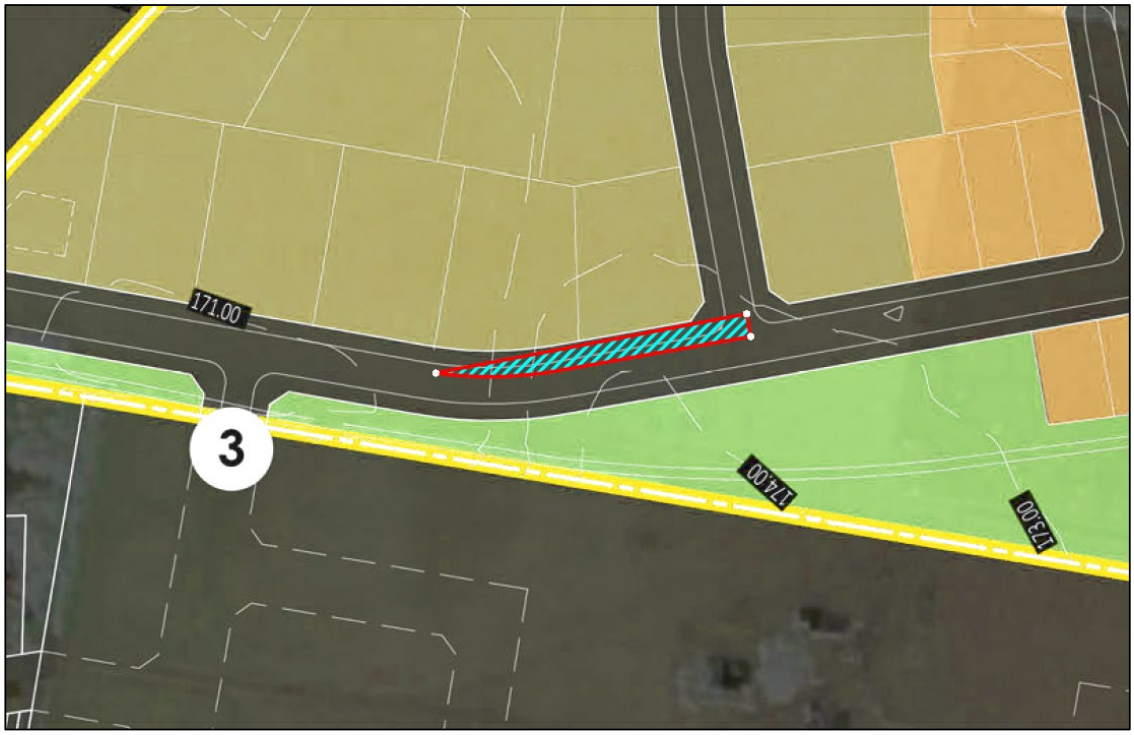


Figure 46 Internal intersections sight distance requirements – 1



Figure 47 Internal intersections sight distance requirements – 2

The design of internal roads and intersections should ensure that adequate sight distances are maintained, especially with respect to intersections located at/near curves. Sight distance assessments should hence be carried out by the applicants traffic engineers.

The proposed Evandale expansion master plan layout also shows pedestrian paths within the public open spaces. Pram ramps should be provided at crossing points and zebra or wombat crossings provided if warranted.. The use of other Local Area Traffic Management (LATM) devices should also be investigated, e.g., implementation of speed humps on lengthy straight road sections to prevent speeding.

These recommendations can be specified as requirements during the Development Application stage and are not necessary/appropriate during the current rezoning/subdivision stage.

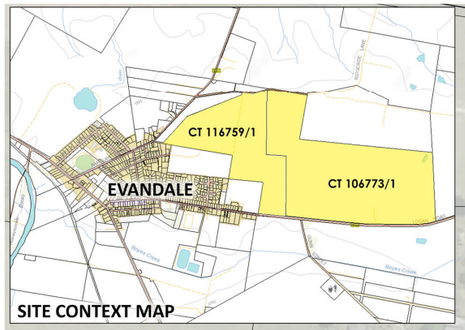
7 CONCLUSION

Having undertaken a peer review of the TIA prepared by pitt&sherry in support of a proposed amendment to the Planning Scheme to facilitate the rezoning of land in Evandale and the implementation of an associated development masterplan, we identify several concerns that require further investigation by the proponent. Our recommendations are as follows:

- pitt&sherry have presented the base/original results of only the April 2018 midblock tube traffic counts on White Hills Road and Logan Road and have not presented the base/original results of either the April 2019 intersection turning movement counts, or of the April 2022 midblock tube traffic counts that were undertaken at the same locations. The April 2018 and April 2022 traffic data was used to determine an overall traffic growth rate, which was used to estimate the 'existing' 2023 traffic volumes, as well as future traffic volumes. The base/original results of the April 2019 turning movement counts and April 2022 midblock counts should also be presented. Additionally, specific dates should be provided, given that Tasmanian school holidays typically start around the middle of April, which means that there is a risk that these surveys were undertaken during unrepresentative periods.
- When comparing the April 2018 and 'existing' 2023 (i.e., adjusted) midblock volumes on White Hills Road and Logan Road, it is apparent that the presented volumes are the same. This discrepancy should be clarified and rectified.
- If it is the case that the previous traffic surveys were carried out during school holidays, additional traffic surveys should be carried out at appropriate times to ensure that the traffic data is representative of normal conditions, or the available data should be suitably adjusted.
- The June 2022 traffic surveys that were undertaken to determine the actual residential traffic generation (and possibly directional splits) in Evandale should be presented in pitt&sherry's TIA. It is also noted that the proposed daily traffic generation rate is very low, and pitt&sherry should confirm whether the proposed daily rate is based on the surveyed traffic data.
- Based on the details provided by pitt&sherry in terms of the expected traffic generation, we have calculated traffic generation volumes that differ from those provided by pitt&sherry, and our recommendation is that pitt&sherry provide details regarding their methodology for calculating the expected traffic generation of the proposed development. pitt&sherry should also include an estimation of the Sunday peak hour traffic generation.
- pitt&sherry have only stated the factors that will influence the distribution of the proposed development's generated traffic and have not provided the metrics/directional percentages. These details should be included in their TIA.
- We recommend that the intersections be analysed based on the minor roads having only single-lane approaches, which is more conservative and accounts for vehicles occasionally being positioned such that adequate space for another vehicle next to it is does not exist.
- The SIDRA analyses should be revised with appropriate gap acceptance parameters. The two-way sign control function should only be used with the default software settings and should be turned off if the gap acceptance parameters are to be adjusted to reflect the values outlined in the Austroads Guidelines.
- The operational performance of the proposed access intersections on White Hills Road and Logan Road should be assessed.
- Based on the provided 'existing' 2023 traffic volumes, it is evident that the Sunday peak period can reasonably be considered the critical road network period, regardless of the likely reduced traffic generation of the proposed development. Assessing the relevant Sunday periods – in terms of intersection performances and midblock capacities – is thus clearly warranted.
- Higher traffic growth rates (e.g., 2-3% per annum) should be applied to the 'existing' 2023 traffic volumes when assessing the 10-year post development scenario as a means of sensitivity testing.

- pitt&sherry have undertaken spot parking surveys on Tuesday 17th January 2023 to verify the findings of previous on-street parking occupancy surveys that were carried out on Wednesday 5th December 2018. The more recent spot parking surveys occurred during the school holidays, and additional surveys should be undertaken during normal periods (outside school holidays).
- The parking availability should be calculated using a length of 6.7m instead of 6.0m for a parallel on-street parking space.
- Certain discrepancies have been identified regarding the results of the post-development midblock capacity analyses, which should be rectified.
- The proponent should widen the section of Logan Road along the southern boundary of the subject site to the ultimate requirement of 7.0m (and not only 6.0m) to avoid the implementation of upgrades in a piecemeal fashion.
- The relevant Performance Criteria of the Planning Scheme's Road and Railway Assets Code (C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction) should be reassessed following the completion of the preceding recommendations.
- A high-level assessment against the C13.0 Bushfire-Prone Areas Code should be undertaken.
- The required layouts of the proposed access intersections should be determined based on the requirements of both operational performance and safety. Furthermore, any associated land acquisitions should be determined and reserved.
- Measures to mitigate the prevailing sight distance concerns at the Barclay Street / Macquarie Street / Cambock Lane intersection should be investigated.
- The fundamental design parameters of the proposed by-pass road should be determined, and the likely resulting alignment requirements should be incorporated into the proposed Evandale expansion master plan layout.
- The alignment of the proposed by-pass road should be improved to ensure an appropriate configuration of the intersection between this proposed road and Logan Road.
- The design of the internal road network should be reviewed for appropriate sight distances.

APPENDIX 1 PROPOSED EVANDALE MASTER PLAN LAYOUT



POSSIBLE FUTURE BY-PASS ROAD
RIDGESIDE LANE
WHITE HILLS ROAD
100m Setback from Agricultural Land Use
200m Setback from Agricultural Land Use
BARCLAY STREET
LEOPOLD
ARTHUR STREET
MACQUARIE STREET
COACHMANS ROAD
STOCKMANS ROAD
RUSSELL STREET
LOGAN ROAD
GUNN
POSSIBLE FUTURE BY-PASS ROAD
200m Setback from Agricultural Land Use
100m Setback from Agricultural Land Use

LEGEND

- Existing general residential lots within Evandale.
- Example of potential future road reserve layout in the adjoining property.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (60,000m2).
- Proposed road network.
- 182 x Proposed general residential lots varying in size from 450m2 to 850m2.
- 82 x Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- 2 x Proposed super lots, 62,200m2 and 24,700m2.
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1. Potential for additional land acquisition to provide a safer intersection such as a roundabout.
2. Public open space corridor for pedestrian and cyclist connections to Barclay Street.
3. Road connections to adjoining properties.
4. Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.
5. Local pocket parks to accommodate surrounding residents.
6. Road connection into future land use.
7. Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.
8. Intersection to Logan Road.
9. Possible future by-pass road allowing heavily trucks to by-pass Russell Street and to relieve Sunday Market traffic congestion.
10. 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
11. 10m (w) Vegetation butter along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
12. Future Ridgeside Lane driveway adjustment required due to possible future by-pass road.
13. Future White Hills Road intersection adjustment required due to possible future by-pass road.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Master Plan

0 25 50m
Sheet 1 of 1
25 July 2022
Issue F

N

Traders In Purple

LANGE design landscape architecture

APPENDIX 2 PROPOSED ADDITIONAL LOTS



EVANDALE - Proposed Additional Lots

LANGE Design 15 February 2022

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pitt&sherry

Evandale Expansion Masterplan

Traffic Impact Assessment

Prepared for
Ireneinc Planning & Urban Design

Client representative
Phil Gartrell

Date
29 January 2024

Rev01



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Appendices

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Appendix B — SIDRA Modelling Results - Existing
Appendix C — SIDRA Modelling Results - PD
Appendix D — SIDRA Modelling Results – 10-Years PD

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Authorised by — Rebekah Ramm		**Date —** 29th January 2024

Revision History

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00	Traffic Impact Assessment	LA	RLR	RLR	02/02/2023
01	TIA (minor updates)	LA	RLR	RLR	29/01/2024

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1. Introduction

1.1 Evandale Expansion Plan

Traders in Purple (TiP) have developed a Masterplan for land to the east of Evandale in Northern Tasmania.

They are seeking to rezone the following titles:

- 4 Ridgeside Lane (81897/9)
- Logan Road (116759/1)
- Portion of 211 Logan Road (106773/1); and
- 38 Arthur Street (227117/1).

Whilst these form part of the rezoning, only the following titles are intended for development by TiP:

- Logan Road; and
- Portion of 211 Logan Road.

This development is known as the *Evandale Expansion Masterplan* (the Masterplan) and replaces the former *Ridgeside Lane Development* initially proposed for an adjacent area.

Figure 1 shows the land corresponding to the rezoning in the local context. The initial stage of the Masterplan comprises of rezoning the land from Agricultural to General Residential zoning.

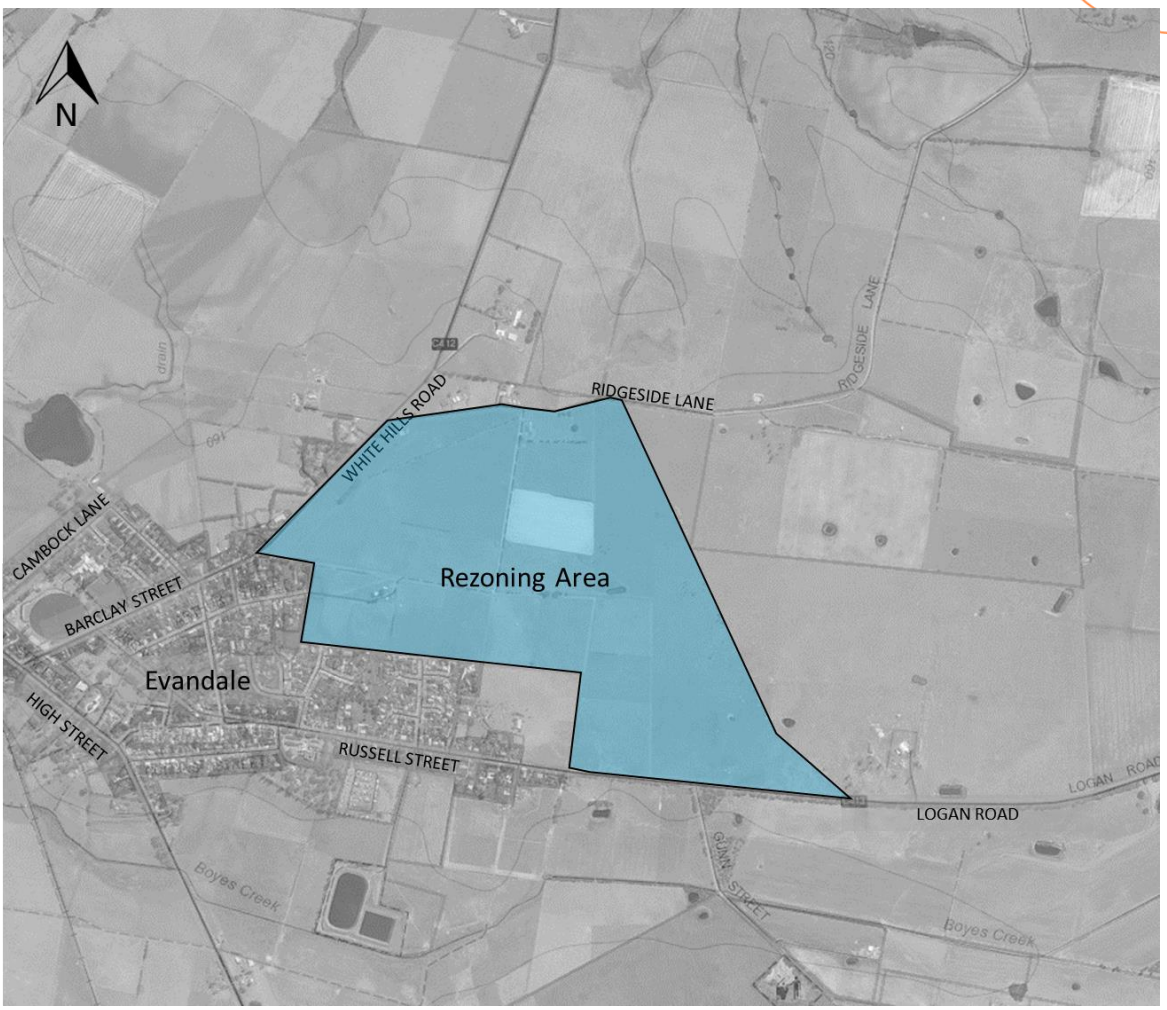


Figure 1: Study area in local context (aerial source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

1.2 Traffic Impact Assessment (TIA) scope

Ireneinc Planning & Urban Design on behalf of their client TiP have engaged pitt&sherry to undertake a Traffic Impact Assessment to support the application for rezoning.

This report has been prepared in accordance with the Department of State Growth's (State Growth's) *Framework for Undertaking Traffic Impact Assessments* and the *Tasmanian Planning Scheme – Northern Midlands* (the Planning Scheme)

2. Existing conditions

2.1 TIA study area

The land corresponding to the Masterplan (study area) is located approximately 500 metres east of the Evandale Town Centre. The site is currently vacant and has a land use classification of 21.0 Agriculture under the Planning Scheme.

Access to the site is currently from White Hills Road, noting that White Hills Road becomes Barclay Street at the Evandale Town Centre.

The site also has a frontage to Logan Road which becomes Russell Street at the Evandale Town Centre. Both Barclay Street and Russell Street intersect with High Street at the Evandale Town Centre. High Street connects Evandale with Launceston Airport, the Midland Highway and Launceston.

Please refer to Figure 1 above which shows the study area in the local context.

2.2 Surrounding road network

2.2.1 Overview

White Hills Road

White Hills Road (shown in Figure 2 and Figure 3) is a Council owned two-way rural road configured with a single lane in each direction. White Hills Road travels in a north-east south-west direction. Near the Evandale Town Centre, White Hills Road becomes Barclay Street.

White Hills Road in the vicinity of the study area has a posted speed limit of 70km/h.



Figure 2: White Hills Road - facing north-east (image source: Google Street View, November 2016)



Figure 3: White Hills Road - facing south-west (image source: Google Street View, November 2016)

Barclay Street

Barclay Street (shown in Figure 4 and Figure 5) is a Council owned two-way road configured with a single lane in each direction. Barclay Street is an urban street that travels in an east west direction through the Evandale Town Centre. On the eastern outskirts of the Evandale Town Centre, Barclay Street becomes the rural White Hills Road.

Barclay Street has a posted speed limit of 50km/h.



Figure 4: Barclay Street - facing east (image source: Google Street View, January 2010)



Figure 5: Barclay Street - facing west (image source: Google Street View, January 2010)

Cambock Lane

Cambock Lane (shown in Figure 6 and Figure 7) is a Council owned urban two-way road operating between High Street and Barclay Street. Cambock Lane is configured with a single lane in each direction. From its intersection with High Street, Cambock Lane travels in a north-east south west direction for approximately 500m. At this point, there is a 90-degree bend along the road, following which, Cambock Lane travels in a north-west south-east direction.

There are no posted speed limit signs present along Cambock Lane subjecting it to the Tasmanian Urban Speed Limit of 50km/h.



Figure 6: Cambock Lane - facing north-east



Figure 7: Cambock Lane - facing-west

Logan Road

Logan Road (shown in Figure 8 and Figure 9) is a Council owned two-way road configured with a single lane in each direction. Logan Road travels in an east went direction in the vicinity of the site. Closer to the Evandale Town Centre, Logan Road becomes Russell Street.

Near the Evandale Town Centre, Logan Road has a posted speed limit of 50km/h. In the vicinity of the study area, Logan Road operates with the Tasmania Sealed Rural Speed Limit of 100km/h.



Figure 8: Logan Road - facing east (image source: Google Street View, September 2022)



Figure 9: Logan Road - facing west (image source: Google Street View, September 2022)

Russell Street

Russell Street (shown in Figure 10 and Figure 11) is a Council owned urban road that travels in an east west direction. Russel Street is configured with a single lane in each direction. Near the eastern outskirts of the Evandale Town Centre, Russell Street becomes Logan Road.

Russel Street has a posted speed limit of 50km/h.



Figure 10: Russell Street - facing east (image source: Google Street View, September 2022)



Figure 11: Logan Road - facing west (image source: Google Street View, September 2022)

High Street

High Street is a two-way road that travels in a north-west south-east direction. It is configured with a single lane in each direction and has a posted speed limit of 60km/h in the town of Evandale.

To the north of the High Street/ Russell Street intersection, the road is a Department of State Growth owned road known as Evandale Main Road. Evandale Main Road connects the town of Evandale to Launceston Airport as well as to Midland Highway which in turn connects to Launceston and Hobart.

To the south of the High Street/ Russell Street intersection, the road is Council owned and is known as Nile Road.



Figure 12: High Street - facing north-west (image source: Google Street View, September 2022)



Figure 13: High Street - facing south-east (image source: Google Street View, September 2022)

2.2.2 Road widths and carriageway form

The road width along each of the roads surrounding the study area have been measured. The road width was observed to vary frequently and therefore in sections with varying road widths, the minimum (or worst case) road width was adopted. Road widths and classifications at several locations are detailed in Table 1.

Table 1: Road widths and classification

Road Name	Location	Minimum Measured Road Carriageway Width	Carriageway Form
White Hills Road	West of Ridgeside Lane	6.8m	Two lanes
	East of Ridgeside Lane	6.0m	Two lanes
Barclay Street	East of High Street	9.0m	One or two lanes, dependent on parked cars
	West of Cambock Lane	9.0m	One or two lanes, dependent on parked cars
Cambock Lane	East of High Street	9.0m	One or two lanes, dependent on parked cars
	North of Barclay Street	9.0m	One or two lanes, dependent on parked cars
Logan Road	West of No. 58	8.8m	Two lanes
	East of No. 58	5.3m	Two lanes
Russell Street	High Street to Logan Road	8.1m	One or two lanes, dependent on parked cars

2.2.3 Road function

The Tasmanian Local Government Road Hierarchy, shown in Figure 14, gives guidance to the function of a road.

Tasmanian local government road hierarchy.

Source: Tasmanian Government Local Government Division: Department of Premier and Cabinet

Classification	1. Arterial	2. Collector	3. Link	4. Local Access	5. Minor Access	Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between urban centres and rural regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between urban areas, or in some cases rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties and in some cases commercial properties, at a local level.	Provide access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non constructed/ maintained road reserves or roads that have a very low level of services.
Connectivity description	High connectivity - connecting precincts, localities, suburbs, and rural population centres.	High connectivity - supplements arterial roads in connecting suburbs, business districts and localised facilities.	Medium connectivity - connects traffic at a neighbourhood level with collector and arterial roads.	Low - connects individual properties within a neighbourhood to link roads.	Low - provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>10000 vehicles per day (vpd)	3000–10000 vpd	1000–3000vpd	50–1000vpd	<50vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT/ EHV)	>1000 AADTT or > 10% EHV	250–1000 AADTT or > 10% EHV	<250 AADTT or > 10% EHV	N/A	N/A	N/A
Public Transport Route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed	Sealed/ unsealed	Sealed/ unsealed	Unformed

Figure 14: Tasmanian Local Government Road Hierarchy

Based on the above, the classification of each of the roads surrounding the study area based on their function and predominant purpose is shown in Table 2.

Table 2: Road classification

Road Name	Road Classification
White Hills Road	Link
Barclay Street	Link
Cambock Lane	Link
Logan Road	Link
Russell Street	Link

2.2.4 Intersections

Several intersections are present in the vicinity of the study area. The larger intersections in the vicinity of the study area are as follows:

- Russell Street/ Macquarie Street/ Rodgers Lane (sign-controlled cross intersection)
- Russell Street/ High Street (sign-controlled T-intersection)
- Barclay Street/ High Street (sign-controlled T-intersection)
- Barclay Street/ Murray Street (sign-controlled T-intersection); and
- Barclay Street/ Macquarie Street (sign-controlled T-intersection).

The above intersections relative to the study area are shown in Figure 15.



Figure 15: Intersection locations relative to study area (Aerial Source: https://maps.thelist.tas.gov.au)

2.3 Traffic volumes

2.3.1 Traffic data collection

Tube count data collected in April 2018 along Barclay Street/ White Hills Road and Logan Road was provided by TiP and is summarised in Table 3.

Table 3: Tube count traffic data provided by TiP

Road	Road Link	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
Barclay Street/ White Hills Road	West of Ridgeside Lane	517	438
	East of Ridgeside Lane	487	391
Logan Road	West of No. 58	176	271
	East of No. 58	133	173

In addition to the tube count data, vehicle turning movement counts were undertaken by Matrix Traffic and Transport Data on Thursday 4 April 2019 and on Sunday 7 April 2019. Surveys were undertaken for a 24-hour period at the following intersections:

- High Street/ Cambock Lane intersection (sign-controlled T-intersection)
- High Street/ Barclay Street intersection (sign-controlled T-intersection)
- High Street/ Russell Street intersection (sign-controlled T-intersection)
- Barclay Street/ Macquarie Street/ Cambock Lane intersection (sign-controlled cross intersection); and
- Russel Street/ Macquarie Street intersection (sign-controlled T-intersection).

Although not typically a busy traffic day, Sunday is significant for additional traffic and parking in Evandale due to the Evandale Sunday Markets which occur between 8:00am and 1:00pm on Sunday mornings in the centre of Evandale.

These intersections were chosen as they are expected to be impacted the most by the Masterplan. It is noted that there is no data for the Barclay Street/ High Street intersection for Sunday 7 April as the camera was tampered with.

It was determined from the survey data that the weekday network AM peak hour occurs between 8:30am and 9:30am and the weekday PM peak hour occurs between 4:45pm and 5:45pm. The Sunday midday peak hour was determined to occur between 10:30am and 11:30amCovid-19 impacts.

As the tube count data and turning movement counts were completed in 2018 and 2019 respectively, the expected 2023 traffic volumes have to be calculated using a compounding growth rate. Due to the COVID-19 pandemic, there has been an overall reduction in traffic growth along road networks in Tasmania and as such it has been necessary to determine the COVID-19 impact on the traffic growth rate in Evandale.

To determine the COVID-19 impact on the growth rate in Evandale, tube count data was collected along Barclay Street/ White Hills Road and Logan Road for a one-week period in April 2022. This collected traffic data has been compared with the 2018 tube count data collected at the same location and the growth rate at these locations have been determined.

The overall growth rate has been determined to be 0.2% per year and has been applied to all existing available traffic data to calculate the expected 2023 traffic volumes.

2.3.2 Existing peak hourly intersection traffic volumes

A summary of the calculated 2023 existing weekday AM and PM peak hour traffic volumes are shown in Figure 16 and Figure 17 while a summary of the calculated existing 2023 Sunday midday peak hour traffic volumes are shown in Figure 18.

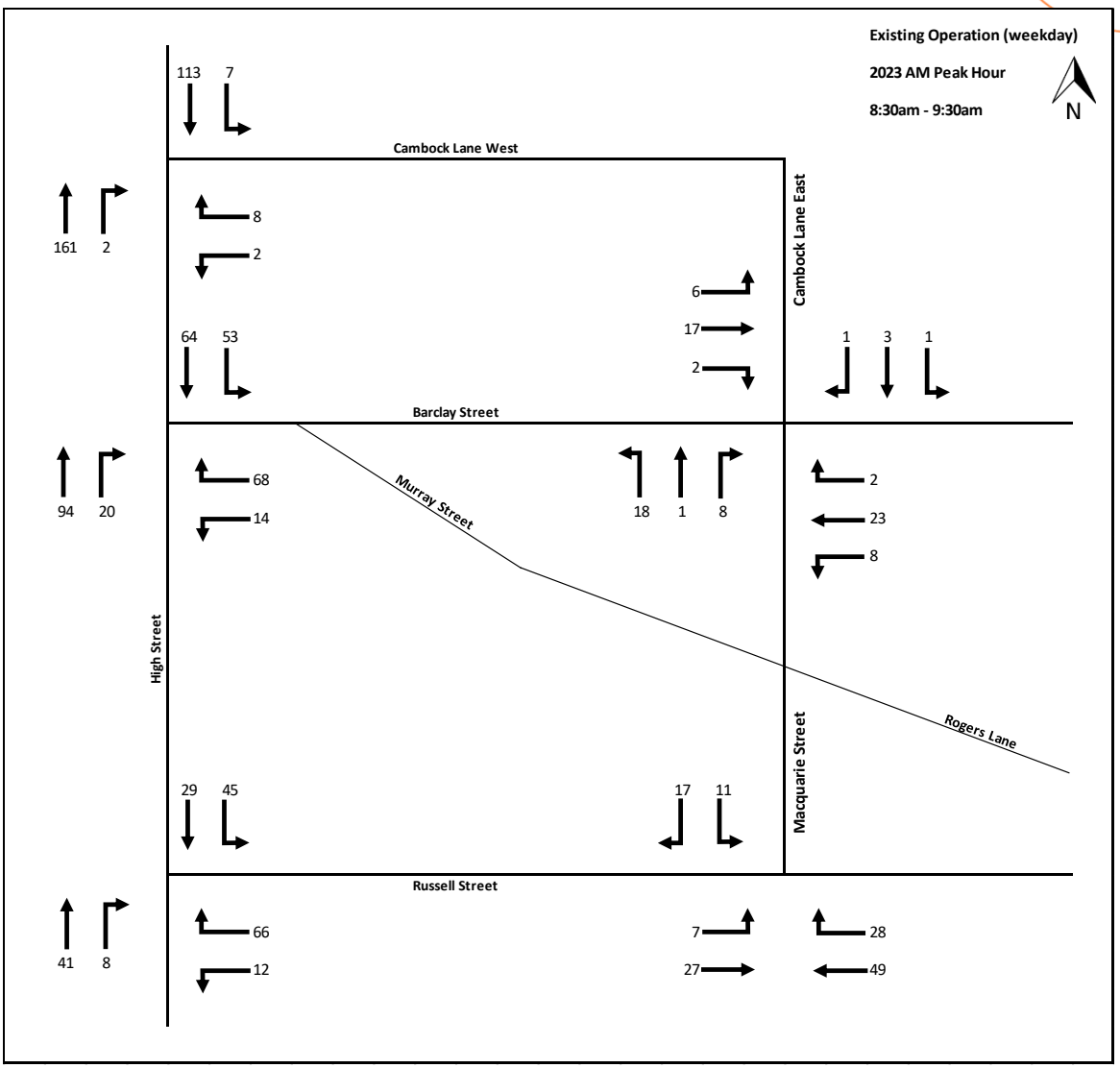


Figure 16: Calculated (2023) weekday AM peak hour traffic volumes

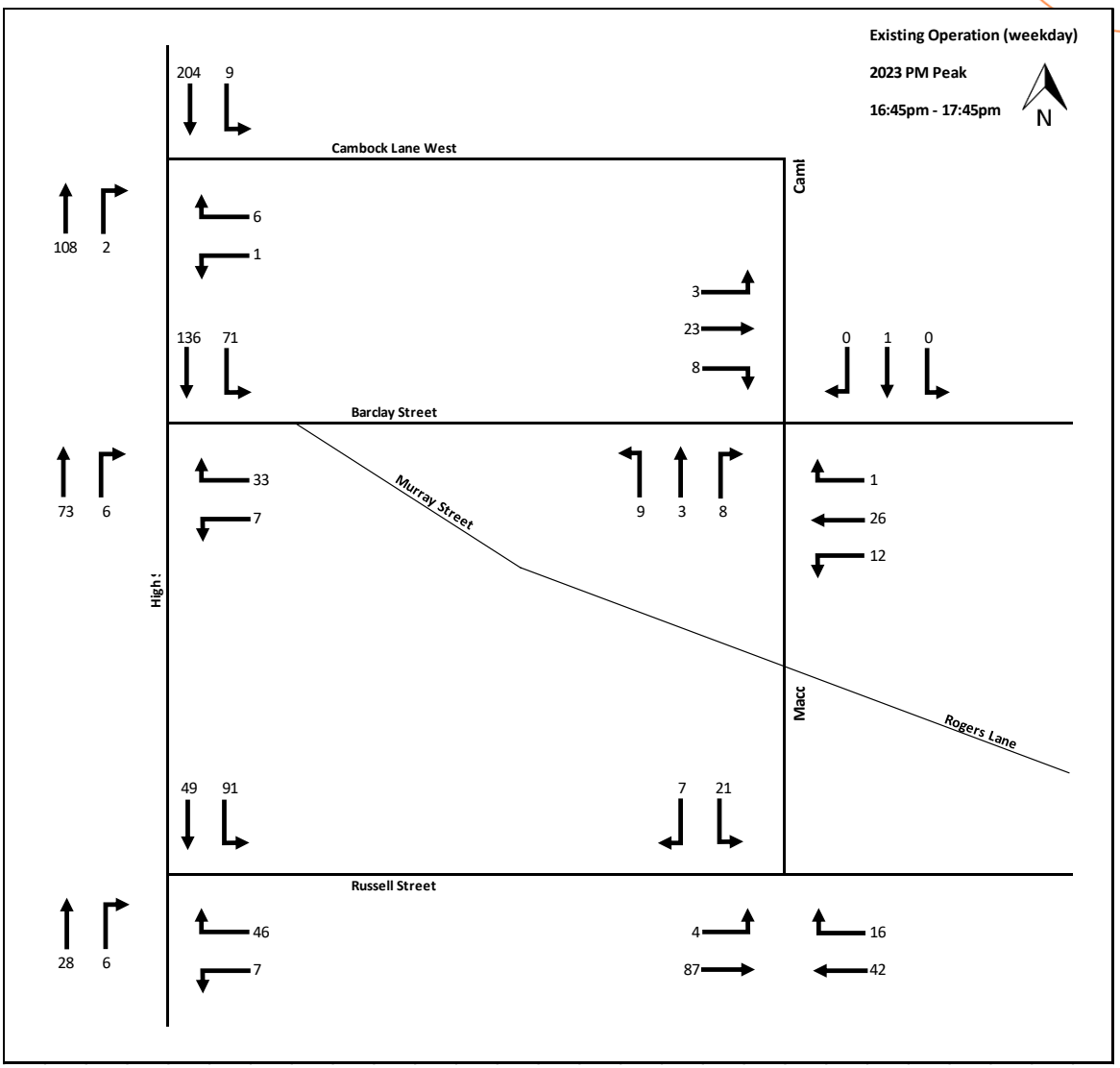


Figure 17: Calculated (2023) weekday PM peak hour traffic volumes

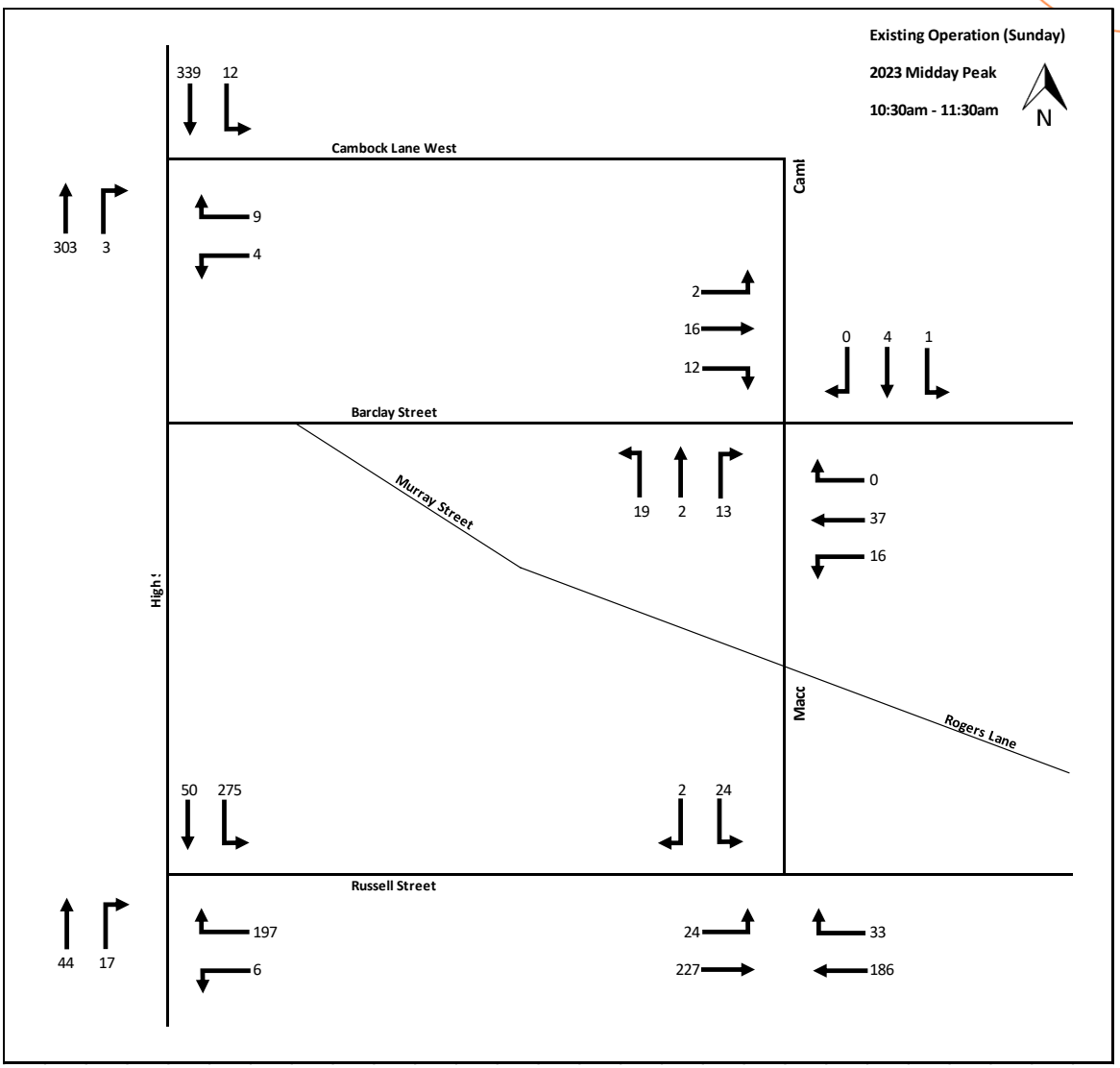


Figure 18: Calculated (2023) Sunday peak hour traffic volumes

2.3.3 Daily mid-block traffic volumes

Daily mid-block traffic volume data is available based on the intersection turning movement counts and tube count data from April 2018 which was provided by TiP. To calculate the 2023 daily mid-block traffic volumes, the calculated 0.2% growth rate has been applied.

The daily mid-block traffic volumes for 2023 are shown in Table 4.

Table 4: Daily mid-block traffic volumes

Road	Road Link	Data Source	Weekday Traffic Volume (vpd)	Sunday Traffic Volume (vpd)
White Hills Road	West of Ridgeside Lane	Tube count	517	438
	East of Ridgeside Lane	Tube count	487	391
Barclay Street	High Street to Murray Street	Turning movement count	1,472	1,500 (estimate)
	Murray Street to Macquarie Street	Turning movement count	877	767
	Macquarie Street to White Hills Road	Turning movement count	741	677
Cambock Lane	East of High Street	Turning movement count	258	251
	North of Barclay Street	Turning movement count	132	124
Logan Road	West of No. 58	Tube count	176	271
	East of No. 58	Tube count	133	173
Russell Street	High Street to Scone Street	Turning movement count	1,645	3,117
	Scone Street to Macquarie Street	Turning movement count	1,401	2,770
	Macquarie Street to Logan Road	Turning movement count	1,508	2,844

2.4 Intersection performance

2.4.1 Traffic modelling software

The operation of the counted intersections has been modelled using SIDRA Intersection traffic modelling software. SIDRA Intersection rates the performance of the intersections based on the vehicle delay and the corresponding Level of Service (LOS). It is generally accepted that LOS D or better is an acceptable level of operation. Table 5 shows the criteria that SIDRA Intersection adopts in assessing the LOS.

Table 5: SIDRA Intersection Level of Service (LOS) criteria

LOS	Delay per Vehicle (secs)		
	Signals	Roundabout	Sign Control
A	10 or less	10 or less	10 or less
B	10 to 20	10 to 20	10 to 15
C	20 to 35	20 to 35	15 to 25
D	35 to 55	35 to 50	25 to 35
E	55 to 80	50 to 70	35 to 50
F	Greater than 80	Greater than 80	Greater than 50

2.4.2 Traffic modelling intersection layouts

The geometry of the intersections used for the SIDRA intersection traffic models was developed with reference to aerial photography obtained from LISTmap. The aerial photography informed the number, width and length of trafficable lanes as well as speed limits.

It is noted that for a number of intersections, the model has been developed with two lanes on the minor approach to the intersection. The second lane is a short lane that provides sufficient width for two vehicles to queue side by side at the intersection.

2.4.3 Traffic modelling results – weekday

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 19 and Figure 20. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 6. Full results are presented in Appendix B.

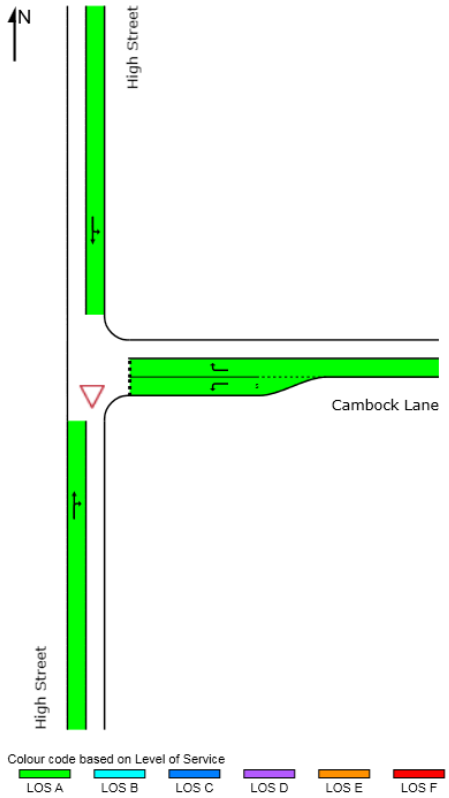


Figure 19: High Street/ Cambock Lane - Existing Weekday AM Peak Hour Approach LOS

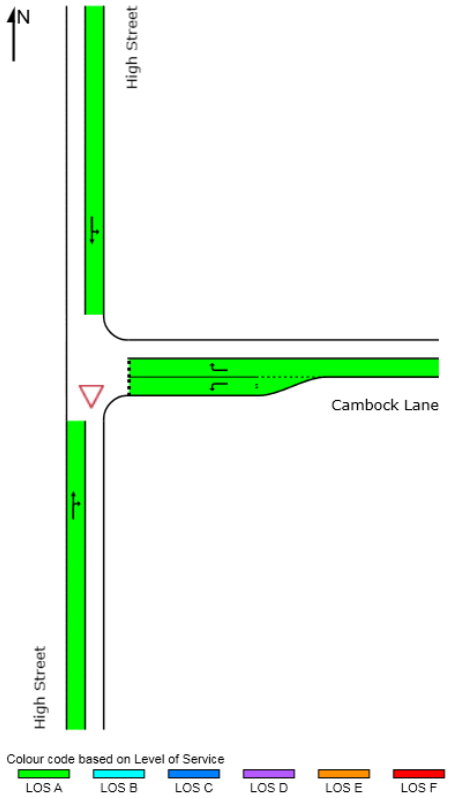


Figure 20: High Street/ Cambock Lane Existing Weekday PM Peak Hour Approach LOS

Table 6: High Street/ Cambock Lane Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.09	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.07	0	0
All Movements		**0.09**	**0**	**0**
South (High Street)	PM	0.06	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.12	0	0
All Movements		**0.12**	**0**	**0**

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 21 and Figure 22. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 7. Full results are presented in Appendix B.

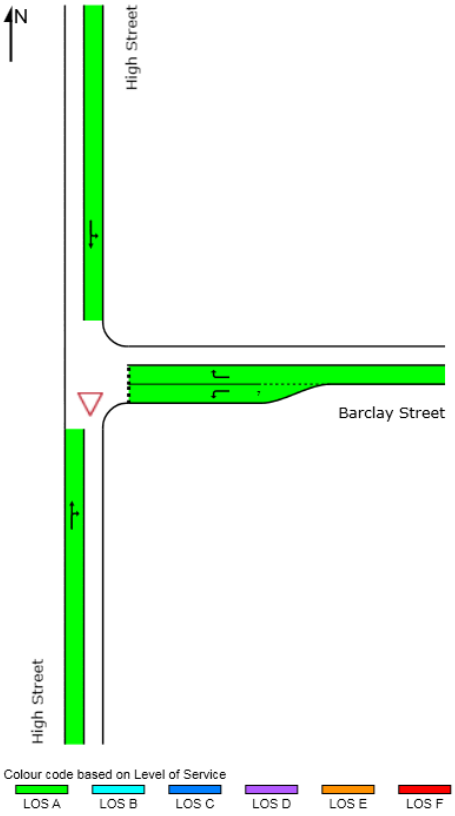


Figure 21: High Street/ Barclay Street Existing Weekday AM Peak Hour Approach LOS

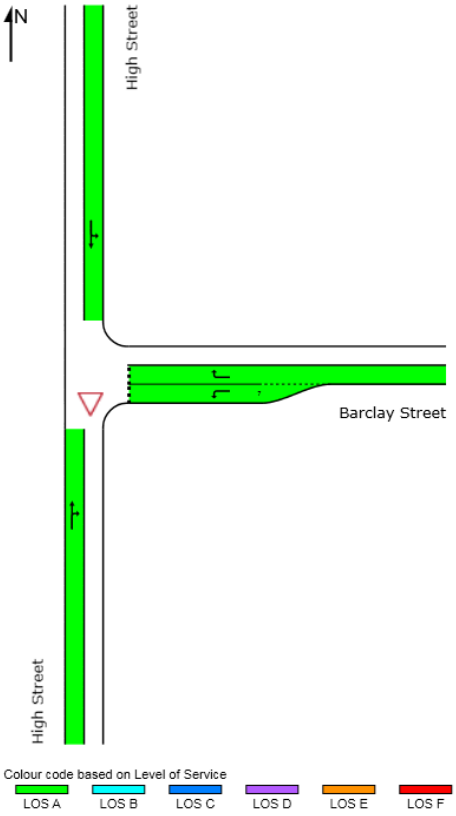


Figure 22: High Street/ Barclay Street Existing Weekday PM Peak Hour Approach LOS

Table 7:High Street/ Barclay Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.07	1	1
East (Barclay Street)		0.05	5	1
North (High Street)		0.07	3	0
All Movements		**0.07**	**3**	**1**
South (High Street)	PM	0.05	1	0
East (Barclay Street)		0.03	5	1
North (High Street)		0.12	2	0
All Movements		**0.12**	**2**	**1**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 23 and Figure 24. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in

Table 8. Full results are presented in Appendix B.

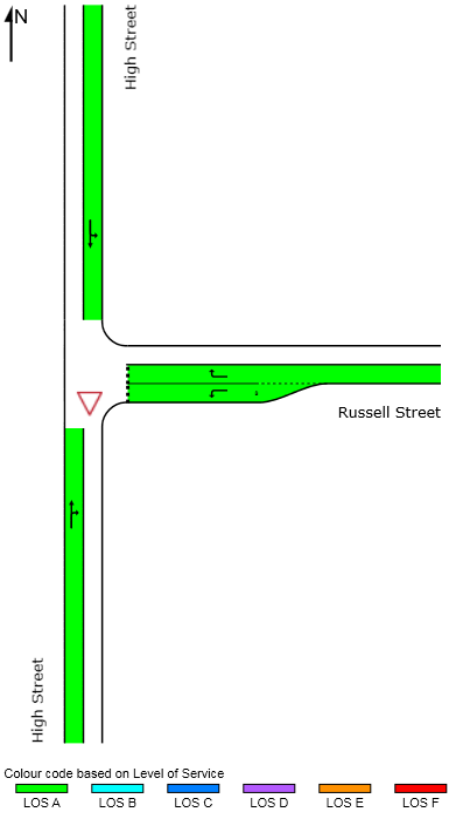


Figure 23: High Street/ Russell Street Existing Weekday AM Peak Hour Approach LOS

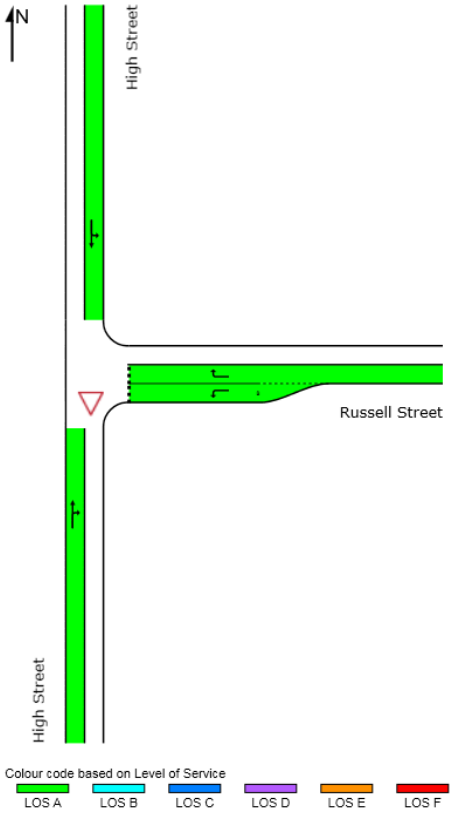


Figure 24: High Street/ Russell Street Existing Weekday PM Peak Hour Approach LOS

Table 8: High Street/ Russell Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	1	0
East (Russell Street)		0.05	5	1
North (High Street)		0.04	3	0
All Movements		**0.05**	**3**	**1**
South (High Street)	PM	0.02	1	0
East (Russell Street)		0.04	5	1
North (High Street)		0.08	4	0
All Movements		**0.08**	**4**	**1**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 25 and Figure 26. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 9. Full results are presented in Appendix B.

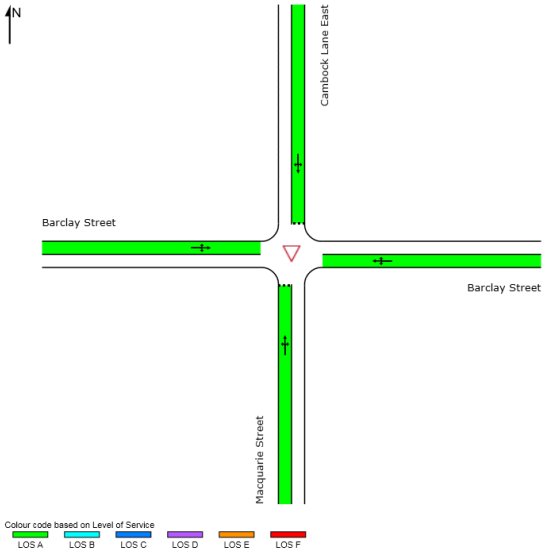


Figure 25: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday AM Peak Hour Approach LOS

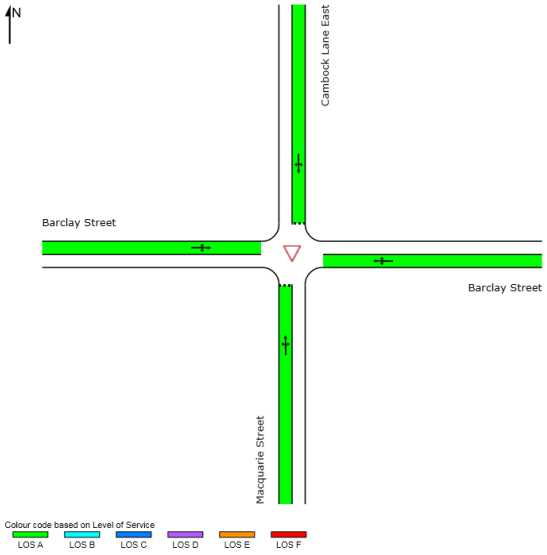


Figure 26: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday PM Peak Hour Approach LOS

Table 9: Barclay Street/ Macquarie Street/ Cambock Lane Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.01	1	0
East (Barclay Street)		0.00	4	0
North (Cambock lane East)		0.01	0	0
West (Barclay Street)		0.01	5	0
All Movements		**0.01**	**1**	**0**
South (Macquarie Street)	PM	0.01	1	0
East (Barclay Street)		0.00	4	0
North (Cambock lane East)		0.01	0	0
West (Barclay Street)		0.01	5	0
All Movements		**0.01**	**1**	**0**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 27 and Figure 28. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 10. Full results are presented in Appendix B.

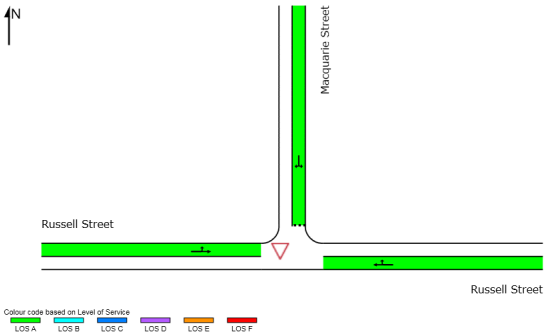


Figure 27: Russell Street/ Macquarie Street Existing Weekday AM Peak Hour Approach LOS



Figure 28: Russell Street/ Macquarie Street Existing Weekday PM Peak Hour Approach LOS

Table 10: Russell Street/ Macquarie Street Existing Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.04	2	1
North (Macquarie Street)		0.01	2	0
West (Russell Street)		0.02	1	0
All Movements		**0.04**	**2**	**1**
East (Russell Street)	PM	0.03	1	1
North (Macquarie Street)		0.02	2	0
West (Russell Street)		0.05	0	0
All Movements		**0.05**	**1**	**1**

Discussion

Based on the results above, all modelled intersections currently operate with minimal queues and delays. All intersections operate at LOS A during both the weekday AM and PM peak hours.

The traffic modelling results align with observations made on site during the weekday AM and PM peak hours.

2.4.4 Traffic modelling results – Sunday

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 29. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 11. Full results are presented in Appendix C.

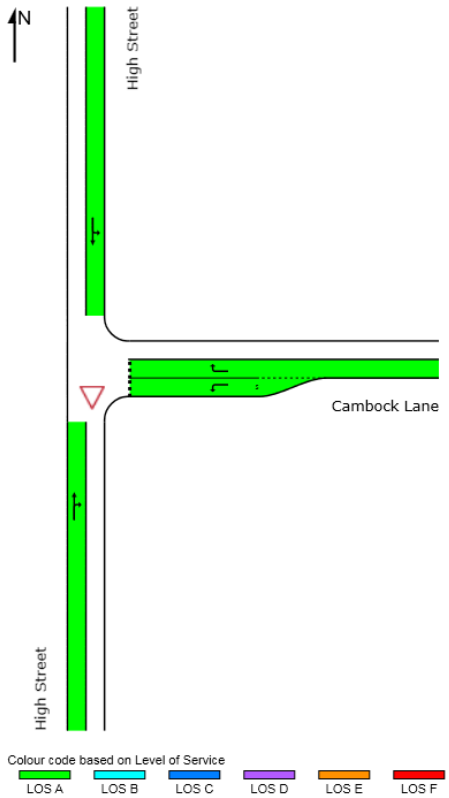


Figure 29: High Street/ Cambock Lane Existing Sunday Peak Hour Approach LOS

Table 11:High Street/ Cambock Lane Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	Sunday	0.17	0	0
East (Cambock Lane)		0.01	6	0
North (High Street)		0.19	0	0
All Movements		**0.19**	**0**	**0**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 30. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 12. Full results are presented in Appendix C.

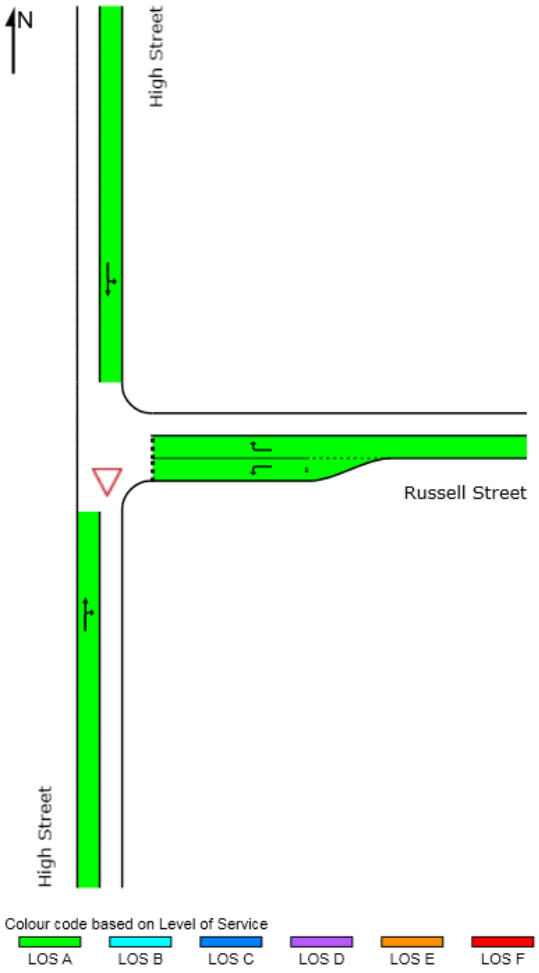


Figure 30: High Street/ Russell Street Existing Sunday Peak Hour Approach LOS

Table 12:High Street/ Russell Street Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	Sunday	0.04	2	1
East (Russell Street)		0.15	5	3
North (High Street)		0.19	5	0
All Movements		**0.19**	**5**	**3**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 31. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 13. Full results are presented in Appendix C.

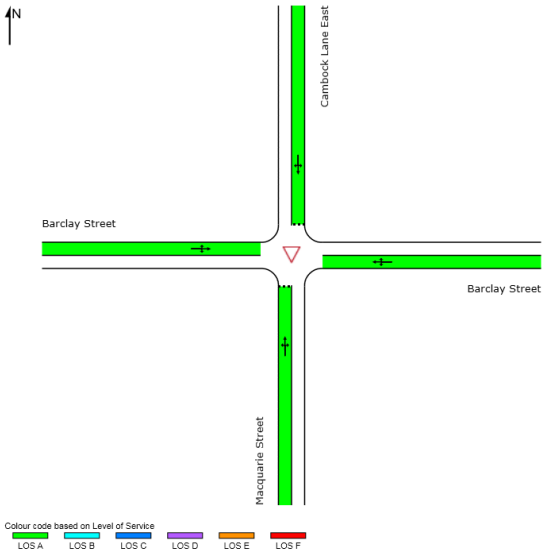


Figure 31: Barclay Street/ Macquarie Street/ Cambock Lane Existing Sunday Peak Hour Approach LOS

Table 13: Barclay Street/ Macquarie Street/ Cambock Lane Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	Sunday	0.02	5	1
East (Barclay Street)		0.03	2	0
North (Cambock lane East)		0.01	5	0
West (Barclay Street)		0.02	2	0
All Movements		**0.03**	**3**	**1**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 32. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 14. Full results are presented in Appendix C.

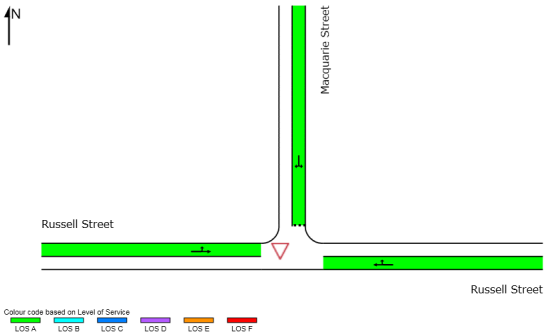


Figure 32: Russell Street/ Macquarie Street Existing Sunday Peak Hour Approach LOS

Table 14: Russell Street/ Macquarie Street Existing Sunday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	Sunday	0.12	1	2
North (Macquarie Street)		0.02	3	1
West (Russell Street)		0.14	1	0
All Movements		**0.14**	**1**	**2**

Discussion

Based on the results above, all modelled intersections currently operate with minimal queues and delays. All intersections operate at LOS A during the Sunday peak hour.

The traffic modelling results align with observations made on site during the Sunday peak hour.

2.1 Mid-Block Capacity

2.1.1 Parking Demand - Weekday

Parking occupancy surveys were completed on Barclay Street and Russell Street on Wednesday 5 December 2018 which represents a typical weekday. The parking occupancy surveys were undertaken at regular intervals - every hour between 8:00am and 6:00pm. The parking supply was determined by measuring the road length where vehicles can park (excluding driveways a no parking/ no-stopping zones) and then dividing the length by 6 metres.

While detailed parking occupancy surveys have not been completed in 2023, general observations and spot parking occupancy surveys were completed on Tuesday 17 January 2023. Based on the observations and spot surveys, the current parking occupancy is considered to be consistent with that recorded in 2018.

The result of the parking occupancy surveys completed in 2018 is discussed in detail below.

Barclay Street

Parking occupancy surveys were completed along the length of Barclay Street. In order to understand how the parking demand changed along the road, the survey recorded the section of the road the car was parked on as well as the side of the road the car was parked on (north or south). The sections of the road where parking surveys were recorded along Barclay Street is shown in Figure 33 while the results of the parking surveys are summarised in Table 15.



Figure 33: Barclay Street parking survey locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 15: Barclay Street parking survey results - weekday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Murray Street	08:30	30	20	0	0	0	0%
	09:00			0	1	1	2%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			0	0	0	0%
	14:00			0	0	0	0%
	15:00			0	0	0	0%
	16:00			0	0	0	0%
	17:00			0	0	0	0%
	18:00			0	0	0	0%
2 – Murray Street to Macquarie Street	08:30	19	12	0	1	1	3%
	09:00			0	2	2	6%
	10:00			0	1	1	3%
	11:00			1	1	2	6%
	12:00			0	1	1	3%
	13:00			0	1	1	3%
	14:00			0	0	0	0%
	15:00			0	0	0	0%
	16:00			0	0	0	0%
	17:00			1	1	2	6%
	18:00			1	1	2	6%
3 – Macquarie Street to White Hills Road	08:30	21	13	0	3	3	9%
	09:00			1	2	3	9%
	10:00			0	2	2	6%
	11:00			0	2	2	6%
	12:00			0	3	3	9%
	13:00			0	3	3	9%
	14:00			0	3	3	9%
	15:00			0	3	3	9%
	16:00			0	3	3	9%
	17:00			0	2	2	6%
	18:00			0	1	1	3%

Based on the above, the parking demand on Barclay Street is low with less than 10% occupancy always on all sections.

Russell Street

Parking occupancy surveys were also taken along the length of Russell Street. In order to understand how the parking demand changed along the road, the survey recorded the section of the road the car was parked on as well as the side of the road the car was parked on (north or south). The sections of the road where parking surveys were recorded along Barclay Street is shown in Figure 34 while the results of the parking surveys are summarised in Table 16.



Figure 34: Russell Street parking survey locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 16: Russell Street parking survey results - weekday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Scone Street	08:30	12	14	0	6	6	23%
	09:00			3	9	12	46%
	10:00			7	5	12	46%
	11:00			5	7	12	46%
	12:00			1	5	6	23%
	13:00			2	7	9	35%
	14:00			3	6	9	35%
	15:00			5	6	11	42%
	16:00			3	3	6	23%
	17:00			1	1	2	8%
	18:00			1	1	2	8%
2 – Scone Street to Macquarie Street	08:30	21	19	2	4	6	15%
	09:00			1	3	4	10%
	10:00			5	5	10	25%
	11:00			5	10	15	38%
	12:00			7	7	14	35%
	13:00			9	9	18	45%
	14:00			3	6	9	23%
	15:00			4	3	7	18%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	16:00			2	8	10	25%
	17:00			5	7	12	30%
	18:00			1	3	4	10%
3 – Macquarie Street to Coachmans Road	08:30	13	22	0	1	1	4%
	09:00			0	1	1	4%
	10:00			3	0	3	11%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			1	0	1	13%
	14:00			0	0	0	0%
	15:00			0	1	1	4%
	16:00			1	1	2	7%
	17:00			0	1	1	4%
	18:00			0	2	2	7%

Based on the above, the overall parking demand on Russell Street is less than 50% at all times on all sections. It can be expected that the equivalent of not more than one side of the road is filled on a typical weekday.

It was noted during the parking survey that although the parking demand is low, parking was observed on both sides of the road near the café and hotel.

2.1.2 Parking Demand – Sunday

In addition to the weekday parking occupancy surveys presented above, parking occupancy surveys were also completed on Barclay Street, Russell Street and Cambock Lane. Similar to the Weekday parking occupancy surveys, Sunday parking occupancy surveys were taken at regular intervals at least every hour between 8:00am and 2:00pm. The parking supply was determined by measuring the road length where vehicles can parallel park and then dividing the length by 6 metres. The result of the parking occupancy surveys on the Sunday is discussed in detail below.

Barclay Street

Parking surveys were completed along the length of Barclay Street. Similar to the weekday parking surveys, the parking occupancy was recorded by the side of the road the car was parked (north or south) and which section of the road the car was parked. The sections for Barclay Street are shown in Figure 33 while the results of the Sunday parking occupancy survey are summarised in Table 17.

Table 17: Barclay Street parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Murray Street	08:00	30	20	0	0	0	0%
	09:00			0	0	0	0%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			0	0	0	0%
2 – Murray	08:00	19	12	0	1	1	5%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
Street to Macquarie Street	09:00			0	1	1	5%
	10:00			0	0	0	0%
	11:00			0	0	0	0%
	12:00			0	0	0	0%
	13:00			1	0	1	5%
3 – Macquarie Street to White Hills Road	08:00	21	13	0	1	1	3%
	09:00			0	1	1	3%
	10:00			1	1	2	6%
	11:00			0	1	1	3%
	12:00			0	1	1	3%
	13:00			0	0	0	0%

Based on the above, the parking demand on Barclay Street is considered to be low with less than 10% occupancy at all times on all sections.

Russell Street

Parking surveys were completed along the length of Russell Street. Similar to the weekday parking surveys, the parking occupancy was recorded by the side of the road the car was parked (north or south) and which section of the road the car was parked. The sections for Russell Street is shown in Figure 34 while the results of the Sunday parking occupancy survey are summarised in Table 18.

Table 18: Russell Street parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
1 – High Street to Scone Street	08:00	12	14	2	1	3	12%
	09:00			4	4	8	31%
	10:00			9	7	16	62%
	11:00			10	12	22	85%
	12:00			11	12	23	88%
	13:00			9	11	20	77%
2 – Scone Street to Macquarie Street	08:00	21	19	1	4	5	13%
	09:00			19	11	30	75%
	10:00			19	15	34	85%
	11:00			19	16	35	88%
	12:00			19	11	30	75%
	13:00			19	14	33	83%
3 – Macquarie Street to White Hills Road	08:00	13	22	10	6	16	46%
	09:00			10	6	16	46%
	10:00			11	7	18	51%
	11:00			11	11	22	63%
	12:00			11	6	17	49%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	13:00			13	3	16	46%

Based on the above, the overall parking demand on Russell Street is generally high with demand typically exceeding 80% between 11:00am and 2:00pm.

It was noted during the parking survey that in Section 3 (between Huxtables Lane and Coachmans Road), a bus zone operated on the north side of the road on Sundays between 7:00am and 3:00pm and a parking restriction was present on the south side of the road between 7:00am and 3:00pm. It was also noted that a number of parking spaces in Section 1 were occupied with road works signage.

Cambock Lane

In addition to Barclay Street and Russell Street, Sunday occupancy parking surveys were also taken along the length of Cambock Lane West and East. To understand how the parking demand changes along the road, the parking occupancy was recorded by the side of the road the car was parked (north or south along Cambock Lane West and east and west along Cambock Lane East) and which section of road the car was parked. The sections for Cambock Lane West and East are shown in Figure 35 while results of the parking surveys are summarised in Table 19.



Figure 35: Cambock Lane West and East Parking Survey Locations (Aerial Source: https://maps.thelist.tas.gov.au/listmap/app/list/map)

Table 19: Cambock Lane parking survey results - Sunday

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
Cambock Lane West	08:00	57	63	5	4	9	8%
	09:00			5	5	10	8%
	10:00			6	5	11	9%
	11:00			5	4	9	8%

Parking Location	Time of Day	Parking Supply		Parking Demand			
		North	South	North	South	Total	Total %
	12:00			5	5	10	8%
	13:00			5	4	9	8%
Cambock Lane East	08:00	24	32	1	0	1	2%
	09:00			1	0	1	2%
	10:00			1	1	2	4%
	11:00			1	0	1	2%
	12:00			1	0	1	2%
	13:00			2	2	4	7%

Based on the above, the parking demand on Cambock Lane West and East is considered to be low with less than 10% occupancy at all times.

2.1.1 Mid-block traffic capacity – urban roads

The traffic capacity of a road is generally impacted by the road width and carriageway form. Typical carriageway forms for different urban road widths are shown in the Local Government Association of Tasmania (LGAT) Standard Drawings. A visualisation from the LGAT drawings is shown in Figure 36.

It is noted that parking affects the road mid-block demand. Cars parked on one side of the road would allow for two travel lanes whereas cars parked on both sides of the road would allow for one travel lane and therefore a significantly reduced road capacity.

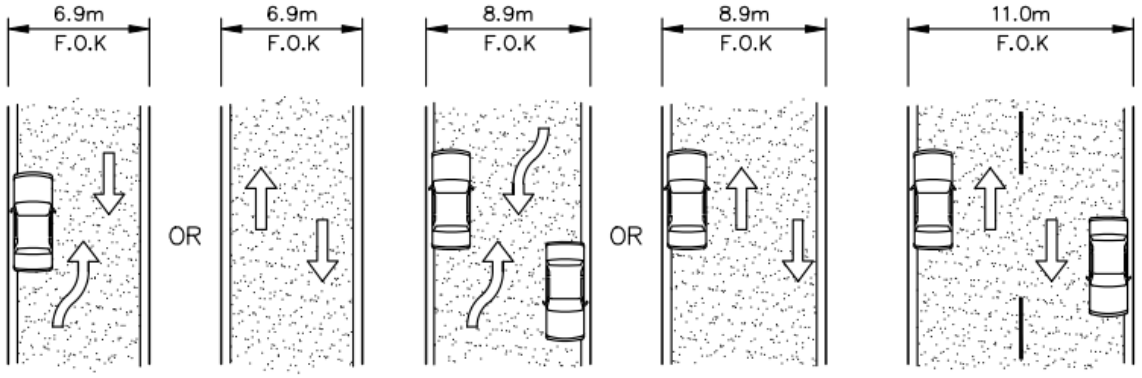


Figure 36: Typical Carriageway Forms (Source: LGAT Standard Drawing TSD – R06 – v1))

The Tasmanian Local Government Road Hierarchy, shown in Figure 14, gives guidance to the amount of traffic that should be travelling on each road classification based on several criteria and metrics including the road function and carriageway form. It is noted that the roads could physically carry more traffic than the guidance metric. However, these traffic volumes would be considered as appropriate for the road function and carriageway form from a safety and amenity perspective.

In addition, Table 4.6 in the *RMS Guide to Traffic Generating Developments* provides guidance regarding environmental capacity performance standards on residential streets. An excerpt of Table 4.6 from the RMS Guide is shown in Figure 37.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Figure 37: Excerpt of RMS Environmental Capacity Performance Standards on Residential Streets

The hierarchy, combined with the parking data above, has been used as the basis for determining the road capacity of the urban roads within the network.

Car parking is generally not expected to impact the width of the rural roads as vehicles are permitted to park informally on the road verge.

2.1.2 Mid-block traffic capacity – rural roads

The LGAT Standard Drawings specify the allowable daily traffic for different widths of road seal. The allowable traffic for each seal width is summarised in Table 20.

Table 20: Rural Road Traffic Capacity

Code	AADT	Existing Infrastructure	New Development
		(w) Sealed Traffic Width	(w) Sealed Traffic Width
S1	<30	4000 (s)	-
S2	30 – 100	4000 (s)	-
S3	100 – 300	5500 (D)	5500 (D)
S4	300 – 2000	6000 (D)	6000 (D)
S5	>2000	7000 (D)	7000 (D)

2.1.3 Mid- Block Capacity and Demand

Based on the information above, the mid-block capacity and demand for each road section is shown in Table 21 to Table 24.

It is noted that Logan Road east of No.58 has been assessed as a Rural S5 category road as it is understood that TiP are committed to widening Logan Road 0.7m up to the eastern site boundary by 0.7m to provide a 6.0m road width as part of the proposed development.

Table 21: Existing Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	Existing Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	517	1,483
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	1,472	1,528
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	877	2,123
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	741	2,259
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	258	742
	North of Barclay Street	Urban – Local Access	7%	2	1,000	132	868
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	176	1,824
	East of No. 58	Rural – S5	N/A	2	2,000	133	1,867
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	1,645	1,355
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	1,041	1,959
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	1,508	1,492

Table 22: Existing Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	Existing Traffic Volume (vph)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	Existing Traffic Volume (vph)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	76	224	N/A	2	58	242
	East of Ridgeside Lane	Rural – S4	300	N/A	2	76	224	N/A	2	58	242
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	155	345	0%	2	117	383
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	67	433	6%	2	69	431
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	59	441	6%	2	47	453
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	23	277	N/A	2	26	274
	East of No. 58	Rural – S5	300	N/A	2	18	282	N/A	2	18	282
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	131	369	8%	2	150	350
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	100	400	30%	2	100	400
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	115	385	4%	2	115	385

Table 23: Existing Road Capacity – Sunday Daily

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	Existing Traffic Volume (Sunday) (vpd)	Spare Traffic Capacity (Sunday) (vpd)
White Hills Road	West of Ridgeside Lane	Rural – S4	N/A	2	2,000	438	1,562
	East of Ridgeside Lane	Rural – S4	N/A	2	2,000	438	1,562
Barclay Street	High Street to Murray Street	Urban – Link	0%	2	3,000	1500 (approx.)	1,500
	Murray Street to Cambock Lane	Urban – Link	5%	2	3,000	767	2,233
	Cambock Lane to White Hills Road	Urban – Link	6%	2	3,000	677	2,323
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	251	749
	North of Barclay Street	Urban – Local Access	7%	2	1,000	124	876
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	271	1,729
	East of No. 58	Rural – S5	N/A	2	2,000	173	1,827
Russell Street	High Street to Scone Street	Urban – Link	85%	1	3,000	3,117	0
	Scone Street to Macquarie Street	Urban – Link	88%	1	3,000	2,770	230
	Macquarie Street to Logan Road	Urban – Link	63%	1	3,000	2,844	156

Table 24: Existing Road Capacity – Sunday Peak Hour

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vph)	Existing Traffic Volume (Sunday) (vph)	Spare Traffic Capacity (Sunday) (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	N/A	2	300	41	259
	East of Ridgeside Lane	Rural – S4	N/A	2	300	41	259
Barclay Street	High Street to Murray Street	Urban – Link	0%	2	500	155	320
	Murray Street to Cambock Lane	Urban – Link	5%	2	500	86	414
	Cambock Lane to White Hills Road	Urban – Link	3%	2	500	83	417
Cambock Lane	East of High Street	Urban – Local Access	8%	2	300	28	272
	North of Barclay Street	Urban – Local Access	2%	2	300	9	291
Logan Road	West of No. 58	Rural – S5	N/A	2	300	37	263
	East of No. 58	Rural – S5	N/A	2	300	30	270
Russell Street	High Street to Scone Street	Urban – Link	85%	1	500	495	5
	Scone Street to Macquarie Street	Urban – Link	88%	1	500	439	61
	Macquarie Street to Logan Road	Urban – Link	4%	2	500	470	30

Based on the results above, all road sections excluding Russell Street have significant spare capacity during the scenarios assessed (i.e. weekday AM peak hour, weekday PM peak hour, weekday daily, Sunday peak hour and Sunday daily). Russell Street approaches or exceeds capacity on Sundays (i.e. Sunday peak hour and Sunday daily) but is noted to have significant spare capacity during the weekday (i.e. weekday AM peak hour, weekday PM peak hour, weekday daily).

The spare traffic capacity is the number of vehicles that can be added to the road without unreasonably compromising the amenity, safety and efficiency of the road.

It is noted that Russell Street exceeds capacity on Sundays as it provides the primary connection to the Evandale Sunday Markets and accommodates the majority of the parking associated with the markets. Exceeding the capacity of a road generally results in the road operating at a higher classification which in turn may affect the amenity, safety and/ or efficiency of a road. For Russell Street, due to the nature of the traffic generated on Sundays (i.e. predominantly people parking and attending the markets), the safety and amenity of the street is not unreasonably compromised but rather vehicle speeds along the road reduce and there is an impact on the efficiency of the road. Based on traffic modelling results presented above, while there is a reduction in the efficiency of the road on Sundays compared to weekdays, all upstream and downstream intersections continue to operate well. As such, the impact of exceeding the capacity along Russell Street on Sundays is generally minimal.

2.2 Public Transport

Public transport options within Evandale are limited with only one bus route available. The bus route is operated by Tassielink and travels between Launceston, Evandale, Perth, Longford and Cressy.

During weekdays, three buses in each direction operate on the Launceston – Evandale – Perth – Longford – Cressy Route.

2.3 Pedestrian and Cycling Facilities

Pedestrian and cycling facilities along White Hills Road and Logan Road in the vicinity of the site are limited as there are no footpaths or bike routes available.

Near the Evandale town centre, footpaths are present on one side of the road along all roads. No on-road cycle lanes are available in Evandale.

3. Development proposal

3.1 Overview

The initial stage is to rezone approximately 100ha of land from Agricultural to General Residential zoning.

The Masterplan site is approximately 78ha in size and is envisaged to accommodate the following:

- 182 general residential lots
- 82 rural residential lots
- 1 super lot of 62,200m^2
- 1 super lot of 24,700m^2 ; and
- 60,000m^2 public open space.

There are a range of potential developments options for the super lots that are yet to be finalised. The development of these lots could include one or several of the following:

- Retirement Living/ Aged Care
- Childcare centre
- Small local shops; and
- Affordable housing.

It is understood that the Masterplan will begin to be developed from late 2024 and developed over a 10-year period, subject to market demand.

4. Traffic impact assessment

4.1 Traffic generation

4.1.1 General and rural residential lots

The traffic generation of developments is dependent on numerous factors including but not limited to the location of the development and type of development.

Based on the demographic of the population of Evandale combined with the facilities and location of Evandale, it is expected that the traffic generation rate for residential (general and rural) and townhouse developments in Evandale would be less than the rate sourced from the *Roads and Maritime Services (RMS) Guide to Traffic generating developments Technical Direction TDT2013/04a* (RMS Technical Direction).

To determine the expected traffic generation for residential (general and rural) and townhouse developments in Evandale, the methodology outlined in the *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Developments (AGTM Part 12)* was adopted, and traffic data was collected for a one-week period in June 2022 along the following streets in Evandale:

- Honeysuckle Grove
- Coachmans Road; and
- Stockmans Road.

By analysing the collected traffic data, the following traffic generation rates were identified for in Evandale:

- Weekday AM Peak Hour 0.5 trips per dwelling
- Weekday PM Peak Hour 0.5 trips per dwelling; and
- Daily 3.5 trips per dwelling.

4.1.2 Remaining Uses

When considering the other uses to the site and their traffic generation, the following observations/ assumptions can be made:

- Childcare centres and small local shops generally tend to generate traffic from the local area and therefore would likely have low traffic generation from outside the development
- Retirement living/ aged care would likely generate trips to/from outside the local area; and
- Affordable housing tends to generate lower traffic volumes than general residential.

Based on the above, it is considered that retirement living would have the potential to generate the highest volume of traffic. It has been indicated that a facility would likely include 100 retirement living units. Traffic generation rates for retirement living units has been sourced from the RMS Technical Direction and is as follows:

- Weekday AM Peak Hour NIL (weekday AM peak hour does not coincide with the network peak hour)
- Weekday PM Peak Hour 0.4 trips per dwelling; and
- Daily 2.1 trips per dwelling.

Based on the generation rates presented above, the expected traffic generation of the proposed development on a typical weekday is as follows:

- Weekday AM Peak Hour 325 vehicle movements
- Weekday PM Peak Hour 365 vehicle movements; and
- Daily 1615 vehicle movements.

It is noted that traffic generation for the proposed development has been considered only for the weekday AM and PM peak hour and daily scenarios as the proposed development is expected to have the biggest impact on the road network on weekdays. On Sundays, traffic generation for the proposed development is expected to be minimal resulting in minimal impact on the road network.

4.2 Directional split of traffic

The directional split of traffic (i.e. the ratio of inbound and outbound traffic movements) that has been identified for the proposed development in Evandale is as follows:

- Weekday AM Peak Hour 30% in/ 70% out
- Weekday PM Peak Hour 60% in/ 40% out; and
- Daily 50% in/ 50% out.

4.3 Traffic distribution and assignment

The distribution of the traffic generated by the proposed development is based on several factors including:

- The location of major traffic distribution roads around the site
- The location of traffic generating developments; and
- Existing traffic patterns.

4.4 Post development (2024) performance

4.4.1 Traffic Volumes

The traffic impacts for the proposed development have been estimated for the post development 2024 scenario. The expected post development traffic volumes for the weekday AM and PM peak hours are shown in Figure 38 and Figure 39.

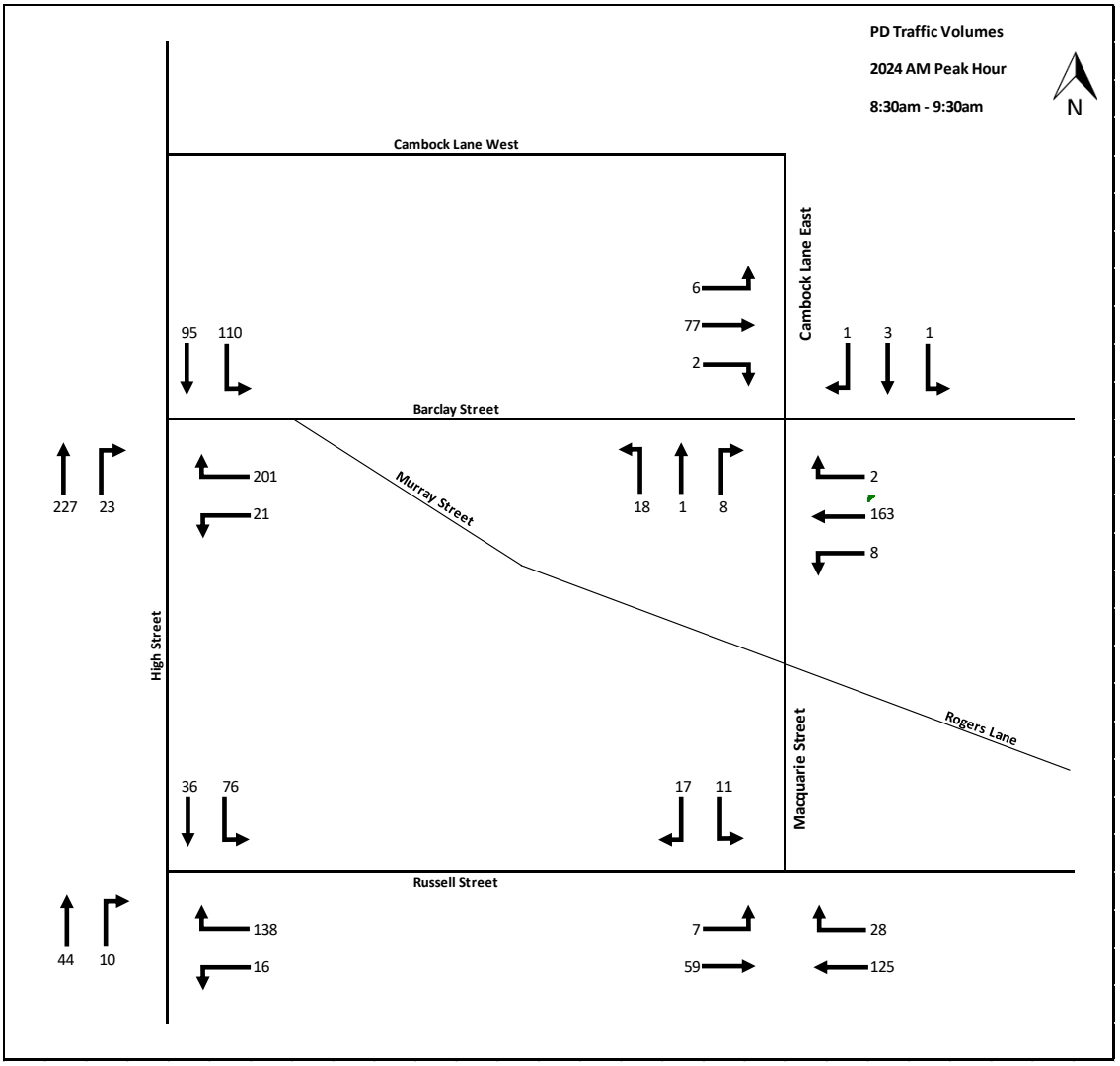


Figure 38: PD 2024 weekday AM peak hour traffic volumes

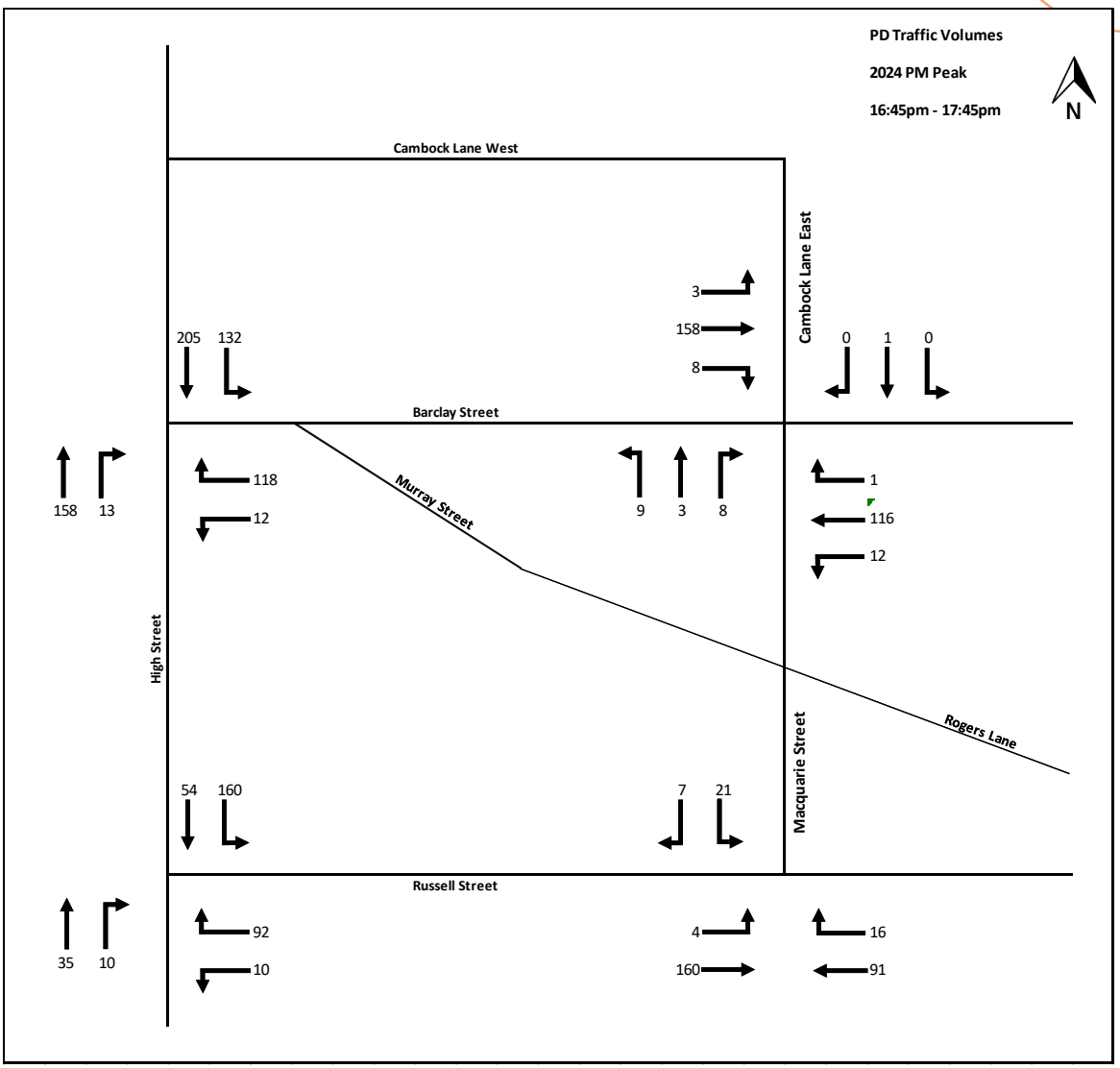


Figure 39: PD 2024 weekday PM peak hour traffic volumes

4.4.2 Traffic modelling results

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 40 and Figure 41. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 25. Full results are presented in Appendix C.

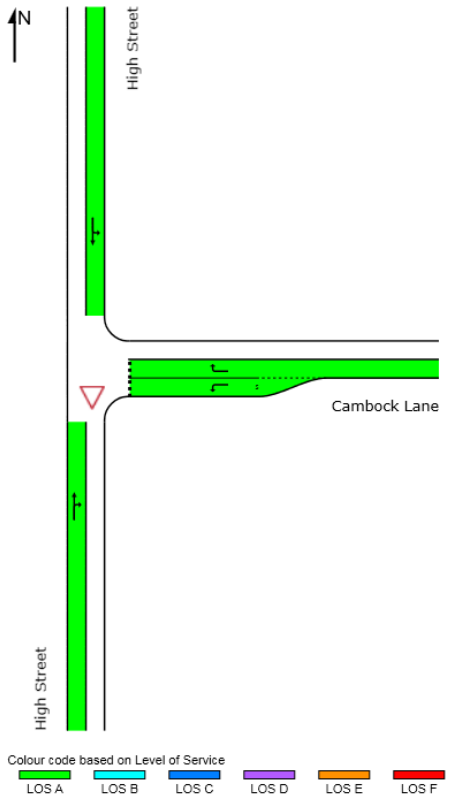


Figure 40: High Street/ Cambock Lane - PD Weekday AM Peak Hour Approach LOS

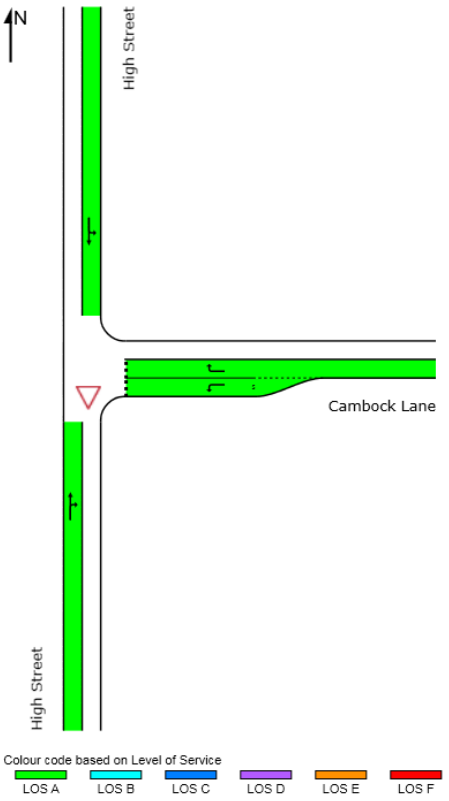


Figure 41: High Street/ Cambock Lane PD Weekday PM Peak Hour Approach LOS

Table 25: High Street/ Cambock Lane PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.09	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.07	0	0
All Movements		**0.09**	**0**	**0**
South (High Street)	PM	0.06	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.12	0	0

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
All Movements		**0.12**	**0**	**0**

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 42 and Figure 43. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 26. Full results are presented in Appendix C.

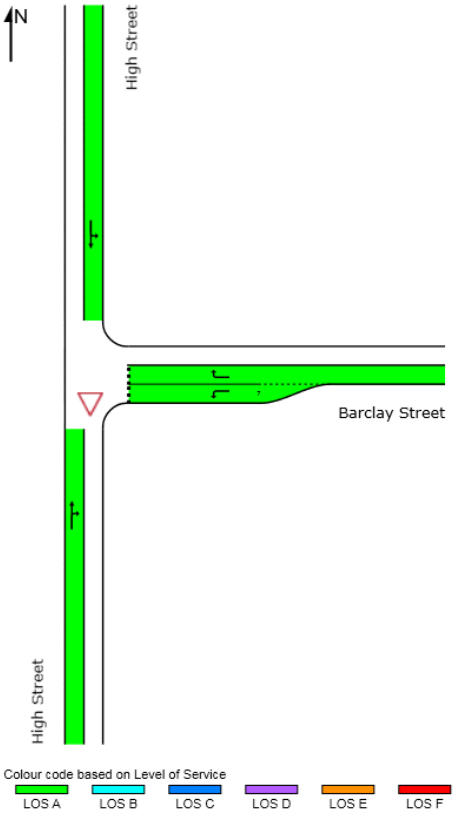


Figure 42: High Street/ Barclay Street PD Weekday AM Peak Hour Approach LOS

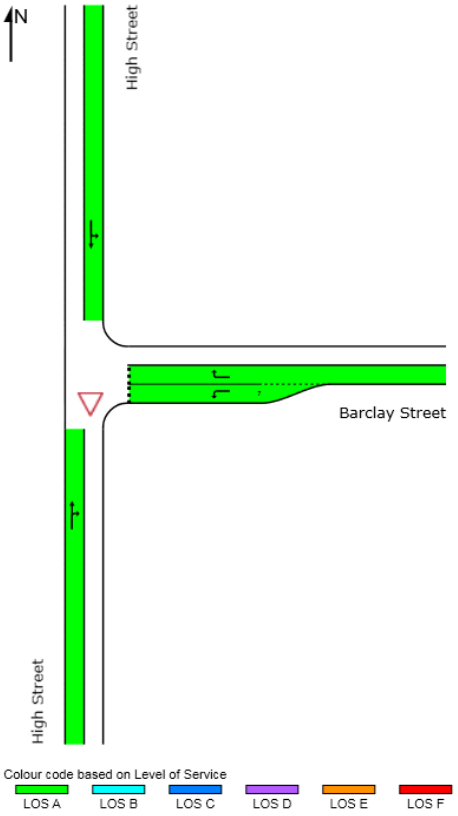


Figure 43: High Street/ Barclay Street PD Weekday PM Peak Hour Approach LOS

Table 26:High Street/ Barclay Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.14	1	1
East (Barclay Street)		0.18	6	4
North (High Street)		0.12	3	0
All Movements		**0.18**	**3**	**4**
South (High Street)	PM	0.10	1	1

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Barclay Street)		0.11	6	2
North (High Street)		0.20	2	0
All Movements		**0.20**	**3**	**2**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 44 and Figure 45. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 27. Full results are presented in Appendix C.

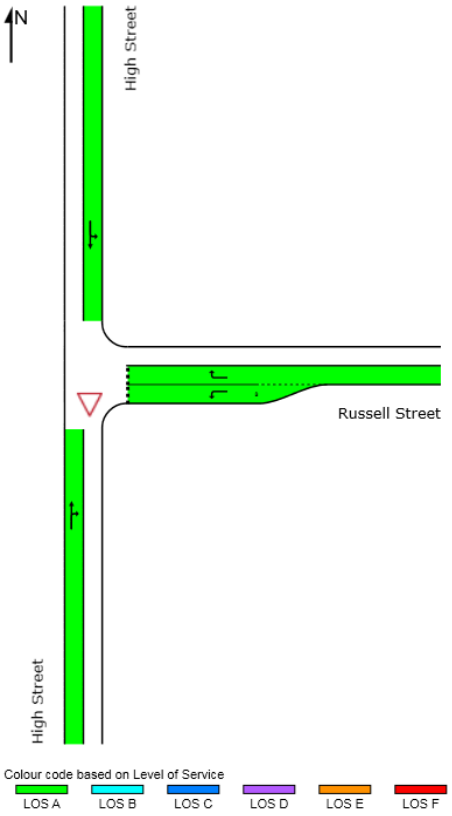


Figure 44: High Street/ Russell Street PD Weekday AM Peak Hour Approach LOS

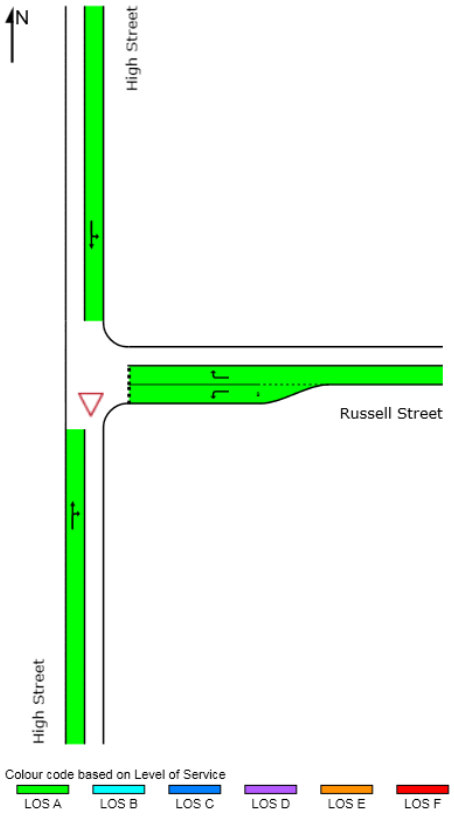


Figure 45: High Street/ Russell Street PD Weekday PM Peak Hour Approach LOS

Table 27: High Street/ Russell Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	1	0
East (Russell Street)		0.11	5	2
North (High Street)		0.07	4	0
All Movements		**0.11**	**4**	**2**
South (High Street)	PM	0.03	2	1
East (Russell Street)		0.07	5	1
North (High Street)		0.13	4	0
All Movements		**0.13**	**4**	**1**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 46 and Figure 47. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 28. Full results are presented in Appendix C.

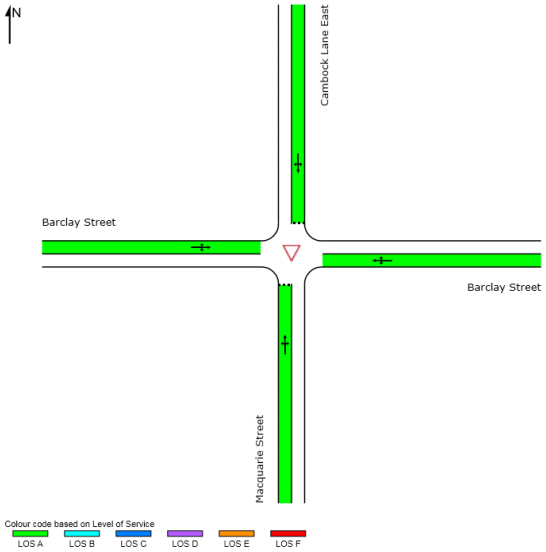


Figure 46: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday AM Peak Hour Approach LOS

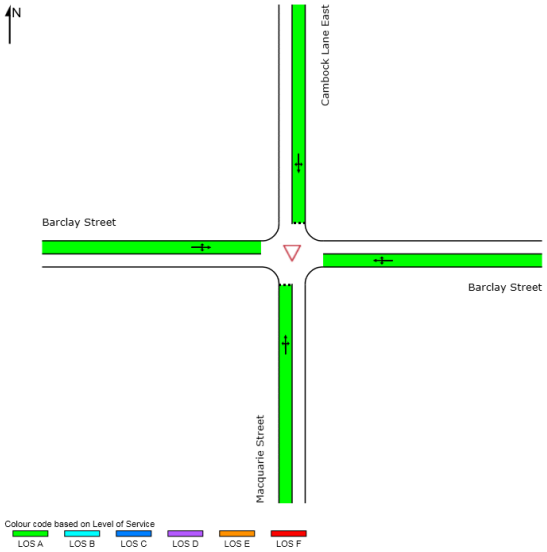


Figure 47: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday PM Peak Hour Approach LOS

Table 28: Barclay Street/ Macquarie Street/ Cambock Lane PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.02	5	1
East (Barclay Street)		0.10	0	0
North (Cambock lane East)		0.01	6	0
West (Barclay Street)		0.05	1	0
All Movements		**0.10**	**1**	**1**
South (Macquarie Street)	PM	0.02	5	0
East (Barclay Street)		0.07	1	0
North (Cambock lane East)		0.00	6	0
West (Barclay Street)		0.10	0	0
All Movements		**0.10**	**1**	**0**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 48 and Figure 49. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 29. Full results are presented in Appendix C.

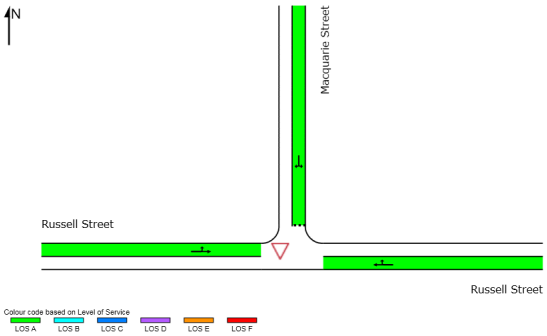


Figure 48: Russell Street/ Macquarie Street PD Weekday AM Peak Hour Approach LOS



Figure 49: Russell Street/ Macquarie Street PD Weekday PM Peak Hour Approach LOS

Table 29: Russell Street/ Macquarie Street PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.09	1	1
North (Macquarie Street)		0.02	3	0
West (Russell Street)		0.04	1	0
All Movements		**0.09**	**1**	**1**
East (Russell Street)	PM	0.06	1	1
North (Macquarie Street)		0.02	3	1
West (Russell Street)		0.09	0	0
All Movements		**0.09**	**1**	**1**

Discussion

Based on the results above, all modelled intersections are expected to operate with minimal queues and delays post development. All intersections will continue to operate at LOS A during both the weekday AM and PM peak hours.

4.4.3 Mid-block operation

The mid-block capacity and demand for each road section post development is shown in Table 30 and Table 31.

Table 30: PD Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	1,065	935
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	2,757	243
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	2,943	56
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	1,371	1,628
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	180	820
	North of Barclay Street	Urban – Local Access	7%	2	1,000	140	860
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	1,161	838
	East of No. 58	Rural – S5	N/A	2	2,000	813	1,187
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	2,714	286
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	2,081	919
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	2,874	126

Table 31: PD Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	184	116	N/A	2	107	193
	East of Ridgeside Lane	Rural – S4	300	N/A	2	184	116	N/A	2	107	193
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	356	144	0%	2	276	224
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	268	232	6%	2	294	206
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	260	240	6%	2	137	363
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	163	137	N/A	2	116	184
	East of No. 58	Rural – S5	300	N/A	2	131	169	N/A	2	81	219
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	239	261	8%	2	271	229
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	208	292	30%	2	261	239
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	223	277	4%	2	287	213

Based on the results above, all road sections are expected to have spare capacity during the weekday AM peak hour, weekday PM peak hour and weekday daily scenarios. This result shows that the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road immediately post completion in 2024.

It is noted that the mid-block capacity on Sundays has not been assessed due to the expected low level of traffic generated by the proposed development on Sundays, leading to limited impact on the road network. As discussed, despite Russell Street currently exceeding capacity on Sundays, it still maintains its safety, amenity and efficiency. The proposed development is not expected to worsen the current conditions on Russell Street as the increase in traffic on Sundays will be negligible.

4.5 10-years post development (2034) performance

4.5.1 Traffic Volumes

The traffic impacts for the proposed development have been estimated for the 10-years post development 2034 scenario. The expected post development traffic volumes for the weekday AM and PM peak hours are shown in Figure 50 and Figure 51.

It is noted that in order to represent future growth on the road network, the calculated compounding growth rate of 0.2% per year has been applied to the existing traffic volumes. It is noted that the traffic volumes for the proposed development have not been increased beyond the development year as the size and intensity of use of the development is not expected to increase once completed.

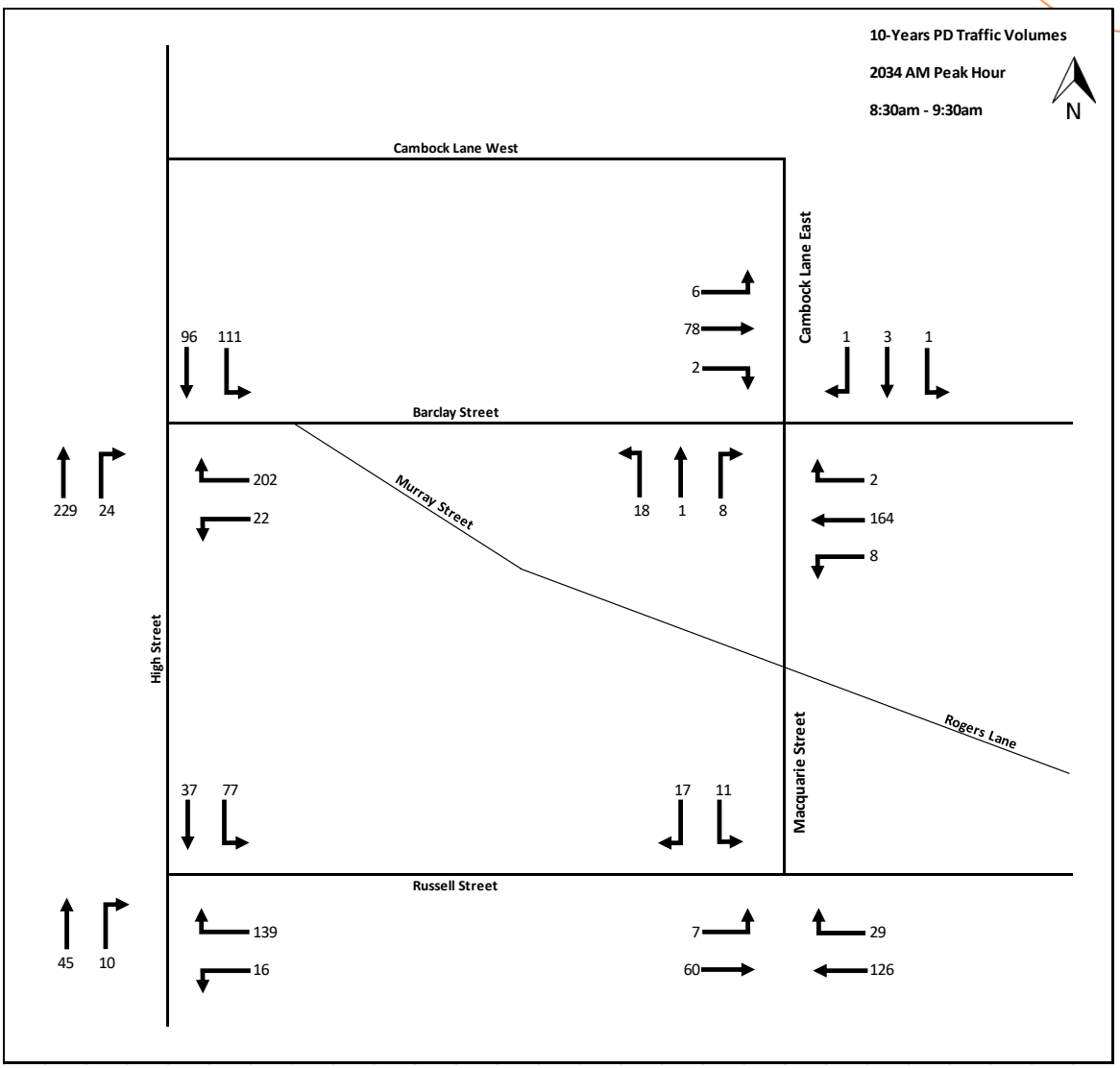


Figure 50: 10-years PD 2034 weekday AM peak hour traffic volumes

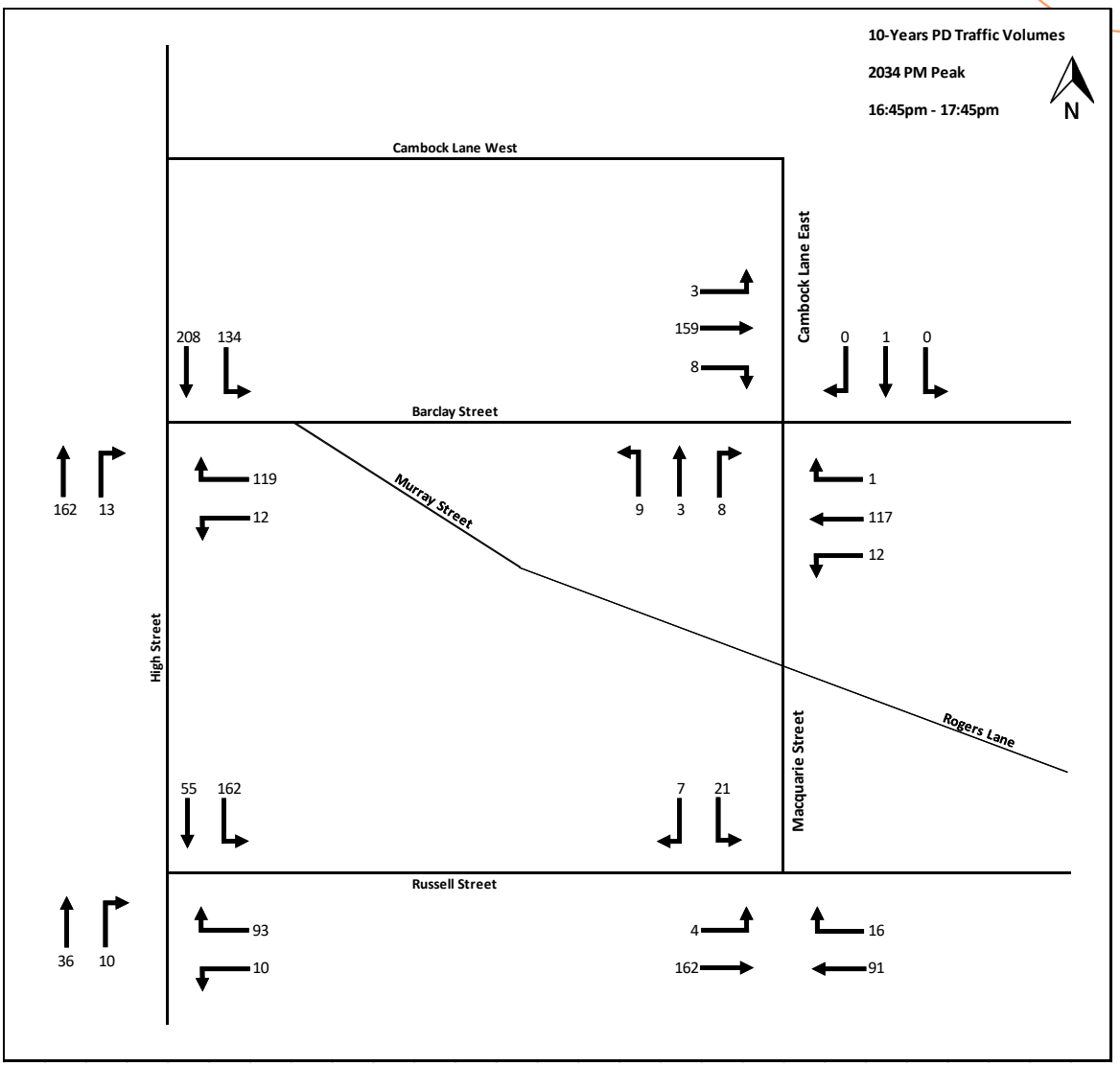


Figure 51: 10-Years PD 2034 weekday PM peak hour traffic volumes

4.5.2 Traffic modelling results

High Street/ Cambock Lane Intersection

The LOS for each approach for the High Street/ Cambock Lane intersection is shown in Figure 52 and Figure 53. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 32. Full results are presented in Appendix D.

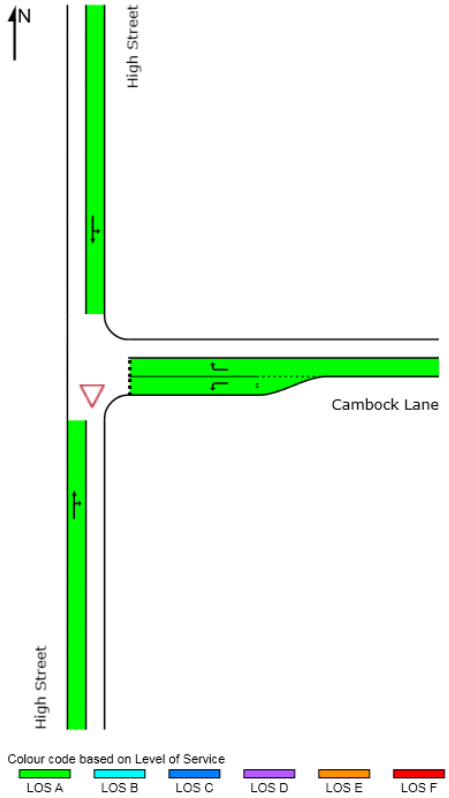


Figure 52: High Street/ Cambock Lane – 10-Years PD Weekday AM Peak Hour Approach LOS

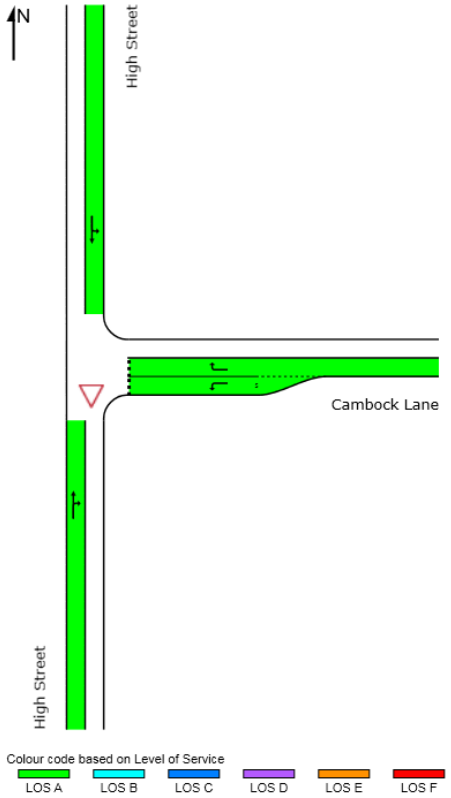


Figure 53: High Street/ Cambock Lane 10-Years PD Weekday PM Peak Hour Approach LOS

Table 32: High Street/ Cambock Lane 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.09	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.07	0	0
All Movements		**0.09**	**0**	**0**
South (High Street)	PM	0.06	0	0
East (Cambock Lane)		0.01	5	0
North (High Street)		0.12	0	0
All Movements		**0.12**	**0**	**0**

High Street/ Barclay Street Intersection

The LOS for each approach for the High Street/ Barclay Street intersection is shown in Figure 54 and Figure 55. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 33. Full results are presented in Appendix D.

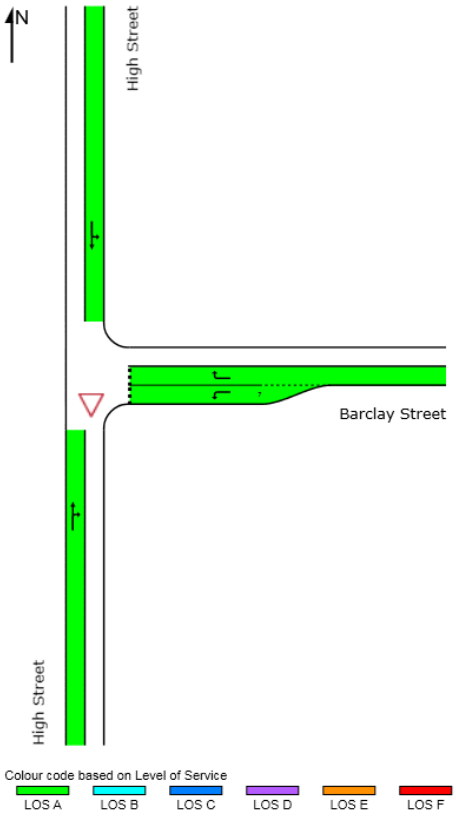


Figure 54: High Street/ Barclay Street 10-Years PD Weekday AM Peak Hour Approach LOS

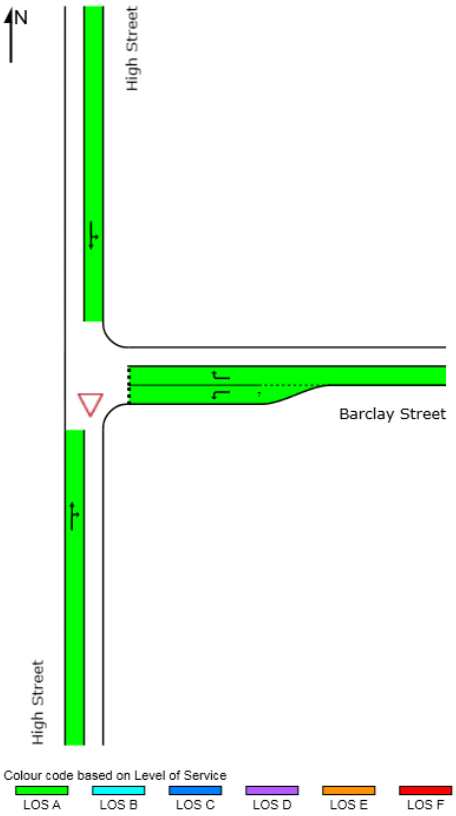


Figure 55: High Street/ Barclay Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 33:High Street/ Barclay Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.15	1	1
East (Barclay Street)		0.18	6	4
North (High Street)		0.12	3	0
All Movements		**0.18**	**3**	**4**
South (High Street)	PM	0.10	1	1
East (Barclay Street)		0.11	6	2
North (High Street)		0.20	2	0
All Movements		**0.20**	**3**	**2**

High Street/ Russell Street Intersection

The LOS for each lane at the High Street/ Russell Street intersection is shown in Figure 56 and Figure 57. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 34. Full results are presented in Appendix D.

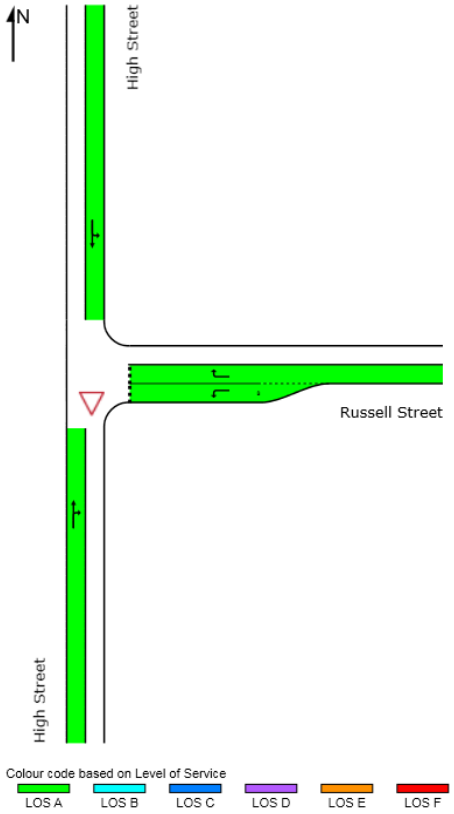


Figure 56: High Street/ Russell Street 10-Years PD Weekday AM Peak Hour Approach LOS

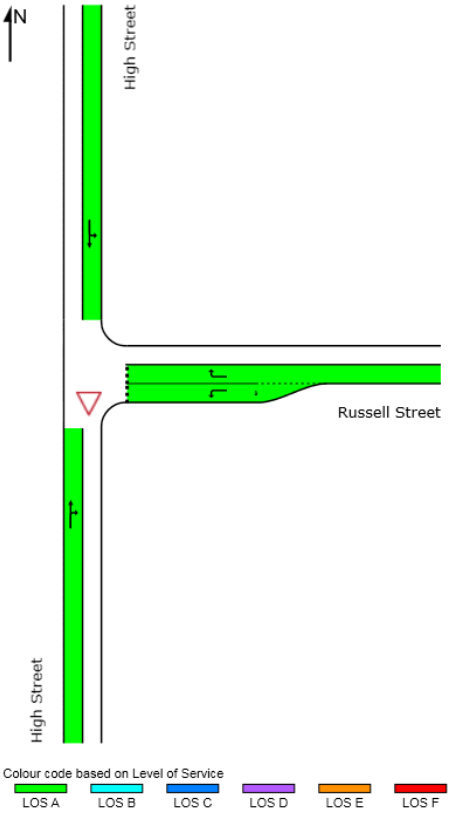


Figure 57: High Street/ Russell Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 34: High Street/ Russell Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (High Street)	AM	0.03	2	1
East (Russell Street)		0.07	5	1
North (High Street)		0.13	4	0
All Movements		**0.13**	**4**	**1**
South (High Street)	PM	0.03	1	1
East (Russell Street)		0.11	5	2
North (High Street)		0.07	4	0
All Movements		**0.11**	**4**	**2**

Barclay Street/ Macquarie Street/ Cambock Lane Intersection

The LOS for each lane at the Barclay Street/ Macquarie Street/ Cambock Lane intersection is shown in Figure 58 and Figure 59. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 35. Full results are presented in Appendix D.

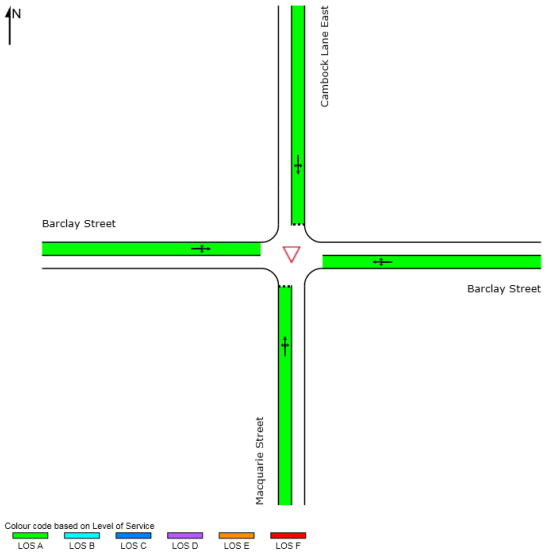


Figure 58: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday AM Peak Hour Approach LOS

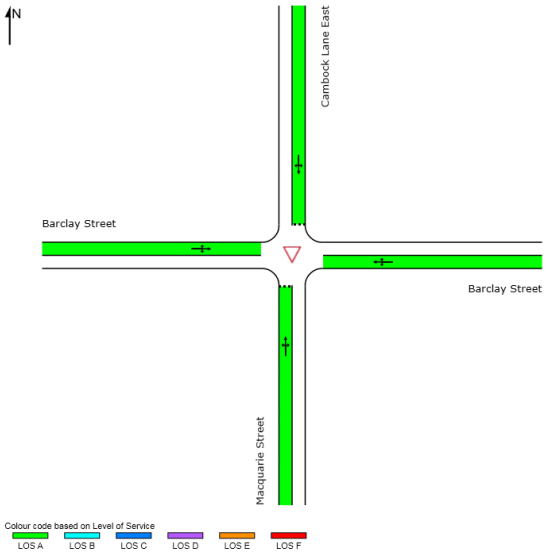


Figure 59: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday PM Peak Hour Approach LOS

Table 35: Barclay Street/ Macquarie Street/ Cambock Lane 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
South (Macquarie Street)	AM	0.02	5	1
East (Barclay Street)		0.10	0	0
North (Cambock lane East)		0.01	6	0
West (Barclay Street)		0.05	1	0
All Movements		**0.10**	**1**	**1**
South (Macquarie Street)	PM	0.02	5	0
East (Barclay Street)		0.08	1	0
North (Cambock lane East)		0.00	6	0
West (Barclay Street)		0.10	0	0
All Movements		**0.10**	**1**	**0**

Russell Street/ Macquarie Street Intersection

The LOS for each lane at the Russell Street/ Macquarie Street intersection is shown in Figure 60 and Figure 61. A summary of the SIDRA Intersection results for degree of saturation, average delay and 95th percentile queues is provided in Table 36. Full results are presented in Appendix D.



Figure 60: Russell Street/ Macquarie Street 10-Years PD Weekday AM Peak Hour Approach LOS



Figure 61: Russell Street/ Macquarie Street 10-Years PD Weekday PM Peak Hour Approach LOS

Table 36: Russell Street/ Macquarie Street 10-Years PD Weekday Operation

Leg	Peak	Degree of Saturation	Average Delay (secs)	95th Percentile Queue (m)
East (Russell Street)	AM	0.09	1	1
North (Macquarie Street)		0.02	3	0
West (Russell Street)		0.04	1	0
All Movements		**0.09**	**1**	**1**
East (Russell Street)	PM	0.06	1	1
North (Macquarie Street)		0.02	3	1
West (Russell Street)		0.10	0	0
All Movements		**0.10**	**1**	**1**

Discussion

Based on the results above, all modelled intersections are expected to operate with minimal queues and delays 10-years post development. All intersections will continue to operate at LOS A during both the weekday AM and PM peak hours.

4.5.3 Mid-block operation

The mid-block capacity and demand for each road section post development is shown in Table 37 and Table 38.

Table 37: PD Road Capacity - Weekday

Road Name	Location	Road Classification	Daily Maximum Parking Demand (%)	Available Traffic Lanes with Parking	Traffic Capacity (vpd)	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (weekday) (vpd)
White Hills Road	East of Barclay Street	Rural – S4	N/A	2	2,000	1077	923
Barclay Street	High Street to Murray Street	Urban – Link	7%	2	3,000	2,782	218
	Murray Street to Cambock Lane	Urban – Link	6%	2	3,000	2,957	42
	Cambock Lane to White Hills Road	Urban – Link	9%	2	3,000	2,968	32
Cambock Lane	East of High Street	Urban – Local Access	9%	2	1,000	180	820
	North of Barclay Street	Urban – Local Access	7%	2	1,000	142	857
Logan Road	West of No. 58	Rural – S5	N/A	2	2,000	1,166	833
	East of No. 58	Rural – S5	N/A	2	2,000	816	1,183
Russell Street	High Street to Scone Street	Urban – Link	46%	2	3,000	2,744	256
	Scone Street to Macquarie Street	Urban – Link	45%	2	3,000	2,101	899
	Macquarie Street to Logan Road	Urban – Link	13%	2	3,000	2,907	93

Table 38: PD Road Capacity – Weekday AM and PM Peak Hour

Road Name	Location	Road Classification	Traffic Capacity (vph)	AM Peak Hour				PM Peak Hour			
				Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)	Peak Parking Demand (%)	Available Traffic Lanes with Parking	PD Traffic Volume (weekday) (vpd)	Spare Traffic Capacity (vph)
White Hills Road	West of Ridgeside Lane	Rural – S4	300	N/A	2	186	114	N/A	2	108	192
	East of Ridgeside Lane	Rural – S4	300	N/A	2	186	114	N/A	2	108	192
Barclay Street	High Street to Murray Street	Urban – Link	500	2%	2	359	141	0%	2	278	222
	Murray Street to Cambock Lane	Urban – Link	500	6%	2	269	231	6%	2	296	204
	Cambock Lane to White Hills Road	Urban – Link	500	9%	2	261	239	6%	2	297	203
Cambock Lane	East of High Street	Urban – Local Access	300	9%	2	19	281	9%	2	18	282
	North of Barclay Street	Urban – Local Access	300	7%	2	14	286	7%	2	8	292
Logan Road	West of No. 58	Rural – S5	300	N/A	2	164	136	N/A	2	117	183
	East of No. 58	Rural – S5	300	N/A	2	131	169	N/A	2	82	218
Russell Street	High Street to Scone Street	Urban – Link	500	46%	2	242	258	8%	2	274	226
	Scone Street to Macquarie Street	Urban – Link	500	10%	2	210	290	30%	2	264	236
	Macquarie Street to Logan Road	Urban – Link	500	4%	2	225	275	4%	2	291	209

Based on the results above, all road sections are expected to have spare capacity during the weekday AM peak hour, weekday PM peak hour and weekday daily scenarios. This result shows that the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road 10-years post completion in 2034.

5. Planning scheme assessment

5.1 C2.0 Parking and sustainable transport code

As the proposed development is for a rezoning and detailed plans for each lot have not been prepared, the C2.0 Parking and sustainable transport code of the Planning Scheme has not been assessed.

This code will need to be assessed when detailed plans are available.

5.2 C3.0 Road and railway assets code

The proposed development has been assessed against the Use Standards of the Planning Scheme's Road and Railways Asset Code as shown below.

It is noted that the Development Standards of the Planning Scheme's Road and Railways Asset Code has not been assessed as the proposed development is not within a road or railway attenuation area.

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

Objective:

To minimise any adverse effects on the safety and efficiency of the road or rail network from vehicular traffic generated from the site at an existing or new vehicle crossing or level crossing or new junction.

Acceptable Solution/ Performance Criteria	Comment
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; or c) A new level crossing **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. **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 **Acceptable Solution A1.4**	**Acceptable Solution A1.1 and A1.3 not applicable. Complies with Acceptable Solution A1.5. Satisfies Performance Criteria P1 in place of A1.2 and A1.4** As the proposed development is not located along a category 1 road, a limited access road or the rail network, Acceptable Solution A1.1 and A1.3 are not applicable. As written consent for the new accesses locations required has not been issued, it does not meet Acceptable Solution A1.2. As there is potential for up to 370 vehicle movements to be generated during the peak hours to and from the site, it does not comply with Acceptable Solution A1.4. It does, however, satisfy performance Criteria P1 as follows: a) Based on the SIDRA modelling results and mid-block assessment presented in this report, the traffic generated by the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road network surrounding the site b) The proposed development is expected to generate predominantly light vehicle traffic which is already catered for on the surrounding road network c) Based on the mid-block assessment presented in this report, there is spare capacity in the road network

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

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; or

b) Allowed by a licence issued under Part IVA of the *Roads and Jetties Act 1935* in respect to a limited access road.

Acceptable Solution A1.5

Vehicular traffic must be able to enter and leave a major road in a forward direction.

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.

surrounding the site to accommodate the traffic generated by the proposed development

d) The roads surrounding the proposed development are generally subject to a 50km/h speed limit. This speed limit is consistent with the safe and efficient access to the proposed development

e) There are no alternative accesses to the proposed development

f) The proposed development will provide additional residential properties in Evandale

g) This TIA has been prepared for the proposed development and identifies that the development is not expected to have any major impacts on the safety and operation of the surrounding road network; and

h) The Northern Midlands Council own and maintain the local road network in the vicinity of the site. No written advice has been received from the rail or road authority.

As vehicles can exit and enter the site in a forward direction, the proposed development complies with Acceptable Solution A1.5.

6. Conclusion

Traders in Purple have developed the Evandale Expansion Masterplan which incorporates several land parcels to the east of Evandale. The initial stage of the Masterplan comprises of rezoning the land from Agricultural to General Residential zoning. Ireneinc Planning & Urban Design on behalf of their client Traders in Purple have engaged pitt&sherry to undertake a Traffic Impact Assessment to support the application for rezoning. The assessment presented within this report may be summarised as follows:

- The Masterplan site is approximately 78ha in size and is envisaged to accommodate the following:
  - 182 general residential lots
  - 82 rural residential lots
  - 1 super lot of 62,200m^2
  - 1 super lot of 24,700m^2
  - 60,000m^2 public open space
- The Masterplan will begin to be developed as soon as possible (envisaged to be late 2024) and will be fully developed within 10-years
- All modelled intersections are expected to operate within minimal queues and delays post development and 10-years post development; and
- the proposed development is not expected to unreasonably compromise the amenity, safety and efficiency of the road immediately delays post development and 10-years post development.

Important information about your report

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the Report were limited to those specifically detailed in the report and are subject to the restrictions, limitations and exclusions set out in the Report. The Report's accuracy is limited to the time period and circumstances existing at the time the Report was prepared. The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of preparation of the Report. pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring after the date that the report was prepared. If such events or changes occurred after the date that the report was prepared render the Report inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Report, in whole or in part, for whatever purpose.

Evandale Expansion Masterplan

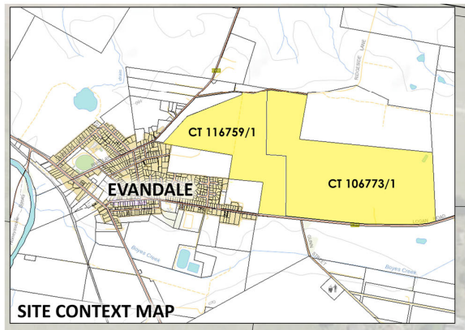
Appendix A

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EVANDALE - Proposed Additional Lots

LANGE Design 15 February 2022



POSSIBLE FUTURE BY-PASS ROAD
RIDGESIDE LANE
WHITE HILLS ROAD
100m Setback from Agricultural Land Use
200m Setback from Agricultural Land Use
BARCLAY STREET
LEOPOLD
ARTHUR STREET
MACQUARIE STREET
COACHMANS ROAD
STOCKMANS ROAD
RUSSELL STREET
LOGAN ROAD
GUNN
POSSIBLE FUTURE BY-PASS ROAD
200m Setback from Agricultural Land Use
100m Setback from Agricultural Land Use

LEGEND

- Existing general residential lots within Evandale.
- Example of potential future road reserve layout in the adjoining property.
- 100m and 200m Set backs from adjoining agricultural land use.
- Existing 1m contours.
- Property boundaries of CT 116759/1 and CT106773/1.
- Proposed public open space (60,000m2).
- Proposed road network.
- 182 x Proposed general residential lots varying in size from 450m2 to 850m2.
- 82 x Proposed rural lots greater than 1500m2, with proposed building envelopes shown for perimeter lots.
- 2 x Proposed super lots, 62,200m2 and 24,700m2.
- Proposed vegetation buffer (26,300m2) to offset adjoining agricultural land use set backs.

NUMBER LEGEND

1. Potential for additional land acquisition to provide a safer intersection such as a roundabout.
2. Public open space corridor for pedestrian and cyclist connections to Barclay Street.
3. Road connections to adjoining properties.
4. Large public open space area to cover the highest land form to ensure 360 degree views to the surrounding rural landscape and distant mountain ranges.
5. Local pocket parks to accommodate surrounding residents.
6. Road connection into future land use.
7. Public open space for passive recreation and for Water Sensitive Urban Design (WSUD) requirements to treat and/or temporarily store site stormwater prior to exiting the site.
8. Intersection to Logan Road.
9. Possible future by-pass road allowing heavily trucks to by-pass Russell Street and to relieve Sunday Market traffic congestion.
10. 5m (w) Vegetation buffer along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
11. 10m (w) Vegetation butter along the length of the property boundary to assist in the adjoining agricultural land use practices off-set requirements.
12. Future Ridgeside Lane driveway adjustment required due to possible future by-pass road.
13. Future White Hills Road intersection adjustment required due to possible future by-pass road.

PROPOSED EVANDALE EXPANSION PLAN

CT 116759/1 and CT106773/1 Logan Road Evandale Tasmania

PRELIMINARY
Master Plan

0 25 50m
Sheet 1 of 1
25 July 2022
Issue F

N

Traders In Purple

LANGE design landscape architecture

SIDRA Modelling Results - Existing

Appendix B

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	319	2.0	0.168	0.0	LOS A	0.0	0.2	0.01	0.01	0.01	59.9
6	R2	3	2.0	0.168	6.7	LOS A	0.0	0.2	0.01	0.01	0.01	53.6
Approach		322	2.0	0.168	0.1	NA	0.0	0.2	0.01	0.01	0.01	59.8
East: Cambock Lane												
7	L2	9	2.0	0.006	5.5	LOS A	0.0	0.2	0.39	0.52	0.39	48.7
9	R2	4	2.0	0.004	5.8	LOS A	0.0	0.1	0.35	0.60	0.35	48.5
Approach		14	2.0	0.006	5.5	LOS A	0.0	0.2	0.38	0.54	0.38	48.6
North: High Street												
10	L2	13	2.0	0.192	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.1
11	T1	357	2.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		369	2.0	0.192	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		705	2.0	0.192	0.3	NA	0.0	0.2	0.01	0.02	0.01	59.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	46	2.0	0.035	0.4	LOS A	0.1	0.8	0.25	0.16	0.25	57.5
6	R2	18	2.0	0.035	6.4	LOS A	0.1	0.8	0.25	0.16	0.25	51.7
Approach		64	2.0	0.035	2.1	NA	0.1	0.8	0.25	0.16	0.25	55.8
East: Russell Street												
7	L2	6	2.0	0.003	4.7	LOS A	0.0	0.1	0.13	0.49	0.13	49.4
9	R2	207	2.0	0.153	5.0	LOS A	0.4	2.7	0.22	0.58	0.22	48.8
Approach		214	2.0	0.153	5.0	LOS A	0.4	2.7	0.21	0.58	0.21	48.8
North: High Street												
10	L2	289	2.0	0.185	5.6	LOS A	0.0	0.0	0.00	0.49	0.00	54.2
11	T1	53	2.0	0.185	0.0	LOS A	0.0	0.0	0.00	0.49	0.00	55.7
Approach		342	2.0	0.185	4.7	NA	0.0	0.0	0.00	0.49	0.00	54.4
All Vehicles		620	2.0	0.185	4.6	NA	0.4	2.7	0.10	0.49	0.10	52.5

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Sunday Midday Peak]

10:30-11:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	20	2.0	0.022	4.7	LOS A	0.1	0.6	0.10	0.51	0.10	46.6
2	T1	2	2.0	0.022	4.4	LOS A	0.1	0.6	0.10	0.51	0.10	49.9
3	R2	14	2.0	0.022	4.8	LOS A	0.1	0.6	0.10	0.51	0.10	46.2
Approach		36	2.0	0.022	4.7	LOS A	0.1	0.6	0.10	0.51	0.10	46.6
East: Barclay Street												
4	L2	17	2.0	0.030	4.6	LOS A	0.0	0.1	0.00	0.17	0.00	48.6
5	T1	39	2.0	0.030	0.0	LOS A	0.0	0.1	0.00	0.17	0.00	49.1
6	R2	1	2.0	0.030	5.5	LOS A	0.0	0.1	0.00	0.17	0.00	51.5
Approach		57	2.0	0.030	1.5	NA	0.0	0.1	0.00	0.17	0.00	49.0
North: Cambock Lane East												
7	L2	1	2.0	0.005	5.6	LOS A	0.0	0.1	0.11	0.52	0.11	54.0
8	T1	4	2.0	0.005	4.5	LOS A	0.0	0.1	0.11	0.52	0.11	54.1
9	R2	1	2.0	0.005	5.9	LOS A	0.0	0.1	0.11	0.52	0.11	53.4
Approach		6	2.0	0.005	4.9	LOS A	0.0	0.1	0.11	0.52	0.11	54.0
West: Barclay Street												
10	L2	2	2.0	0.016	5.7	LOS A	0.1	0.4	0.11	0.25	0.11	51.4
11	T1	17	2.0	0.016	0.1	LOS A	0.1	0.4	0.11	0.25	0.11	48.5
12	R2	13	2.0	0.016	4.7	LOS A	0.1	0.4	0.11	0.25	0.11	47.6
Approach		32	2.0	0.016	2.3	NA	0.1	0.4	0.11	0.25	0.11	48.3
All Vehicles		131	2.0	0.030	2.7	NA	0.1	0.6	0.06	0.30	0.06	48.4

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Sunday AM Peak]

10:30-11:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	14	2.0	0.031	2.3	LOS A	0.1	0.4	0.03	0.18	0.03	47.9
2	T1	38	2.0	0.031	0.0	LOS A	0.1	0.4	0.03	0.18	0.03	48.9
3	R2	8	2.0	0.031	2.2	LOS A	0.1	0.4	0.03	0.18	0.03	47.0
Approach		60	2.0	0.031	0.9	NA	0.1	0.4	0.03	0.18	0.03	48.4
East: Rodgers Lane												
4	L2	1	2.0	0.002	4.6	LOS A	0.0	0.0	0.08	0.50	0.08	43.7
5	T1	1	2.0	0.002	3.3	LOS A	0.0	0.0	0.08	0.50	0.08	46.8
6	R2	1	2.0	0.002	4.8	LOS A	0.0	0.0	0.08	0.50	0.08	46.3
Approach		3	2.0	0.002	4.2	LOS A	0.0	0.0	0.08	0.50	0.08	45.9
North: Macquarie Street												
7	L2	1	2.0	0.021	4.7	LOS A	0.1	0.5	0.11	0.23	0.11	47.9
8	T1	24	2.0	0.021	0.1	LOS A	0.1	0.5	0.11	0.23	0.11	47.1
9	R2	17	2.0	0.021	4.7	LOS A	0.1	0.5	0.11	0.23	0.11	47.5
Approach		42	2.0	0.021	2.0	NA	0.1	0.5	0.11	0.23	0.11	47.3
West: Rodgers Lane												
10	L2	2	2.0	0.004	4.7	LOS A	0.0	0.1	0.10	0.51	0.10	46.5
11	T1	1	2.0	0.004	3.3	LOS A	0.0	0.1	0.10	0.51	0.10	46.6
12	R2	3	2.0	0.004	4.8	LOS A	0.0	0.1	0.10	0.51	0.10	43.2
Approach		6	2.0	0.004	4.5	LOS A	0.0	0.1	0.10	0.51	0.10	45.3
All Vehicles		112	2.0	0.031	1.6	NA	0.1	0.5	0.07	0.22	0.07	47.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Sunday Midday Peak]

10:30-11:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	196	2.0	0.121	0.2	LOS A	0.2	1.6	0.13	0.09	0.13	49.2
6	R2	35	2.0	0.121	5.3	LOS A	0.2	1.6	0.13	0.09	0.13	46.9
Approach		231	2.0	0.121	0.9	NA	0.2	1.6	0.13	0.09	0.13	49.0
North: Macquarie Street												
7	L2	25	2.0	0.016	2.9	LOS A	0.1	0.5	0.31	0.48	0.31	45.4
9	R2	2	2.0	0.016	2.9	LOS A	0.1	0.5	0.31	0.48	0.31	44.6
Approach		27	2.0	0.016	2.9	LOS A	0.1	0.5	0.31	0.48	0.31	45.4
West: Russell Street												
10	L2	25	2.0	0.138	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	25.1
11	T1	239	2.0	0.138	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	49.7
Approach		264	2.0	0.138	0.5	NA	0.0	0.0	0.00	0.05	0.00	47.3
All Vehicles		522	2.0	0.138	0.8	NA	0.2	1.6	0.07	0.09	0.07	48.0

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	362	2.0	0.189	0.0	LOS A	0.0	0.1	0.01	0.00	0.01	59.9
6	R2	2	2.0	0.189	6.4	LOS A	0.0	0.1	0.01	0.00	0.01	53.7
Approach		364	2.0	0.189	0.0	NA	0.0	0.1	0.01	0.00	0.01	59.9
East: Cambock Lane												
7	L2	4	2.0	0.003	5.2	LOS A	0.0	0.1	0.33	0.49	0.33	48.8
9	R2	6	2.0	0.006	5.7	LOS A	0.0	0.1	0.33	0.60	0.33	48.5
Approach		11	2.0	0.006	5.5	LOS A	0.0	0.1	0.33	0.55	0.33	48.6
North: High Street												
10	L2	11	2.0	0.145	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.0
11	T1	267	2.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		278	2.0	0.145	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		653	2.0	0.189	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.6

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	57	2.0	0.037	0.2	LOS A	0.1	0.6	0.14	0.11	0.14	58.4
6	R2	14	2.0	0.037	6.1	LOS A	0.1	0.6	0.14	0.11	0.14	52.4
Approach		71	2.0	0.037	1.3	NA	0.1	0.6	0.14	0.11	0.14	57.1
East: Russell Street												
7	L2	13	2.0	0.006	4.7	LOS A	0.0	0.2	0.11	0.49	0.11	49.4
9	R2	231	2.0	0.165	4.9	LOS A	0.4	3.0	0.19	0.57	0.19	48.8
Approach		243	2.0	0.165	4.9	LOS A	0.4	3.0	0.18	0.57	0.18	48.9
North: High Street												
10	L2	191	2.0	0.125	5.6	LOS A	0.0	0.0	0.00	0.48	0.00	54.3
11	T1	41	2.0	0.125	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	55.8
Approach		232	2.0	0.125	4.6	NA	0.0	0.0	0.00	0.48	0.00	54.6
All Vehicles		545	2.0	0.165	4.3	NA	0.4	3.0	0.10	0.47	0.10	52.2

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	25	2.0	0.023	4.6	LOS A	0.1	0.6	0.08	0.52	0.08	46.5
2	T1	1	2.0	0.023	4.4	LOS A	0.1	0.6	0.08	0.52	0.08	49.8
3	R2	13	2.0	0.023	4.7	LOS A	0.1	0.6	0.08	0.52	0.08	46.1
Approach		39	2.0	0.023	4.7	LOS A	0.1	0.6	0.08	0.52	0.08	46.5
East: Barclay Street												
4	L2	9	2.0	0.020	4.6	LOS A	0.0	0.1	0.01	0.15	0.01	48.7
5	T1	27	2.0	0.020	0.0	LOS A	0.0	0.1	0.01	0.15	0.01	49.2
6	R2	1	2.0	0.020	5.6	LOS A	0.0	0.1	0.01	0.15	0.01	51.7
Approach		38	2.0	0.020	1.3	NA	0.0	0.1	0.01	0.15	0.01	49.2
North: Cambock Lane East												
7	L2	1	2.0	0.003	5.6	LOS A	0.0	0.1	0.13	0.53	0.13	53.7
8	T1	2	2.0	0.003	4.4	LOS A	0.0	0.1	0.13	0.53	0.13	53.9
9	R2	1	2.0	0.003	5.9	LOS A	0.0	0.1	0.13	0.53	0.13	53.2
Approach		4	2.0	0.003	5.1	LOS A	0.0	0.1	0.13	0.53	0.13	53.7
West: Barclay Street												
10	L2	2	2.0	0.021	5.6	LOS A	0.1	0.4	0.06	0.15	0.06	52.1
11	T1	31	2.0	0.021	0.0	LOS A	0.1	0.4	0.06	0.15	0.06	49.2
12	R2	9	2.0	0.021	4.7	LOS A	0.1	0.4	0.06	0.15	0.06	48.2
Approach		42	2.0	0.021	1.3	NA	0.1	0.4	0.06	0.15	0.06	49.1
All Vehicles		123	2.0	0.023	2.5	NA	0.1	0.6	0.05	0.28	0.05	48.4

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	8	2.0	0.024	2.3	LOS A	0.0	0.1	0.01	0.12	0.01	48.3
2	T1	35	2.0	0.024	0.0	LOS A	0.0	0.1	0.01	0.12	0.01	49.2
3	R2	3	2.0	0.024	2.2	LOS A	0.0	0.1	0.01	0.12	0.01	47.4
Approach		46	2.0	0.024	0.6	NA	0.0	0.1	0.01	0.12	0.01	48.9
East: Rodgers Lane												
4	L2	1	2.0	0.002	4.6	LOS A	0.0	0.0	0.05	0.50	0.05	43.8
5	T1	1	2.0	0.002	3.3	LOS A	0.0	0.0	0.05	0.50	0.05	46.8
6	R2	1	2.0	0.002	4.7	LOS A	0.0	0.0	0.05	0.50	0.05	46.3
Approach		3	2.0	0.002	4.2	LOS A	0.0	0.0	0.05	0.50	0.05	46.0
North: Macquarie Street												
7	L2	3	2.0	0.012	4.7	LOS A	0.0	0.3	0.09	0.25	0.09	47.8
8	T1	13	2.0	0.012	0.0	LOS A	0.0	0.3	0.09	0.25	0.09	46.9
9	R2	8	2.0	0.012	4.7	LOS A	0.0	0.3	0.09	0.25	0.09	47.4
Approach		24	2.0	0.012	2.3	NA	0.0	0.3	0.09	0.25	0.09	47.3
West: Rodgers Lane												
10	L2	6	2.0	0.013	4.7	LOS A	0.0	0.3	0.09	0.52	0.09	46.4
11	T1	1	2.0	0.013	3.3	LOS A	0.0	0.3	0.09	0.52	0.09	46.5
12	R2	12	2.0	0.013	4.7	LOS A	0.0	0.3	0.09	0.52	0.09	43.1
Approach		19	2.0	0.013	4.6	LOS A	0.0	0.3	0.09	0.52	0.09	44.9
All Vehicles		93	2.0	0.024	2.0	NA	0.0	0.3	0.05	0.25	0.05	47.3

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Sunday PM Peak]

12:00-1:00
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	242	2.0	0.138	0.1	LOS A	0.1	1.1	0.06	0.05	0.06	49.6
6	R2	23	2.0	0.138	5.0	LOS A	0.1	1.1	0.06	0.05	0.06	47.6
Approach		265	2.0	0.138	0.5	NA	0.1	1.1	0.06	0.05	0.06	49.5
North: Macquarie Street												
7	L2	19	2.0	0.014	2.6	LOS A	0.1	0.4	0.21	0.47	0.21	45.7
9	R2	5	2.0	0.014	2.8	LOS A	0.1	0.4	0.21	0.47	0.21	44.9
Approach		24	2.0	0.014	2.7	LOS A	0.1	0.4	0.21	0.47	0.21	45.5
West: Russell Street												
10	L2	23	2.0	0.088	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	25.1
11	T1	145	2.0	0.088	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.6
Approach		168	2.0	0.088	0.6	NA	0.0	0.0	0.00	0.07	0.00	46.1
All Vehicles		458	2.0	0.138	0.7	NA	0.1	1.1	0.05	0.08	0.05	48.0

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	169	10.0	0.094	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.9
6	R2	2	2.0	0.094	5.9	LOS A	0.0	0.1	0.01	0.01	0.01	53.6
Approach		172	9.9	0.094	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.8
East: Cambock Lane												
7	L2	2	2.0	0.001	4.8	LOS A	0.0	0.0	0.21	0.47	0.21	49.2
9	R2	8	2.0	0.006	5.0	LOS A	0.0	0.1	0.21	0.55	0.21	48.8
Approach		11	2.0	0.006	5.0	LOS A	0.0	0.1	0.21	0.53	0.21	48.9
North: High Street												
10	L2	7	2.0	0.069	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	57.9
11	T1	119	10.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.6
Approach		126	9.5	0.069	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.5
All Vehicles		308	9.5	0.094	0.3	NA	0.0	0.1	0.01	0.04	0.01	59.2

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	99	10.0	0.065	0.1	LOS A	0.1	0.9	0.10	0.10	0.10	58.7
6	R2	21	10.0	0.065	6.0	LOS A	0.1	0.9	0.10	0.10	0.10	52.5
Approach		120	10.0	0.065	1.1	NA	0.1	0.9	0.10	0.10	0.10	57.5
East: Barclay Street												
7	L2	15	10.0	0.008	4.8	LOS A	0.0	0.3	0.16	0.49	0.16	49.0
9	R2	72	10.0	0.054	5.0	LOS A	0.1	0.9	0.18	0.56	0.18	48.5
Approach		86	10.0	0.054	5.0	LOS A	0.1	0.9	0.18	0.55	0.18	48.6
North: High Street												
10	L2	56	10.0	0.069	5.7	LOS A	0.0	0.0	0.00	0.27	0.00	55.6
11	T1	67	10.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	57.6
Approach		123	10.0	0.069	2.6	NA	0.0	0.0	0.00	0.27	0.00	56.7
All Vehicles		329	10.0	0.069	2.7	NA	0.1	0.9	0.08	0.28	0.08	54.6

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	43	10.0	0.028	0.0	LOS A	0.0	0.4	0.07	0.10	0.07	58.8
6	R2	8	10.0	0.028	5.8	LOS A	0.0	0.4	0.07	0.10	0.07	52.6
Approach		52	10.0	0.028	1.0	NA	0.0	0.4	0.07	0.10	0.07	57.7
East: Russell Street												
7	L2	13	10.0	0.006	4.7	LOS A	0.0	0.2	0.10	0.49	0.10	49.2
9	R2	69	10.0	0.049	4.8	LOS A	0.1	0.9	0.12	0.54	0.12	48.7
Approach		82	10.0	0.049	4.8	LOS A	0.1	0.9	0.12	0.54	0.12	48.8
North: High Street												
10	L2	47	10.0	0.044	5.7	LOS A	0.0	0.0	0.00	0.36	0.00	54.9
11	T1	31	10.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.36	0.00	56.8
Approach		78	10.0	0.044	3.4	NA	0.0	0.0	0.00	0.36	0.00	55.7
All Vehicles		212	10.0	0.049	3.4	NA	0.1	0.9	0.06	0.36	0.06	53.2

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.017	4.7	LOS A	0.1	0.5	0.08	0.51	0.08	46.5
2	T1	1	2.0	0.017	4.4	LOS A	0.1	0.5	0.08	0.51	0.08	49.9
3	R2	8	5.0	0.017	4.7	LOS A	0.1	0.5	0.08	0.51	0.08	46.1
Approach		28	4.9	0.017	4.7	LOS A	0.1	0.5	0.08	0.51	0.08	46.5
East: Barclay Street												
4	L2	8	5.0	0.019	4.6	LOS A	0.0	0.1	0.02	0.17	0.02	48.7
5	T1	24	10.0	0.019	0.0	LOS A	0.0	0.1	0.02	0.17	0.02	49.2
6	R2	2	2.0	0.019	5.5	LOS A	0.0	0.1	0.02	0.17	0.02	51.7
Approach		35	8.3	0.019	1.5	NA	0.0	0.1	0.02	0.17	0.02	49.2
North: Cambock Lane East												
7	L2	1	2.0	0.004	5.6	LOS A	0.0	0.1	0.10	0.52	0.10	53.9
8	T1	3	2.0	0.004	4.4	LOS A	0.0	0.1	0.10	0.52	0.10	54.1
9	R2	1	2.0	0.004	5.8	LOS A	0.0	0.1	0.10	0.52	0.10	53.4
Approach		5	2.0	0.004	4.9	LOS A	0.0	0.1	0.10	0.52	0.10	53.9
West: Barclay Street												
10	L2	6	2.0	0.014	5.6	LOS A	0.0	0.1	0.02	0.18	0.02	52.8
11	T1	18	10.0	0.014	0.0	LOS A	0.0	0.1	0.02	0.18	0.02	49.8
12	R2	2	5.0	0.014	4.7	LOS A	0.0	0.1	0.02	0.18	0.02	48.7
Approach		26	7.7	0.014	1.7	NA	0.0	0.1	0.02	0.18	0.02	50.4
All Vehicles		95	6.8	0.019	2.7	NA	0.1	0.5	0.04	0.29	0.04	48.9

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	2.0	0.020	2.3	LOS A	0.0	0.1	0.01	0.14	0.01	48.2
2	T1	26	5.0	0.020	0.0	LOS A	0.0	0.1	0.01	0.14	0.01	49.1
3	R2	1	2.0	0.020	2.2	LOS A	0.0	0.1	0.01	0.14	0.01	47.3
Approach		37	4.1	0.020	0.7	NA	0.0	0.1	0.01	0.14	0.01	48.8
East: Rodgers Lane												
4	L2	1	2.0	0.002	4.6	LOS A	0.0	0.0	0.07	0.50	0.07	43.7
5	T1	1	2.0	0.002	3.3	LOS A	0.0	0.0	0.07	0.50	0.07	46.8
6	R2	1	2.0	0.002	4.7	LOS A	0.0	0.0	0.07	0.50	0.07	46.3
Approach		3	2.0	0.002	4.2	LOS A	0.0	0.0	0.07	0.50	0.07	45.9
North: Macquarie Street												
7	L2	1	2.0	0.012	4.6	LOS A	0.0	0.0	0.01	0.05	0.01	49.2
8	T1	21	5.0	0.012	0.0	LOS A	0.0	0.0	0.01	0.05	0.01	49.4
9	R2	1	2.0	0.012	4.7	LOS A	0.0	0.0	0.01	0.05	0.01	48.7
Approach		23	4.7	0.012	0.4	NA	0.0	0.0	0.01	0.05	0.01	49.3
West: Rodgers Lane												
10	L2	1	2.0	0.008	4.6	LOS A	0.0	0.1	0.09	0.52	0.09	46.5
11	T1	1	2.0	0.008	3.3	LOS A	0.0	0.1	0.09	0.52	0.09	46.5
12	R2	8	2.0	0.008	4.7	LOS A	0.0	0.1	0.09	0.52	0.09	43.1
Approach		11	2.0	0.008	4.5	LOS A	0.0	0.1	0.09	0.52	0.09	44.2
All Vehicles		74	3.9	0.020	1.3	NA	0.0	0.1	0.02	0.18	0.02	48.0

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	52	10.0	0.041	0.0	LOS A	0.1	1.0	0.08	0.20	0.08	48.6
6	R2	29	5.0	0.041	4.7	LOS A	0.1	1.0	0.08	0.20	0.08	46.0
Approach		81	8.2	0.041	1.7	NA	0.1	1.0	0.08	0.20	0.08	48.0
North: Macquarie Street												
7	L2	12	5.0	0.018	2.4	LOS A	0.1	0.4	0.08	0.47	0.08	46.1
9	R2	18	5.0	0.018	2.3	LOS A	0.1	0.4	0.08	0.47	0.08	45.2
Approach		29	5.0	0.018	2.3	LOS A	0.1	0.4	0.08	0.47	0.08	45.6
West: Russell Street												
10	L2	7	5.0	0.020	4.6	LOS A	0.0	0.0	0.00	0.11	0.00	24.9
11	T1	28	10.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	49.3
Approach		36	9.0	0.020	1.0	NA	0.0	0.0	0.00	0.11	0.00	44.2
All Vehicles		146	7.7	0.041	1.7	NA	0.1	1.0	0.06	0.23	0.06	46.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	114	10.0	0.063	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	59.8
6	R2	2	2.0	0.063	6.1	LOS A	0.0	0.1	0.01	0.01	0.01	53.6
Approach		116	9.9	0.063	0.1	NA	0.0	0.1	0.01	0.01	0.01	59.7
East: Cambock Lane												
7	L2	1	2.0	0.001	5.1	LOS A	0.0	0.0	0.30	0.47	0.30	48.9
9	R2	6	2.0	0.005	5.1	LOS A	0.0	0.1	0.23	0.55	0.23	48.7
Approach		7	2.0	0.005	5.1	LOS A	0.0	0.1	0.24	0.54	0.24	48.8
North: High Street												
10	L2	9	2.0	0.122	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	58.0
11	T1	215	10.0	0.122	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		224	9.7	0.122	0.2	NA	0.0	0.0	0.00	0.03	0.00	59.7
All Vehicles		347	9.6	0.122	0.3	NA	0.0	0.1	0.01	0.03	0.01	59.4

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	77	10.0	0.046	0.1	LOS A	0.0	0.3	0.06	0.05	0.06	59.3
6	R2	6	10.0	0.046	6.2	LOS A	0.0	0.3	0.06	0.05	0.06	53.0
Approach		83	10.0	0.046	0.5	NA	0.0	0.3	0.06	0.05	0.06	58.8
East: Barclay Street												
7	L2	7	10.0	0.004	5.0	LOS A	0.0	0.1	0.24	0.48	0.24	48.8
9	R2	35	10.0	0.027	5.1	LOS A	0.1	0.5	0.20	0.56	0.20	48.5
Approach		42	10.0	0.027	5.1	LOS A	0.1	0.5	0.21	0.55	0.21	48.5
North: High Street												
10	L2	75	10.0	0.121	5.7	LOS A	0.0	0.0	0.00	0.20	0.00	56.2
11	T1	143	10.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.20	0.00	58.2
Approach		218	10.0	0.121	2.0	NA	0.0	0.0	0.00	0.20	0.00	57.5
All Vehicles		343	10.0	0.121	2.0	NA	0.1	0.5	0.04	0.21	0.04	56.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	29	10.0	0.019	0.1	LOS A	0.0	0.3	0.10	0.10	0.10	58.6
6	R2	6	10.0	0.019	6.0	LOS A	0.0	0.3	0.10	0.10	0.10	52.5
Approach		36	10.0	0.019	1.1	NA	0.0	0.3	0.10	0.10	0.10	57.4
East: Russell Street												
7	L2	7	10.0	0.004	4.8	LOS A	0.0	0.1	0.13	0.49	0.13	49.1
9	R2	48	10.0	0.035	4.9	LOS A	0.1	0.6	0.14	0.55	0.14	48.6
Approach		56	10.0	0.035	4.9	LOS A	0.1	0.6	0.14	0.54	0.14	48.7
North: High Street												
10	L2	96	10.0	0.083	5.7	LOS A	0.0	0.0	0.00	0.38	0.00	54.7
11	T1	52	10.0	0.083	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	56.6
Approach		147	10.0	0.083	3.7	NA	0.0	0.0	0.00	0.38	0.00	55.4
All Vehicles		239	10.0	0.083	3.6	NA	0.1	0.6	0.05	0.38	0.05	53.9

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.014	4.7	LOS A	0.0	0.3	0.09	0.52	0.09	47.0
2	T1	3	2.0	0.014	4.4	LOS A	0.0	0.3	0.09	0.52	0.09	50.4
3	R2	8	5.0	0.014	4.8	LOS A	0.0	0.3	0.09	0.52	0.09	46.5
Approach		21	4.6	0.014	4.7	LOS A	0.0	0.3	0.09	0.52	0.09	47.2
East: Barclay Street												
4	L2	13	5.0	0.023	4.6	LOS A	0.0	0.1	0.01	0.18	0.01	48.5
5	T1	27	10.0	0.023	0.0	LOS A	0.0	0.1	0.01	0.18	0.01	49.0
6	R2	1	2.0	0.023	5.5	LOS A	0.0	0.1	0.01	0.18	0.01	51.4
Approach		41	8.3	0.023	1.6	NA	0.0	0.1	0.01	0.18	0.01	48.9
North: Cambock Lane East												
7	L2	1	2.0	0.003	5.6	LOS A	0.0	0.1	0.10	0.54	0.10	53.6
8	T1	1	2.0	0.003	4.4	LOS A	0.0	0.1	0.10	0.54	0.10	53.8
9	R2	1	2.0	0.003	5.8	LOS A	0.0	0.1	0.10	0.54	0.10	53.1
Approach		3	2.0	0.003	5.3	LOS A	0.0	0.1	0.10	0.54	0.10	53.5
West: Barclay Street												
10	L2	3	2.0	0.019	5.6	LOS A	0.0	0.3	0.07	0.18	0.07	52.1
11	T1	24	10.0	0.019	0.0	LOS A	0.0	0.3	0.07	0.18	0.07	49.1
12	R2	8	5.0	0.019	4.7	LOS A	0.0	0.3	0.07	0.18	0.07	48.1
Approach		36	8.1	0.019	1.6	NA	0.0	0.3	0.07	0.18	0.07	49.1
All Vehicles		101	7.2	0.023	2.3	NA	0.0	0.3	0.05	0.26	0.05	48.8

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

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MOVEMENT SUMMARY

Site: 101 [Macquarie Street/ Rodgers Lane intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	3	2.0	0.011	2.3	LOS A	0.0	0.1	0.01	0.10	0.01	48.4
2	T1	17	5.0	0.011	0.0	LOS A	0.0	0.1	0.01	0.10	0.01	49.4
3	R2	1	2.0	0.011	2.2	LOS A	0.0	0.1	0.01	0.10	0.01	47.5
Approach		21	4.4	0.011	0.5	NA	0.0	0.1	0.01	0.10	0.01	49.1
East: Rodgers Lane												
4	L2	1	2.0	0.002	4.6	LOS A	0.0	0.0	0.07	0.49	0.07	43.7
5	T1	1	2.0	0.002	3.3	LOS A	0.0	0.0	0.07	0.49	0.07	46.8
6	R2	1	2.0	0.002	4.7	LOS A	0.0	0.0	0.07	0.49	0.07	46.3
Approach		3	2.0	0.002	4.2	LOS A	0.0	0.0	0.07	0.49	0.07	45.9
North: Macquarie Street												
7	L2	1	2.0	0.014	4.6	LOS A	0.0	0.0	0.01	0.04	0.01	49.2
8	T1	24	5.0	0.014	0.0	LOS A	0.0	0.0	0.01	0.04	0.01	49.5
9	R2	1	2.0	0.014	4.6	LOS A	0.0	0.0	0.01	0.04	0.01	48.7
Approach		26	4.8	0.014	0.4	NA	0.0	0.0	0.01	0.04	0.01	49.4
West: Rodgers Lane												
10	L2	1	2.0	0.005	4.6	LOS A	0.0	0.1	0.07	0.52	0.07	46.6
11	T1	1	2.0	0.005	3.3	LOS A	0.0	0.1	0.07	0.52	0.07	46.6
12	R2	5	2.0	0.005	4.7	LOS A	0.0	0.1	0.07	0.52	0.07	43.3
Approach		7	2.0	0.005	4.5	LOS A	0.0	0.1	0.07	0.52	0.07	44.6
All Vehicles		58	4.1	0.014	1.1	NA	0.0	0.1	0.02	0.15	0.02	48.3

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	44	10.0	0.032	0.1	LOS A	0.1	0.6	0.12	0.15	0.12	48.8
6	R2	17	5.0	0.032	4.8	LOS A	0.1	0.6	0.12	0.15	0.12	46.3
Approach		61	8.6	0.032	1.4	NA	0.1	0.6	0.12	0.15	0.12	48.4
North: Macquarie Street												
7	L2	7	5.0	0.020	2.5	LOS A	0.1	0.4	0.15	0.47	0.15	45.9
9	R2	22	5.0	0.020	2.4	LOS A	0.1	0.4	0.15	0.47	0.15	45.1
Approach		29	5.0	0.020	2.4	LOS A	0.1	0.4	0.15	0.47	0.15	45.3
West: Russell Street												
10	L2	4	5.0	0.052	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	25.2
11	T1	92	10.0	0.052	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.8
Approach		96	9.8	0.052	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.7
All Vehicles		186	8.6	0.052	0.9	NA	0.1	0.6	0.06	0.14	0.06	48.3

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

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SIDRA Modelling Results - PD

Appendix C

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	239	10.0	0.144	0.1	LOS A	0.2	1.3	0.08	0.06	0.08	59.2
6	R2	24	10.0	0.144	6.3	LOS A	0.2	1.3	0.08	0.06	0.08	52.9
Approach		263	10.0	0.144	0.7	NA	0.2	1.3	0.08	0.06	0.08	58.5
East: Barclay Street												
7	L2	22	10.0	0.012	4.9	LOS A	0.1	0.4	0.20	0.49	0.20	48.9
9	R2	212	10.0	0.181	5.6	LOS A	0.5	3.6	0.31	0.65	0.31	48.3
Approach		234	10.0	0.181	5.5	LOS A	0.5	3.6	0.30	0.63	0.30	48.3
North: High Street												
10	L2	116	10.0	0.121	5.7	LOS A	0.0	0.0	0.00	0.32	0.00	55.2
11	T1	100	10.0	0.121	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	57.2
Approach		216	10.0	0.121	3.0	NA	0.0	0.0	0.00	0.32	0.00	56.1
All Vehicles		713	10.0	0.181	3.0	NA	0.5	3.6	0.13	0.32	0.13	54.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	46	10.0	0.031	0.1	LOS A	0.1	0.4	0.09	0.11	0.09	58.6
6	R2	11	10.0	0.031	5.9	LOS A	0.1	0.4	0.09	0.11	0.09	52.5
Approach		57	10.0	0.031	1.2	NA	0.1	0.4	0.09	0.11	0.09	57.4
East: Russell Street												
7	L2	17	10.0	0.009	4.7	LOS A	0.0	0.3	0.11	0.49	0.11	49.2
9	R2	145	10.0	0.105	4.9	LOS A	0.3	1.9	0.14	0.55	0.14	48.6
Approach		162	10.0	0.105	4.9	LOS A	0.3	1.9	0.14	0.55	0.14	48.7
North: High Street												
10	L2	80	10.0	0.067	5.7	LOS A	0.0	0.0	0.00	0.40	0.00	54.6
11	T1	38	10.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	56.5
Approach		118	10.0	0.067	3.8	NA	0.0	0.0	0.00	0.40	0.00	55.2
All Vehicles		337	10.0	0.105	3.9	NA	0.3	1.9	0.08	0.42	0.08	52.2

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.019	5.0	LOS A	0.1	0.5	0.25	0.52	0.25	46.1
2	T1	1	2.0	0.019	5.3	LOS A	0.1	0.5	0.25	0.52	0.25	49.4
3	R2	8	5.0	0.019	5.3	LOS A	0.1	0.5	0.25	0.52	0.25	45.7
Approach		28	4.9	0.019	5.1	LOS A	0.1	0.5	0.25	0.52	0.25	46.1
East: Barclay Street												
4	L2	8	5.0	0.100	4.7	LOS A	0.0	0.1	0.01	0.03	0.01	49.3
5	T1	172	10.0	0.100	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	49.8
6	R2	2	2.0	0.100	5.8	LOS A	0.0	0.1	0.01	0.03	0.01	52.3
Approach		182	9.7	0.100	0.3	NA	0.0	0.1	0.01	0.03	0.01	49.8
North: Cambock Lane East												
7	L2	1	2.0	0.005	5.8	LOS A	0.0	0.1	0.26	0.54	0.26	53.4
8	T1	3	2.0	0.005	5.2	LOS A	0.0	0.1	0.26	0.54	0.26	53.6
9	R2	1	2.0	0.005	6.9	LOS A	0.0	0.1	0.26	0.54	0.26	52.9
Approach		5	2.0	0.005	5.7	LOS A	0.0	0.1	0.26	0.54	0.26	53.4
West: Barclay Street												
10	L2	6	2.0	0.049	5.7	LOS A	0.0	0.1	0.02	0.05	0.02	52.9
11	T1	81	10.0	0.049	0.0	LOS A	0.0	0.1	0.02	0.05	0.02	49.9
12	R2	2	5.0	0.049	5.1	LOS A	0.0	0.1	0.02	0.05	0.02	48.8
Approach		89	9.3	0.049	0.5	NA	0.0	0.1	0.02	0.05	0.02	50.1
All Vehicles		305	9.0	0.100	0.9	NA	0.1	0.5	0.04	0.09	0.04	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	132	10.0	0.085	0.0	LOS A	0.2	1.2	0.07	0.10	0.07	49.2
6	R2	29	5.0	0.085	4.8	LOS A	0.2	1.2	0.07	0.10	0.07	47.0
Approach		161	9.1	0.085	0.9	NA	0.2	1.2	0.07	0.10	0.07	49.0
North: Macquarie Street												
7	L2	12	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.9
9	R2	18	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.1
Approach		29	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.4
West: Russell Street												
10	L2	7	5.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	25.1
11	T1	62	10.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach		69	9.5	0.038	0.5	NA	0.0	0.0	0.00	0.06	0.00	47.0
All Vehicles		260	8.7	0.085	1.0	NA	0.2	1.2	0.06	0.13	0.06	48.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	166	10.0	0.100	0.1	LOS A	0.1	0.8	0.09	0.05	0.09	59.2
6	R2	14	10.0	0.100	6.8	LOS A	0.1	0.8	0.09	0.05	0.09	52.9
Approach		180	10.0	0.100	0.6	NA	0.1	0.8	0.09	0.05	0.09	58.7
East: Barclay Street												
7	L2	13	10.0	0.008	5.2	LOS A	0.0	0.3	0.31	0.50	0.31	48.6
9	R2	124	10.0	0.110	5.6	LOS A	0.3	2.1	0.31	0.64	0.31	48.2
Approach		137	10.0	0.110	5.6	LOS A	0.3	2.1	0.31	0.63	0.31	48.3
North: High Street												
10	L2	139	10.0	0.198	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.9
11	T1	216	10.0	0.198	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		355	10.0	0.198	2.2	NA	0.0	0.0	0.00	0.23	0.00	57.1
All Vehicles		672	10.0	0.198	2.5	NA	0.3	2.1	0.09	0.26	0.09	55.4

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	37	10.0	0.026	0.2	LOS A	0.1	0.5	0.16	0.13	0.16	58.1
6	R2	11	10.0	0.026	6.2	LOS A	0.1	0.5	0.16	0.13	0.16	52.1
Approach		47	10.0	0.026	1.5	NA	0.1	0.5	0.16	0.13	0.16	56.7
East: Russell Street												
7	L2	11	10.0	0.005	4.8	LOS A	0.0	0.2	0.14	0.49	0.14	49.1
9	R2	97	10.0	0.072	5.0	LOS A	0.2	1.3	0.17	0.56	0.17	48.6
Approach		107	10.0	0.072	5.0	LOS A	0.2	1.3	0.17	0.55	0.17	48.6
North: High Street												
10	L2	168	10.0	0.128	5.7	LOS A	0.0	0.0	0.00	0.44	0.00	54.3
11	T1	57	10.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.44	0.00	56.2
Approach		225	10.0	0.128	4.2	NA	0.0	0.0	0.00	0.44	0.00	54.7
All Vehicles		380	10.0	0.128	4.1	NA	0.2	1.3	0.07	0.43	0.07	53.1

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.016	4.9	LOS A	0.1	0.4	0.23	0.53	0.23	46.6
2	T1	3	2.0	0.016	5.5	LOS A	0.1	0.4	0.23	0.53	0.23	50.0
3	R2	8	5.0	0.016	5.4	LOS A	0.1	0.4	0.23	0.53	0.23	46.2
Approach		21	4.6	0.016	5.2	LOS A	0.1	0.4	0.23	0.53	0.23	46.9
East: Barclay Street												
4	L2	13	5.0	0.074	4.6	LOS A	0.0	0.1	0.01	0.05	0.01	49.1
5	T1	122	10.0	0.074	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	49.7
6	R2	1	2.0	0.074	6.0	LOS A	0.0	0.1	0.01	0.05	0.01	52.2
Approach		136	9.5	0.074	0.5	NA	0.0	0.1	0.01	0.05	0.01	49.6
North: Cambock Lane East												
7	L2	1	2.0	0.003	6.1	LOS A	0.0	0.1	0.31	0.54	0.31	53.0
8	T1	1	2.0	0.003	5.4	LOS A	0.0	0.1	0.31	0.54	0.31	53.2
9	R2	1	2.0	0.003	7.1	LOS A	0.0	0.1	0.31	0.54	0.31	52.5
Approach		3	2.0	0.003	6.2	LOS A	0.0	0.1	0.31	0.54	0.31	52.9
West: Barclay Street												
10	L2	3	2.0	0.097	5.8	LOS A	0.1	0.4	0.03	0.04	0.03	52.8
11	T1	166	10.0	0.097	0.0	LOS A	0.1	0.4	0.03	0.04	0.03	49.8
12	R2	8	5.0	0.097	5.0	LOS A	0.1	0.4	0.03	0.04	0.03	48.7
Approach		178	9.6	0.097	0.4	NA	0.1	0.4	0.03	0.04	0.03	49.8
All Vehicles		338	9.2	0.097	0.8	NA	0.1	0.4	0.04	0.08	0.04	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	96	10.0	0.061	0.1	LOS A	0.1	0.8	0.10	0.08	0.10	49.2
6	R2	17	5.0	0.061	5.1	LOS A	0.1	0.8	0.10	0.08	0.10	47.0
Approach		113	9.3	0.061	0.8	NA	0.1	0.8	0.10	0.08	0.10	49.0
North: Macquarie Street												
7	L2	22	5.0	0.018	2.7	LOS A	0.1	0.5	0.24	0.47	0.24	45.5
9	R2	7	5.0	0.018	2.6	LOS A	0.1	0.5	0.24	0.47	0.24	44.7
Approach		29	5.0	0.018	2.7	LOS A	0.1	0.5	0.24	0.47	0.24	45.3
West: Russell Street												
10	L2	4	5.0	0.094	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	25.2
11	T1	168	10.0	0.094	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		173	9.9	0.094	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.3
All Vehicles		315	9.2	0.094	0.6	NA	0.1	0.8	0.06	0.08	0.06	49.0

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

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SIDRA Modelling Results – 10 Years PD

Appendix D

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday AM Peak]

8:30-9:30
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	241	10.0	0.146	0.1	LOS A	0.2	1.4	0.08	0.06	0.08	59.1
6	R2	25	10.0	0.146	6.3	LOS A	0.2	1.4	0.08	0.06	0.08	52.9
Approach		266	10.0	0.146	0.7	NA	0.2	1.4	0.08	0.06	0.08	58.5
East: Barclay Street												
7	L2	23	10.0	0.013	4.9	LOS A	0.1	0.4	0.20	0.49	0.20	48.9
9	R2	213	10.0	0.183	5.6	LOS A	0.5	3.6	0.31	0.65	0.31	48.2
Approach		236	10.0	0.183	5.5	LOS A	0.5	3.6	0.30	0.63	0.30	48.3
North: High Street												
10	L2	117	10.0	0.123	5.7	LOS A	0.0	0.0	0.00	0.31	0.00	55.2
11	T1	101	10.0	0.123	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	57.2
Approach		218	10.0	0.123	3.0	NA	0.0	0.0	0.00	0.31	0.00	56.1
All Vehicles		720	10.0	0.183	3.0	NA	0.5	3.6	0.13	0.32	0.13	54.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	47	10.0	0.031	0.1	LOS A	0.1	0.5	0.09	0.11	0.09	58.6
6	R2	11	10.0	0.031	5.9	LOS A	0.1	0.5	0.09	0.11	0.09	52.5
Approach		58	10.0	0.031	1.1	NA	0.1	0.5	0.09	0.11	0.09	57.4
East: Russell Street												
7	L2	17	10.0	0.009	4.7	LOS A	0.0	0.3	0.11	0.49	0.11	49.1
9	R2	146	10.0	0.106	4.9	LOS A	0.3	1.9	0.15	0.55	0.15	48.6
Approach		163	10.0	0.106	4.9	LOS A	0.3	1.9	0.14	0.55	0.14	48.7
North: High Street												
10	L2	81	10.0	0.068	5.7	LOS A	0.0	0.0	0.00	0.39	0.00	54.6
11	T1	39	10.0	0.068	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	56.5
Approach		120	10.0	0.068	3.8	NA	0.0	0.0	0.00	0.39	0.00	55.2
All Vehicles		341	10.0	0.106	3.9	NA	0.3	1.9	0.08	0.42	0.08	52.2

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

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	19	5.0	0.019	5.0	LOS A	0.1	0.5	0.25	0.52	0.25	46.1
2	T1	1	2.0	0.019	5.3	LOS A	0.1	0.5	0.25	0.52	0.25	49.4
3	R2	8	5.0	0.019	5.3	LOS A	0.1	0.5	0.25	0.52	0.25	45.7
Approach		28	4.9	0.019	5.1	LOS A	0.1	0.5	0.25	0.52	0.25	46.1
East: Barclay Street												
4	L2	8	5.0	0.100	4.7	LOS A	0.0	0.1	0.01	0.03	0.01	49.3
5	T1	173	10.0	0.100	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	49.8
6	R2	2	2.0	0.100	5.8	LOS A	0.0	0.1	0.01	0.03	0.01	52.3
Approach		183	9.7	0.100	0.3	NA	0.0	0.1	0.01	0.03	0.01	49.8
North: Cambock Lane East												
7	L2	1	2.0	0.005	5.8	LOS A	0.0	0.1	0.26	0.54	0.26	53.4
8	T1	3	2.0	0.005	5.2	LOS A	0.0	0.1	0.26	0.54	0.26	53.6
9	R2	1	2.0	0.005	6.9	LOS A	0.0	0.1	0.26	0.54	0.26	52.9
Approach		5	2.0	0.005	5.7	LOS A	0.0	0.1	0.26	0.54	0.26	53.4
West: Barclay Street												
10	L2	6	2.0	0.049	5.7	LOS A	0.0	0.1	0.02	0.05	0.02	52.9
11	T1	82	10.0	0.049	0.0	LOS A	0.0	0.1	0.02	0.05	0.02	49.9
12	R2	2	5.0	0.049	5.1	LOS A	0.0	0.1	0.02	0.05	0.02	48.8
Approach		91	9.3	0.049	0.5	NA	0.0	0.1	0.02	0.05	0.02	50.1
All Vehicles		307	9.0	0.100	0.9	NA	0.1	0.5	0.04	0.09	0.04	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday AM Peak]

8:30-9:30

Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	132	10.0	0.085	0.0	LOS A	0.2	1.2	0.07	0.10	0.07	49.2
6	R2	29	5.0	0.085	4.8	LOS A	0.2	1.2	0.07	0.10	0.07	47.0
Approach		161	9.1	0.085	0.9	NA	0.2	1.2	0.07	0.10	0.07	49.0
North: Macquarie Street												
7	L2	12	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.9
9	R2	18	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.1
Approach		29	5.0	0.019	2.5	LOS A	0.1	0.4	0.13	0.48	0.13	45.4
West: Russell Street												
10	L2	7	5.0	0.039	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	25.1
11	T1	63	10.0	0.039	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.7
Approach		71	9.5	0.039	0.5	NA	0.0	0.0	0.00	0.06	0.00	47.0
All Vehicles		261	8.7	0.085	1.0	NA	0.2	1.2	0.06	0.13	0.06	48.1

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Barclay Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	171	10.0	0.102	0.1	LOS A	0.1	0.8	0.08	0.05	0.08	59.2
6	R2	14	10.0	0.102	6.8	LOS A	0.1	0.8	0.08	0.05	0.08	52.9
Approach		184	10.0	0.102	0.6	NA	0.1	0.8	0.08	0.05	0.08	58.7
East: Barclay Street												
7	L2	13	10.0	0.008	5.2	LOS A	0.0	0.3	0.31	0.50	0.31	48.6
9	R2	125	10.0	0.111	5.6	LOS A	0.3	2.1	0.31	0.65	0.31	48.2
Approach		138	10.0	0.111	5.6	LOS A	0.3	2.1	0.31	0.63	0.31	48.3
North: High Street												
10	L2	141	10.0	0.201	5.7	LOS A	0.0	0.0	0.00	0.23	0.00	55.9
11	T1	219	10.0	0.201	0.0	LOS A	0.0	0.0	0.00	0.23	0.00	57.9
Approach		360	10.0	0.201	2.2	NA	0.0	0.0	0.00	0.23	0.00	57.1
All Vehicles		682	10.0	0.201	2.5	NA	0.3	2.1	0.09	0.26	0.09	55.5

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

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MOVEMENT SUMMARY

Site: 101 [High Street/ Russell Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: High Street												
5	T1	38	10.0	0.027	0.2	LOS A	0.1	0.5	0.16	0.13	0.16	58.2
6	R2	11	10.0	0.027	6.2	LOS A	0.1	0.5	0.16	0.13	0.16	52.1
Approach		48	10.0	0.027	1.5	NA	0.1	0.5	0.16	0.13	0.16	56.7
East: Russell Street												
7	L2	11	10.0	0.005	4.8	LOS A	0.0	0.2	0.14	0.49	0.14	49.1
9	R2	98	10.0	0.073	5.0	LOS A	0.2	1.3	0.17	0.56	0.17	48.6
Approach		108	10.0	0.073	5.0	LOS A	0.2	1.3	0.17	0.55	0.17	48.6
North: High Street												
10	L2	171	10.0	0.130	5.7	LOS A	0.0	0.0	0.00	0.43	0.00	54.3
11	T1	58	10.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	56.2
Approach		228	10.0	0.130	4.2	NA	0.0	0.0	0.00	0.43	0.00	54.8
All Vehicles		385	10.0	0.130	4.1	NA	0.2	1.3	0.07	0.43	0.07	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
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Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Barclay Street/ Macquarie Street/ Cambock Lane Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Macquarie Street												
1	L2	9	5.0	0.016	4.9	LOS A	0.1	0.4	0.23	0.53	0.23	46.6
2	T1	3	2.0	0.016	5.5	LOS A	0.1	0.4	0.23	0.53	0.23	50.0
3	R2	8	5.0	0.016	5.4	LOS A	0.1	0.4	0.23	0.53	0.23	46.2
Approach		21	4.6	0.016	5.2	LOS A	0.1	0.4	0.23	0.53	0.23	46.9
East: Barclay Street												
4	L2	13	5.0	0.075	4.6	LOS A	0.0	0.1	0.01	0.05	0.01	49.1
5	T1	123	10.0	0.075	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	49.7
6	R2	1	2.0	0.075	6.1	LOS A	0.0	0.1	0.01	0.05	0.01	52.2
Approach		137	9.5	0.075	0.5	NA	0.0	0.1	0.01	0.05	0.01	49.6
North: Cambock Lane East												
7	L2	1	2.0	0.003	6.1	LOS A	0.0	0.1	0.32	0.54	0.32	53.0
8	T1	1	2.0	0.003	5.4	LOS A	0.0	0.1	0.32	0.54	0.32	53.2
9	R2	1	2.0	0.003	7.1	LOS A	0.0	0.1	0.32	0.54	0.32	52.5
Approach		3	2.0	0.003	6.2	LOS A	0.0	0.1	0.32	0.54	0.32	52.9
West: Barclay Street												
10	L2	3	2.0	0.097	5.8	LOS A	0.1	0.4	0.03	0.04	0.03	52.8
11	T1	167	10.0	0.097	0.0	LOS A	0.1	0.4	0.03	0.04	0.03	49.8
12	R2	8	5.0	0.097	5.0	LOS A	0.1	0.4	0.03	0.04	0.03	48.7
Approach		179	9.6	0.097	0.4	NA	0.1	0.4	0.03	0.04	0.03	49.8
All Vehicles		340	9.2	0.097	0.8	NA	0.1	0.4	0.04	0.08	0.04	49.6

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

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MOVEMENT SUMMARY

Site: 102 [Russell Street/ Macquarie Street Intersection - Existing Weekday PM Peak]

16:45-17:45
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Russell Street												
5	T1	96	10.0	0.061	0.1	LOS A	0.1	0.8	0.10	0.08	0.10	49.2
6	R2	17	5.0	0.061	5.1	LOS A	0.1	0.8	0.10	0.08	0.10	47.0
Approach		113	9.3	0.061	0.8	NA	0.1	0.8	0.10	0.08	0.10	49.0
North: Macquarie Street												
7	L2	22	5.0	0.018	2.7	LOS A	0.1	0.5	0.24	0.47	0.24	45.5
9	R2	7	5.0	0.018	2.6	LOS A	0.1	0.5	0.24	0.47	0.24	44.7
Approach		29	5.0	0.018	2.7	LOS A	0.1	0.5	0.24	0.47	0.24	45.3
West: Russell Street												
10	L2	4	5.0	0.095	4.6	LOS A	0.0	0.0	0.00	0.01	0.00	25.2
11	T1	171	10.0	0.095	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		175	9.9	0.095	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.3
All Vehicles		317	9.2	0.095	0.6	NA	0.1	0.8	0.06	0.08	0.06	49.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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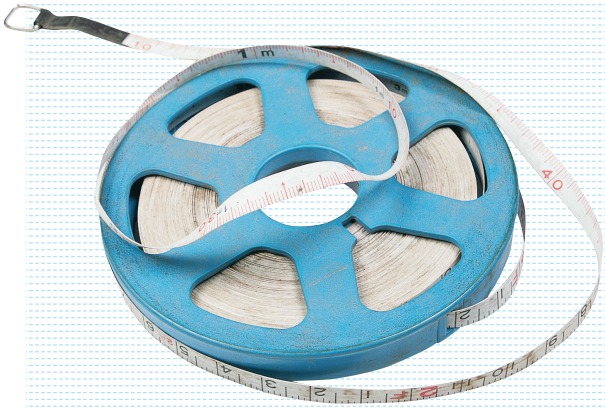
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Evandale Expansion Masterplan – Traffic Impact Assessment

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Evandale Expansion Masterplan Project

Aboriginal Heritage Assessment Report

Final Draft Version 1

AUTHOR: Shay Hannah, Stuart Huys and Vernon Graham

CLIENT: Traders in Purple

20.10.2023

CULTURAL HERITAGE MANAGEMENT AUSTRALIA

Report Version Control

Report version	Report distribution	Date of distribution
Draft Report V1	Stuart Huys (CHMA for internal review)	19-10-2023
Draft Report V1	Proponent	19-10-2023
Final Draft Report V1	Aboriginal Heritage Tasmania	
Final Draft Report V1	Aboriginal Heritage Tasmania	

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Executive Summary

Introduction

Traders In Purple, the proponent, is seeking to conduct a rezoning project on land located between Logan Road and Ridgeside Lane at Evandale, in the Northern Region of Tasmania (see Figures 1–3). The rezoning project will be situated on 78ha of private pastureland, belonging currently to four separate landowners. The site will be accessed via existing access tracks linking the properties to Logan Road and Ridgeside Lane.

CHMA Pty Ltd and Vernon Graham (SAHO) have been engaged by the proponent to undertake an Aboriginal heritage assessment for the proposed Evandale Rezoning Project (the study area), to identify any potential Aboriginal heritage constraints. This report presents the findings of the Aboriginal heritage assessment.

Registered Aboriginal Sites in the Vicinity of the Study Area

As part of Stage 1 of the present assessment, a search was carried out on Aboriginal Heritage Register (AHR) to determine the extent of registered Aboriginal heritage sites within and in the general vicinity of the Evandale Expansion Masterplan Project study area.

The search shows that there are no registered Aboriginal sites situated within the study area or in the immediate surrounds. The nearest sites are AH164 (an artefact scatter) which is situated 1.4km to the west of the study area and AH13114 (an artefact scatter) which is situated around 1.5km to the north-east. The detailed AHR search results are presented in section 4.3 of this report.

Summary of Survey Results

No Aboriginal heritage sites or suspected Aboriginal cultural features were identified during the field survey inspection of the proposed Evandale Expansion Masterplan Project footprint. As noted previously, a search of the AHR shows that there are no other registered Aboriginal sites within or in the immediate vicinity of the Evandale Rezoning Project footprint. The findings of this assessment have therefore confirmed that there are no known Aboriginal heritage sites present within the study area footprint. The field survey was also able to confirm that there are no stone resources identified within the study area that would be suitable for stone artefact manufacturing. Nor are there any sizeable rock outcrops occurring within the study area, and therefore there is no potential for Aboriginal rock shelters to be present.

Given some constraints in surface visibility, it cannot be stated with certainty that there are no undetected Aboriginal heritage sites present in the proposed Evandale Rezoning Project footprint.. However, the survey results strongly indicate that site and artefact densities across the study area are likely to be low to very low. If undetected sites are present they are most likely to be isolated artefacts or small artefact scatters, representing sporadic Aboriginal activity. There were no specific landscape features present within the study area footprint, where there would be an elevated likelihood for sites or artefact densities may be present. As discussed in section 2 of this report, the study area encompasses farm land that has been entirely cleared of native vegetation and ploughed in the past. Any Aboriginal sites located within cleared agricultural areas will necessarily have been adversely impacted by agricultural and development activities, unavoidably compromising the integrity of any cultural sites retained within these areas. The extent to which these sites have been

impacted will range from total obliteration to dramatic movement in spatial and temporal context. As such, there is very little potential for in situ sites to occur within the study area.

These negative survey findings and the interpretation of these findings are consistent with the results of the CHMA (2019) assessment for the 246ha parcel of land situated immediately adjacent (to the east) of the current study area. The detailed survey results and discussions are presented in section 7.

Management Recommendations
Heritage management options and recommendations provided in this report are made based on the following criteria.

- Consultation with Vernon Graham (Aboriginal Heritage Officer).
- The legal and procedural requirements as specified in the *Aboriginal Heritage Act 1975* (The Act).
- The results of the investigation as documented in this report; and
- Background research into the extant archaeological and ethnohistoric record for the study area and the surrounding region.

Recommendation 1

No Aboriginal heritage sites or specific areas of elevated Aboriginal heritage sensitivity were identified along the survey of the Evandale Expansion Masterplan Project footprint. The search of the AHR undertaken for this project shows that there are no registered Aboriginal sites that are located within or in the immediate vicinity of the study area boundaries. On the basis of the above, it is clear that the proposed subdivision project will not impact on any known Aboriginal heritage sites, and there is a very low potential to impact undetected Aboriginal heritage. It is therefore advised there are no Aboriginal heritage constraints, or legal impediments to the project proceeding.

Recommendation 2 (Unanticipated Discovery Plan)

It is assessed that there is generally a low to very low potential for additional undetected Aboriginal heritage sites to occur within the Evandale Rezoning Project footprint. However, if, during the course of the proposed works, previously undetected archaeological sites or objects are located, the processes outlined in the Unanticipated Discovery Plan should be followed (see Appendix 1). A copy of the Unanticipated Discovery Plan should be kept on-site during all ground disturbance and construction work. All construction personnel should be made aware of the Unanticipated Discovery Plan and their obligations under the Aboriginal Heritage Act 1975 (the Act).

Recommendation 3

Copies of this report should be submitted to Aboriginal Heritage Tasmania (AHT) for review and comment.

1.0 Project Outline

1.1 Project Details

Ireneinc have been engaged by Traders in Purple (the proponent) to prepare an application for rezoning of land from Agricultural zoning to General Residential Zoning at Evandale in Northern Tasmania. This in preparation for a proposed residential subdivision known as the Evandale Expansion Masterplan Project.

The rezoning project will be situated on 78ha of private pastureland, belonging currently to four separate landowners that is located between Logan Road and Ridgeside Lane at Evandale. The site will be accessed via existing access tracks linking the properties to Logan Road and Ridgeside Lane. Figures 1–3 show the location and spatial extent of the land that is proposed to be rezoned (the study area). The study area is situated immediately to the west of a previous proposed residential rezoning project that was assessed by CHMA (2019) for the same proponent. The land involved in the CHMA (2019) assessment encompassed approximately 246ha. Approximately 34ha overlaps with the current study area.

CHMA Pty Ltd and Vernon Graham (SAHO) have been engaged by Traders in Purple to undertake an Aboriginal heritage assessment for the proposed Evandale Rezoning Project (the study area as shown in Figures 1-3), to identify any potential Aboriginal heritage constraints. This report presents the findings of the Aboriginal heritage assessment.

1.2 Aims of the Investigation

The principal aims of the current Aboriginal Heritage assessment are as follows.

- To undertake an Aboriginal cultural heritage assessment for the proposed Evandale Expansion Masterplan Project footprint (the study area, as shown in Figures 1-3). The assessment is to be compliant with both State and Commonwealth legislative regimes, in particular the intent of the *Aboriginal Heritage Act 1975* and the associated *Aboriginal Heritage Standards and Procedures (2023).*
- Search the Aboriginal Heritage Register (AHR) to identify previously registered Aboriginal heritage sites within and in the general vicinity of the study area.
- Undertake relevant archaeological, environmental and ethnohistorical background research to develop an understanding of site patterning within the study area.
- To locate, document and assess any Aboriginal heritage sites located within the study area.
- To assess the archaeological and cultural sensitivity of the study area.
- To assess the scientific and Aboriginal cultural values of any identified Aboriginal cultural heritage sites located within the study area.
- Consult with (or ensure the Aboriginal community representative consults with) Aboriginal organisation(s) and/or people(s) with an interest in the study area to obtain their views regarding the cultural heritage of the area.
- To develop a set of management recommendations aimed at minimising the impact of the proposed Evandale Rezoning Project on any identified Aboriginal heritage values.
- Prepare a report that documents the findings of the Aboriginal heritage assessment and meets the standards and requirements of the current standards and procedures of *Aboriginal Heritage Standards and Procedures* prepared by AHT.

1.3 Project Methodology

A three-stage project methodology was implemented for this assessment.

Stage 1 (Pre-Fieldwork Background Work)

Before fieldwork was undertaken, the following tasks were completed by CHMA staff.

Consultation with Aboriginal Heritage Tasmania

Aboriginal Heritage Tasmania (AHT) was contacted and informed that CHMA had been engaged to undertake an Aboriginal heritage assessment for the Evandale Rezoning Project. As part of this initial contact, a search request of the Aboriginal Heritage Register (AHR) was submitted to AHT to ascertain the presence of any previously registered sites in the vicinity of the study area (submitted 17.11.2022).

The collation of relevant documentation for the project

As part of Stage 1, the following research was carried out and background information was collated for this project:

- The collation of information pertaining to any registered heritage sites located within the general vicinity of the study area.
- Mapping information showing the proposed footprint of the Palmerston Battery Project.
- Relevant reports documenting the outcomes of previous Aboriginal heritage studies in the vicinity of the study area.
- Ethno-historic literature for the region.
- References to the land-use history of the study area.
- GIS Information relating to landscape units present in the study area;
- Geotechnical information for the study area, including soil and geology data.

Consultation with Aboriginal Heritage Officer

Vernon Graham is the Senior Aboriginal Heritage Officer for this project. As part of Stage 1 works, Stuart Huys and Shay Hannah (CHMA archaeologists) were in regular contact with Vernon Graham. The main purpose of this contact was to discuss the scope of the present investigations, ratify the proposed methodology for the investigations and coordinate the timeframes for implementing fieldwork.

Stage 2 (Field Work)

Stage 2 entailed the fieldwork component of the assessment. The field survey was undertaken by Shay Hannah (CHMA archaeologist) and Vernon Graham (Senior Aboriginal Heritage Officer) and Kierran Graham (Trainee), over a period of 2 days (1-02-2023 and 3-02-2023).

The field team walked a total of 20.8km of survey transects across the proposed Evandale Rezoning Project footprint, with the average width of each transect being 10m. As part of the field survey program, additional transects were walked in areas where there was improved surface visibility, to gain a better insight as to the potential presence or absence of Aboriginal sites across the study area. Section 6 provides further details as to the survey coverage achieved within the study area.

The results of the field investigation were discussed between Vernon Graham and Shay Hannah (CHMA Archaeologist). This included the potential cultural and archaeological sensitivity of the study area, and possible management options.

Stage 3 (Report Preparation)

Stage three of the project involves the production of a Draft and Final Report that includes an analysis of the data obtained from the field survey, an assessment of archaeological sensitivity and management recommendations. The report has been prepared by Stuart Huys and Shay Hannah, in consultation with Vernon Graham.

A draft copy (electronic PDF version) of the report was submitted to the proponent for review. Any comments that were received have been incorporated into the final draft report. One electronic copy (PDF version) of the final draft report has been provided to Aboriginal Heritage Tasmania (AHT) for review and comment. In addition, a copy of the report has been provided to Vernon Graham, to assist in the Aboriginal community consultation process. The report has been sent out to a range of Tasmanian Aboriginal organisations in Northern Tasmania for information purposes.

1.4 Project Limitations

Most archaeological investigations are subject to limitations that may affect the reliability of the results. The main constraint to the present investigation was restricted surface visibility due primarily to vegetation cover. At the time of the field survey, surface visibility across the proposed footprint ranged between <10% and 90%, with the estimated average being 25%. The main access tracks to the study area and within it are graded vehicle tracks, where surface visibility was <10%. There were also numerous areas where erosion scalds were present within the pastureland that provided locates of improved visibility. To offset constrained surface visibility, any areas of improved visibility were inspected in detail. The constraints in surface visibility limited the effectiveness of the survey assessment to some extent. The issue of surface visibility is further discussed in Section 6 of this report.

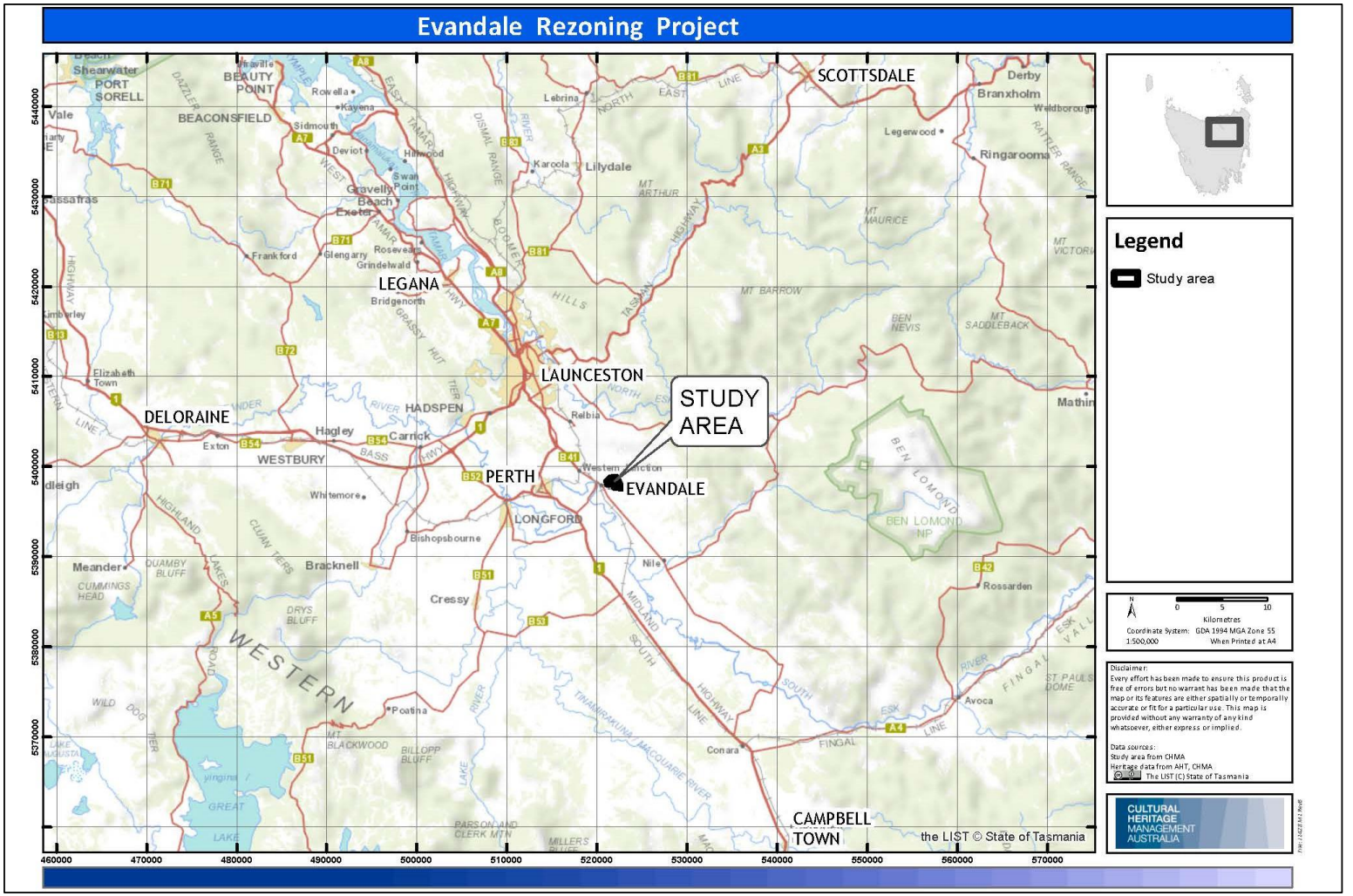


Figure 1: Topographic map showing the location of the study area at Evandale in the Northern Midlands Region of Tasmania.

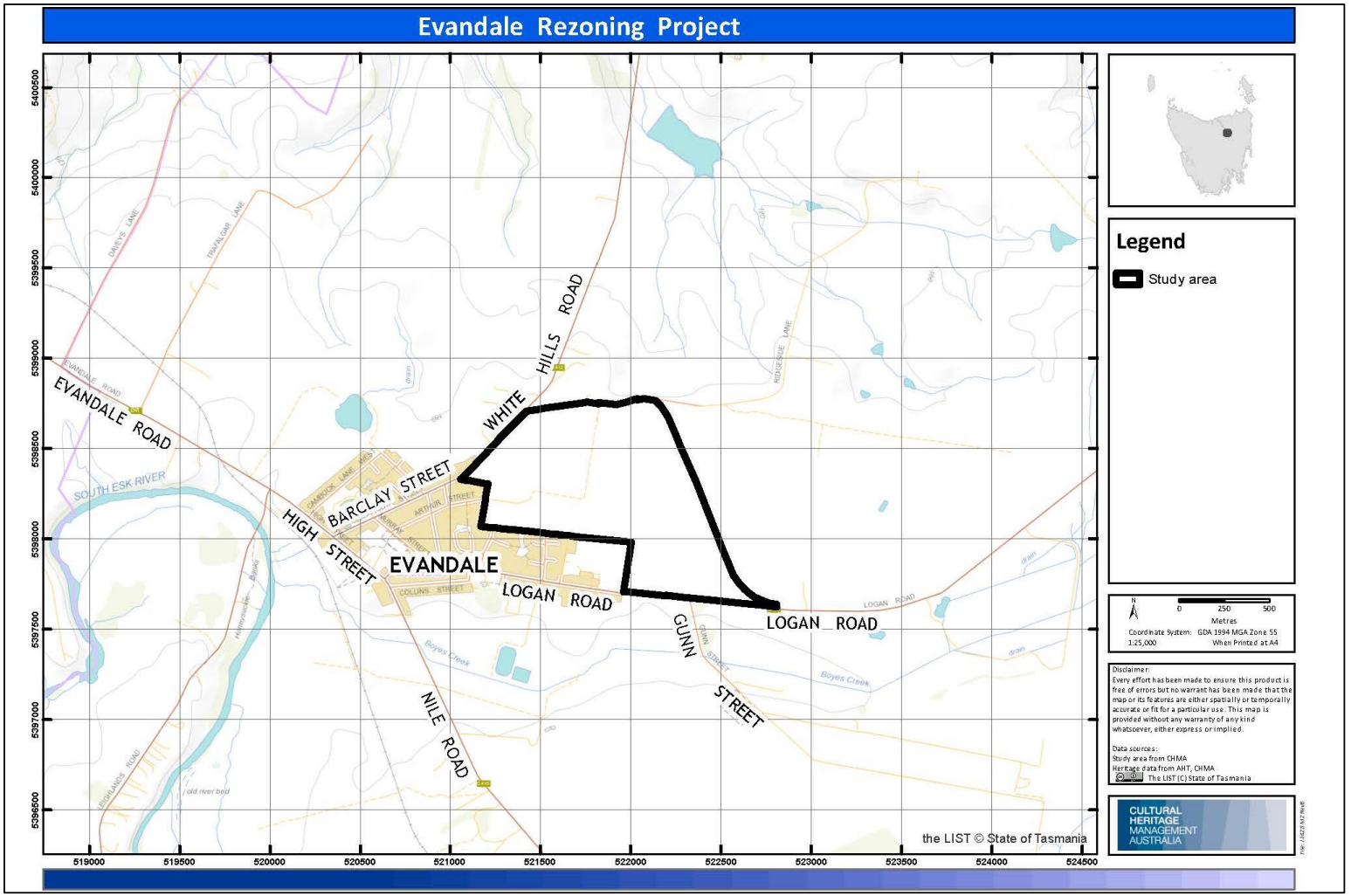


Figure 2: Topographic map showing the landscape setting of the study area.

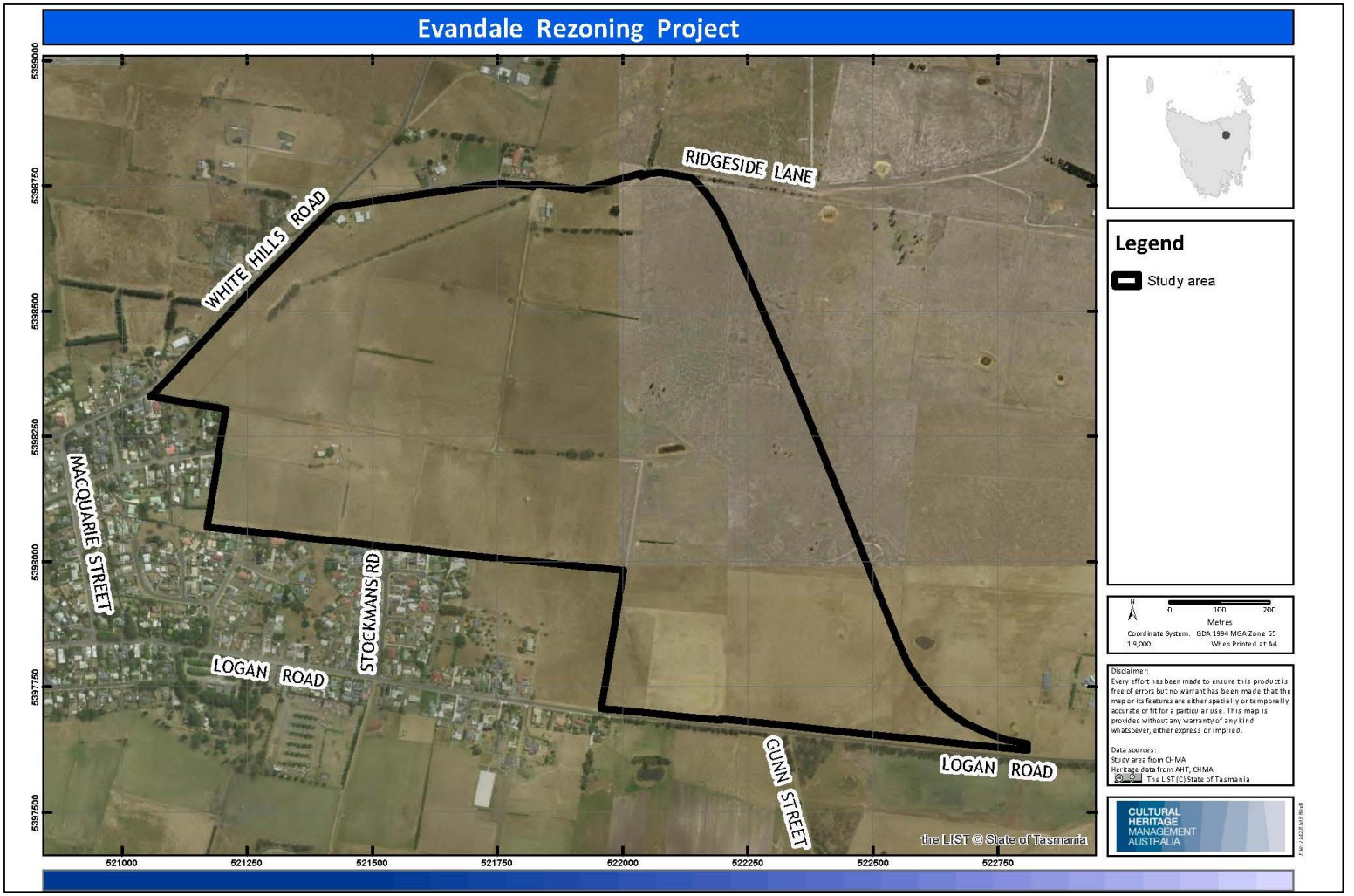


Figure 3: Aerial image showing the boundaries of the study area.

2.0 Environmental Setting of the Study Area

2.1 Introduction

Before undertaking an archaeological survey of the study area, it is necessary to characterise the landscape. This includes considering environmental factors such as topography, geology, climate, vegetation and past and current landscape use. An assessment of the environmental setting helps to develop an understanding of the nature of Aboriginal occupation and site patterning that might be expected to occur across the study area. In addition, it must be remembered that in Aboriginal society, the landscape extends beyond economic and technological behaviour to incorporate social geography and the embodiment of Ancestral Beings.

The archaeological context is generally only able to record the most basic aspects of Aboriginal behaviour as they relate to artefact manufacture and use and other subsistence-related activities undertaken across the landscape such as raw material procurement and resource exploitation. The distribution of these natural resources occurs intermittently across the landscape and as such, Aboriginal occupation and associated archaeological manifestations occur intermittently across space. However, the dependence of Aboriginal populations on specific resources means that an understanding of the environmental resources of an area accordingly provides valuable information for predicting the type and nature of archaeological sites that might be expected to occur within an area.
The primary environmental factors known to affect archaeological patterning include the presence or absence of water, both permanent and ephemeral, animal and plant resources, stone artefact resources and terrain.

Additionally, the effects of post-depositional processes of both natural and human agencies must also be taken into consideration. These processes have a dramatic effect on archaeological site visibility and conservation. Geomorphological processes such as soil deposition and erosion can result in the movement of archaeological sites as well as their burial or exposure. Heavily vegetated areas can restrict or prevent the detection of sites, while areas subject to high levels of disturbance may no longer retain artefacts or stratified deposits.

The following sections provide information regarding the landscape context of the study area including topography, geology, soils and vegetation.

2.2 Landscape Setting of the Study Area

The proposed Evandale Expansion Masterplan Project footprint (the study area), covers 78ha of existing private pastureland. The study area is situated immediately adjacent (to the west) to the existing Evandale township in the Northern Midlands Region of Tasmania (see Figures 1–3). The Northern Midlands region is characterised by extensive lowland plains and rounded topography which ranges from gently sloping to steep. The northern portion of the region is bounded by the dolerite-capped escarpment of the Great Western Tiers to the west, and the Ben Lomond Plateau in the north-east. The Midlands region is comprised of the Launceston Basin; the valley between these landforms.

The South Esk River and its tributaries, including the Macquarie, St Pauls, Elizabeth and the Blackman Rivers, drain all the northern portion of the Midlands (Matthews *et al 1996).* The South Esk River is the largest of the water courses in the general vicinity of the study area, being situated around 2km to the west. The South Esk River has its origins in the rugged ranges around Ben Nevis and Mt Saddleback, and eventually empties into the Tamar River at Launceston. In the area around Evandale, the river flows through a broad open valley system, with a wide flood plain. The only other named water course in the vicinity of the study area is Boyes Creek, a semi-permanent water course, which is situated around 300m to the south. There are no named water courses within the study area.

The terrain across the study area is characteristically flat to very gently undulating, with slope gradients typically in the range of between 1-10º. The area is well drained, and is slightly elevated above the lower lying flood plains of the South Esk River. To the east and north of the study area are a series of prominent hills and tiers.

The underlying geology of the study area consists of Cenozoic cover sequences which consist of dominantly non-marine sequences of gravel, sand, silt, clay and regolith. (List 2023). There are no stone outcrops occurring anywhere across the study area. In terms of soils, the study area lies almost entirely on lateritic podzolic soils (Australian Soil Classification: chromosol) developed on flat to gently undulating (0-3%) river terraces (see Plate 2).

The study area footprint is situated within a rural landscape, encompassing a series of farm paddocks that has been almost entirely cleared of native vegetation, and regularly ploughed and cropped. The vegetation structure across the study area primarily consists of introduced grasses, most notably Prairie Grass (*Bromus wildenowie*) and White Clover (*Trifolium repens*) (NSW Department of Primary Industries 2022). Amongst the introduced grasses are weeds, such as the Scotch Thistle (*Onopordum acanthium*) and one stand of conifer trees (see Plate 1 and Plate 4). The main access tracks leading into the study area and within it have been graded with introduced gravel to facilitate access to the individual properties of the study area. Importantly, from an archaeological perspective, any Aboriginal sites located within cleared agricultural areas will necessarily have been adversely impacted by agricultural and development activities, unavoidably compromising the integrity of any cultural sites retained within these areas. The extent to which these sites have been impacted will range from total obliteration to dramatic movement in spatial and temporal context. As such, sites located within these kinds of disturbed environments are always compromised in their archaeological integrity. There is very little potential for in situ sites to occur within the study area.

The study area has a cool, wet climate typical of northern Tasmania. Rainfall occurs throughout the year; with a mean annual rainfall of 589mm. Rainfall is highest in August and September (64mm – 71mm) and lower from January to February (28 – 31mm). The warmest months of the year are January and February when mean temperatures range from minimums of 10°C to maximums of about 23°C. Winter tends to be cold with mean annual temperatures in the coldest months of June and July ranging from 1.5°C mean minimum to maximum temperatures of about 11°C (BOM 2023).



Plate 1: View east showing a graded access track surrounded by introduced grasses within the study area.



Plate 2: View southeast showing an erosion scald with dark grey loam soil.



Plate 3: View southeast showing a 10° slope present within the study area.



Plate 4: View southwest showing the gentle undulations present within the study area.



Plate 5: View southwest showing an erosion scald within the study area.

3.0 Ethno-historic Background

3.1 Aboriginal Social Organisation in Tasmania

Ryan (2012) explains that the terms 'nation' and 'clan' are the preferred terms used by the Tasmanian Aboriginal community in place of 'tribe' and 'band' respectively. This terminology has been adopted in the following discussion.

According to Jones (1974), the social organisation of Tasmanian Aboriginal society appears to have consisted of three social units, these being the hearth group, the band (clan) and the tribe (nation). The hearth group was the basic family unit and would generally have consisted of a man and woman, their children, aged relatives and sometimes friends and other relatives. The size of hearth groups would generally range from between 2-8 individuals (Jones 1974: Plomley 1983). Plomley (1983) provides a description made by Peron of a hearth group he encountered at Port Cygnet:

> *There were nine individuals in this family, and clearly they represented a hearth group, because Peron visited their campsite with its single hut. The group comprised an older man and wife, a younger man and wife, and five children, one a daughter (Oure-Oure) of the older man and wife, and the other four the children of the younger man and wife.* (Plomley 1983:168).

The clan appears to have been the basic social unit and was comprised of a number of hearth groups (Jones 1974). Jones (1974:324-325) suggests that the clan owned a territory and that the boundaries of this territory would coincide with well-marked geographic features such as rivers and lagoons. Whilst the clan often resided within its territory, it also foraged widely within the territories of other clans. Brown (1986:21) states that the band was led by a man, usually older than the others and who had a reputation as a formidable hunter and fighter. Brown also suggests that the clan (as well as the hearth group) was ideally exogamous, with the wife usually moving to her husband's band and hearth group.

Each clan was associated with a wider political unit, the nation. Jones (1974:328-329) defines the tribe (or nation) as being:

> *…that agglomeration of bands which lived in contiguous regions, spoke the same language or dialect, shared the same cultural traits, usually intermarried, had a similar pattern of seasonal movement, habitually met together for economic and other reasons, the pattern of whose peaceful relations were within the agglomeration and of whose enmities and military adventures were directed outside it. Such a tribe had a territory, consisting of the sum of the land owned by its constituent bands…The borders of a territory ranged from a sharp well defined line associated with a prominent geographic feature to a broad transition zone*. (Jones 1974:328-329)

According to Ryan (2012:11), the Aboriginal population of Tasmania was aligned within a broad framework of nine nations, with each nation comprised of between six and fifteen clans (Ryan 2012:14). The mean population of each nation is estimated to have been between 350 and 470 people, with overall population estimates being in the order of between seven to ten thousand people prior to European occupation (Ryan 2012:14).

The current study area is located within the boundaries of the North Midlands Nation (see Figure 4). The territory of the North Midlands Nation ran from approximately St Peters Pass

to Quamby Bluff in the west, along the Western Tiers through the Deloraine district through to the west edge of the Tamar Valley, and along the north coast of Tasmania. From here it ran southeast along the Pipers River, through to Launceston, then eastwards along the South Esk River through to St Paul's Dome. In total, the North Midlands nation occupied an area of approximately 6,750km² and incorporated around 160km of coastline (Ryan 2012:29).

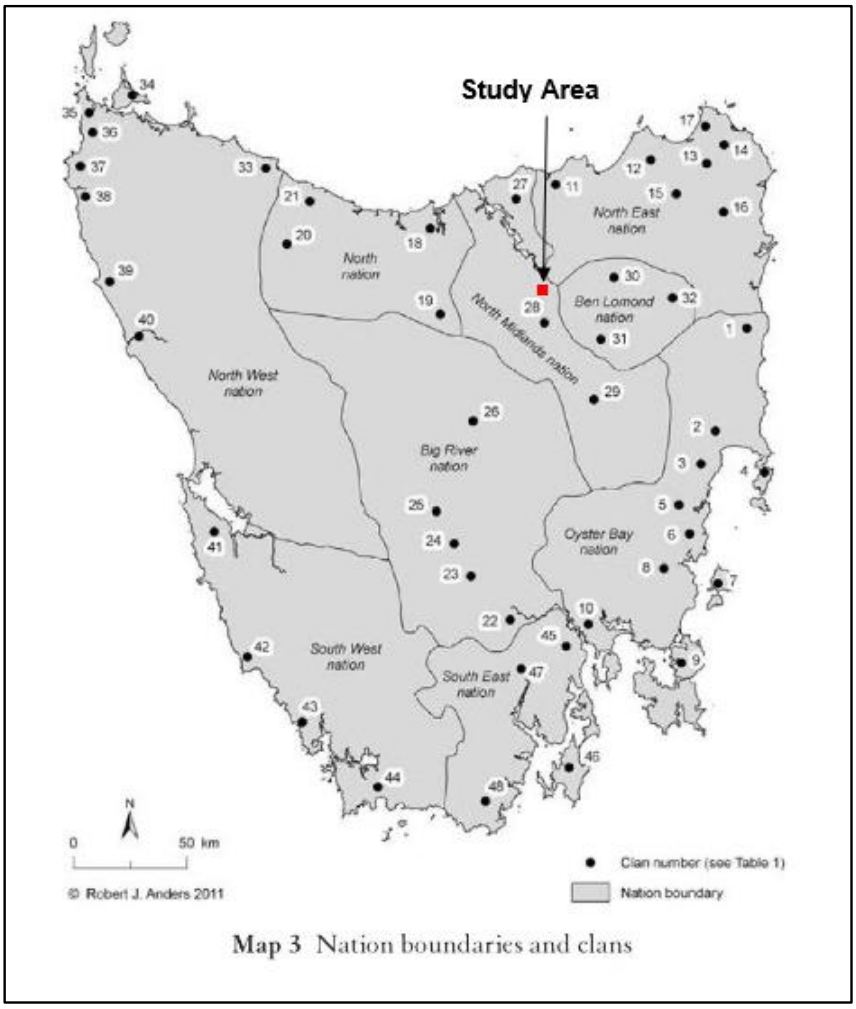


Figure 4: The Aboriginal Nations of Tasmania in relation to the study area (Ryan 2012:13).

The North Midlands Nation was comprised of at least three clans. These were the Leterremairrener (Port Dalrymple people) who were located around the east Tamar, the Panninher (Norfolk Plains people) located around the Norfolk Plains, and the Tyerrernotepanner (Stoney Creek or Campbell Town people) who were situated in the vicinity of Campbell Town. There was possibly a fourth clan around the York Town area, west of the Tamar, and a fifth around the Isis River (Ryan 2012:29). Each clan is thought to have been comprised of between 50 and 80 people, with the overall population of the North Midlands nation estimated at between 300 and 400 people (Ryan 2012:29). The clan most likely to have occupied the area around Evandale (including the current study area) was the Panninher (Norfolk Plains people).

The nations were among the first to experience British invasion in northern Tasmania in 1804, and as such, insufficient information exists as to the exact location of each clan. However, the clan most likely to have had rights over the land within which the study area is located are the Panninher clan who extensively utilized the plains areas surrounding Perth (Ryan 2012).

The largest kangaroo hunting grounds in Tasmania lay in the heart of North Midland country at Campbell Town, Norfolk Plains and Launceston, together with the rich marine and bird life provided by the Tamar River. As such, the North Midland nation had extensive relations with neighbours of the North, North East, Big River, Ben Lomond and Oyster Bay nations (Ryan 2012:31). These connections in turn facilitated seasonal access of the North Midland nation to the east coast at Oyster Bay through negotiations with the Oyster Bay Nation (Ryan 2012:31) and the existence of other seasonal travel routes to the east venturing into the territory of the Ben Lomond Nation to exchange ochre (Ryan 2012:31). Other major ochre sources in Tasmania were in the Western Tiers, in the territory of the North Nation.
The Panninher (Norfolk Plains clan) is said to have spent the winter on the lower reaches of the west bank of the Tamar exploiting available shellfish and swan eggs, before returning to their own country to exploit the hunting grounds in spring (Ryan 2012:31). The seasonal movement to the Great Western Tiers to obtain ochre in autumn is also recorded (see Figure 4).

Very few available ethnohistoric accounts exist, that relate to aspects of the material culture of the North Midlands Nation. One description of the huts used by the Aboriginal people of the Midlands is provided by John Bass in 1799 at Port Dalrymple:

> *'Their huts, of which seven or eight were frequently found together like a little encampment, were constructed of bark torn in long strips from some neighbouring tree, after being divided transversely at the bottom, in such breadths as they judge their strength would be able to disengage from its adherence to the wood, and the connecting bark on each side. It is then broken in convenient lengths, and placed, slopingwise against the elbowing part of some dead branch that has fallen off from the distorted limbs of the gum tree; and a little grass is sometimes thrown over the top. But after all their labour, they have not ingenuity sufficient to place the slips of bark in such a manner as to preclude the free admission of rain'*
>
> (Collins 1971, as reported in Kee 1990:17).

In a diary entry dated 22/10/1831, Robinson provides a comparatively detailed description of the clothes and tool kits used by people of the North Midlands Nation:

> *'The costume of the native women is a mantle made of kangaroo skin. Their implements consist of a short stick eighteen inches long sharpened at the end similar to a chisel, and with this implement they bark the tree and use it in the same way a carpenter would use the same sort of tool. Instead of the mallet they use a stone. The wooden chisel is made to answer the purpose of a lever, hence we may call them mechanics. It is the business of the woman especially of the inland tribes to fetch wood for the fire. If the woman is married she carries her own and her husband's burden. Part of their luggage consists of a mull, a flat stone which the men use for the purpose of preparing the pomatum to dress their hair with. The woman also carried with her for this purpose a large quantity of ochre. It is the business of the women also to hunt and catch opossum and for this purpose they carry a rope*

> *which they make of the long cutting grass of the iris. They also hunt other small animals, look for eggs &c. They carry with them also a sharp stone with which the men make their spears and waddies. The men carry their spears and waddies, their only weapons except stones which they throw with great dexterity. It is the business of the men to hunt kangaroo. The men also wear a mantle of kangaroo skin'* (Plomley 1966:531).

In an earlier diary entry dated 20/9/1831, Robinson describes that tea trees were procured to provide relatively straight timber with which spears were manufactured (Plomley 1966:215).

Robinson also records a number of instances of Aboriginal people in the Midlands using ochre for hair and body decoration. In one account, Robinson observes:

> *'Previous to setting off the natives ochred or painted themselves. It might appear ludicrous to civilised society to see people daub their hair with a thick substance of ochre and grease, but I observe that my natives at Campbell Town procured some soft red brick which they pound into dust mixing it with grease to anoint their heads. I have not yet ascertained their particular motive for this custom and it is particular to only a few tribes'* (Plomley 1966:501).

In terms of food resources, Robinson provides a series of accounts in his diary entries of the range of foods eaten by the North Midlands Tribe. Birds and eggs appear to have formed a major component of the diet of the local inhabitants, with swans, ducks and red bills being some of the main species targeted (Plomley 1966: 217). A range of mammal species is also documented as having been hunted and eaten, including forester kangaroo, wallaby, kangaroo rat (possibly bandicoots), and possums (Plomley 1966). In a diary entry dated 22/10/1831, Robinson provides an interesting account of a kangaroo hunt undertaken by Aboriginal men:

> *'...when the natives hunt...they surround the animal, and hence it is driven from one position to another till at length it becomes exhausted, when they rush upon it and seize the prey'* (Plomley 1966:555-6).

Only a few plant foods are documented in the ethnohistoric accounts as having been eaten. This includes a bulbous plant known as 'native bread' and a plant that has the appearance of asparagus that was found by the roots of peppermint trees (Plomley 1966). It is very likely that many more plant foods were eaten by the local Aboriginal population.

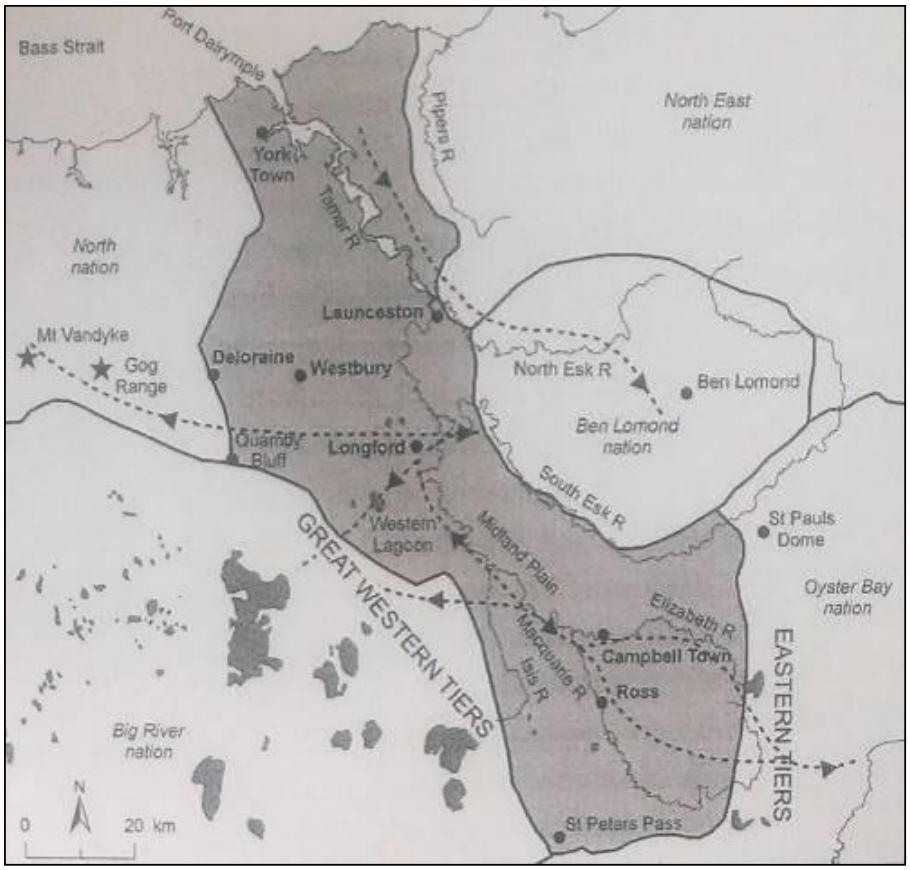


Figure 5: Settlement and movement patterns of the Midland Plain clans (Ryan 2012:30).

3.2 Culture Contact and Frontier Violence

The first recorded meeting between Europeans and the Aboriginal people of northeast Tasmania was in 1773 when Tobias Furneaux sailed into and named, the Bay of Fires for the smoke he saw along the coast (Kee 1987:15). A quarter of a century later Jean-Baptiste-Louis Clarke Theodore also recorded smoke on the northeast coast (Plomley 1966, in Kee 1991:8). In 1800 Matthew Flinders observed smoke on the northern coast but noted that the Furneaux Islands appeared uninhabited (Kee 1987:15). Bass accompanied Flinders on further voyages later in 1800 and he observed that while smoke was often visible from ships, the people ran into the bush at the approach of Europeans (Kee 1987:15).

In 1804 Lieutenant Colonel William Patterson founded the European settlement at George Town. This camp was short-lived, with the party moving within a few weeks to the west bank of the River where they established York Town. The Port Dalrymple (Launceston) settlement was established in 1806. Hence, the study area was impacted from the very earliest phase of the European settlement of Tasmania. The Leterremairrener people would have been among those Aboriginal clans that bore the brunt of the contact period.

By the early nineteenth century sealers and whalers had established hunting grounds in the Bass Strait and inhabited islands and parts of the coast. In 1816 a sealer James Kelly met

up to 300 people at George Rocks. Kelly traded culled seals with the Aboriginal people of the coast in exchange for kangaroo (Kee 1987:19).

While there are some suggestions that initial contact between Aboriginal people and the whalers and sealers may have been friendly, Ryan's research on the North Midland nation indicates that 'at least 300 were probably killed outright by the settlers between 1820 and 1830' (Ryan 2012:19) and by the time George Augustus Robinson was moving through the area in 1830 – 1831, the sealers had instilled widespread terror among the Aboriginal people (Kee 1987:16). The sealers typically abducted women to be wives and to work on the sealers camps, and Robinson recorded that people along the northern coast referred to the murder of Aboriginal people at all the places where the sealers camped (Kee 1987:16).

This violent contact between Aboriginal people and Europeans, especially sealers, along the northeast coast had disastrous implications for the North Midlands nation. Apart from the individual, and emotional devastation, the loss of large numbers of women disrupted social organisation, as well as impacting economic systems of gender-based division of labour (Kee 1987:16).

4.0 Background Archaeology

4.1 Previous Archaeological Investigations in the Region

A number of regional archaeological investigations have been undertaken in the Northern Midlands region over the past three decades. The most comprehensive, and pertinent investigations are those of Kee (1990) and Jackman (Entura 2011). The following provides an overview of these two studies

Kee (1990)

In 1990 Kee implemented the Midlands Regional Aboriginal archaeological site investigation, which was funded through the National Estate Grants Program. The primary objectives of the study were primarily to establish (on the basis of literary and field research) a predictive model of site location for the Midlands Region, and secondly to carry out a limited archaeological excavation with the aim of providing a temporal context for the information generated for the study.

As part of the study, Kee (1990) surveyed 72km within the Midlands area. This survey resulted in the identification of 236 Aboriginal sites. This brought the total number of known Aboriginal sites in the Midlands to 350. The vast majority of these sites are classified as isolated artefacts or artefact scatters. The exception is the coastal fringes in the midlands where shell midden sites tend to predominate. Stone quarries and suitable stone sources for procurement were identified in many locations throughout the Midlands, and a small number of rock shelters were also identified (Kee 1990).

As part of the analysis of the distribution of sits throughout the Midlands, Kee (1990) divided the Midlands into seven separate landscape divisions. These are Aeolian lunettes, coastal dunes and beaches, estuaries, lakes (uplands and lowlands), lowland hills and plains, upland hills and plains and rivers. The highest number of sites were identified in the Aeolian lunettes and coastal dunes, accounting for around 50% of the total number of sites recorded in the Midlands. Between 20 and 30 Aboriginal sites were recorded in each of the other five landscape divisions. Kee (1990) is of the opinion that the observed pattern of distribution accurately reflects true differences or variations in site densities throughout these different landscape divisions, and is not merely a product of skewed visibility or survey coverage.

Kee (1990) also noted a distinct difference in the distribution of site types within the Midlands Region, which she believes is also suggestive of differences in occupation patterns throughout the region. For example, the sites recorded around the margins of Lake Dulverton comprise mostly artefact scatters and rock shelters. Some of these sites are quite large (in terms of artefact numbers), and suggest intensive occupation. In contrast, the sites associated with the Aeolian lunettes were mostly small campsites located adjacent to lagoons, and are interpreted as being the product of short term visitations to the area by small groups of people exploiting the resources of these lagoons and the associated hinterland areas.

One of the features of Kee's (1990) investigations is that the vast majority of sites identified as part of the field survey were recorded within ploughed farm paddocks, where the surface visibility is improved and the soils have been churned. This pattern of site location highlights the importance of good surface visibility in identifying sites during field surveys, and demonstrates how varying conditions of surface visibility can potentially skew the results of

survey investigations. Kee (1990) does not really adequately address this factor in her assessment. It is plausible that the factor of surface visibility variations could be a major contributor to the pattern of site distribution observed for the Midlands, with site densities being highest in the Aeolian dunes and coastal areas where surface visibility is improved and lowest in the Riverine and Uplands areas where surface visibility is poor. The only way to adequately determine how accurate the perceived pattern of site distribution is in the Midlands region would be through extensive sub-surface investigations within the various landscape divisions.

The summary interpretation provided by Kee (1990) for the observed archaeological record of the Midlands Region is that the areas with observed higher site and artefact densities correlate with areas where there is an increase in available resources, making these areas attractive for human habitation, and facilitating prolonged periods of occupation. Those areas with lower site and artefact densities also correlate with areas of decreased resource availability, resulting in shorter, less frequent occupation of these areas by small groups of people.

Taking into account historic records for the region, Kee (1990) presents a seasonal model of occupation for the Midlands Region. This model involves the movement of Aboriginal people around inland resource rich zones such as lagoons and lakes in the spring and early summer months, with summer time spent on the north coast areas. It is suggested that the winter months may have been spent in the inland parts of the Uplands where there was good soil drainage.

Entura (2011)

More recently, Jackman (Entura archaeologist) undertook a comprehensive survey of the Midlands for the Midlands Water Scheme (2011). The survey by Entura (2011) covered an extensive area, with over 130km of survey transects across the Central Highlands and Midlands. The survey recorded 136 Aboriginal heritage sites that demonstrate the nature of past Aboriginal use of these regions.

Based on analysis of the 48 sites recorded by Jackman in the Midlands as part of the Midlands Water Scheme survey, Entura archaeologist Greg Jackman suggested several potential site distribution patterns (Entura 2011:43). In the Midlands, Jackman argues that the dominant site type will be Artefact Scatters and Isolated Artefacts. Open Artefact Scatters may be large and there is potential for stratified sites to occur. Other site types include quarries and stone procurement sites and rock shelters and rock overhangs with associated archaeological deposits (Entura 2011:49).

Jackman suggests that open sites are likely to be closely correlated with permanent watercourses, with the majority of open sites recorded by Jackman situated within 500m of water. Moreover, large Artefact Scatters are most likely to be located along the margins of lakes, lagoons and floodplains where a range of other plant and terrestrial resources were available (Entura 2011:49). Occupation sites, such as artefact scatters, were often found to be located on benched terraces or low rises. Aeolian sand banks bordering lagoons and rivers have increased potential to contain archaeological deposits, as these provide elevated, well drained camp sites with close proximity to fresh water (Entura 2011:49).

Jackman noted that concentrations of sites also often occur in small, sheltered valleys at the foot of the various ranges, including Black Tier, south of Tunbridge (Entura 2011:50). This reflects the choice of sheltered camp sites along pathways used by groups of Aboriginal people moving between seasonal resource zones along ethnographically documented pathways.

One such clustering of sites occurs at the Salt Pan Plains and Kitty's Creek area at the foot of the Black Tier. At the gap between Salt Pan Plains and Kitty's Creek, there are a series of small artefact scatters and isolated artefacts. Jackman suggests that this may indicate that people regularly passed through this gap when travelling between the Central Tiers and the Midlands (Entura 2011:43). Jackman records this area as being of high archaeological sensitivity (Entura 2011:53). Jackman also suggests that the name Black Tier may be a reference to Aboriginal people living in this area at the time of European settlement, however, there is no documented historical basis to this tempting assertion (Entura 2011:43).

Quarry sites in the Midlands tend to target chert and hornfels outcrops occurring at the contact points of Jurassic dolerite and Permo-Triassic mudstone and siltstone deposits (Entura 2011:49). Chert quarries occur in outcrops of Tertiary claystone (Entura 2011:50).

4.2 Previous Archaeological Investigations in the Vicinity of the Study Area

A number of small archaeological/cultural heritage assessments have been undertaken in the area around Perth and Evandale. The majority of these studies have been undertaken as part of impact assessments associated with proposed residential developments and small scale infrastructure projects. The following provides a review of those studies for which reports were available. Of these studies, the most pertinent to the current study area is the assessment carried out by CHMA (2019) for the land immediately to east and overlapping the current study area.

A number of areas were surveyed along the Midland Highway for proposed overtaking lanes, including localities south of Woolmers Lane, North of Epping, Cleveland, Symmons Plains and South of Epping. However, given the disturbed context of many of these areas due to the initial construction of the highway, no Aboriginal sites were identified (Ross and Scotney 1990). A survey of the intersection between the Midland Hwy and Arthur St in Perth also failed to identify any sites (Searle 1995), as did an assessment undertaken prior to the construction of the bypass road from Breadalbane roundabout to the South Esk River at Perth (Summers 2002). These areas are all located between 3-5km to the west of the current study area.

Investigations for the establishment of a large storage lagoon (500 x 350m) in an area 2kms to the south of Perth and within close proximity to the South Esk River also failed to produce any sites. This was largely attributed to high levels of historic disturbance of the landscape through agricultural activities (Stanton 2002). Heritage surveys have also been undertaken for proposed dam sites at Turkey Nest Creek, Native Point (Graham 2000), an in-stream dam site on the property of Mountford, located to the north of Perth (Graham 2004) and along Powranna Rd, Cressy (355 and 302 megalitre) farm dam sites; no sites were identified (Graham 2007a, 2007b) in any of these localities. Again, these areas are located to the west of the current study area.

CHMA (2013) carried out an Aboriginal heritage assessment of the proposed Perth to Breadalbane Bypass Project (to the north-west of the current study area). In the course of the field survey assessment, only one Aboriginal site was identified within the study area corridor. The site (AH11897) is classified as an isolated artefact which was located on a graded vehicle track, approximately 1km north of the township of Perth and 100m west of the Midland Highway (CHMA 2013:49). In addition, one Potential Archaeological Deposit (PAD) was identified within the study area corridor (PAD1). The PAD area which measures 100m x 90m encompasses the lower section of the spine of a small spur line that runs in a north-east to south-west direction down from the south-west side slopes of Gibbet Hill. The spur overlooks low lying flood plains to the south-west, and terminates 40m north-east of an ephemeral creek line that drains these flood plains. Based on predictive modelling, it is anticipated that low-moderate densities of artefacts may be present within this area (CHMA 2013:49). CHMA (2013:53-54) was of the opinion that the available evidence indicated that site and artefact densities within the road corridor study area are likely to be low. The most likely site types that may be present would be small artefact scatters and isolated artefacts which would probably be representative of occasional foraging or short duration camping.

CHMA (2014a) was engaged by TasWater to undertake an assessment of a proposed Mains Water Pipeline project at North Perth (just to the north-west of the study area). CHMA (2014a:45) identified one Aboriginal site during the survey. The site corresponds (both in terms of location and description) with the previously registered site AH1711. Site AH1711 is classified as an Aboriginal stone quarry site with an associated scatter of stone artefacts. The site is located along the margins of Flinty Creek, immediately to the north of the junction with the South Esk River. CHMA (2014a:45) recorded a scatter of stone artefacts along a 260m length of Flinty Creek, between grid references E515444 N5398752 and E515415 N5399010 (GDA 94). At least 15 stone artefacts were identified within this area, with all of these artefacts being situated within the creek bed of Flinty Creek, or within 5m of the creek bed. CHMA (2014a:45) noted that surface visibility along the margins of Flinty Creek was typically very poor due to thick vegetation cover, averaging around 5%. As a consequence, it was not possible to accurately determine the spatial extent of artefact material associated with site 1711, particularly how far out from the creek bed artefact material was distributed. Besides AH1711, CHMA (2014a) reported that no other Aboriginal heritage sites or specific areas of potential archaeological sensitivity were identified along the proposed pipeline route easement options.

Also in 2014, CHMA was engaged by State Growth to undertake an Aboriginal heritage assessment for the proposed Perth Southern and Western Bypass Project (5km to the north-west of the current study area). The field survey assessment resulted in the identification of two Aboriginal sites (AH13020 and AH13021), with both sites being classified as isolated artefacts (CHMA 2014b:2). In addition, two Potential Archaeological Deposits (PADs) were identified within the study area corridor (PAD1 and PAD2). PAD1 was located in the western portion of the study area corridor, and encompassed the spine of a prominent spur line that runs in a north-west to south-east direction down from a series of hills that fringe the western edge of the study area corridor. PAD2 encompassed an elevated and level terrace area on the western margins of the South Esk River. The terrace is situated approximately 100m to the west of the edge of the River, and 100m south of Midland Highway. Based on predictive modelling, it is anticipated that moderate densities of artefacts may be present across these two PAD areas (CHMA 2014b:2).

CHMA (2015) carried out the original survey assessment for the NEIS project. The field survey assessment resulted in the identification of nine Aboriginal sites. Six of the recorded Aboriginal sites were located within or immediately adjacent to the distribution pipeline corridor (sites (AH13113 to AH13118). Three of these sites (AH13113, AH13115 and AH13117) were classified as isolated artefacts. Sites AH13114, AH13116 and AH13118 were classified as small artefact scatters, each comprising between two and four surface artefacts. There was quite a distinct pattern of site distribution noted for these sites, with five of the six recorded sites being located elevated and well drained areas, within 200m of a water course. The only site that was situated over 200m from a water course was site AH13117 (an isolated artefact) which was identified on the flat spine of a prominent spur line. The general impression generated from the field survey was that site and artefact densities along the distribution pipeline corridor was quite low, with sites tending to be situated on elevated landscape features in close proximity to water courses.

The other three recorded Aboriginal sites (AH13110, AH13111 and AH13112) were situated within the bounds of the proposed Dalness Dam footprint. Site AH13110 is classified as a site complex that comprises 19 separate isolated artefacts and small artefact scatters (NEIS1-NEIS19) that were located within an area measuring approximately 850m (north-south) x 250m (east-west). Because of the close spatial grouping of these isolated artefacts and artefact scatters, and the fact that they all occur within the same landscape setting (a small valley system), they were classified as being part of the one broad site complex. The site complex was located within a small north-south orientated valley system which is drained by an unnamed ephemeral creek line. The 19 individual site features were all located around the northern portion of the valley system, around the head of the valley. The sites were typically situated within 200m of the creek line.

Site AH13111 was classified as an isolated artefact, with site AH13112 being an artefact scatter comprising two surface artefacts. Both sites were located within the same valley system as site AH13110. However, given that these sites are located several hundred metres south of AH13110, they have been recorded as separate site entities.

The general impression generated from the field survey of the Dalness Dam site and Borrow Pit footprint was that this valley system, and in particular the northern portion of the valley system (where site complex AH13110 is situated) was the focus of a moderate level of Aboriginal activity. The activity seems to have been predominantly concentrated along the valley floor, within 100m-200m of the creek line.

CHMA (2019) was engaged to undertake an assessment of a 246ha parcel of land on the eastern outskirts of Evandale that was proposed for rezoning. This area is situated immediately adjacent (to the east) of the current study area, and approximately 34ha overlaps with the current study area. CHMA (2019:47) reported that no Aboriginal sites were identified during the field survey assessment of the Evandale Residential Subdivision footprint and the search of the AHR undertaken for the project showed that there were no registered Aboriginal sites that are located within or in the immediate vicinity of the study area boundaries. CHMA (2019:47) assessed that the negative survey results could be taken as a reasonably accurate indication that site and artefact densities across the study area are likely to be very low, reflecting sporadic activity.

4.3 Registered Aboriginal Sites in the Vicinity of the Study Area

As part of Stage 1 of the present assessment, a search was carried out on Aboriginal Heritage Register (AHR) to determine the extent of registered Aboriginal heritage sites within and in the general vicinity of the Evandale Expansion Masterplan Project study area.

The search shows that there are a total of 27 registered Aboriginal sites that are situated within an approximate 6km radius of the study area (search results provided by AHT on the 23.11.2022). These sites were mainly recorded as part of the survey assessments summarised in sections 4.1 and 4.2. The vast majority of these sites are classified as Artefact scatters (16 sites) or Isolated artefacts (9 sites). There are also two recorded Aboriginal stone quarries (AH227 and AH1711). Figure 6 shows the location of these sites in relation to the study area.

Based on the available information, it appears that none of these registered Aboriginal sites are situated either within or in the immediate vicinity of the study area boundaries. The nearest sites are AH164 (an artefact scatter) which is situated 1.4km to the west of the study area and AH13114 (an artefact scatter) which is situated around 1.5km to the north-east. Figure 7 shows the closest registered Aboriginal sites to the study area boundaries.

REDACTED due to Aboriginal Heritage Tasmania advice that "The Register is not publicly accessible as it contains culturally sensitive information".

Figure 6: Topographic map showing the location of the closest registered Aboriginal sites to the study area.

REDACTED due to Aboriginal Heritage Tasmania advice that "The Register is not publicly accessible as it contains culturally sensitive information".

Figure 7: Aerial map showing the location of the closest registered Aboriginal sites to the study area.

5.0 Predictive Modelling

5.1 Introduction to Predictive Modelling

Predictive modelling, in an archaeological context, is a fairly straightforward concept and has been utilised by archaeologists in Australia for a number of years as a tool for undertaking research into Aboriginal heritage sites. In summary, predictive modelling involves the collation of information generated from previous archaeological research in a given region and using this information to establish patterns of Aboriginal site distributions within the landscape of that particular region. Based on perceived patterns of site distribution, archaeologists can then make predictive statements regarding the potential for various Aboriginal site types to occur within certain landscape settings and can make preliminary assessments regarding the potential archaeological sensitivity of landscape types within a given region.

5.2 Predictive Models; Strengths and Weaknesses

It should be acknowledged that most, if not all predictive models have a number of potential inherent weaknesses, which may serve to limit their value. These include, but may not be limited to the following:

1) The accuracy of a predictive model is directly influenced by the quality and quantity of available site data and information for a given region. The more data available and the greater the quality of that data, the more likely it is that an accurate predictive model can be developed.
2) Predictive modelling works very well for certain types, most particularly isolated artefacts and artefact scatters, and to a lesser extent scarred trees. For other site types, it is far more difficult to accurately establish distribution patterns and therefore make predictive modelling statements. Unfortunately, these site types are generally the rarer site types (in terms of frequency of occurrence) and are therefore generally the most significant sites.
3) Predictive modelling (unless it is very sophisticated and detailed) will generally not take into account micro-landscape features within a given area. These micro features may include (but are certainly not limited to) slight elevations in the landscape (such as small terraces) or small soaks or drainage depressions that may have held water. These micro features have been previously demonstrated to occasionally be focal points for Aboriginal activity.
4) Predictive modelling to a large extent is often predicated on the presence of watercourses. However, in some instances, the alignment of these watercourses has changed considerably over time. As a consequence, the present alignment of a given watercourse may be substantially different to its alignment in the past. The consequence of this for predictive modelling (if these ancient watercourses are not taken into account) is that predicted patterns of site distributions may be greatly skewed.

5.3 A Predictive Model of Site Type Distribution for the Study Area

The findings of previous archaeological investigations undertaken in the general vicinity of the study area, together with the results of the AHR search, indicate that by far the most likely site types that will be encountered during the current assessment will be artefact scatters and isolated artefacts. Two Aboriginal stone quarry sites have also been recorded

within the broader surrounds of the study area and it is therefore possible, although far less likely that this site type may also be present.

The following provides a definition for the site types likely to be encountered in the study area and a general predictive statement for their distribution across the study area.

Artefact Scatters and Isolated artefacts

Definition

Isolated artefacts are defined as single-stone artefacts. Where isolated finds are closer than 50 linear metres to each other they should generally be recorded as an artefact scatter. Artefact scatters are usually identified as a scatter of stone artefacts lying on the ground surface. For the purposes of this project, artefact scatters are defined as at least 2 artefacts within 50 linear metres of each other. Artefacts spread beyond this can be best defined as isolated finds.

It is recognised that this definition, while useful in most instances, should not be strictly prescriptive. On some large landscape features, for example, sites may be defined more broadly. In other instances, only a single artefact may be visible, but there is a strong indication that others may be present in the nearby sediments. In such cases, it is best to define the site as an Isolated Find/Potential Archaeological Deposit (PAD).

Artefact scatters can vary in size from two artefacts to several thousand, and may be representative of a range of activities, from sporadic foraging to intensive camping activity. In rare instances, campsites that were used over a long period of time may contain stratified deposits, where several layers of occupation are buried one on top of another.

Site Distribution Patterns:

Previous archaeological research in the region has identified the following pattern of distribution for this site type.

- The majority of artefact scatters are located in close proximity to a watercourse, on relatively level and well-drained ground.
- Larger open artefact scatters (representing more intensive activity, such as regular camp areas), tend to be located on level, elevated landscape features, close to (within 500m) major watercourses. The most common areas are the elevated basal slopes of hills, the level spines of spurs (around the termination point of the spur), or elevated sand bodies.
- Sites in the Midlands are likely to occur at the intersection of the hilly country with the plains. Sheltered valleys at the base of ridgelines have been noted as having an increased likelihood of containing archaeological sites.
- Site and artefact densities on the lower-lying flood plains of watercourses tend to be comparatively lower. This may be reflective of the fact these low-lying areas were less favoured as camp locations, due to such factors as rising damp and vulnerability to flooding; and
- Site and artefact densities also tend to be comparatively lower in areas away from watercourses.
- Site and artefact densities are comparatively lower in moderate to steeply sloping terrain.

- Isolated artefacts may be found distributed across the landscape.

Predictive Statement:
The proposed Evandale Rezoning Project area is situated within terrain that is characteristically flat to moderately undulating pastureland, with some sections of lowland floodplains surrounding the existing drainage lines. Slope gradients throughout the study area range from 1°– 10°. The closest watercourses to the study area are Boyes Creek which is 300m south and South Esk River which is 1.5km southwest and runs in the northeast-to-northwest direction. Both of these watercourses are semi-permanent.

Applying the broad regional pattern of site distribution to the study area, it is anticipated that the density of sites (artefact scatters and isolated artefacts), and the density of artefacts associated with these sites would generally be expected to be low to very low. If sites are present in the study area, they are likely to be isolated artefacts or small artefact scatters, representing sporadic hunting and travelling through this landscape. These sites are most likely to be present in those parts of the study area where the slope gradient decreases to below 5º. Higher-density artefact scatters, representing more intensive activities such as interim campsites are unlikely to occur in the study area.

Stone Quarry/Procurement Sites

Definition

A stone procurement site is a place where stone materials were obtained by Aboriginal people for the purpose of manufacturing stone artefacts. Quarry sites on the other hand have some evidence of the stone being actively extracted using knapping and/or digging. Stone procurement sites are often pebble beds in water courses (where there may be little or no evidence of human activity) or naturally occurring lag deposits exposed on the surface. Quarry sites are usually stone outcrops, with evidence of knapping and pits dug to expose the rock. Concentrations of hammer stones and a thick layer of knapping debris are often present.

Predictive Statement

Previous archaeological research in the Midlands region has shown that the most common stone material types utilised for making stone artefacts are silcrete, chert, hornfels, quartzites, quartz, and fine grained volcanics. The sources for these stone material types usually occur in the form of discreet outcrops of bedrock material or concentrations of nodules either within the soil matrix, or in the beds of water courses. Entura (2011:50) has noted that Aboriginal quarry sites in the Midlands tend to be chert and hornfels outcrops occurring at the contact points of Jurassic dolerite and Permo-Triassic mudstone and siltstone deposits (Entura 2011:49). Chert quarries occur in outcrops of Tertiary claystone.

As noted in section 2 of this report, the underlying geology across the study area primarily consists of Cenozoic cover sequences consist of dominantly non-marine sequences of gravel, sand, silt, clay and regolith. The stone materials present in the study area were generally not well suited for aboriginal artefact manufacturing and as such it is highly unlikely that Aboriginal stone quarries will be present in the study area.

6.0 Survey Coverage of the Study Area

Survey Coverage and Surface Visibility

Survey coverage refers to the estimated portion of a study area that has been visually inspected during a field survey. Surface Visibility refers to the extent to which the actual soils of the ground surface are available for inspection. There are a number of factors that can affect surface visibility, including vegetation cover, surface water and the presence of introduced gravels or materials. Figure 8 provides a useful guide for estimating surface visibility.

The field survey was undertaken by Shay Hannah (CHMA archaeologist) and Vernon Graham (Senior Aboriginal Heritage Officer) and Kierran Graham (Trainee), over a period of 2 days (1-02-2023 and 3-02-2023). The field team walked a total of 20.8km of survey transects across the proposed Evandale Rezoning Project footprint, with the average width of each transect being 10m and 5m within access tracks. Table 1 provides the total transects walked for each section and Figure 9 shows the alignment of the survey transects walked by the field team.

The survey transects were predominately focussed on the Evandale Rezoning Project footprint and the main access track leading into the study area. As part of the field survey program, additional transects were walked in areas where there was improved surface visibility, to gain a better insight as to the potential presence or absence of Aboriginal sites across the study area. Surface visibility across the study area was variable, ranging between <10% to 90%, averaging at 25% which is in the low-medium range (see Figure 8). Vegetation cover was the main impediment to visibility.Improved surface visibility was found within erosion scalds which ranged from 50% and 100%, averaging at 70%, and along some farm tracks that had not been covered by gravels.

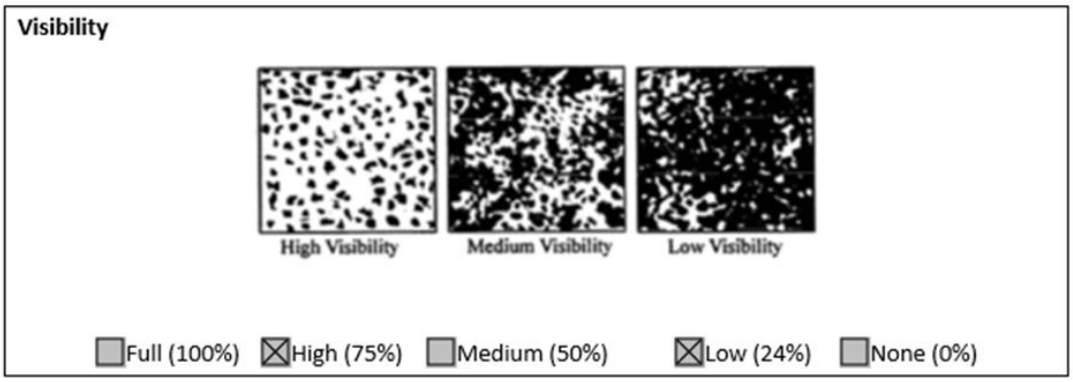


Figure 8: Guidelines for the estimation of surface visibility.

Effective Coverage

Variations in both survey coverage and surface visibility have a direct bearing on the ability of a field team to detect Aboriginal heritage sites, particularly site types such as isolated artefacts and artefact scatters (which are the site types most likely to occur in the study area). The combination of survey coverage and surface visibility is referred to as effective survey coverage. Table 1 presents the estimated effective survey coverage achieved during the course of the survey assessment. The effective coverage is estimated to have been around 50,145.07m^2. This level of effective coverage is assessed as being adequate for the purposes of determining the potential extent, nature and distribution of Aboriginal cultural heritage sites in the study area.

Table 1: Effective Survey Coverage achieved across the surveyed areas.

Area Surveyed	Survey Transects	Estimated Surface Visibility	Effective Survey Coverage
Evandale Rezoning Project	19,316.05m x 10m= 193,160.5m^2	25%	48,290.13
Access Tracks	1483.95m x 5m= 7419.75m^2	25%	1854.94m^2
Total	**200,580.25m^2**		**50,145.07m^2**



Plate 6: View east showing a graded access track where surface visibility was reduced to 25% within the study area.



Plate 7: View southeast showing an erosion scald with 100% surface visibility within the study area.



Plate 8: View southwest showing the vegetation cover that reduced surface visibility to 25% within the study area.

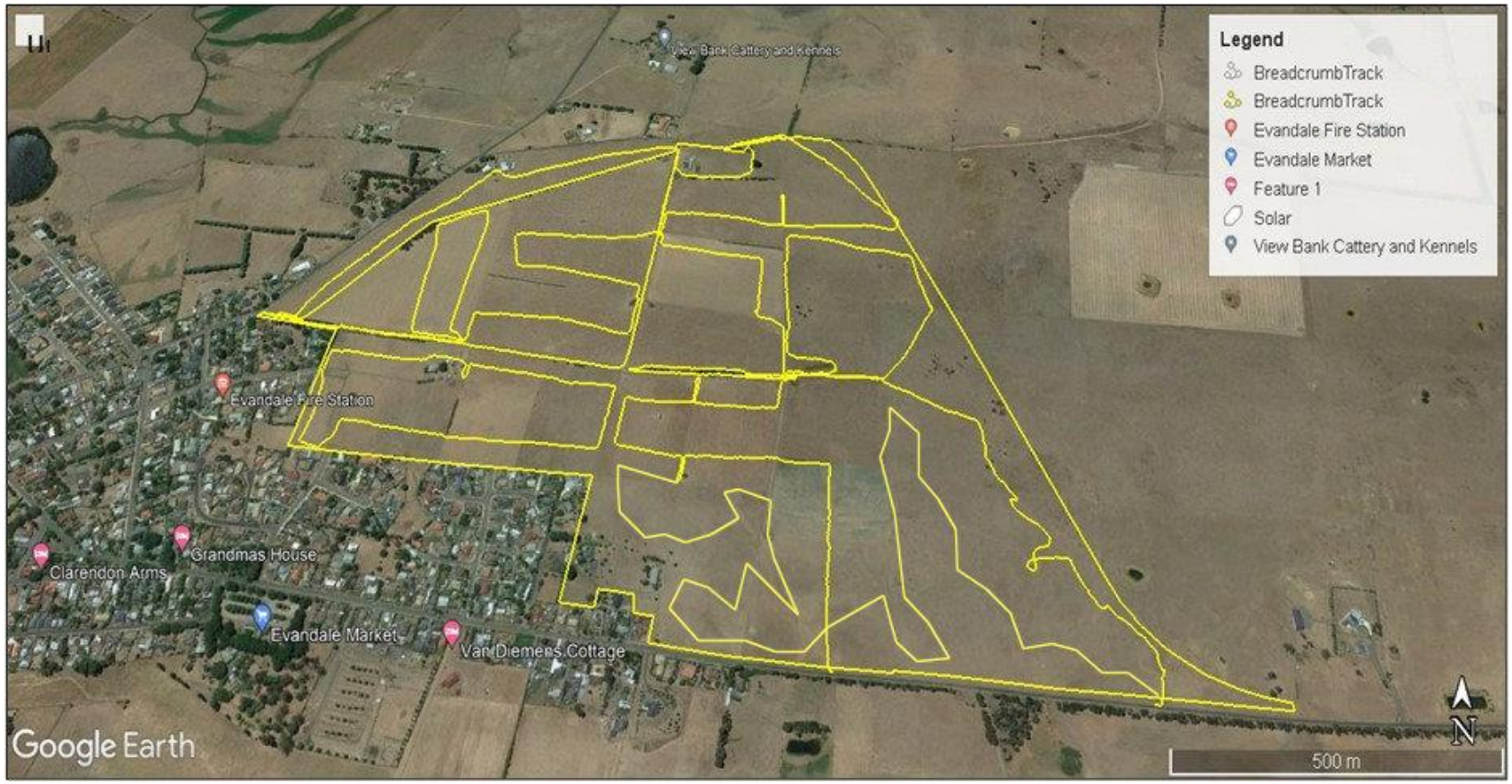


Figure 9: Aerial image showing survey transects walked by the field team across the study area.

7.0 Survey Results and Discussion

No Aboriginal heritage sites or suspected Aboriginal cultural features were identified during the field survey inspection of the proposed Evandale Expansion Masterplan Project footprint. As noted previously, a search of the AHR shows that there are no other registered Aboriginal sites within or in the immediate vicinity of the Evandale Rezoning Project footprint. The findings of this assessment have therefore confirmed that there are no known Aboriginal heritage sites present within the study area footprint. The field survey was also able to confirm that there are no stone resources identified within the study area that would be suitable for stone artefact manufacturing. Nor are there any sizeable rock outcrops occurring within the study area, and therefore there is no potential for Aboriginal rock shelters to be present.

As discussed in section 6, surface visibility across the study area was variable, ranging between <10% to 90%, averaging at 25%. Whilst the estimated survey coverage was 200,580.25m^2, effective coverage was decreased to around 50,145.07m^2. Given these constraints, it cannot be stated with certainty that there are no undetected Aboriginal heritage sites present in the proposed Evandale Expansion Masterplan Project footprint.. However, the survey results strongly indicate that site and artefact densities across the study area are likely to be low to very low. If undetected sites are present they are most likely to be isolated artefacts or small artefact scatters, representing sporadic Aboriginal activity. There were no specific landscape features present within the study area footprint, where there would be an elevated likelihood for sites or artefact densities may be present. As discussed in section 2 of this report, the study area encompasses farm land that has been entirely cleared of native vegetation and ploughed in the past. Any Aboriginal sites located within cleared agricultural areas will necessarily have been adversely impacted by agricultural and development activities, unavoidably compromising the integrity of any cultural sites retained within these areas. The extent to which these sites have been impacted will range from total obliteration to dramatic movement in spatial and temporal context. As such, there is very little potential for in situ sites to occur within the study area.

These negative survey findings and the interpretation of these findings are consistent with the results of the CHMA (2019) assessment for the 246ha parcel of land situated immediately adjacent (to the east) of the current study area. As noted previously, approximately 34ha overlaps with the current study area. CHMA (2019) also reported that no Aboriginal sites were identified during the assessment of this area and concluded that the negative survey results could be taken as a reasonably accurate indication that site and artefact densities across the study area are likely to be very low, reflecting sporadic activity.

The explanation as to why Aboriginal activity within the study area was likely to be sporadic across the study area is most probably linked directly to the topographic setting of the study area and local resource availability. The study area is located on gently undulating terrain, over 1km away from the nearest major water course the South Esk River), and there are no other permanent or semi-permanent water courses that are situated within or in the immediate vicinity of the study area.

Food and water resources within this type of landscape setting would have been significantly more limited compared with the resource rich river valley systems, or lagoon fringes. Given the limited availability of food, water and stone resources, there would have no great incentive for Aboriginal people to have focused their activities specifically in this area.

Instead, Aboriginal activity is most likely to be focused along the larger river valley systems which were probably also utilised as a traveling route through the Northern Midlands region. The observed pattern of Aboriginal site distribution noted for the general surrounds of the study region supports this contention, with the vast majority of recorded Aboriginal sites being clustered within the larger river valley systems (see section 4).

8.0 Consultation with Aboriginal Communities and Statement of Aboriginal Significance

The designated Aboriginal Heritage Officer (AHO) for this project is Vernon Graham. One of the primary roles of the Aboriginal Heritage Officer is to consult with Aboriginal community groups. The main purpose of this consultation process is:

- to advise Aboriginal community groups of the details of the project,
- to convey the findings of the Aboriginal heritage assessment,
- to document the Aboriginal social values attributed to Aboriginal heritage resources in the study area,
- to discuss potential management strategies for Aboriginal heritage sites, and
- to document the views and concerns expressed by the Aboriginal community representatives.

No Aboriginal sites were identified during the field survey of the proposed Evandale Expansion Masterplan Project footprint (the study area). A search of the AHR shows that there are no registered Aboriginal sites located within the study area, and it is assessed that there is a low to very low potential for undetected Aboriginal heritage sites to be present. Despite these negative results, the decision has been made to distribute this report to a select range of Aboriginal community groups in the north of the State for information purposes. The report has also been provided to AHT for review.

Vernon Graham has provided a statement of the Aboriginal cultural values attributed to the study area as a whole. This statement is presented below.

Statement of Cultural/Social Significance by Vernon Graham

Aboriginal heritage/relics are not renewable. Hence any cultural heritage values provide a direct link to past occupation undertaken by traditional indigenous ancestors in the region of the project proposal. This provides a story or link for the Aboriginal community today and facilitates the connection to social-cultural heritage values, ethnohistory /story and the relationship pertaining to country. This is an integral part of regaining knowledge so it can be encapsulated and retained by both the individual Aboriginal people and for the Aboriginal community collectively.

We did not identify any Aboriginal heritage sites during the survey conducted of the proposed Evandale Rezoning Project between Logan Road and Ridgeside Lane. The area is situated immediately adjacent to a previous subdivision proposal that I assessed with CHMA back in 2019. We also did not identify any Aboriginal sites during that survey.

Based on these results, and my observations made during the field survey, I am satisfied that there is a low to very low potential for other Aboriginal sites to be present in the study area, and that this proposal poses a minimal risk of impacting Aboriginal heritage values.

Even if the site of the project proposal contains no further evidence of Aboriginal heritage there are always the cultural resources (flora, fauna, aquaculture or any other resource values that the earth may offer) and the living landscape, which highlight the high significance to the Aboriginal cultural heritage values to the country. However, due

to the past clearing and construction disturbance throughout the study area, there are no cultural resources in the study area that can be disturbed. Therefore it is unlikely that any cultural resources will be impacted as part of the development of the Evandale Rezoning Project.

9.0 Statutory Controls and Legislative Requirements

The following provides an overview of the relevant State and Federal legislation that applies to Aboriginal heritage within the state of Tasmania.

9.1 State Legislation

In Tasmania, the *Aboriginal Heritage Act 1975* (the Act) is the primary Act for the treatment of Aboriginal cultural heritage. The Act is administered by the Minister for Aboriginal Affairs, through Aboriginal Heritage Tasmania (AHT. AHT is the regulating body for Aboriginal heritage in Tasmania and '[n]o fees apply for any application to AHT for advice, guidance, lodgement or permit application'.

The Act applies to 'relics' which are any object, place and/or site that is of significance to the Aboriginal people of Tasmania (as defined in section 2(3) of the Act). The Act defines what legally constitutes unacceptable impacts on relics and a process to approve impacts when there is no better option. Aboriginal relics are protected under the Act and it is illegal to destroy, damage, deface, conceal or otherwise interfere with a relic, unless in accordance with the terms of a permit granted by the Minister. It is illegal to sell or offer for sale a relic, or to cause or permit a relic to be taken out of Tasmania without a permit (section 2(4) qualifies and excludes 'objects made, or likely to have been made, for purposes of sale').

Section 10 of the Act sets out the duties and obligations for persons owning or finding an Aboriginal relic. Under section 10(3) of the Act, a person shall, as soon as practicable after finding a relic, inform the Director or an authorised officer of the find.

It should be noted that with regard to the discovery of suspected human skeletal remains, the *Coroners Act 1995* takes precedence. The *Coroners Act 1995* comes into effect initially upon the discovery of human remains, however once determined to be Aboriginal the *Aboriginal Heritage Act* overrides the *Coroners Act.*

In August 2017, the Act was substantively amended and the title changed from the *Aboriginal Relics Act 1975*. As a result, the AHT *Guidelines to the Aboriginal Heritage Assessment Process* were replaced by the *Aboriginal Heritage Standards and Procedures*. The Standards and Procedures are named in the statutory *Guidelines* of the Act issued by the Minister under section 21A of the Act.
Other amendments include:

- An obligation to fully review the Act within three years.
- Increases in maximum penalties for unlawful interference or damage to an Aboriginal relic. For example, maximum penalties (for deliberate acts) are 10,000 penalty units (currently $1.57 million) for bodies corporate other than small business entities and 5,000 penalty units (currently $785,000) for individuals or small business entities; for reckless or negligent offences, the maximum penalties are 2,000 and 1,000 penalty units respectively (currently $314,000 and $157,000). Lesser offences are also defined in sections 10, 12, 17 and 18.
- Prosecution timeframes have been extended from six months to two years.
- The establishment of a statutory Aboriginal Heritage Council to advise the Minister.

Section 21(1) specifies the relevant defence as follows: “It is a defence to a prosecution for an offence under section 9 or 14 if, in relation to the section of the Act which the defendant is alleged to have contravened, it is proved … that, in so far as is practicable … the defendant complied with the guidelines”.

9.2 Commonwealth Legislation

There are also a number of Federal Legislative Acts that pertain to cultural heritage. The main Acts being; *The Australian Heritage Council Act 2003*, *The Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and the *Environment Protection and Biodiversity Conservation Act 1999*

Australian Heritage Council Act 2003 (Comm)

The *Australian Heritage Council Act 2003* defines the heritage advisory boards and relevant lists, with the Act’s Consequential and Transitional Provisions repealing the Australian Heritage Commission Act 1975. The Australian Heritage Council Act, like the Australian Heritage Commission Act, does not provide legislative protection regarding the conservation of heritage items in Australia but has compiled a list of items recognised as possessing heritage significance to the Australian community. The Register of the National Estate, managed by the Australian Heritage Council, applies no legal constraints on heritage items included on this list.

***The Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.**

This Federal Act was passed to provide protection for the Aboriginal heritage, in circumstances where it could be demonstrated that such protection was not available at a state level. In certain instances, the Act overrides relevant state and territory provisions.

The major purpose of the Act is to preserve and protect from injury and desecration, areas and objects of significance to Aborigines and Islanders. The Act enables immediate and direct action for the protection of threatened areas and objects by a declaration from the Commonwealth Minister or authorised officers. The Act must be invoked by, or on behalf of an Aboriginal or Torres Strait Islander or organisation.

Any Aboriginal or Torres Strait Islander person or organization may apply to the Commonwealth Minister for a temporary or permanent 'Stop Order' for the protection of threatened areas or objects of significant indigenous cultural heritage.

The Commonwealth Act 'overrides' State legislation if the Commonwealth Minister is of the opinion that the State legislation (or undertaken process) is insufficient to protect the threatened areas or objects. Thus, in the event that an application is made to the Commonwealth Minister for a Stop Order, the Commonwealth Minister will, as a matter of course, contact the relevant State Agency to ascertain what protection is being imposed by the State and/or what mitigation procedures have been proposed by the land user/developer.

In addition to the threat of a 'Stop Order' being imposed, the Act also provides for the following:

- If the Federal Court, on application from the Commonwealth Minister, is satisfied that a person has engaged or is proposing to engage in conduct that breaches the 'Stop Order',

it may grant an injunction preventing or stopping such a breach (s.26). Penalties for breach of a Court Order can be substantial and may include a term of imprisonment;
- If a person contravenes a declaration in relation to a significant Aboriginal area, penalties for an individual are a fine of up to $10,000.00 and/or 5 years gaol and for a Corporation a fine up to $50,000.00 (s.22);
- If the contravention is in relation to a significant Aboriginal object, the penalties are $5,000.00 and/or 2 years gaol and $25,000.00 respectively (s.22);
- In addition, offences under s.22 are considered 'indictable' offences that also attract an individual fine of $2,000 and/or 12 months gaol or, for a Corporation, a fine of $10,000.00 (s.23). Section 23 also includes attempts, inciting, urging and/or being an accessory after the fact within the definition of 'indictable' offences in this regard.

The Commonwealth Act is presently under review by Parliament and it is generally accepted that any new Commonwealth Act will be even more restrictive than the current legislation.

Environment Protection and Biodiversity Conservation Act 1999 (Comm)
This Act was amended, through the Environment and Heritage Legislation Amendment Act (No1) 2003 to provide protection for cultural heritage sites, in addition to the existing aim of protecting environmental areas and sites of national significance. The Act also promotes the ecologically sustainable use of natural resources, biodiversity and the incorporation of community consultation and knowledge.

The 2003 amendments to the *Environment Protection and Biodiversity Conservation Act 1999* have resulted in the inclusion of indigenous and non-Indigenous heritage sites and areas. These heritage items are defined as:
'indigenous heritage value of a place means a heritage value of the place that is of significance to indigenous persons in accordance with their practices, observances, customs, traditions, beliefs or history;

Items identified under this legislation are given the same penalty as actions taken against environmentally sensitive sites. Specific to cultural heritage sites are §324A-324ZB.

Environment and Heritage Legislation Amendment Act (No1) 2003 (Comm)
In addition to the above amendments to the *Environment Protection and Biodiversity Conservation Act 1999* to include provisions for the protection and conservation of heritage, the Act also enables the identification and subsequent listing of items for the Commonwealth and National Heritage Lists. The Act establishes the *National Heritage List*, which enables the inclusion of all heritage, natural, Indigenous and non-Indigenous, and the *Commonwealth Heritage List*, which enables the listing of sites nationally and internationally that are significant and governed by Australia.

In addition to the *Aboriginal and Torres Strait Islander Heritage Protection Act 1987*, amendments made to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* enable the identification and subsequent listing of indigenous heritage values on the Commonwealth and/or National Heritage Lists (ss. 341D & 324D respectively). Substantial penalties (and, in some instances, gaol sentences) can be imposed on any person who damages items on the National or Commonwealth Heritage Lists (ss. 495 & 497) or provides false or misleading information in relation to certain matters under the Act (ss.488-490). In

addition, the wrongdoer may be required to make good any loss or damage suffered due to their actions or omissions (s.500).

10.0 Aboriginal Cultural Heritage Management Plan

Heritage management options and recommendations provided in this report are made based on the following criteria.

- Consultation with Vernon Graham (Aboriginal Heritage Officer).
- The legal and procedural requirements as specified in the *Aboriginal Heritage Act 1975* (The Act).
- The results of the investigation as documented in this report; and
- Background research into the extant archaeological and ethnohistoric record for the study area and the surrounding region.

Recommendation 1

No Aboriginal heritage sites or specific areas of elevated Aboriginal heritage sensitivity were identified along the survey of the Evandale Expansion Masterplan Project footprint. The search of the AHR undertaken for this project shows that there are no registered Aboriginal sites that are located within or in the immediate vicinity of the study area boundaries. On the basis of the above, it is clear that the proposed subdivision project will not impact on any known Aboriginal heritage sites, and there is a very low potential to impact undetected Aboriginal heritage. It is therefore advised there are no Aboriginal heritage constraints, or legal impediments to the project proceeding.

Recommendation 2 (Unanticipated Discovery Plan)

It is assessed that there is generally a low to very low potential for additional undetected Aboriginal heritage sites to occur within the Evandale Rezoning Project footprint. However, if, during the course of the proposed works, previously undetected archaeological sites or objects are located, the processes outlined in the Unanticipated Discovery Plan should be followed (see Appendix 1). A copy of the Unanticipated Discovery Plan should be kept on-site during all ground disturbance and construction work. All construction personnel should be made aware of the Unanticipated Discovery Plan and their obligations under the Aboriginal Heritage Act 1975 (the Act).

Recommendation 3

Copies of this report should be submitted to Aboriginal Heritage Tasmania (AHT) for review and comment.

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Glossary of Terms

Aboriginal Archaeological Site
A site is defined as any evidence (archaeological features and/or artefacts) indicating past Aboriginal activity, and occurring within a context or place relating to that activity. The criteria for formally identifying a site in Australia vary between States and Territories.

Artefact
A portable object that has been humanly made or modified (see also stone artefact).

Assemblage (lithic)
A collection of complete and fragmentary stone artefacts and manuports obtained from an archaeological site, either by collecting artefacts scattered on the ground surface or by controlled excavation.

Broken Flake
A flake with two or more breakages, but retaining its area of break initiation.

Chert
A highly siliceous rock type that is formed biogenically from the compaction and precipitation of the silica skeletons of diatoms. Normally there is a high percentage of cryptocrystalline quartz. Like chalcedony, chert was valued by Aboriginal people as a stone material for manufacturing stone tools. The rock type often breaks by conchoidal (shell-like) fracture, providing flakes that have hard, durable edges.

Cobble
Water-worn stones that have a diameter greater than 64mm (about the size of a tennis ball) and less than 256mm (the size of a basketball).

Core
A piece of stone, often a pebble or cobble, but also quarried stone, from which flakes have been struck for the purpose of making stone tools.

Core Fragments
A piece of core, without obvious evidence of being a large primary flake.

Cortex
The surface of a piece of stone that has been weathered by chemical and/or physical means.

Debitage
The commonly used term refers to the stone refuse discarded from knapping. The manufacturing of a single implement may result in the generation of a large number of pieces of debitage in an archaeological deposit.

Flake (general definition)
A piece of stone detached from a nucleus such as a core. A complete or substantially complete flake of lithic material usually shows evidence of hard indenter initiation or occasional bending initiation. The most common type of flake is the 'conchoidal flake'. The flake's primary fracture surface (the ventral or inside surface) exhibits features such as fracture initiation, bulb of force, and undulations and lances that indicate the direction of the fracture front.

Flake fragment
An artefact that does not have areas of fracture initiation, but which displays sufficient fracture surface attributes to allow identification as a stone artefact fragment.

Flake portion (broken flake)
The proximal portion of a flake retaining the area of flake initiation, or a distal portion of a flake that retains the flake termination point.

Flake scraper
A flake with retouch along at least one margin. The character of the retouch strongly suggests shaping or rejuvenation of a cutting edge.

Nodules
Regular or irregular cemented masses or nodules within the soil. Also referred to as concretions and buckshot gravel. Cementing agents may be iron and/or manganese oxides, calcium carbonate, gypsum etc. Normally formed in situ and commonly indicative of seasonal waterlogging or a fluctuating chemical environment in the soil such as; oxidation and reduction, or saturation and evaporation. Nodules can be redistributed by erosion. (See also 'concretion').

Pebble
By geological definition, a waterworn stone is less than 64 mm in diameter (about the size of a tennis ball). Archaeologists often refer to waterworn stones larger than this as pebbles though technically they are cobbles.

Quartz
A mineral composed of crystalline silica. Quartz is a very stable mineral that does not alter chemically during weathering or metamorphism. Quartz is abundantly common and was used by Aboriginal people throughout Australia to make light-duty cutting tools. Despite the often unpredictable nature of fracture in quartz, the flakes often have sharp cutting edges.

Quartzite
A hard silica-rich stone formed in sandstone that has been recrystallised by heat (metaquartzite) or strengthened by slow infilling of silica in the voids between the sand grains (Orthoquartzite).

Retouch (on stone tools)
An area of flake scars on an artefact resulting from intentional shaping, resharpening, or rejuvenation after breakage or blunting of a cutting edge. In resharpening a cutting edge the

retouch is invariably found only on one side (see also 'indeterminate retouched piece', retouch flake' etc).

Scraper
A general group of stone artefacts, usually flakes but also cores, with one or more retouched edges thought to have been used in a range of different cutting and scraping activities. A flake scraper is a flake with retouch along at least one margin, but not qualifying for attribution to a more specific implement category. Flake scrapers sometimes also exhibit use-wear on the retouched or another edge.

Silcrete
A hard, fine-grained siliceous stone with flaking properties similar to quartzite and chert. It is formed by the cementing and/or replacement of bedrock, weathering deposits, unconsolidated sediments, soil or other material, by a low-temperature Physico-chemical process. Silcrete is essentially composed of quartz grains cemented by microcrystalline silica. The clasts in silcrete are most often quartz grains but may be chert or chalcedony or some other hard mineral particle. The mechanical properties and texture of silcrete are equivalent to the range exhibited by chert at the fine-grained end of the scale and with quartzite at the coarse-grained end of the scale. Silcrete was used by Aboriginal people throughout Australia for making stone tools.

Site Integrity
The degree to which post-depositional disturbance of cultural material has occurred at a site.

Stone Artefact
A piece (or fragment) of stone showing evidence of intentional human modification.

Stone procurement site
A place where stone materials are obtained by Aboriginal people for the purpose of manufacturing stone artefacts. In Australia, stone procurement sites range on a continuum from pebble beds in watercourses (where there may be little or no evidence of human activity) to extensively quarried stone outcrops, with evidence of pits and concentrations of hammerstones and a thick layer of knapping debris.

Stone tool
A piece of flaked or ground stone used in an activity, or fashioned for use as a tool. A synonym for a stone tool is ‘implement’. This term is often used by archaeologists to describe a flake tool fashioned by delicate flaking (retouch).

Use wear
Macroscopic and microscopic damage to the surfaces of stone tools, resulting from its use. Major use-wear forms are edge fractures, use-polish and smoothing, abrasion, and edge rounding bevelling.

Appendix 1

Unanticipated Discovery Plan

Unanticipated Discovery Plan

Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania

For the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 1995*. The Unanticipated Discovery Plan is in two sections.

Discovery of Aboriginal Relics other than Skeletal Material

Step 1:

Any person who believes they have uncovered Aboriginal relics should notify all employees or contractors working in the immediate area that all earth disturbance works must cease immediately.

Step 2:

A temporary 'no-go' or buffer zone of at least 10m x 10m should be implemented to protect the suspected Aboriginal relics, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected Aboriginal relics have been assessed by a consulting archaeologist, Aboriginal Heritage Officer or Aboriginal Heritage Tasmania staff member.

Step 3:

Contact Aboriginal Heritage Tasmania on **1300 487 045** as soon as possible and inform them of the discovery. Documentation of the find should be emailed to **aboriginalheritage@dpac.tas.gov.au** as soon as possible. Aboriginal Heritage Tasmania will then provide further advice in accordance with the *Aboriginal Heritage Act 1975*.

Discovery of Skeletal Material

Step 1:

Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:

Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:

A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:

If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:

Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

Aboriginal Heritage Tasmania
Department of Premier and Cabinet

Tasmanian Government

Guide to Aboriginal site types

Stone Artefact Scatters

A stone artefact is any stone or rock fractured or modified by Aboriginal people to produce cutting, scraping or grinding implements. Stone artefacts are indicative of past Aboriginal living spaces, trade and movement throughout Tasmania. Aboriginal people used hornfels, chalcedony, spongelite, quartzite, chert and silcrete depending on stone quality and availability. Stone artefacts are typically recorded as being 'isolated' (single stone artefact) or as an 'artefact scatter' (multiple stone artefacts).

Shell Middens

Middens are distinct concentrations of discarded shell that have accumulated as a result of past Aboriginal camping and food processing activities. These sites are usually found near waterways and coastal areas, and range in size from large mounds to small scatters. Tasmanian Aboriginal middens commonly contain fragments of mature edible shellfish such as abalone, oyster, mussel, warrener and limpet, however they can also contain stone tools, animal bone and charcoal.

Rockshelters

An occupied rockshelter is a cave or overhang that contains evidence of past Aboriginal use and occupation, such as stone tools, middens and hearths, and in some cases, rock markings. Rockshelters are usually found in geological formations that are naturally prone to weathering, such as limestone, dolerite and sandstone

Quarries

An Aboriginal quarry is a place where stone or ochre has been extracted from a natural source by Aboriginal people. Quarries can be recognised by evidence of human manipulation such as battering of an outcrop, stone fracturing debris or ochre pits left behind from processing the raw material. Stone and ochre quarries can vary in terms of size, quality and the frequency of use.

Rock Marking

Rock marking is the term used in Tasmania to define markings on rocks which are the result of Aboriginal practices. Rock markings come in two forms; engraving and painting. Engravings are made by removing the surface of a rock through pecking, abrading or grinding, whilst paintings are made by adding pigment or ochre to the surface of a rock.

Burials

Aboriginal burial sites are highly sensitive and may be found in a variety of places, including sand dunes, shell middens and rock shelters. Despite few records of pre-contact practices, cremation appears to have been more common than burial. Family members carried bones or ashes of recently deceased relatives. The Aboriginal community has fought long campaigns for the return of the remains of ancestral Aboriginal people.

Further information on Aboriginal Heritage is available from:

Aboriginal Heritage Tasmania
Community Partnerships and Priorities
Department of Premier and Cabinet
GPO Box 123 Hobart TAS 7001

Telephone: 1**300 487 045**
Email: **aboriginalheritage@dpac.tas.gov.au**
Web: **www.aboriginalheritage.tas.gov.au**

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Tasmanian Government



Evandale Expansion Masterplan Project

Historic Heritage Assessment Report

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CULTURAL HERITAGE MANAGEMENT AUSTRALIA

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Executive Summary

Project Details

Ireneinc have been engaged by Traders in Purple (the proponent) to prepare an application for rezoning of land from Agricultural zoning to General Residential Zoning at Evandale in Northern Tasmania. This in preparation for a proposed residential subdivision known as the Evandale Expansion Masterplan Project. The rezoning project will be situated on 78ha of private pastureland, belonging currently to four separate landowners that is located between Logan Road and Ridgeside Lane at Evandale. The site will be accessed via existing access tracks linking the properties to Logan Road and Ridgeside Lane. Figures 1–3 show the location and spatial extent of the land that is proposed to be rezoned (the study area).

CHMA Pty Ltd has been engaged by the proponent to undertake a historic heritage assessment for the Evandale Expansion Masterplan Project (the study area), to identify any potential historic heritage constraints. This report presents the findings of the historic heritage assessment.

Survey Results and Statement of Archaeological Potential

A search of the various historic heritage registers (as listed in section 1.4 of this report) shows that there are no registered historic sites or features located within or in the immediate vicinity of the study area. The closest heritage-listed features are located around Evandale the township, approximately 600m west of the study area.

Two historic heritage sites were identified during the field survey assessment of the proposed Evandale Expansion Masterplan Project footprint. The first of these is a weatherboard cottage and associated out buildings. The second is a raised platform area and associated building rubble and other materials, which is possibly the remains of the foundations of a dwelling. Figure i shows the location of these two historic features. Neither of these two heritage features are registered on any local or state heritage registers. Both historic heritage features are situated within the project footprint and may potentially be impacted if the proposed residential rezoning and subdivision proceeds. A description of each heritage feature is provided in Section 7 of this report.

Surface visibility across the study area was variable, ranging between <10% to 90%, averaging at 25%. Whilst the estimated survey coverage was 200,580.25m^2, effective coverage was decreased to around 50,145.07m^2. Given these constraints, it cannot be stated with certainty that there are no additional undetected historic heritage sites present in the proposed Evandale Expansion Masterplan Project footprint. However, there is no archival evidence and physical evidence of any other residential or early pastoral structures (such as stock yards or barns) having been present in the study area. This is not surprising, given that it is likely that such structures would have been destroyed to allow for more grazing pasture for livestock. The potential for additional undetected heritage features to be present in the study area is assessed as being low.

As described in section 5 of this report, the search of the various heritage registers shows that there are no registered Historic sites, buildings, properties or features that are situated within the boundaries of the proposed Evandale Residential Subdivision. However, there are a large number of heritage listed buildings, properties and features that are located in the general surrounds of the study area. This includes the township of Evandale, a number of

buildings within the town, and a number of properties surrounding the town (see Figures 5 and 6).

The proposed Evandale Expansion Masterplan Project is situated just to the east of the town of Evandale. Given the reasonably close proximity, it is possible that the residential development may have some degree of visual impact on the town. To what extent these visual impacts will diminish the historic landscape setting and values of the Evandale is debatable, and will be dependent to some degree of the final Masterplan designs.

In order to minimize or negate these risks, the Proponent will need to ensure that there is meaningful and ongoing consultation with the broader public, as well as Heritage Tasmania and the Northern Midlands Council. This is addressed in the management recommendations in section8 of this report.

Management Recommendations

The heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- Background research into the extant archaeological and historic record for the study area and its surrounding regions, as documented in section 3 of this report.
- The results of the heritage register searches and field investigation as documented in section 4 of this report.
- The results of the field survey assessment, as presented in section 6 of the report.
- The legal and procedural requirements as summarised in section 7 of this report.

Recommendation 1

Two historic heritage features were identified during the field survey assessment of the Evandale Rezoning Project study area. The first is a freestanding weatherboard cottage with additions built on and four standing outbuildings in poor condition with no definitive construction dates but is most likely built after 1850. The second consists of a raised platform of soil with building debris that strongly suggests that there was once a dwelling at this location. Neither of these two heritage features are registered on any local or state heritage registers, but potentially have some level of local significance. Both historic heritage feature are situated within the project footprint and may potentially be impacted if the proposed residential rezoning and subdivision proceeds. Both heritage features are likely to be subject to conditions under Section C6 of the *Tasmanian Planning Scheme*, which deals specifically with the Local Heritage Code.

It is recommended that if the weatherboard dwelling and associated outbuildings will be directly impacted by the development proposal, then a detailed archival recording should be undertaken by a suitably qualified practitioner.

It is further recommended that if the potential dwelling site will be directly impacted by the development proposal, then a limited program of sub-surface investigations should be undertaken at the site location. The aim of the investigations should be to determine the presence/absence of foundations in this area and/or cultural deposits. This information will be used as the basis for clarifying the potential age and significance of this feature. Again, these works should be undertaken by a suitably qualified practitioner.

Recommendation 2

The township of Evandale is a National Trust classified Georgian village, with some 39 heritage listed properties included on the Australian Heritage Database. The Evandale Township itself is on the RNE (Place ID 12770) and is described as 'An administrative and agricultural settlement with a rich agricultural setting, consistent architectural quality, good urban spaces and fine town plantings resulting in a high integrated and successful townscape' (Australian Heritage Database Place File No 6/03/070/0046).

Given the high social significance to the local community, it will be critical that the proponent of the Evandale Expansion Masterplan Project continues to engage with the public, as well as the relevant government stakeholders (Heritage Tasmania and the Northern Midlands Council) on the Masterplan design for the development and ensuring that it is sympathetic with existing heritage values around Evandale, or at least minimises visual impacts on these values.

Recommendation 3

It is assessed that there is a low potential for undetected historic heritage sites to occur within the study area. However, if, during the course of the proposed works, previously undetected heritage sites or objects are located, the processes outlined in the Unanticipated Discovery Plan should be followed (see section 9).



Figure i: Aerial image showing the location of the two historic features recorded in the study area

1.0 Project Outline

1.1 Project Details

Ireneinc have been engaged by Traders in Purple (the proponent) to prepare an application for rezoning of land from Agricultural zoning to General Residential Zoning at Evandale in Northern Tasmania. This in preparation for a proposed residential subdivision known as the Evandale Expansion Masterplan Project.

The rezoning project will be situated on 78ha of private pastureland, belonging currently to four separate landowners that is located between Logan Road and Ridgeside Lane at Evandale. The site will be accessed via existing access tracks linking the properties to Logan Road and Ridgeside Lane. Figures 1–3 show the location and spatial extent of the land that is proposed to be rezoned (the study area). The study area is situated immediately to the west of a previous proposed residential rezoning project that was assessed by CHMA (2019) for the same proponent. The land involved in the CHMA (2019) assessment encompassed approximately 246ha. Approximately 34ha overlaps with the current study area.

CHMA Pty Ltd has been engaged by the proponent to undertake a historic heritage assessment for the proposed Evandale Expansion Masterplan Project (the study area as shown in Figures 1-3), to identify any potential historic heritage constraints. This report presents the findings of the historic heritage assessment.

1.2 Aims of the Investigation

The principal aims of this project are as follows.

- To undertake a historic heritage assessment for the study area, as shown in Figures 1-3. The assessment is to be compliant with both State and Commonwealth legislative regimes.
- To determine the extent of previously identified Historic heritage sites within and in the immediate vicinity of the study area.
- To locate and document Historic heritage sites that may be present within the identified bounds of the study area.
- To assess the archaeological potential of the study area.
- To assess the significance values of identified historic heritage sites.
- To develop a set of management recommendations aimed at minimising the impact of the proposed Evandale Expansion Masterplan Project on any identified historic heritage values.
- Prepare a report that documents the findings of the historic heritage assessment.

1.3 Project Methodology

A three-stage project methodology was implemented for this assessment.

Stage 1 (Pre-Fieldwork Background Work)

Prior to fieldwork being undertaken, the following tasks were completed by CHMA staff.

Heritage Register Searches
A search was carried out of a number of historic registers and databases in order to determine the extent of historic sites and features in the vicinity of the study area. Agency databases searched included:

- The Australian Heritage Database (AHD)
- Tasmanian Heritage Register (THR)
- The Register of the National Estate (RNE)
- Australian Heritage Places Inventory (AHPI)
- The National Trust (NT)
- The Tasmanian Planning Scheme
- Northern Midlands Interim Planning Scheme 2013

Detailed historical research was also undertaken to understand the historical context of the area, its growth and development from early pioneer settlement and previous investigations in the area. Resources were utilised from:

- National Library of Australia
- Trove online collections
- Tasmanian Archives
- LINC Tasmania

The collation of relevant documentation for the Project
The following documentation was collated for this project.

- Maps of the study areas.
- References to the land use history of the study area.
- GIS Information relating to landscape units present in the study area.
- Geotechnical information for the study area, including soil and geology data.

Stage 2 (Field Work)

Stage 2 entailed the fieldwork component of the assessment. The field survey was undertaken by Shay Hannah (CHMA archaeologist), Vernon Graham (Senior Aboriginal Heritage Officer) and Kierrin Graham (Heritage Field Assistant) over a period of 2 days (1-02-2023 and 3-02-2023).

The field team walked a total of 20.8km of survey transects across the proposed Evandale Expansion Masterplan Project footprint, with the average width of each transect being 10m. As part of the field survey program, additional transects were walked in areas where there was improved surface visibility, to gain a better insight as to the potential presence or absence of historic sites across the study area. Section 5 provides further details as to the survey coverage achieved within the study area.

Stage 3 (Reporting)

Stage three of the project involves the production of a Draft and Final Report that includes an analysis of the data obtained from the field survey, an assessment of heritage sensitivity and management recommendations. The report has been prepared by Shay Hannah and Stuart Huys.

A draft copy (electronic PDF version) of the report was submitted to the proponent, for review. Any comments that were received have been incorporated into the final draft report.

1.4 Project Limitations

Most archaeological investigations are subject to limitations that may affect the reliability of the results. The main constraint to the present investigation was restricted surface visibility due primarily to vegetation cover. At the time of the field survey, surface visibility across the proposed footprint ranged between <10% and 90%, with the estimated average being 25%. The main access tracks to the study area and within it are graded vehicle tracks, where surface visibility was <10%. There were also numerous areas where erosion scalds were present within the pastureland that provided locates of improved visibility. To offset constrained surface visibility, any areas of improved visibility were inspected in detail. The constraints in surface visibility limited the effectiveness of the survey assessment to some extent. The issue of surface visibility is further discussed in Section 5 of this report.

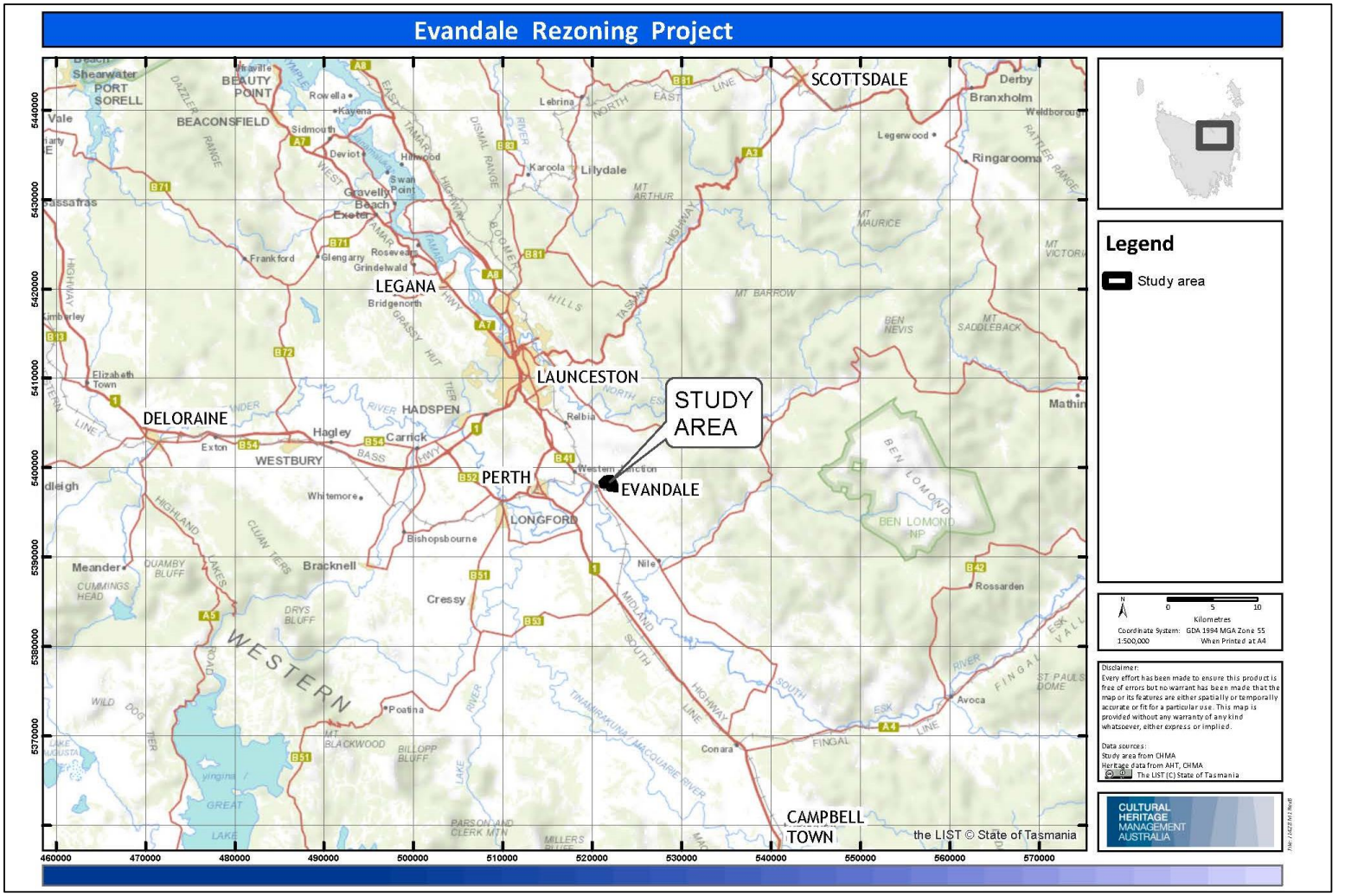


Figure 1: Topographic image showing the location of the study area at Evandale in the Northern Midlands Region of Tasmania.

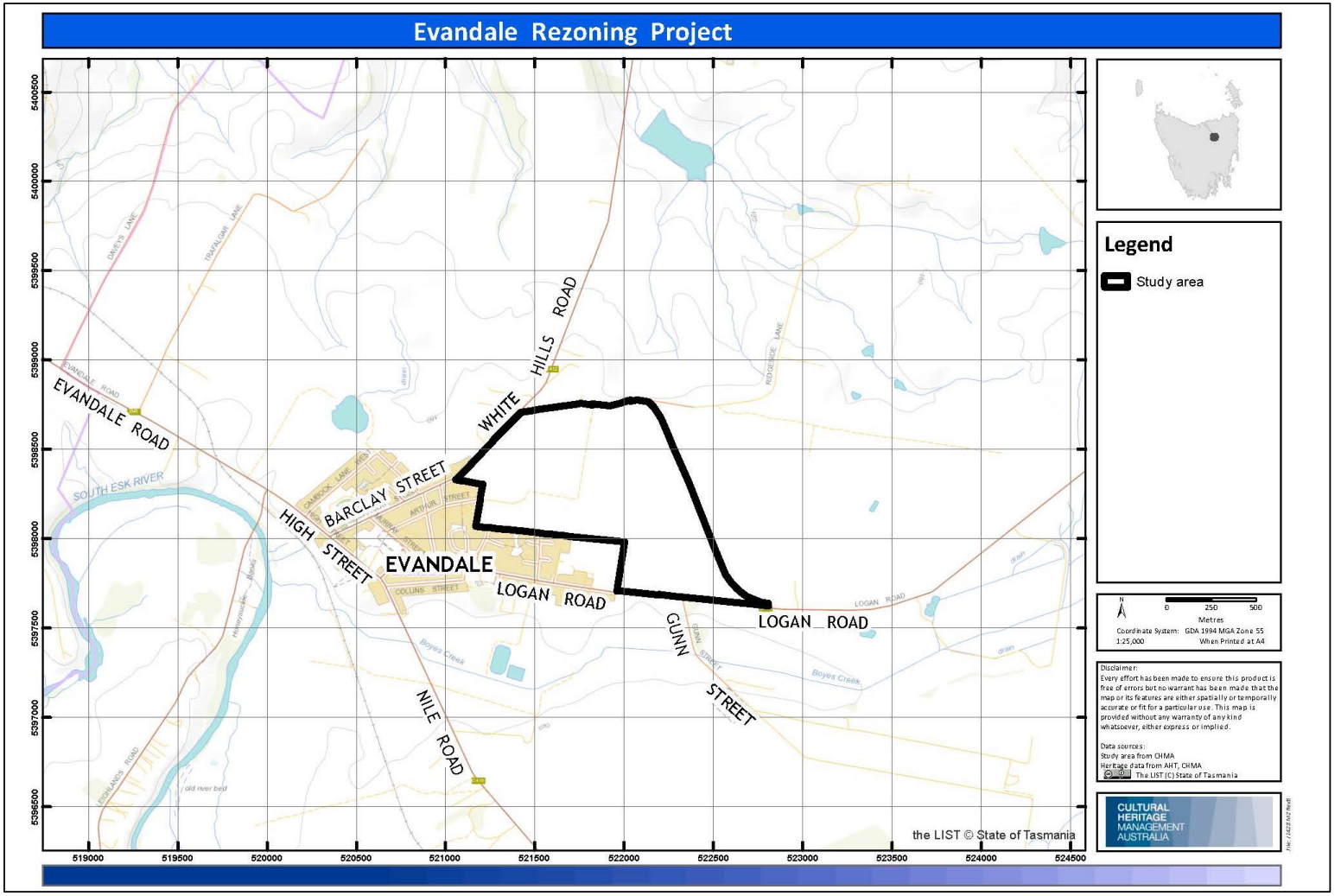


Figure 2: Topographic image showing the landscape setting of the Evandale study area.

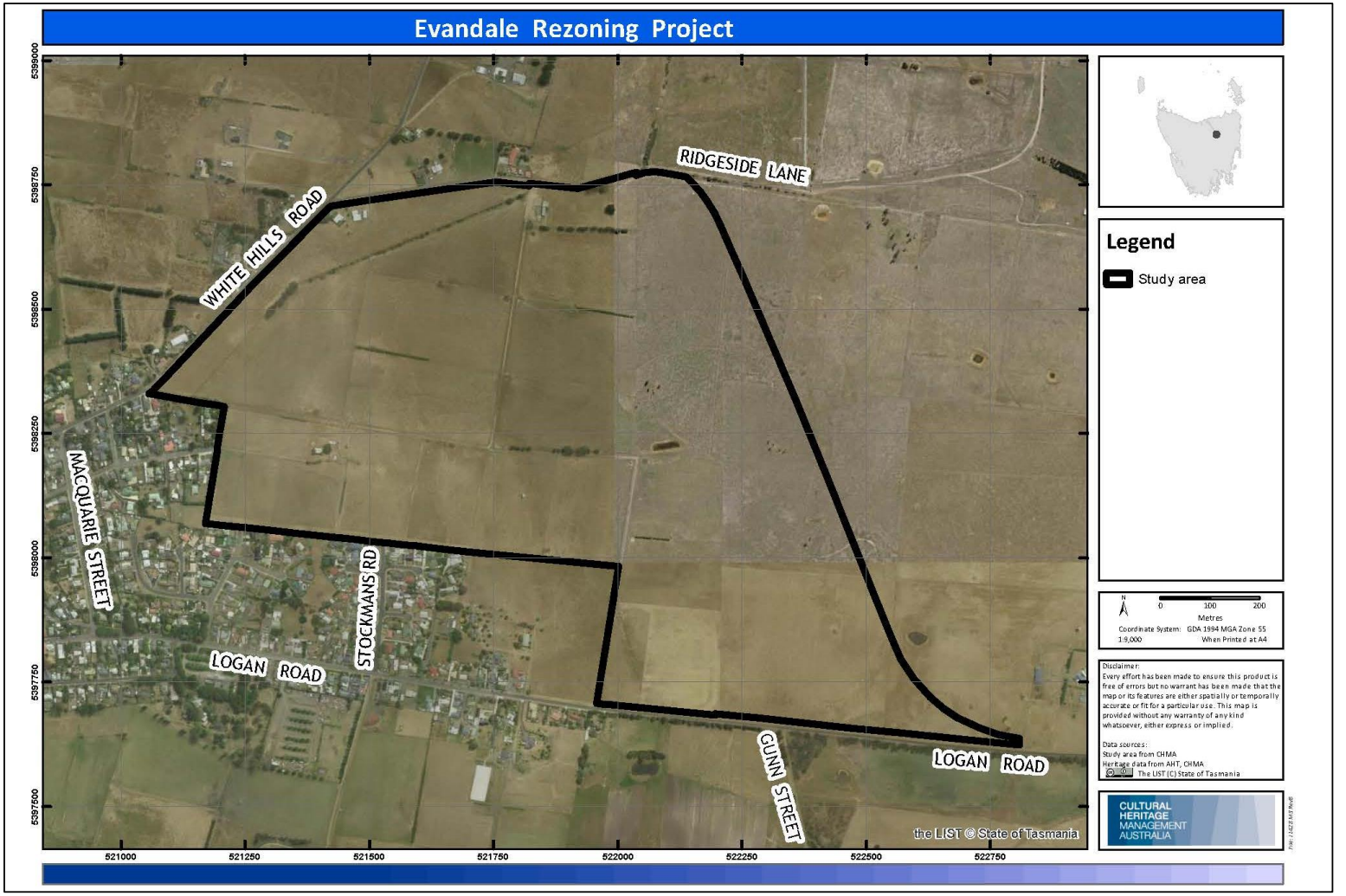


Figure 3: Aerial image showing the boundaries of the Evandale study area.

2.0 Environmental Setting of the Study Area

The proposed Evandale Expansion Masterplan Project footprint (the study area), covers 78ha of existing private pastureland. The study area is situated immediately adjacent (to the west) to the existing Evandale township in the Northern Midlands Region of Tasmania (see Figures 1–3). The Northern Midlands region is characterised by extensive lowland plains and rounded topography which ranges from gently sloping to steep. The northern portion of the region is bounded by the dolerite-capped escarpment of the Great Western Tiers to the west, and the Ben Lomond Plateau in the north-east. The Midlands region is comprised of the Launceston Basin; the valley between these landforms.

The South Esk River and its tributaries, including the Macquarie, St Pauls, Elizabeth and the Blackman Rivers, drain all the northern portion of the Midlands (Matthews *et al 1996).* The South Esk River is the largest of the water courses in the general vicinity of the study area, being situated around 2km to the west. The South Esk River has its origins in the rugged ranges around Ben Nevis and Mt Saddleback, and eventually empties into the Tamar River at Launceston. In the area around Evandale, the river flows through a broad open valley system, with a wide flood plain. The only other named water course in the vicinity of the study area is Boyes Creek, a semi-permanent water course, which is situated around 300m to the south. There are no named water courses within the study area.

The terrain across the study area is characteristically flat to very gently undulating, with slope gradients typically in the range of between 1-10º. The area is well drained, and is slightly elevated above the lower lying flood plains of the South Esk River. To the east and north of the study area are a series of prominent hills and tiers.

The underlying geology of the study area consists of Cenozoic cover sequences which consist of dominantly non-marine sequences of gravel, sand, silt, clay and regolith. (List 2023). There are no stone outcrops occurring anywhere across the study area. In terms of soils, the study area lies almost entirely on lateritic podzolic soils (Australian Soil Classification: chromosol) developed on flat to gently undulating (0-3%) river terraces (see Plate 2).

The study area footprint is situated within a rural landscape, encompassing a series of farm paddocks that has been almost entirely cleared of native vegetation, and regularly ploughed and cropped. The vegetation structure across the study area primarily consists of introduced grasses, most notably Prairie Grass (*Bromus wildenowie*) and White Clover (*Trifolium repens*) (NSW Department of Primary Industries 2022). Amongst the introduced grasses are weeds, such as the Scotch Thistle (*Onopordum acanthium*) and one stand of conifer trees (see Plate 1 and Plate 4). The main access tracks leading into the study area and within it have been graded with introduced gravel to facilitate access to the individual properties of the study area.

The study area has a cool, wet climate typical of northern Tasmania. Rainfall occurs throughout the year; with a mean annual rainfall of 589mm. Rainfall is highest in August and September (64mm – 71mm) and lower from January to February (28 – 31mm). The warmest months of the year are January and February when mean temperatures range from minimums of 10°C to maximums of about 23°C. Winter tends to be cold with mean annual temperatures in the coldest months of June and July ranging from 1.5°C mean minimum to maximum temperatures of about 11°C (BOM 2023).



Plate 1: View east showing a graded access track surrounded by introduced grasses within the study area.



Plate 2: View southeast showing an erosion scald with dark grey loam soil.



Plate 3: View southeast showing a 25° slope present within the study area.



Plate 4: View southwest showing the gentle undulations present within the study area.

3.0 Historic Context of the Study Area

3.1 The Founding of Evandale and Nile

The Evandale area has been known by several names from its earliest days as the New River to Honeysuckle Bank and Collins's Hill (von Stieglitz 1967:63). Governor Lachlan Macquarie camped on the riverbank below the current site of Evandale when passing through the region in 1811 (known at the time as Honeysuckle Banks).

Evandale was originally to be called the township site of Morven, approximately two miles from the current site of Evandale and on lands partly given and partly purchased. The village was also to be called Morven, however as no permanent water supply existed in the area, no township (or building) was ever erected there. Instead, the township was developed in its current position, with the name Evansdale chosen and used in 1829, and then Evandale from 1836. Its boundaries were officially defined by 1841. The name choice was reportedly in recognition of the surveyor and painter, George William Evans, the first Surveyor-General in VDL. The township was proclaimed by Governor Denison in 1848, at which point there were 96 houses all built on surrounding settler's grants and 600 inhabitants (von Stieglitz 1967).

Evandale was proclaimed a rural municipality in 1865 with John Ralston as Warden. Other councillors included John Gibson, John Bryan, William Atkins, William Sidebottom, William Stewart and James Cox.

By 1865, the township population was 3,260, over 255,000 acres. A doctor and two reverends occupied the area, one of whom was secretary of the library. Five schools existed within the area, including three private and one public school at Evandale and one at Lymington (Nile).

By 1876 crops and stocks included wheat, oats, peas and potatoes with some 20,000 acres under cultivation. Horses, cattle, sheep, goats and pigs were also prolific.

In the 1960s, the population of the Evandale area had dropped to 2150 due to the movement of people from the country and into the towns.

3.2 Early Personalities and Properties

Much of the early history of the Evandale township and its immediate surroundings has been defined by the colonial personalities and their properties that were established there. The first European settler to the area was David Gibson, who arrived from Perthshire, Scotland. Gibson was charged with all Government Stock from 1806 and was also inspector of stock for the colony. In 1809 he was granted the property of 'Pleasant Banks' upon which he had built a home by 1811 when Governor Macquarie visited the region (von Stieglitz 1946:6).

The 2000-acre property of 'Marchington' was settled by John Smith soon after he arrived in 1822. The property of 'Riverview' was built by the Solomon family in the 1830s, with 'Watery Plains' was granted to Donald Sutherland in 1830 and 'Woodhall' was granted to the police magistrate for the Norfolk Plains Capt. Malcolm Laing Smith between 1828-1834. Smith's gardens at Woodhall were reportedly famous throughout the state (von Stieglitz 1946:15), before Joseph Boney purchased the property in 1834. Bonney brought a large number of

families to the colony following his visit back to England in 1853. When he returned to the Island in 1855 he brought 137 Scottish families and 44 Irish families within him to the colony – some of whom came under his direction and others under that of Rev. Robert Russell.

William Sidebottom arrived in the area from England in 1820 and built a brewery near the Clarendon Hotel. Sidebottom was also responsible for the construction of the Prince of Wales Hotel and several other places made from bricks manufactured in an old brick kiln located on Woodlands (part of the Andora property).

James Cox, a wealthy grazier and merchant, led the settlement of the Nile district, building his great estate at Clarendon in 1814. The Clarendon Homestead complex is now recognised as one of the most impressive Georgian houses in Australia. The complex includes a magnificent two-storey Georgian Regency-style mansion as well as multiple outbuildings including a brick coach house and stables, brick barns and a cottage. The area is surrounded by magnificent manicured gardens for which Cox was widely known (von Stieglitz 1946). The entire complex was reputed to have cost a staggering 40,000 pounds.

James Cox was a pre-eminent and key player in the formation of the Evandale region. Cox originally named the township Lymington, after the seaport town in Hampshire, however following years of confusion between it and Lymington near Port Cygnet, the town became known as Nile. The name Nile was taken from Captain Andrew Barclay's name for Cox's Rivulet and was officially adopted in 1910. Much of Cox's success in Van Diemen's Land arose from his treatment of the Bounty Emigrants who arrived in the area in the early 40s. The Bounty Emigrants arrived in Tasmania under a scheme devised by the government to assist the great shortage of good agricultural labour on the island. The scheme instigated in Hobart in 1837, allowed private individuals to nominate emigrants to come out and work the land, with part of the passage money to be paid for by a bounty. In 1842, 2448 free emigrants arrived looking for employment. By 1843 the scheme had been scrapped with the labour market flooded with pass holders.

Cox engaged several of these free emigrants as shepherds, offering them a hut, rations and a certain number of acres (approximately 20) in lieu of wages. (Von Stieglitz 1946:8). This system was mutually beneficial, with Cox saving the expense of an overseer, having his sheep attended to in a better manner than they would otherwise, and purchasing their grain at market price. Several of these smaller blocks were situated on land that has since been incorporated into the properties of 'Andora' and 'Redbanks' 'the stones, bricks and chimney places of which are now fast disappearing' (von Stieglitz 1946:8).

'Trafalgar' and 'Cambock were both built by Scottish Mariner Captain Andrew Barclay R.N. in c1816 and c1824 respectively. 'Camperdown' was also owned by Barclay and was located in the Nile area. Trafalgar was originally built as temporary accommodation before the main house was built several years later. The main house is now long gone, while the original brick house remains (though weatherboard additions cover three sides of the structure). Barclay continued acquiring land in the surrounding district and by 1828 was considered the largest owner of good land on the island. He died in 1839. Several roads such as Barclay Street, Cambock Lane and Trafalgar Lane mark his influence on the area.

George Collins was granted a large allotment in the south of the modern Evandale in the 1820s, still called Collins Hill. Collins' land extended up the hill to encompass the current

Evandale township, with further land grants made at Logan, White Hills, Nile and Deddington during the 1920s.

Settlement and its associated infrastructure were built largely by free labour from the convict economy of the time, including the houses, roads, fences and much of the land clearing. The township was progressively built on land previously belonging to either Collins or Barclay from the 1820s, extending over land that was naturally suited to permanent habitation on a plateau above the banks of the South Esk River

Irish Emigrant Samuel Bryan was granted the property of 'Strathmore' where he built a flour mill. The mill and races were complete by 1827 with the head race diverting water from the Nile River (Mason-Cox 1994). The mill itself was an unusually large rural flour mill for the time (Cassidy and Preston 2000). The homestead was built in 1833 when Bryan was assigned the services of a convict plasterer in 1833 (*Hobart Town Gazette*, *Launceston Advertiser* 2 May 1833:2).

During the economic downturn in the early 1840s, Bryan decided to sell Strathmore, which was advertised in 1846 as a 2,000-acre estate 'with dwelling-house and offices, plantations, gardens, greenhouses and in addition the Strathmore Mills, driving three pairs of stones, miller's house, huts' (*Launceston Examine*r 22 July 1846:4).

By 1855 the Strathmore Mills belonged to James Cox of Clarendon. Cox extended the mill race to irrigate Clarendon (Mason-Cox 1994:35). In the 1860s, the millpond at Strathmore was used to help introduce salmon and trout ova to northern Tasmania, with more than 300 brown trout hatched by 1868 ('The Trout at Strathmore' *Mercury* 28 February 1868:2).

In 1870 Strathmore was featured in one of the most infamous legal cases in Tasmania, with Archdeacon Thomas Reibey suing landowner Henry Blomfield for slander over accusations that Reibey had indecently assaulted his wife Margaret Blomfield on the property. Reibey lost the case, resigned his position and then initiated a highly successful political career which culminated in his premiership in 1876-1877.

Following 40 years of occupation by James Irving Boyes, Strathmore was split into two properties, with the mill ending up on the new property entitled Lochmaben (Sunnyside THR 5194 – rejected nomination) and Bryan's millpond now bears the name Lochmaben Lake (Cassidy and Preston 2000:76)

The property of Dalness was granted to and named by Donald McDonald who died not long after his grant. The property was subsequently purchased from McDonald's heirs by Allan Mackinnon, a Scotsman who had emigrated to VDL from the Isle of Skye. The existing house is thought to have been constructed in 1839 when newspapers show Mackinnon advertising for 'a man accustomed to work and lay freestone' (*The Cornwall Chronicle* 14 September 1839:3). Bricks for the construction were produced on the property (Bennett and Warner 2009:60). In 1878, the property was inherited by Donald (Allan's son) who started a merino stud flock. By 1903, the property was recorded as having 13 residents including its owners, labourers, ploughmen, groom and a cook.

The property of 'Andora' was built by John Charles von Stieglitz in 1887 and was the birthplace of pastoralist and historian Karl Rawdon von Stieglitz in 1893. Von Stieglitz was best known for his contributions to local history, inspired by an enthusiasm for his pioneer pastoral ancestors. His works coincided with a burgeoning interest in the State's heritage, previous Tasmanian history having been concerned mainly with celebratory accounts of major institutions such as independent schools and churches. He exemplified the antiquarian imagination, based on intimate knowledge of local sites and sources (Jetson 2006). Von Stieglitz died on 26 March 1967 during a service in St Andrew's Church of England, Evandale, and was buried in that churchyard.

3.3 Churches

The first church at Evandale was built and opened in 1837: The Church of England Chapel, which served also as a school room during weekdays. The preacher for the church was Referent RR Davies. By 1839, the chapel had become too small for the growing congregation and work began on a new building which was finished in 1844. However, poor construction led to the church being pulled down in 1871 when its foundations gave way, and the new (still present) St Andrews was opened and dedicated in 1873.

St Peter's Church of England was erected by James Cox (c1853) and stands on three acres of land also given by him in Cox's township of Nile. The building likewise served as a school on weekdays and a chapel on Sundays. In 1869, the Local Schools Board visited the school, reporting 18 boys and 21 girls in attendance. The building continued to be used until late in the century when a new school was erected by the Education Department. Renovations of the building were undertaken in 1893, at which time a Chancel Vestry and Tower were added paid from an endowment left by James Cox.

The Church of Scotland was constructed from government grants petitioned by the community in 1838. The foundation stone for St Andrew's Presbyterian Church (now St Andrew's Uniting Church), was laid by Governor Sir John Franklin. The first service was held on Sunday 5th September 1840. Its minister, Rev. Robert Russell, ministered the church for 34 years, giving liberally to its building funds and constructing the Manse, the school house and two stained glass windows to the church.

St Mary's Roman Catholic Church was built in c.1863 by Mr J Calvin and came under the parish authority of the Catholic Church at Longford. The wooden church was originally built with a bell tower, but it collapsed due to rotting wood and was not replaced. The church was the oldest wooden Catholic Church in the South Pacific to conduct regular masses until services ceased in 2002.

3.4 Shops, Pubs and Hotels

By the 1860s most of the everyday needs of the townspeople were procurable in Evandale itself. A brewery existed that used local barley and supplied the six hotels in the area: The Clarendon Hotel, the Prince of Wales (c1836), the Royal Oak, the Macquarie, the Imperial (later Ingleside) and the New River – later The Patriot King William the Fourth (and later again Blenheim) (c1832).

The Pavilion was constructed for the Evandale Agricultural Society in 1868 and was a home for working bees for any and all events held in the township.

A bakery (worked by Mr Daymond) supplied bread and pastry made from flour ground at Strathmore or Hunter's Mills. Within the same vicinity was a wheelwright, gentlemen's tailor, harness-maker, cobbler, butcher and ladies' dressmaker. The Evandale post office opened in June 1835.

The Railway Hotel was constructed to supply the wants of men at work in connection with the Main Line when it was going through in 1876. This was a single-storey building with a tannery and boot repair shop attached, standing down the bank from the hotel and above the present railway crossing to the main road. All three were built by William Sidebottom (von Stieglitz 1967:67).

3.5 Transport

Before the arrival of the train in 1876, the area was serviced by coaches run by the Hanney, Fyfe, Gutteridge and Turner families. Thomas Hanney and his son drove the first coach from Evandale to Launceston, which was followed by Simon Fyfe and his son. Gutteridge drove the coach from the Nile to Launceston as did Harry Turner of the Nile Post Office (von Stieglitz 1967:21).

The coaching businesses and private riding kept blacksmiths busy, with four blacksmiths working in the township, each of which had up to six men working them (von Stieglitz 1967:21).

Following a protracted battle to bring a railway to Tasmania, the Tasmanian Main Line Company opened a narrow gauge line from Hobart to Evandale in 1876 (now Western Junction). From here it connected with the broad gauge Launceston and Western Railway from Launceston and Deloraine (previously built in 1871). The station remained a break of gauge station until the upgrade of the Evandale-Deloraine line was converted to a narrow gauge in 1888.

3.6 Evandale Expansion Masterplan Project Footprint

An examination of historic land district charts and historic maps shows that the current footprint of the Evandale Expansion Masterplan Project study area was part of numerous land grants from c.1839–1889.

The central and eastern sections of the study area (see Figure 4) were originally part of a land grant of 659 acres to Hugh McLean. The date of this initial land grant is unknown, but newspapers of the time indicate that the land was in his possession by 1839 (*The Cornwall Chronicle* Saturday 14 December 1839:4). In 1848 McLean's land was granted to three men; Patricius William Welsh, Neil McLean and Neil Campbell (*The Cornwall Chronicle* Wednesday 4 October 1854:8; TAHO AD956/1/1 pg. 165). The western portion of the study area was originally three separate land grants belonging to Kennedy Murray, W Bell and Dr James Ryley Kenworthy (TAHO AD956/1/1 pg.90; *The Cornwall Chronicle* Wednesday 4 October 1854:8). There is little information on the lives of Neil McLean, Neil Campbell and W Bell due to the lack of reliable historic sources.

Patricius William Welsh was a noteworthy figure in the early colonial period of Northern Tasmania. In 1830 they were the chief district constable and poundkeeper of the Launceston Police District (*The Mercury* Monday 7 March 1927:3). Despite his success in Tasmania, where he was a wealthy landholder and businessman, he left the state and would follow John Batman in the 1840s to form a settlement in Victoria that would later become Geelong (*Geelong Advertiser* Saturday 8 December 1906:6). During this time, Welsh set about acquiring land, buying up hundreds of acres of what is now Geelong West and then subdividing into allotments of a quarter acre each and they sold quickly, a large portion being purchased by brickmakers, who, after the gold discovery, charged £38 per thousand for bricks. Mr. Welsh, in conjunction with a Mr Raleigh, Mr. Lock, Mr. Thorpe and others then started the first Geelong soap works (*Geelong Advertiser* Saturday 8 December 1906:6). He afterwards built on an extensive business as a spirit merchant, both in Geelong and Ballarat. However, Patricius Welsh would not be a long-term success in Victoria. His time as managing director at the Port Phillip Bank, one of the more significant financial institutions at the time, was believed to be one of the principal factors in a great financial crash that lasted from 1841–1843 (*The Australasian* Saturday 11 April 1931:4). This event, along with the migration of people leaving Geelong on account of the railways, financially ruined him and sadly would die in poverty, aged 66 on Monday 17 May 1869 (*Geelong Advertiser* Saturday 8 December 1906:6; *The Ballarat Star* Tuesday 18 May 1869:2).

Dr James Ryley Kenworthy arrived in Launceston Tasmania from Liverpool England in 1833. In 1837, Dr Kenworthy married Mary Barclay, the only child and heiress to the Cambock, Trafalgar and Camperdown estates at Evandale, owned by her father Andrew Barclay. Shortly after marriage, Dr. Kenworthy and his wife would come to possess the aforementioned estates and resided at Cambock House (*Weekly Examiner* Saturday 1 November 1873:16). In 1840, the Dr Kenworthy subdivided his estates into many pastoral and agricultural farms that were then let to tenants. Dr. Kenworthy and his family would reside in Cambock until 1856. During his time in Evandale he worked as a medical man and was said to be greatly respected and beloved by his tenants and the working classes in the area (*Weekly Examiner* Saturday 1 November 1873:16). Dr Kenworthy would also form a member of a committee that created the first library in Evandale (*Launceston Examiner* Saturday 25 July 1885:1). He also excelled in several scientific fields and was involved in related institutes, including becoming a president of the Mechanics' Institute of Launceston (*Weekly Examiner* Saturday 1 November 1873:16). After leaving Evandale in 1856, Dr Kenworthy would return to Liverpool England and would live there until his death on August 15 1873 (Walch 1874:222; *Weekly Examiner* Saturday 1 November 1873:16).

Kennedy Murray arrived in Tasmania from Norfolk Island in the 1820s. Murray was a prominent member and landowner within the early colonial community of Evandale. In 1826 his home, known then as 'Prosperous House' (now known as 'Fallgrove') is a substantial Georgian-style home and was one of the first prominent houses in the area. In 1835 Murray became the inaugural Chief Constable of Evandale, later he was described as a district constable (*The Cornwall Chronicle* Saturday 16 March 1839:4; *The Cornwall Chronicle* Saturday 1 December 1860:4; Aussie Towns 2023). In 1837 Murray acquired a land grant of 55 acres, 2 roods and 33 perches (now part of the current study area), after his death on November 30 1860, it is believed that this land grant was willed to his son, John Henry Kennedy (TAHO AD956/1/1 pg.90; TAHO AD960-1-5 Will Number 874; *The Cornwall Chronicle* Saturday 1 December 1860:4).

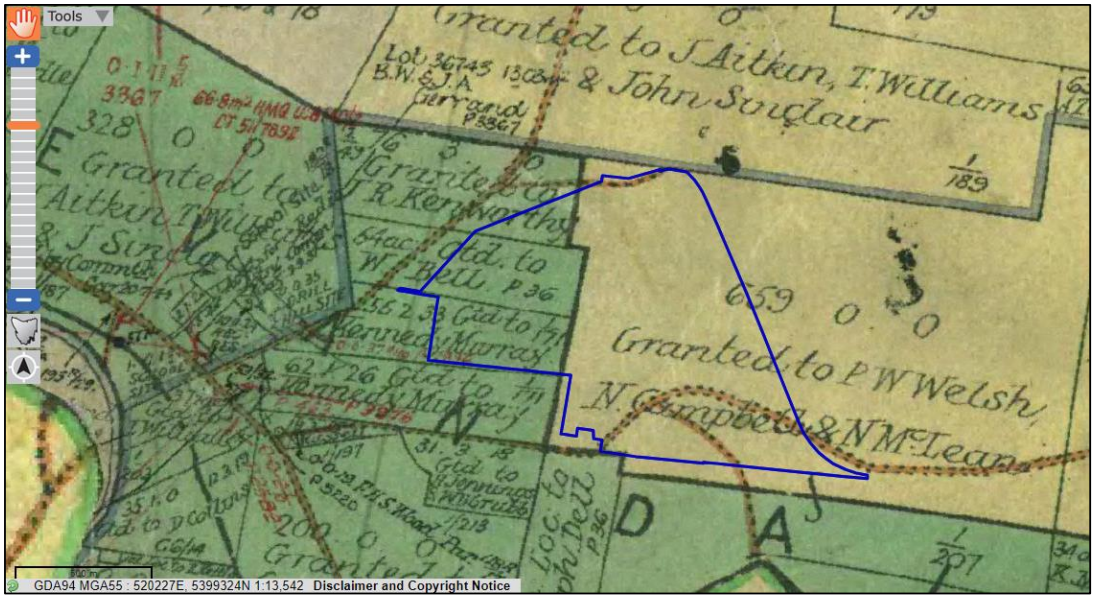


Figure 4: Historic Land Grants Chart overlayed with Evandale Rezoning Project footprint (shown in blue) showing the land grants of Patricius William Welsh, Neil McLean, Neil Campbell, Dr J R Kenworthy, W Bell and Kennedy Murray in 1848 (List 2023).

4.0 Heritage Database Searches

A search was carried out of a number of historic registers and databases in order to determine the extent of historic sites and features in the vicinity of the study area. Agency databases searched included:

- Australian National Heritage List (NHL)
- Australian Commonwealth Heritage List (CHL)
- The Australian Heritage Database (AHD)
- Tasmanian Heritage Register (THR)
- The Register of the National Estate (RNE)
- Australian Heritage Places Inventory (AHPI)
- The National Trust (NT)
- Northern Midlands Interim Planning Scheme (2013) (NMIPS)

The results of the various heritage registers shows that there are no registered Historic sites, buildings, properties or features that are situated within the boundaries of the proposed Evandale Expansion Masterplan Project Footprint. However, there are a large number of heritage listed buildings, properties and features that are located in the general surrounds of the study area. This includes the township of Evandale, a number of buildings within the town, and a number of properties surrounding the town (see Figures 5 and 6). Tables 1 and 2 below provide the summary details for the heritage listed features located in the surrounds of the study area.

The township of Evandale is a National Trust classified Georgian village, with some 39 heritage listed properties included on the Australian Heritage Database. The Evandale Township itself is on the RNE (Place ID 12770) and is described as 'An administrative and agricultural settlement with a rich agricultural setting, consistent architectural quality, good urban spaces and fine town plantings resulting in a high integrated and successful townscape' (Australian Heritage Database Place File No 6/03/070/0046). The defined boundaries of the area includes '1600ha surrounding Evandale, bounded by a line commencing on Evandale Road at AMG northing (Zone55G): 5398700mN, then directly to AMG point: EP202993 (being about 300m south of the homestead Trafalgar), then directly to the intersection of White Hills and Ridgeside Roads, then via the centreline of the latter easterly for about 1.5km to AMG northing: 5398800mN, then directly to AMG point: 239977 near Logan Road, then 235964, then 223955, then 220955, then directly to the middle thread of the South Esk River at AMG northing: 5395500mN, then northerly via the middle thread of the river to AMG northing 5396000mN, then directly to AMG point: 185967, then directly to the commencement point (Australian Heritage Database Place File No 6/03/070/0046).'

A further five heritage listed features or properties occur within the immediate surrounds of the Evandale township.

Table 1: Heritage Registered Properties and buildings listed on the Tasmanian Heritage Register, located within and in the surrounds of Evandale

Tasmanian Heritage Register ID	Name	CPR number	Address	Status
4998	Elkington		548 LOGAN RD, EVANDALE	Permanently Registered
5001	Native Point (Private Property)		15906 MIDLAND HWY, PERTH	Permanently Registered
5007	Riverview		560 EVANDALE RD, EVANDALE	Permanently Registered
5008	Police Residence		8 BARCLAY ST, EVANDALE	Permanently Registered
5009	House		33 COLLINS ST, EVANDALE	Permanently Registered
5010	Briars Lane		35 COLLINS ST, EVANDALE	Permanently Registered
5011	Cottage		14 COLLINS ST, EVANDALE	Permanently Registered
5012	Solomon House		1 HIGH ST, EVANDALE	Permanently Registered
5013	Patriot King William IV Inn		16 HIGH ST, EVANDALE	Permanently Registered
5014	Euroka		5 HIGH ST, EVANDALE	Permanently Registered
5015	Former Anglican Rectory		4 HIGH ST, EVANDALE	Permanently Registered
5016	The Laurels		17 HIGH ST, EVANDALE	Permanently Registered
5017	Manse		27 HIGH ST, EVANDALE	Permanently Registered
5018	St Andrew's Anglican Church		6 HIGH ST, EVANDALE	Permanently Registered
5019	St Andrew's Presbyterian Church and Cemetery		9 HIGH ST, EVANDALE	Permanently Registered
5020	Former School House		20 HIGH ST, EVANDALE	Permanently Registered

Tasmanian Heritage Register ID	Name	CPR number	Address	Status
5022	Ventnor		24 HIGH ST, EVANDALE	Permanently Registered
5023	Water Tower		26-28 HIGH ST, EVANDALE	Permanently Registered
5024	Former State School		18 HIGH ST, EVANDALE	Permanently Registered
5025	Prince of Wales Hotel		2 NILE RD, EVANDALE	Permanently Registered
5026	Post Office		2 HIGH ST, EVANDALE	Permanently Registered
5027	Shops		2 RUSSELL ST, EVANDALE	Permanently Registered
5028	House		1 LEOPOLD ST. EVANDALE	Permanently Registered
5029	Fallgrove		1 LOGAN RD, EVANDALE	Permanently Registered
5030	Cottage		21 MACQUARIE ST, EVANDALE	Permanently Registered
5031	House		23 MACQUARIE ST, EVANDALE	Permanently Registered
5032	Roman Catholic Church		15 MACQUARIE ST, EVANDALE	Permanently Registered
5033	Cottage		6 RODGERS LANE, EVANDALE	Permanently Registered
5034	Cemetery		6-8 MURRAY ST, EVANDALE	Permanently Registered
5036	Cottage		5 MURRAY ST, EVANDALE	Permanently Registered
5039	Cottage		21 MURRAY ST, EVANDALE	Permanently Registered
5041	Anjou Villa		8 RODGERS LANE, EVANDALE	Permanently Registered
5042	Shop		5 RUSSELL ST, EVANDALE	Permanently Registered

Tasmanian Heritage Register ID	Name	CPR number	Address	Status
5043	Council Chambers		4 RUSSELL ST, EVANDALE	Permanently Registered
5044	Clarendon Arms Hotel		11 RUSSELL ST, EVANDALE	Permanently Registered
5045	Cottage		13-15 RUSSELL ST, EVANDALE	Permanently Registered
5046	Conjoined Cottages		18 RUSSELL ST, EVANDALE	Permanently Registered
5047	Former Methodist Chapel		28 RUSSELL ST, EVANDALE	Permanently Registered
5048	Royal Oak Hotel		6 RUSSELL ST, EVANDALE	Permanently Registered
5317	Trafalgar		138 TRAFALGAR LANE, EVANDALE	Permanently Registered
5319	Dalness		200 DALNESS RD, EVANDALE	Permanently Registered
5320	Harland Rise		46 DALNESS RD, EVANDALE	Permanently Registered
8208	Cottage		4 NILE RD, EVANDALE	Permanently Registered
11063	Evandale to Launceston Water Scheme		WHITE HILLS RD, EVANDALE	Permanently Registered
11063	Evandale to Launceston Water Scheme		10 CAMBOCK LANE W, EVANDALE	Permanently Registered
11063	Evandale to Launceston Water Scheme		1-3 BARCLAY ST, EVANDALE	Permanently Registered
11063	Evandale to Launceston Water Scheme		24 HIGH ST, EVANDALE	Permanently Registered

Table 2: Heritage Registered Properties and buildings listed on the Register of the National Estate, located within and in the surrounds of Evandale

Name	**Evandale Historic Town**	**Evandale Post Office**	**Fallgrove**	**Spring Plain**
List	Register of the National Estate (Non-statutory archive)	Register of the National Estate (Non-statutory archive)	Register of the National Estate (Non-statutory archive)	Register of the National Estate (Non-statutory archive)
Class	Historic	Historic	Historic	Historic
Legal Status	Registered (21/10/1980)	Registered (21/03/1978)	Registered (21/10/1980)	Indicative Place
Place ID	12770	12717	12776	12693
Place File No	6/03/070/0046	6/03/070/0018	6/03/070/0050	6/03/070/0006
Address	High St, Evandale, TAS	2 High St, Evandale, TAS	1 Logan Rd, Evandale, TAS	Logan Rd, Evandale, TAS

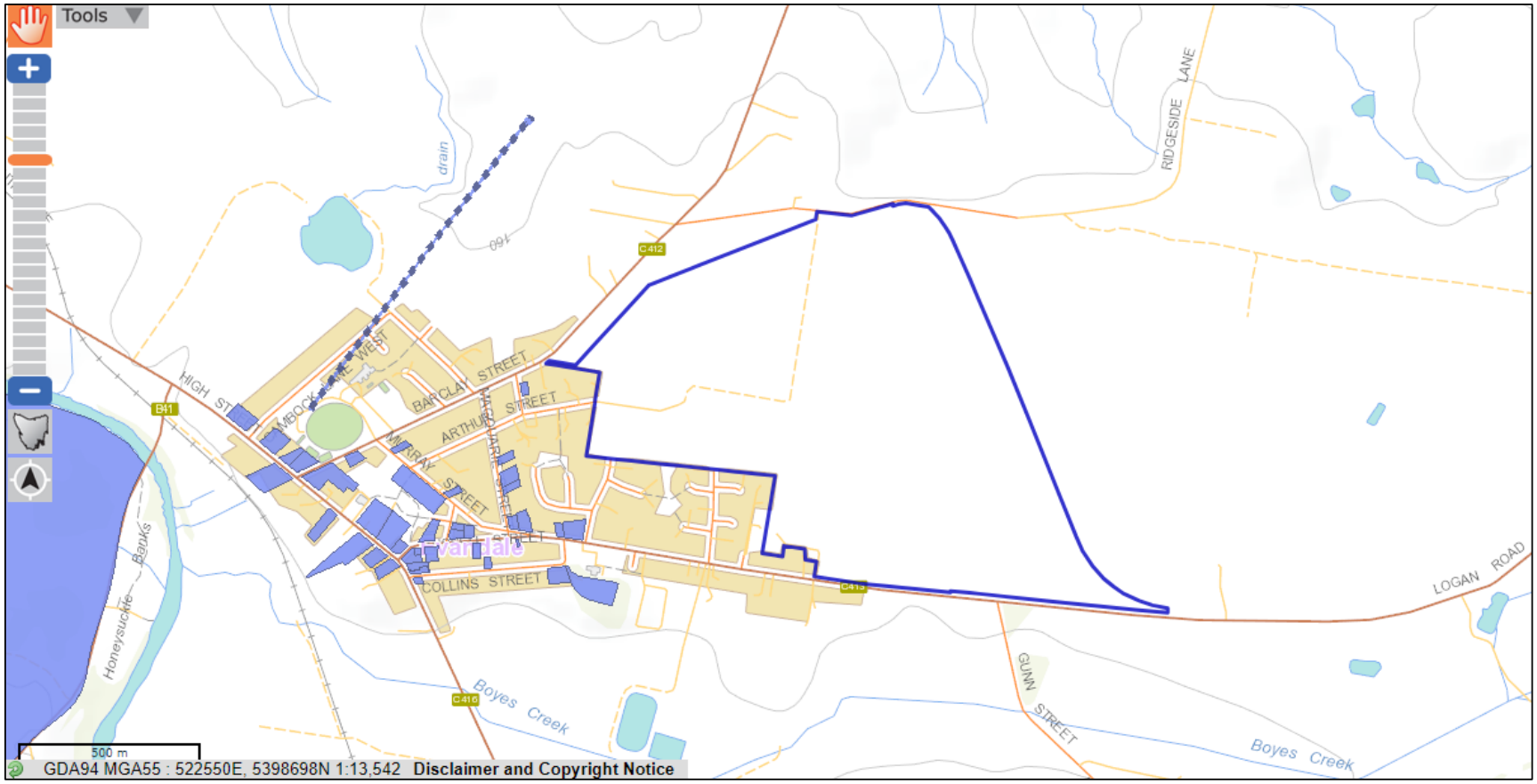


Figure 5: Topographic map showing the location of the study area (highlighted in dark blue) in relation to historic sites and features listed on the Tasmanian Heritage Register (depicted by light blue shading) (List 2023).

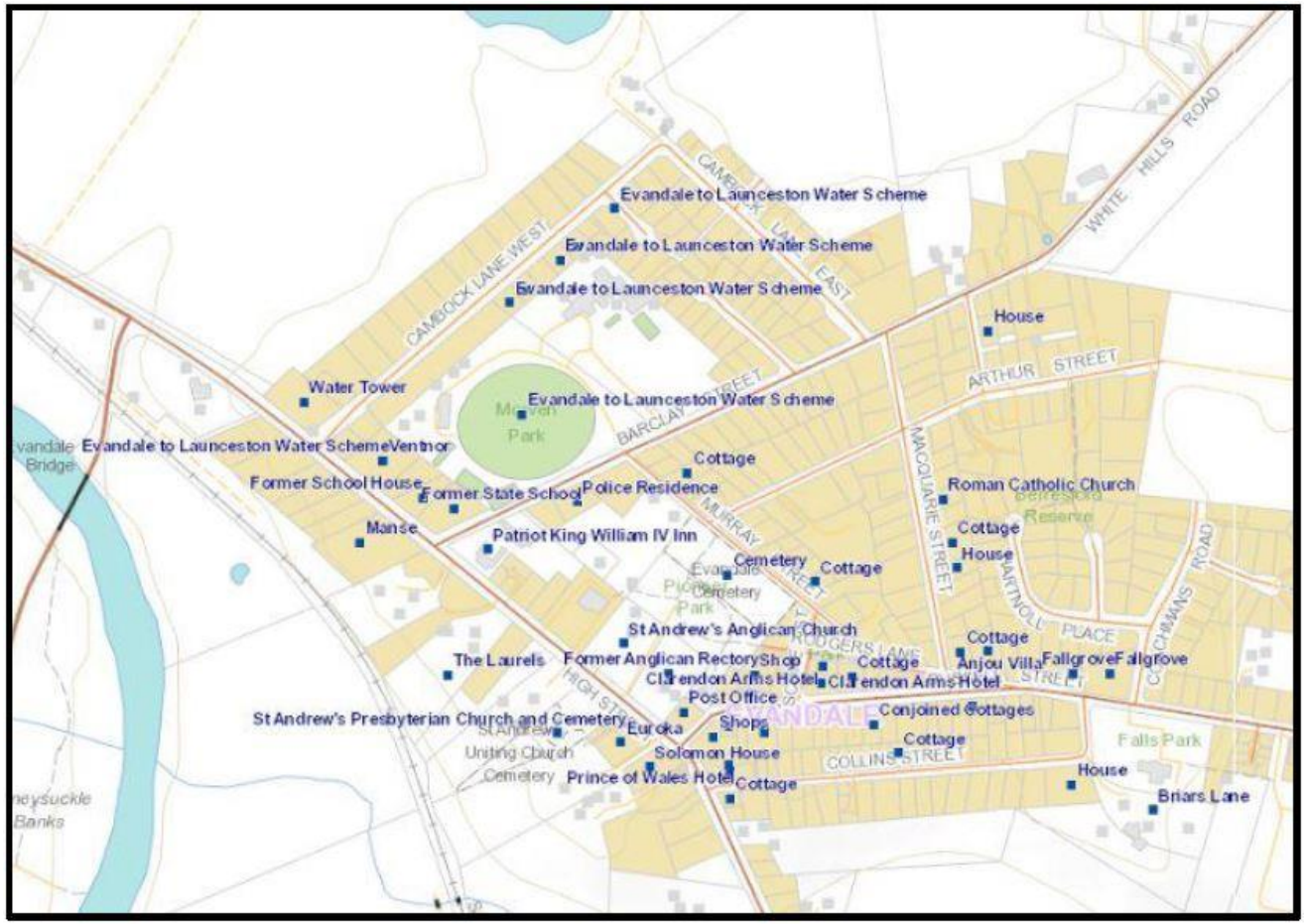


Figure 6: Heritage listed properties within the town of Evandale, just to the west of the study area

5.0 Survey Coverage of the Study Area

Survey Coverage and Surface Visibility

Survey coverage refers to the estimated portion of a study area that has been visually inspected during a field survey. Surface Visibility refers to the extent to which the actual soils of the ground surface are available for inspection. There are a number of factors that can affect surface visibility, including vegetation cover, surface water and the presence of introduced gravels or materials. Figure 7 provides a useful guide for estimating surface visibility.

The field survey was undertaken by Shay Hannah (CHMA archaeologist), Vernon Graham (Senior Aboriginal Heritage Officer) and Kierrin Graham (Heritage Field Assistant), over a period of 2 days (1-02-2023–3-02-2023). The field team walked a total of 20.8km of survey transects across the proposed Evandale Rezoning Project footprint, with the average width of each transect being 10m and 5m within access tracks. Table 3 provides the total transects walked for each section and Figure 8 shows the alignment of the survey transects walked by the field team.

The survey transects were predominately focussed on the Project footprint and the main access track leading into the study area. As part of the field survey program, additional transects were walked in areas where there was improved surface visibility, to gain a better insight as to the potential presence or absence of historical sites across the study area. Surface visibility across the study area was variable, ranging between <10% to 90%, averaging at 25% which is in the low range. Improved surface visibility was found within erosion scalds which ranged from 50% and 100%, averaging at 70%. Vegetation cover was the main impediment to visibility.

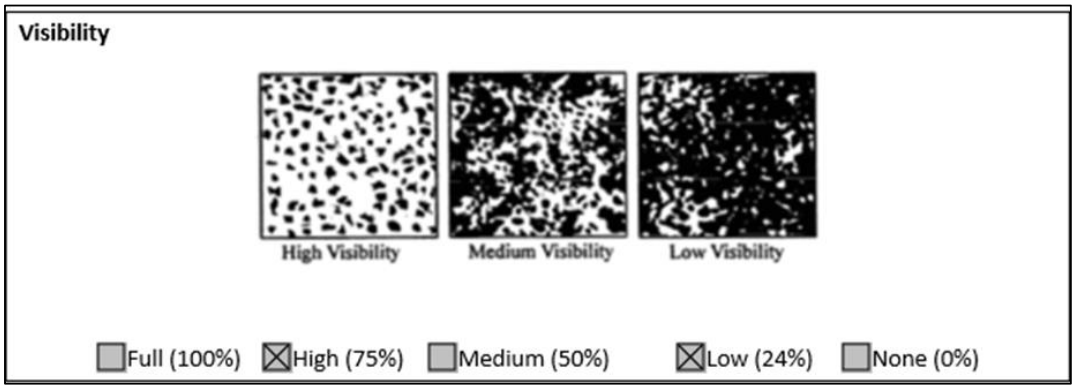


Figure 7: Guidelines for the estimation of surface visibility.

Effective Coverage

Variations in both survey coverage and surface visibility have a direct bearing on the ability of a field team to detect historic heritage sites. The combination of survey coverage and surface visibility is referred to as effective survey coverage. Table 3 presents the estimated effective survey coverage achieved during the course of the survey assessment. The effective coverage is estimated to have been around 50,145.07m^2. This level of effective coverage is assessed as being adequate for the purposes of determining the potential extent, nature and distribution of historic heritage sites in the study area.

Table 3: Effective Survey Coverage achieved across the surveyed areas.

Area Surveyed	Survey Transects	Estimated Surface Visibility	Effective Survey Coverage
Evandale Rezoning Project	19,316.05m x 10m= 193,160.5m^2	25%	48,290.13
Access Tracks	1483.95m x 5m= 7419.75m^2	25%	1854.94m^2
Total	**200,580.25m^2**		**50,145.07m^2**



Plate 5: View east showing a graded access track where surface visibility was reduced to 25% within the study area.



Plate 6: View southeast showing an erosion scald with 100% surface visibility within the study area.



Plate 7: View southwest showing the vegetation cover that reduced surface visibility to 25% within the study area.

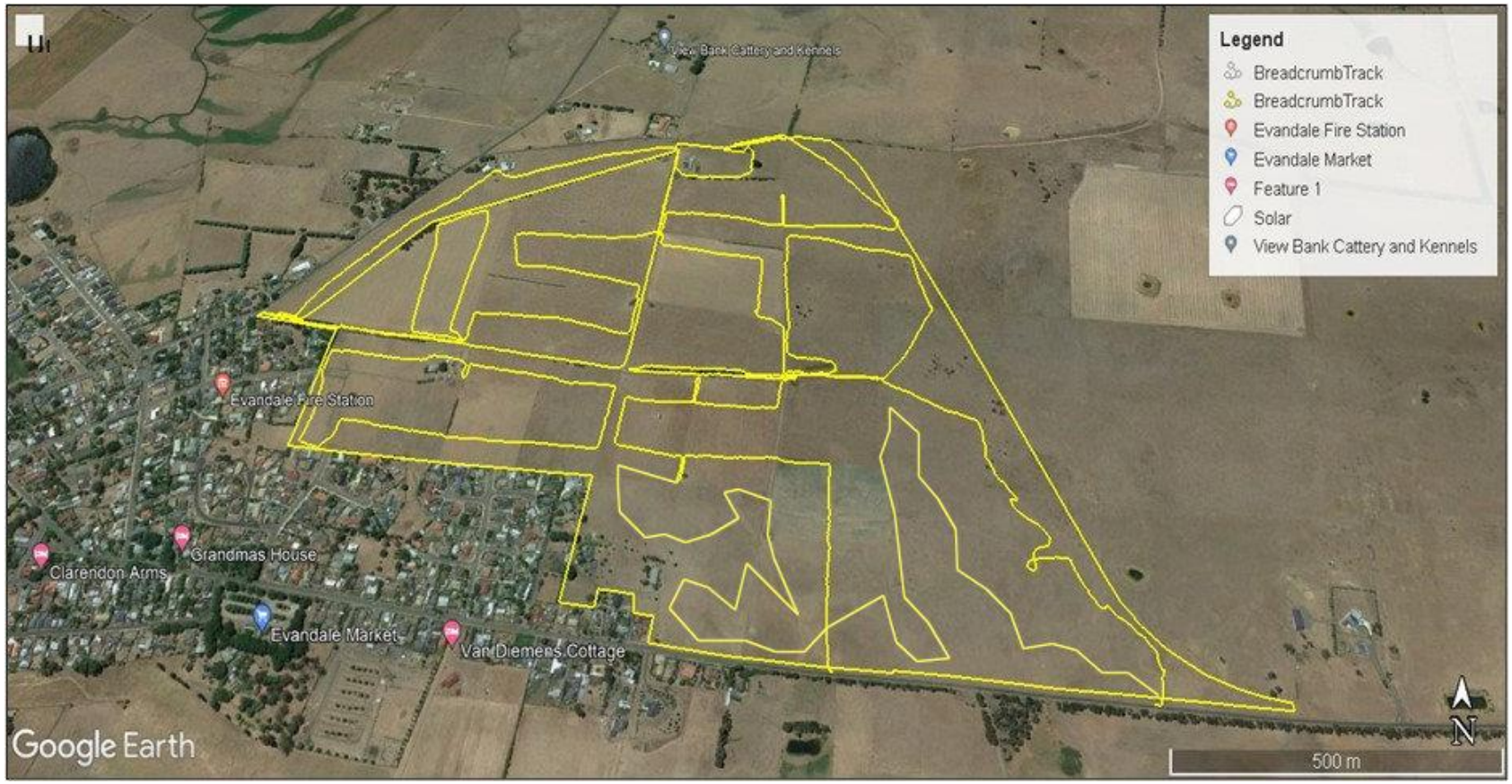


Figure 8: Aerial image showing survey transects walked by the field team across the study area.

6.0 Survey Results and Statement of Archaeological Potential

Two historic heritage sites were identified during the field survey assessment of the proposed Evandale Expansion Masterplan Project footprint. The first of these is a weatherboard cottage and associated out buildings. The second is a raised platform area and associated building rubble and other materials, which is possibly the remains of the foundations of a dwelling. Figure 9 shows the location of these two historic features. Neither of these two heritage features are registered on any local or state heritage registers. Both historic heritage feature are situated within the project footprint and may potentially be impacted if the proposed residential rezoning and subdivision proceeds. The following provides a description of each feature.

Weatherboard Cottage and Out Buildings

The freestanding weatherboard cottage is located at the east end of Arthur Street, at grid reference GDA94 E521405 N5398220 (see plates 8–11). The weatherboard was noted to poor condition, but it must be noted that a closer inspection of the weatherboard cottage was unable to be conducted as the survey team had no formal permissions and it is currently used by a landowner. The date of construction or ownership for this cottage is unknown as there is no archival evidence of construction, nor is there any evidence of this cottage on historic land grant maps of the Evandale area. Weatherboard homes first appeared in Australia in the 1850s, so the cottage was most likely built after 1850. Also present are additions built onto the original cottage (see plates 8–9) and four outbuildings currently standing that surround the cottage (see plates 10–11). Again, no dates are known for these outbuildings or additions.

Without known construction dates and with its current condition, the heritage value of the freestanding weatherboard cottage, built on additions and outbuildings is diminished somewhat. The dwelling is likely to have some level of local heritage significance, but would not meet the threshold for State significance.

The Potential Dwelling Foundations

Also present within the south-east portion of the study area is a raised-level soil platform, which is located around grid reference GDA94 E522625 N5397700. A section of exposed soil on the eastern side of the raised-level soil platform contains bricks, ceramic and glass shards, intact glass bottles from the late nineteenth to early twentieth centuries and other assorted building rubble debris (see plates 12–13). The presence of the building debris and the level nature of the platform strongly suggest that there was once a dwelling located in this area. However, like the existing freestanding weatherboard cottage, there is no archival evidence of construction or any evidence of this homestead on historic maps of the Evandale area.

Statement of Archaeological Potential

As discussed in section 5, surface visibility across the study area was variable, ranging between <10% to 90%, averaging at 25%. Whilst the estimated survey coverage was 200,580.25m^2, effective coverage was decreased to around 50,145.07m^2. Given these constraints, it cannot be stated with certainty that there are no additional undetected historic heritage sites present in the proposed Evandale Expansion Masterplan Project footprint. However, there is no archival evidence and physical evidence of any other residential or

early pastoral structures (such as stock yards or barns) having been present in the study area. This is not surprising, given that it is likely that such structures would have been destroyed to allow for more grazing pasture for livestock. The potential for additional undetected heritage features to be present in the study area is assessed as being low.

Further Considerations

As described in section 5 of this report, the search of the various heritage registers shows that there are no registered Historic sites, buildings, properties or features that are situated within the boundaries of the proposed Evandale Residential Subdivision. However, there are a large number of heritage listed buildings, properties and features that are located in the general surrounds of the study area. This includes the township of Evandale, a number of buildings within the town, and a number of properties surrounding the town (see Figures 5 and 6).

The proposed Evandale Expansion Masterplan Project is situated just to the east of the town of Evandale. Given the reasonably close proximity, it is possible that the residential development may have some degree of visual impact on the town. To what extent these visual impacts will diminish the historic landscape setting and values of the Evandale is debatable, and will be dependent to some degree of the final Masterplan designs.

In order to minimize or negate these risks, the Proponent will need to ensure that there is meaningful and ongoing consultation with the broader public, as well as Heritage Tasmania and the Northern Midlands Council. This is addressed in the management recommendations in section8 of this report.



Plate 8: View southeast showing the freestanding weatherboard cottage.



Plate 9: View southeast showing the additions built onto the original weatherboard cottage.



Plate 10: View southwest showing one of the four outbuildings that surround the weatherboard cottage.



Plate 11: View west showing three of the outbuildings that surround the weatherboard cottage.



Plate 12: View north showing the raised platform of soil within the study area.



Plate 13: View southeast showing the section of exposed soil on the eastern side of the raised soil platform that contains bricks, ceramic and glass shards, intact glass bottles and other assorted building rubble debris.

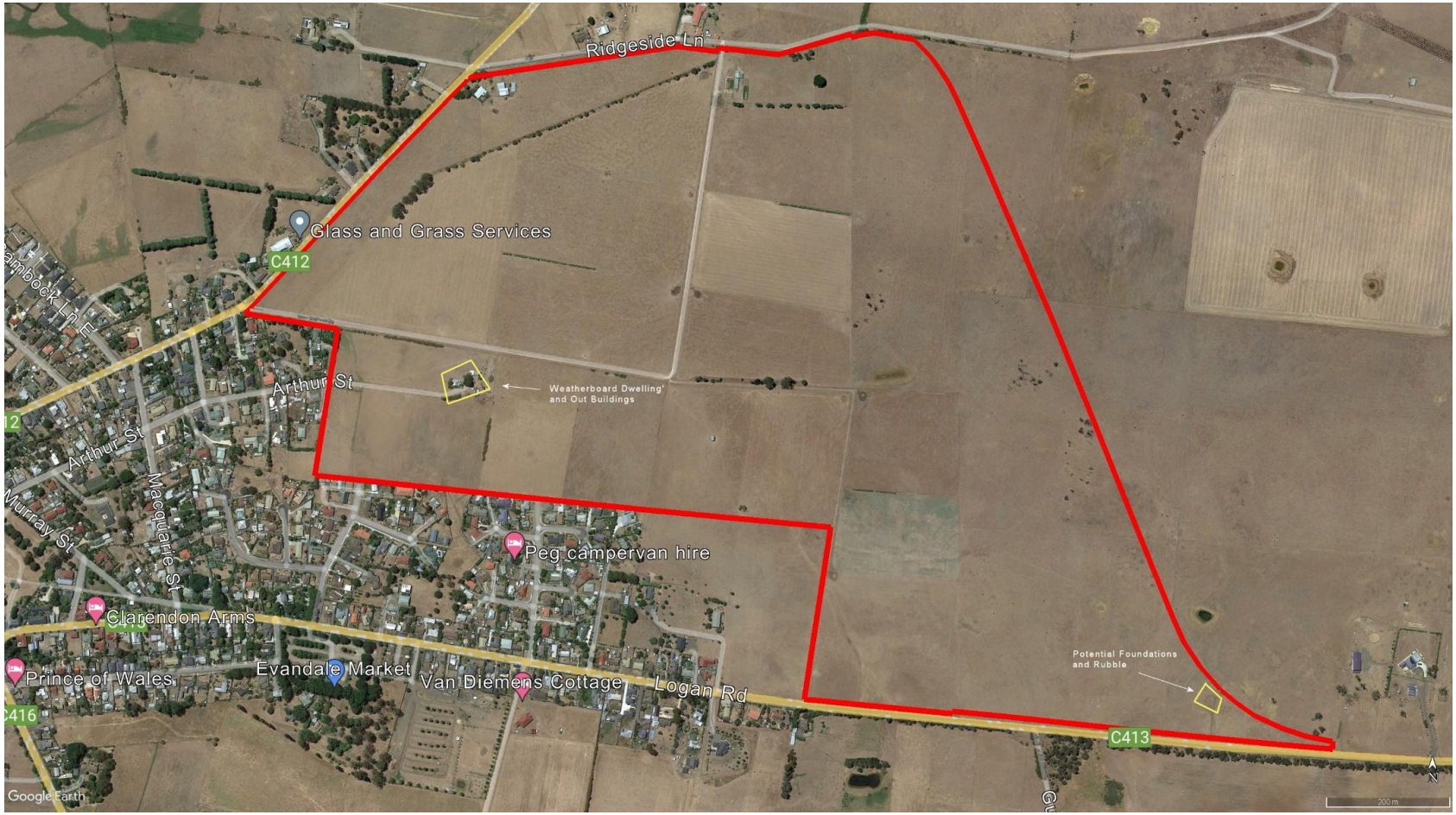


Figure 9: Aerial image showing the location of the two historic features recorded in the study area

7.0 Statutory Controls and Legislative Requirements

The following provides a summary overview of the various legislative instruments and statutory requirements relating to historic heritage in Tasmania. The review is presented in order to provide the proponent with a basic understanding of the statutory frameworks and procedures relating to heritage in Tasmania.

7.1 National Conventions

Council of Australian Governments Agreement 1997
In 1997, COAG reached an agreement on Commonwealth, State and local government roles and responsibilities for heritage management. Local government, through the Australian Local Government Association, and the Tasmanian Government were both signatories to this Agreement. The Agreement resulted in the following outcomes:

- Acceptance of a tiered model of heritage management, with the definition of places as being of either, world, national, state or of local heritage significance;
- Nominations of Australian places for the World Heritage List and management of Australia's obligations under the World Heritage Convention would be carried out by the Commonwealth Government;
- A new National Heritage System on one was created in January 2004, comprising the Australian Heritage Council (AHC), National Heritage List (NHL) and Commonwealth Heritage List (CHL);
- The Commonwealth Government, through the Australian Heritage Council, would be responsible for listing, protecting and managing heritage places of national significance;
- State and Territory Governments would be responsible for listing, protecting and managing heritage places of state significance; and
- Local government would be responsible for listing, protecting and managing heritage places of local significance.

Environment Protection and Heritage Council of the Australian and State/Territory Governments 1998
In 1998, the National Heritage Convention proposed a set of common criteria to be used in order to better assess, understand and manage the heritage values of places.

The Environment Protection and Heritage Council of the Australian and State/Territory Governments adopted this as a national set of desirable common criteria (known as the HERCON criteria). The adoption of these criteria by Heritage Tasmania has not yet been formalised. These criteria are also based upon the Burra Charter values. The Common Criteria (HERCON Criteria) adopted in April 2008 are summarised below:

a) *Importance to the course or pattern of our cultural or natural history.*
b) *Possession of uncommon, rare or endangered aspects of our cultural or natural history.*
c) *Potential to yield information that will contribute to an understanding of our cultural or natural history.*
d) *Importance in demonstrating the principal characteristics of a class of cultural or natural places or environments.*
e) *Importance in exhibiting particular aesthetic characteristics*

f) *Importance in demonstrating a high degree of creative or technical achievement at a particular period.*
g) *Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.*
h) *Special association with the life or works of a person, or group of persons, of importance in our history.*

These criteria have been endorsed by the Heritage Chairs and Officials of Australia and New Zealand (HCOANZ) in the Supporting Local Government Project document, "Protecting Local Heritage Places: A National Guide for Local Government and Communities" (March 2009).

Burra Charter 1999
Australia ICOMOS (International Council on Monuments and Sites) is the peak body of professionals working in heritage conservation in Australia. The Burra Charter was adopted by Australia ICOMOS in 1979 in Burra, South Australia based on other international conventions. Further revisions were adopted in 1981, 1988 and 1999 to ensure the Charter continues to reflect best practices in heritage and conservation management. The current version of the Australia ICOMOS Burra Charter 1999 is the only version that should be used.

The Burra Charter provides guidance for the conservation and management of places of cultural significance (cultural heritage places) and is based on the knowledge and experience of Australian ICOMOS members. The Charter sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers and custodians.

The Charter recognises the need to involve people in the decision-making process, particularly those that have strong associations with a place. It also advocates a cautious approach to changing heritage places: do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained.

7.2 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999
The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides for the listing of natural, historic or indigenous places that are of outstanding national heritage value to the Australian nation as well as heritage places on Commonwealth lands and waters under Australian Government control.

Once a heritage place is listed under the EPBC Act, special requirements come into force to ensure that the values of the place will be protected and conserved for future generations. The following heritage lists are established through the EPBC Act:

- *National Heritage List* - a list of places of natural, historic and indigenous places that are of outstanding national heritage value to the Australian nation
- *Commonwealth Heritage List* - a list of natural, historic and indigenous places of significance owned or controlled by the Australian Government.

- *List of Overseas Places of Historic Significance to Australia* – this list recognises symbolically sites of outstanding historic significance to Australia but not under Australian jurisdiction.

Australian Heritage Council Act 2003
The Australian Heritage Council is a body of heritage experts that has replaced the Australian Heritage Commission as the Australian Government's independent expert advisory body on heritage matters when the new Commonwealth Heritage System was introduced in 2004 under amendments to the Environment Protection and Biodiversity and Conservation Act 1999.

The Council plays a key role in the assessment, advice and policy formulation and support of major heritage programs. Its main responsibilities are to assess and nominate places for the National Heritage List and the Commonwealth Heritage List, promote the identification, assessment, conservation and monitoring of heritage; and advise the Minister on various heritage matters.

Protection of Movable Cultural Heritage Act 1986
The PMCH Act regulates the export of cultural heritage objects from Australia. The purpose of the Act is to protect, for the benefit of the nation, objects which if exported would significantly diminish Australia's cultural heritage. Some Australian protected objects of Aboriginal, military heritage and historical significance cannot be granted a permit for export. Other Australian-protected objects may be exported provided a permit or certificate has been obtained.

7.3 State Legislation

Land Use Planning and Approvals Act 1993
This Act (LUPA) is the cornerstone of the State Resource Management and Planning System (RMPS). It establishes the legitimacy of local planning schemes and regulates land use planning and development across Tasmania. With regard to historic heritage, LUPAA requires that planning authorities will work to conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value" [Schedule 1 Part 2(g)].

Resource Planning and Development Commission Act 1997
The Resource Planning and Development Commission (now referred to as the Tasmanian Planning Commission) is responsible for overseeing Tasmania’s planning system, approving planning schemes and amendments to schemes and assessing Projects of State Significance. In terms of heritage management, the TPC will consider the establishment of heritage overlays, precincts or areas as part of the creation of planning schemes.

Resource Management and Planning Appeal Tribunal Act 1993
The Resource Management and Planning Appeal Tribunal determine planning appeals and enforces the Acts within the RMPS. The Tribunal plays an important role in the management of heritage places through its determinations on proposed development on, or near to, places of heritage significance.

Historic Cultural Heritage Act 1995

The *Historic Cultural Heritage Act 1995* (HCH Act) is the key piece of Tasmanian legislation for the identification, assessment and management of historic cultural heritage places. The stated purpose of the HCH Act is to promote the identification, assessment, protection and conservation of places having historic cultural heritage significance and to establish the Tasmanian Heritage Council". The HCH Act also includes the requirements to:

- establish and maintain the Tasmanian Heritage Register (THR);
- provide for a system for a system of approvals for work on places on the Register;
- provide for Heritage Agreements and assistance to property owners;
- provide for protection of shipwrecks;
- provide for control mechanisms and penalties for breaches of the Act.

Under the HCH Act, "conservation" in relation to a place is defined as

- the retention of the historic cultural heritage significance of the place; and
- any maintenance, preservation, restoration, reconstruction and adaption of the place.

The definition of "place" under the HCH Act includes:

- a site, precinct or parcel of land;
- any building or part of a building;
- any shipwreck;
- any item in or on, or historically or physically associated or connected with, a site precinct or parcel of land where the primary importance of the item derives in part from its association with that site, precinct or parcel of land; and
- any equipment, furniture, fittings, and articles in or on, or historically or physically associated or connected with any building or item.

The Act created the Tasmanian Heritage Council (THC), which came into existence in 1997 and operates within the State RMPS. The THC is a statutory body, separate from government, which is responsible for the administration of the HCH Act and the establishment of the Tasmanian Heritage Register (THR), which lists all places assessed as having heritage values of state significance. The THC also assesses works that may affect the heritage significance of places and provides advice to state and local government on heritage matters. The primary task of the THC is as a resource management and planning body, which is focused on heritage conservation issues. Any development on heritage-listed places requires the approval of the THC before works can commence.

Heritage Tasmania (HT), which is part of the Department of Primary Industry, Parks, Water and the Environment, also plays a key role in fulfilling statutory responsibilities under the HCH Act.

HT has three core roles:

- coordinating historic heritage strategy and activity for the State Government;
- supporting the Tasmanian Heritage Council to implement the HCH Act; and
- facilitating the development of the historic heritage register.

In 2013, *the Historic Cultural Heritage Act 1995* was amended, with the primary goal of streamlining the approvals process and better align the Heritage Act with the Planning Act.

Under the Amendment applicants need only lodge a single Development Application (DA) (as opposed to both a Works Application and DA), which will be referred to the Heritage Council by the local planning authority. Heritage Council then has the opportunity to advise the planning authority whether or not it has an interest in the DA and may request further information under s57 of the LUPAA. If the Heritage Council does not have an interest in the DA, it reverts to the status it has under the Scheme or Planning Act. Where Heritage Council does have an interest in the DA, the Council decision must be incorporated into the final permit (or refusal) issued by the local planning authority.

Also included in the amendments is the incorporation of the HERCON significance criteria for assessing the significance of heritage sites. The Heritage Council may enter a place in the Heritage Register if it satisfied that the place has historic cultural heritage significance by meeting threshold values for one or more of eight individual criteria. Aesthetic characteristics of a place now forms the eighth criterion against which heritage significance may be assessed.

Works to places included in the THR require approval, either through a Certificate of Exemption for works which will have no or negligible impact, or through a discretionary permit for those works which may impact on the significance of the place.

Discretionary permit applications are lodged with the relevant local planning authority. On receipt, the application is sent to the Heritage Council, which will first decide whether they have an interest in determining the application. If the Heritage Council has no interest in the matter, the local planning authority will determine the application.

If the Heritage Council has an interest in determining the application, a number of matters may be relevant to its decision. This includes the likely impact of the works on the significance of the place; any representations; and any regulations and works guidelines issued under the HCH Act. The Heritage Council may also consult with the planning authority when making a decision.
In making a decision, the Heritage Council will exercise one of three options: consent to the discretionary permit being granted; consent to the discretionary permit being granted subject to certain conditions; or advise the planning authority that the discretionary permit should be refused. The Heritage Council's decision is then forwarded to the planning authority, which will incorporate the decision into any planning permit.

Works Guidelines for Historic Heritage Places
The Tasmanian Heritage Council and Heritage Tasmania have issued Works Guidelines for Historic Heritage Places. The guidelines provide a general reference for the types of works, which may be exempt, or those where a permit will be required. They also define appropriate outcomes for a range of different works and development scenarios. Although specifically designed for places included in the THR, the guidelines provide useful advice for the management of heritage places generally.

7.4 Local Planning Schemes

In accordance with the requirements of the *Land Use Planning and Approvals ACT 1993* (LUPAA), Local Planning Schemes have been established throughout Tasmania in accordance with regional divisions of the state.

The current study area falls within the Northern Region, which consists of eight municipal areas including Launceston, Northern Midlands, Meander Valley, West Tamar, George Town, Dorset, Break O'Day and Flinders councils. The Northern Regional Land Use Framework provides the strategic context for planning schemes within the region and contains strategies for the future use and development of land within the region. Evandale and surrounds fall within the Northern Midlands Council zoning, with the requirements of use or development of land within the area governed by the *Northern Midlands Interim Planning Scheme 2013 (NMIPS)*. The provisions within the NMIPS are designed to be read together with the LUPAA and are based on the Regional Model Planning Scheme.

The *Tasmanian Planning Scheme* came into effect on 22 July 2020 and replaced the former *Northern Midlands Interim Planning Scheme 2013*. The *Tasmanian Planning Scheme* provides a single planning scheme and a consistent set of rules and requirements in relation to the manner in which all land in Tasmania may be used, developed, protected and conserved. It consists of two parts:

1. **State Planning Provisions** contain the mandatory common rules that are to apply in all municipal areas. For consistency in permit and compliance requirements that must be met by a proposed use or development.
2. **Local Provision Schedule** for each municipal area setting out how the State Planning Provisions are to apply.

The planning scheme supports strategic land use planning for residential, business, agriculture, utilities, environmental and recreational zones. The scheme includes considerations such as natural hazards, local heritage values, natural assets, parking requirements and the protection of road, railway and electricity infrastructure.

Section C6 of the *Tasmanian Planning Scheme* deals specifically with the Local Heritage Code. The stated purpose of the code is to recognise and protect the local historic heritage significance of local places, precincts, landscapes and areas of archaeological potential and significant trees by regulating development that may impact on their values, features and characteristics.

This code applies to:
(a)development on land within any of the following, as defined in this code:
(i) a local heritage place;
(ii) a local heritage precinct;
(iii)a local historic landscape precinct; and
(iv) for excavation only, a place or precinct of archaeological potential; and
(b) the lopping, pruning, removal or destruction of a significant tree as defined in this code.

If a site is listed as a local heritage place and also within a local heritage precinct or local historic landscape precinct, it is only necessary to demonstrate compliance with the standards for the local heritage place unless demolition, buildings and works are proposed for an area of the site outside the identified specific extent of the local heritage place.

This code does not apply to a registered place entered on the Tasmanian Heritage Register.

8.0 Historic Heritage Management Plan

The heritage management options and recommendations provided in this report are made on the basis of the following criteria.

- Background research into the extant archaeological and historic record for the study area and its surrounding regions, as documented in section 3 of this report.
- The results of the heritage register searches and field investigation as documented in section 4 of this report.
- The results of the field survey assessment, as presented in section 6 of the report.
- The legal and procedural requirements as summarised in section 7 of this report.

Recommendation 1

Two historic heritage features were identified during the field survey assessment of the Evandale Rezoning Project study area. The first is a freestanding weatherboard cottage with additions built on and four standing outbuildings in poor condition with no definitive construction dates but is most likely built after 1850. The second consists of a raised platform of soil with building debris that strongly suggests that there was once a dwelling at this location. Neither of these two heritage features are registered on any local or state heritage registers, but potentially have some level of local significance. Both historic heritage feature are situated within the project footprint and may potentially be impacted if the proposed residential rezoning and subdivision proceeds. Both heritage features are likely to be subject to conditions under Section C6 of the *Tasmanian Planning Scheme*, which deals specifically with the Local Heritage Code.

It is recommended that if the weatherboard dwelling and associated outbuildings will be directly impacted by the development proposal, then a detailed archival recording should be undertaken by a suitably qualified practitioner.

It is further recommended that if the potential dwelling site will be directly impacted by the development proposal, then a limited program of sub-surface investigations should be undertaken at the site location. The aim of the investigations should be to determine the presence/absence of foundations in this area and/or cultural deposits. This information will be used as the basis for clarifying the potential age and significance of this feature. Again, these works should be undertaken by a suitably qualified practitioner.

Recommendation 2

The township of Evandale is a National Trust classified Georgian village, with some 39 heritage listed properties included on the Australian Heritage Database. The Evandale Township itself is on the RNE (Place ID 12770) and is described as ‘An administrative and agricultural settlement with a rich agricultural setting, consistent architectural quality, good urban spaces and fine town plantings resulting in a high integrated and successful townscape’ (Australian Heritage Database Place File No 6/03/070/0046).

Given the high social significance to the local community, it will be critical that the proponent of the Evandale Expansion Masterplan Project continues to engage with the public, as well as the relevant government stakeholders (Heritage Tasmania and the Northern Midlands Council) on the Masterplan design for the development and ensuring that it is sympathetic

with existing heritage values around Evandale, or at least minimises visual impacts on these values.

Recommendation 3

It is assessed that there is a low potential for undetected historic heritage sites to occur within the study area. However, if, during the course of the proposed works, previously undetected heritage sites or objects are located, the processes outlined in the Unanticipated Discovery Plan should be followed (see section 9).

9.0 Unanticipated Discovery Plan

The following text describes the proposed method for dealing with unanticipated discoveries of heritage features or objects during the proposed FMG hydrogen project development. The plan provides guidance to project personnel so that they may meet their obligations with respect to heritage legislation. Please Note: There are two different processes presented for the mitigation of these unanticipated discoveries. The first process applies to the discovery of all cultural heritage objects or features, with the exception of skeletal remains (burials). The second process applies exclusively to the discovery of skeletal remains (burials).

Discovery of Heritage Objects or Features

Step 1

If any person believes that they have discovered or uncovered a heritage object or feature, the individual should notify any machinery operators that are working in the general vicinity of the area that earth disturbance works should stop immediately.

Step 2

A buffer protection zone of 5m x 5m should be established around the suspected heritage find. No unauthorised entry or earth disturbance will be allowed within this 'archaeological zone' until such time as the suspected heritage find has been assessed, and appropriate mitigation measures have been carried out.

Step 3

A qualified heritage consultant should be engaged to assess the suspected heritage find. As a first step in the process, the heritage consultant should contact Heritage Tasmania, the Heritage Council and the Northern Midlands Council and notify them of the find. The heritage consultant will ensure that Heritage Tasmania, the Heritage Council and the Northern Midlands Council are consulted throughout the assessment process.

Step 4

If the heritage find is a movable object, then the find should be recorded and photographed and a decision should be made as to whether the object should be re-located to a designated Keeping Place. If the find is an unmovable heritage object or feature, then the find should be recorded and photographed and an HIA and HMP developed for the feature. This should be then submitted to Heritage Tasmania, the Heritage Council and the George Town Council for review and advice.

Possible outcomes may necessitate:

a. An amendment to the design of the development
b. Carrying out of archaeological excavations prior to the re-commencement of works
c. Archaeological monitoring and recording during works
d. Preparation (and implementation) of a strategy to ensure communication of the new information to the community.
e. A combination of the above.

Discovery of Skeletal Material

Step 1:
Call the Police immediately. Under no circumstances should the suspected skeletal material be touched or disturbed. The area should be managed as a crime scene. It is a criminal offence to interfere with a crime scene.

Step 2:
Any person who believes they have uncovered skeletal material should notify all employees or contractors working in the immediate area that all earth disturbance works cease immediately.

Step 3:
A temporary 'no-go' or buffer zone of at least 50m x 50m should be implemented to protect the suspected skeletal material, where practicable. No unauthorised entry or works will be allowed within this 'no-go' zone until the suspected skeletal remains have been assessed by the Police and/or Coroner.

Step 4:
If it is suspected that the skeletal material is Aboriginal, Aboriginal Heritage Tasmania should be notified.

Step 5:
Should the skeletal material be determined to be Aboriginal, the Coroner will contact the Aboriginal organisation approved by the Attorney-General, as per the *Coroners Act 1995*.

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Updated Natural Values Report:

Traders in Purple Project, Logan Road Proposal, Evandale



J.M.Lyall, 27th November 2022

Natural Environment Services Tasmania

Traders in Purple Project, Logan Road Proposal, Evandale

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Disclosure statement

Joanna Lyall is currently undertaking a research PhD through the University of Tasmania, studying the habitat requirements and threats to the Eastern Barred Bandicoot and receives a post graduate student stipend. Research findings stand to improve management advice relating to this species in this report.

Document Review & Authorisation

Document Version	Final/ Draft	Date	Author	Reviewed By	Release Approved By	Issued to	Copies	Comments
1.0	Draft	23/12/2022	Joanna Lyall	Joanna Lyall Jim Lyall	Joanna Lyall	Michela Fortini Jennifer Cooper	1 (electronic)	
1.1	Draft	5/01/2023	Joanna Lyall	Michela Fortini Joanna Lyall		Michela Fortini	1	Updated for planning scheme, added figure
1.2	Draft	16/01/2023	Joanna Lyall	Michela Fortini		Michela Fortini	1	4 Ridgeside Lane (CT 81897/1). included in rezoning application
1.3	Draft	23/01/2023		Michela Fortini Jim Lyall		Michela Fortini	1	Rewording to clarify rezoning and development areas
2.0	Final	23/02/2023		TiP		Michela Fortini	1	Amend refer. and map referring CT 145468/1

Executive summary

The proposal is for rezoning to general residential of approximately 100 ha of land. The goal of this project being developed by Traders in Purple, is to develop an area of approximately 78 ha into a sustainable residential subdivision.

Natural Environment Services Tasmania (NEST) was engaged to provide a Flora and Fauna report that complies with the requirements of the *Tasmanian Planning Scheme – Northern Midlands*, as requested by the Northern Midlands Council.

The survey covers Title Refs: 116759/1 (PID 1662145), a proportion of 106773/1 (PID 1898289), 227117/1 (PID 7286347), and 145468/1 (PID 2709232).

The property was found to be biologically impoverished, however there remain a few areas within the development plan with natural values that could potentially be protected and rehabilitated to provide habitat and refuge for local and threatened fauna species.

Introduction

The original survey for this project was conducted by Joanna Lyall with technical and field assistance by Jim Lyall of Natural Environment Services Tasmania over 2 days (8th and 9th April 2019). Since then, the project envelope to be considered in the rezoning application has been altered so that it now includes the adjoining residential boundaries to the west of the original extent.

As a requirement of the application for a change in land use zoning and planning approvals, the proposed blocks must be surveyed by an ecologist for the presence of threatened species of fauna and flora, threatened vegetation communities and any natural values of significance. The survey to assess natural values over the amended land envelope was conducted by the same personnel on 27th November 2022. The focus of the survey was the area within the new parcels which were not part of the original survey.

The application for rezoning covers Title Refs: 116759/1 (PID 1662145), a proportion of 106773/1 (PID 1898289), 81897/1 (PID 6395373), 227117/1 (PID 7286347) and 81897/1 (PID 6395373). While the application for rezoning covers this entire 100 ha, the future masterplan development is proposed to occur only across 78ha (Figure 1) and parcel 81897/1 (PID 6395373), has not been assessed for natural values at this stage.

The rezoning of these lots will allow development of a sustainable residential subdivision. The developers intend incorporating initiatives into this project to allow for a sustainable mixed-use community.

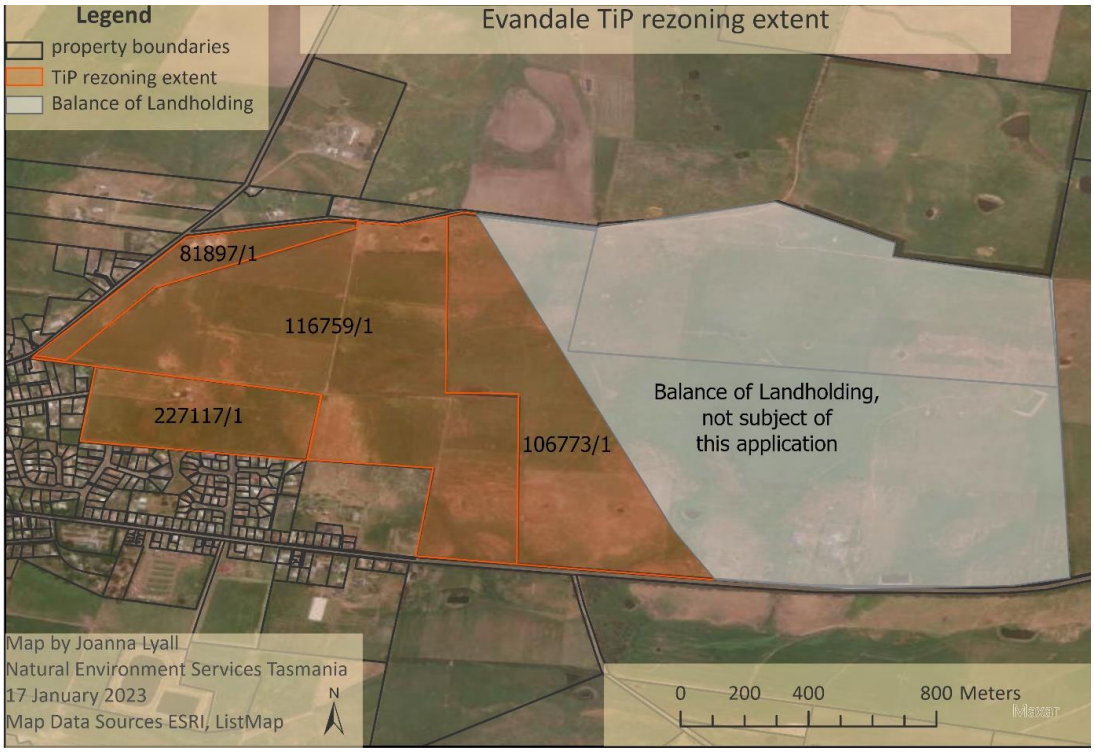


Figure 1. Map showing the application area for rezoning across the approx.100 ha of land on the western side of the map, and the full extent of the holding, including the area to the east surveyed in 2019 (Map source: NEST).

Background

The Midlands are classed Nationally as a biodiversity hotspot, which includes:

"10 endemic plant species, two endemic freshwater mussels and endemic freshwater snails and caddisflies. There are 32 nationally threatened species and more than 180 plants and animals listed as threatened at the state level. Twelve wetlands are listed on the Directory of Important Wetlands in Australia and 10 wetlands are of regional significance. Less than 2 per cent of the area is protected" (http://www.environment.gov.au/biodiversity/conservation/hotspots/national-biodiversity-hotspots#hotspot4).

The Logan Road Proposal is situated in close proximity to Evandale in the Northern Midlands of Tasmania and as such is a sensitive development which will need social license to be accepted by the local community. To be able to exhibit environmental and landscape outcomes within the development may assist in community perceptions of the project.

Being within a biodiversity hotspot the proposed development and the surrounds provide some potential for this project to contribute to delivering improved habitat outcomes for a range of native species.

The property is currently being grazed by cattle and any habitat features within the property are in a degraded state. A desktop survey indicated some areas that may still retain native vegetation and hence potentially retain flora and fauna of significance to the region.

As outlined in the invitation for Natural Environment Services Tasmania (NEST) to submit a proposal, the Northern Midlands Council requires further information regarding the 'greenfield' development of the Logan Road Proposal to determine if there will be impacts on natural values, such as threatened native vegetation communities, threatened flora and fauna species, and wetland and waterway values.

The fauna and flora of this region have been severely impacted by habitat fragmentation and degradation since European settlement and commencement of clearing for agriculture. If incorporated into the development plans, this project may well have the potential to protect and enhance some areas of remnant habitat and encourage greater biodiversity.

NEST has been working in the environmental sector for 16 years providing natural values assessments and fauna and flora surveys with particular emphasis on threatened species, providing management plans, reports and recommendations for restoration and rehabilitation works.

Objectives

NEST was engaged to ascertain whether there are areas of existing threatened native vegetation communities, threatened flora and fauna species, and wetland and waterway values that should be preserved and where possible incorporated into the planning design of the Logan Road Proposal.

This would inform the developers in compliance with the requirements of the Tasmanian Planning Scheme - Northern Midlands, Section 22.5.1: Development Standards for Subdivision (Lot design):

That each lot:

(a) has an area and dimensions appropriate for use and development in the zone;

(b) contain areas which are suitable for development, located to protect and conserve landscape values; and

(c) is provided with appropriate access to a road.

Performance criteria:

Each lot, or a proposed lot in a plan of subdivision, must have sufficient useable area and dimensions suitable for its intended use, having regard to:

(a) the relevant Acceptable Solutions for development of buildings on the lots;
(b) existing buildings and the location of intended buildings on the lot;
(c) the ability to retain vegetation and protect landscape values on each lot;
(d) the topography of the site; and
(e) the pattern of development existing on established properties in the area, and must have an area not less than 20ha.

Methodology

As with the original survey, a desktop study of the property was conducted prior to the-ground proofing survey to identify potential areas where threatened species of flora and fauna, threatened communities and weeds may be present on the property. In particular, we focused on water bodies and any delineated watercourses shown on satellite and LISTmap imagery.

We investigated areas shown in LISTmap as Lowland Grasslands Complex, a nationally listed threatened community as well as areas where remnant vegetation could be seen. We undertook surveys of all identified waterbodies to assess aquatic vegetation and the potential for threatened species such as the Green and gold frog (*Litoria raniformis)* to be present. We checked areas of structural complexity (shrubs, stumps, logs) for signs of activity by native fauna. We noted areas of woody weed infestation. Animal sign and tracks were inspected for evidence of mammal species present (native and introduced).

The Natural Values Atlas report listed several species of threatened plant and animal recorded within 5 km of the property, as per the Natural Values Report (DNRE 22 Nov 2022). These are shown in Table 1 and Table 2. For comparison the original maps with property boundaries are shown in Appendix A (Figures 8 & 9).

A satellite image of the amended development property boundaries that were assessed for natural values is shown in Figure 2 while Figure 3 shows the points of interest noted during the assessment, waterbodies and position of mapped remnant vegetation.

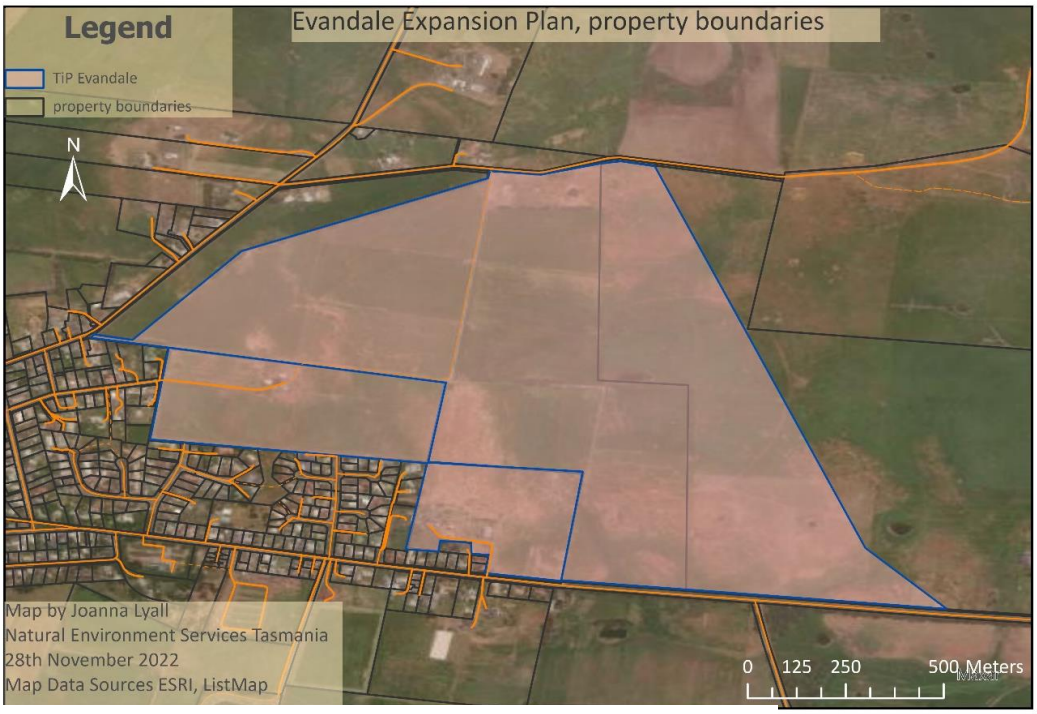


Figure 2. Property extent assessed for natural values.

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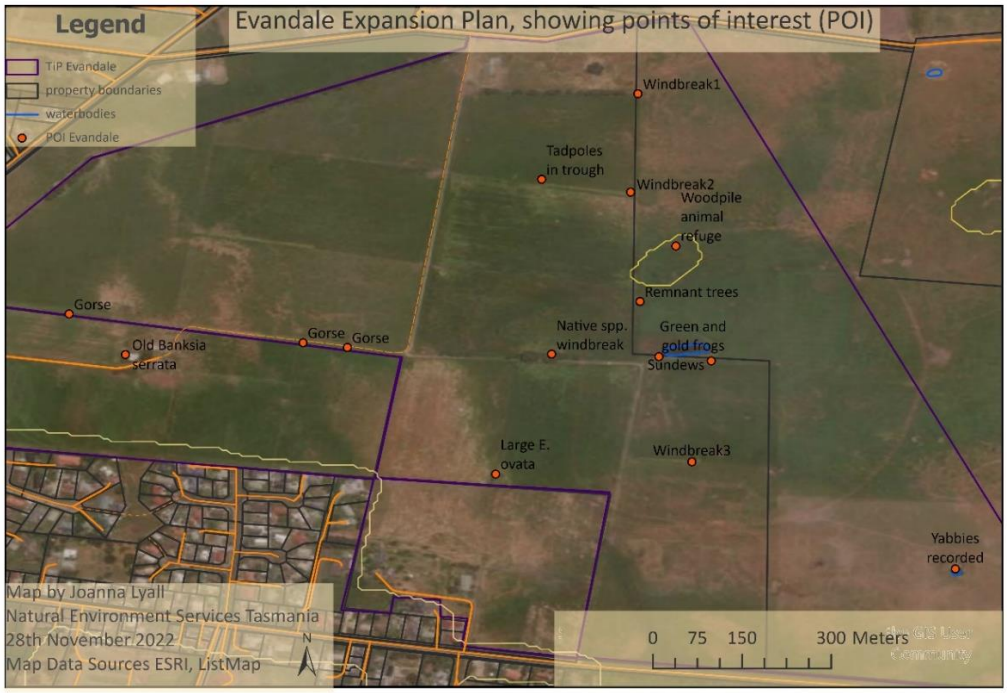


Figure 3. Property showing points of interest outlined in results and discussion including location of the threatened green and gold frogs in waterbody (blue shape) and mapped remnant vegetation (outlined yellow)

Table 1. Threatened plant species recorded within 5 km of property, when they were recorded and the likelihood of being present

Species	Common Name	State status	Count	Last Recorded	Likelihood of being present
Bolboschoenus caldwellii	sea clubsedge	r	1	24-May-2002	Present, growing in shallow, standing, water, rooted in heavy mud
Callitriche umbonata	winged waterstarwort	r	2	17-Jan-1993	Possible, semi-aquatic species been recorded from grassy wetlands, soaks in *Eucalyptus* forest and amongst rocks along stream banks around the Midlands
Coronidium gunnianum	swamp everlasting	?e	1	08-Feb-1980	Possible, it mostly occurs at low elevations under 100 m asl, in eastern and central parts of the State from the Cambridge to Hadspen in grasslands on heavy soils and riverine woodlands in areas often inundated.
Diuris lanceolata	large golden moths	e	1	01-Sep-1906	Unlikely, occurs in the north-west of Tasmania in coastal scrub and windswept coastal grassland and heathland among dwarfed shrubs and sedges on moist to well-drained sandy and clay loam, sometimes on rocky outcrops.
Gratiola pubescens	hairy brooklime	r	1	01-Jan-1850	Possible, most commonly located in permanently or seasonally damp or swampy ground, including the margins of farm dams
Haloragis heterophylla	variable raspwort	r	2	01-Jan-1892	Unlikely, it is known from damp *Themeda* grassland and grassy woodland
Hovea tasmanica	rockfield purplepea	r	1	12-Oct-1892	No, found on dry, rocky ridges or slopes (mostly dolerite) in forest and riverine scrub
Lythrum salicaria	purple loosestrife	v	3	14-Feb-2017	No, inhabits swamps, stream banks and rivers mainly in the north and north-east of the State

Mentha australis	river mint	e	1	26-Jan-1894	No, occurs in riparian habitats along the lower reaches of the South Esk River, Lake Trevallyn and the Rubicon River, along the rocky (dolerite) margins of rivers and lakes
Pimelea curviflora var. gracilis	slender curved riceflower	r	5	21-Jan-2016	No, this species now predominantly occurs in the north of the State in wet sclerophyll forest, especially in disturbed areas.
Pultenaea prostrata	silky bushpea	v	3	01-Feb-2019	No, the species is recorded in the Northern and Southern Midlands, where it grows within grassy woodlands or grasslands
Spyridium vexilliferum var. vexilliferum	helicopter bush	r	1	01-Jan-1892	No, found in sandy heaths and on rocky outcrops in the east, north and west of Tasmania
Teucrium corymbosum	forest germander	r	1	04-Dec-1967	No, predominantly found in *Allocasuarina verticillata* coastal and inland woodland, *Eucalyptus viminalis* woodland and native grasslands in the east
Tricoryne elatior	yellow rushlily	v	5	01-Nov-1984	No, grows in grasslands, heaths and open woodland near the coast and inland to approximately 1000 metres altitude in the north-east, the Midlands and the East Coast

Table 2. Threatened fauna species likely to be present, based on NVA Range Boundaries and the current survey

Species	Common Name	SS	NS	Potential	Known	Core	Likelihood of being present
****Litoria raniformis***	green and gold frog	v	VU	1	1	1	Present. Likely in other waterbodies to approx. 1.5m with a complex vegetation structure. Located in larger pond at E 522063, N 5398214

Pseudemoia pagenstecheri	tussock skink	v		1	0	0	Unlikely. Habitat for the Tussock Skink includes treeless tussock grassland and grassy open woodland at virtually any elevation where native grasses are present
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	1	0	Present, foraging habitat only. Nesting habitat includes patches of mature forest, or forest with mature/old-growth elements, normally greater than 10 ha in area; with nest trees usually tall (25-75 m) mature eucalypts
Tyto novaehollandiae	masked owl	pe	PVU	1	0	1	Possible, habitat for the Tasmanian Masked Owl includes a diverse range of forest, woodland and non-forest vegetation including agricultural and forest mosaics for foraging; nesting habitat is eucalypt forests and woodlands containing old growth trees with suitable hollows for nesting/roosting, but also isolated old growth trees with suitable hollows. Recorded within 500 m of property.
Perameles gunnii	eastern barred bandicoot		VU	1	0	1	Probable, habitat for the Eastern Barred Bandicoot mosaic habitats of pasture and remnant native forest in agricultural districts, often with a significant amount of cover provided by dense-growing weeds such as gorse, blackberry, blackthorn, rose briar, etc; small remnant populations may occur in remnant native grassland and grassy woodland. Recorded within 500 m of property
Dasyurus maculatus	spotted-tail quoll	r	VU	1	0	0	Possible, forest elements such as rainforest and wet and dry eucalypt forest are important components of their habitat. They can also be found in non-forest vegetation types such as coastal scrub and heath, and pastoral areas. The presence of den sites is important including rock crevices, hollow logs, windrows, clumps of vegetation, caves, boulder tumbles, under buildings, and burrows. Recorded within 500 m of property

Dasyurus viverrinus	eastern quoll		EN	0	0	1	Possible, this species is found in a range of vegetation types including open grassland (including farmland), tussock grassland, grassy woodland, dry eucalypt forest, coastal scrub and alpine heathland. They sleep in dens made under rocks, in underground burrows or fallen logs.
Oecetis gilva	caddis fly (south esk river)	r		1	0	0	No, the threatened caddis-flies have a limited geographical range. Caddis-flies depend on an aquatic environment in good condition.
Sarcophilus harrisii	tasmanian devil	e	EN	1	0	0	Unlikely, but may use property as part of its large foraging range. Habitat includes denning habitat for daytime shelter (e.g. dense vegetation, hollow logs, burrows or caves); hunting habitat (open understorey mixed with patches of dense vegetation); breeding den habitat (areas of burrowable, well-drained soil or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of flooding; windrows and log piles may also be used)
Accipiter novaehollandiae	grey goshawk	e		1	0	0	No, potential habitat for the grey goshawk is closed native forest with mature elements below 600m altitude, particularly along watercourses.
Prototroctes maraena	australian grayling	v	VU	1	0	0	No, adult Australian Grayling inhabit and breed in rivers and streams, usually in cool waters often with alternating pool and riffle zones; larvae and juveniles inhabit estuaries and coastal seas
Haliaeetus leucogaster	white-bellied sea-eagle	v		1	0	0	Unlikely, but the property could be used as foraging habitat. Nesting habitat includes patches of mature forest, or forest with mature/old-growth elements, normally greater than 10 ha in area; with nest trees usually tall (25-75 m) mature eucalypts

Catadromus lacordairei	Green-lined ground beetle	v	1	0	0	Possible, the species occurs in open grassy woodland associated with wetlands at low elevations.

Results

The limitations of this survey include areas both of heavily grazed pastures and tall pastures close to harvest for hay, which could have resulted in missing some small patches where native grasses and herbs may still have been present. The current survey (November 2022) was conducted during late spring following a period of extensive rainfall. The impact of cattle and the dense, tall sward of pasture grasses in most paddocks would inhibit growth of any native plant species except perhaps along fencelines and on the edges of dams. The dam levels were high and aquatic vegetation was growing well providing quality habitat for aquatic species such as frogs and macroinvertebrates.

The map in Figure 3 shows the points of interest and will be referenced when discussing the relevant points.

At the last survey, the water bodies varied from recently cleaned out, resulting in little or no marginal vegetation, to a few where the dams and ponds had a healthy fringe of aquatic vegetation. At this survey green and gold frogs *Litoria raniformis*, listed as vulnerable under both the *Threatened Species Protection Act 1995* (TSPA) and *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA), were heard calling in the large pond (Figure 4, with location shown on Figure 3) at E 522063, N 5398214 . This pond has a good cover of aquatic plants providing habitat for this species. Several other non-threatened frog species were also noted as present, including the Banjo or Pobblebonk frog *Limnodynastes dumerilii,* spotted marshfrog *Limnodynastes tasmaniensis* and the Common Froglet *Crinia signifera*. Tadpoles were present in some watertroughs around the property. The rare (TSPA) aquatic plant sea clubsedge (*Bolboschoenus caldwellii)* was found in a few of the dams in the 2019 survey but was not noted this time, although the lack of seed heads at this time of year makes it less conspicuous.

The introduced pest species, the yabby (*Cherax destructor)* was noted in the original survey (2019) and is likely to still be found in the small dam in the south-east of the current parcel in proximity to the residence (Figure 3). Claws, carapaces and active burrows at any of the dams would indicate continuing presence (Figure 5).



Figure 4. Pond where green and gold frogs were calling along with three other species. The vegetation along the edges and within the pond provide good habitat for the frogs.



Figure 5. Carapace and claws of the pest species the yabby, found in 2019 in dams in proximity to the residence near the south-eastern boundary.

There are no other waterbodies or water courses on the property.

Terrestrially there is little native vegetation remaining and few habitat opportunities on the property. The areas shown on the TasVeg mapping layer as native grasslands were again surveyed to locate any remaining areas that could have native grasses surviving, but none were found. Pasture improvement including fertilisers, introduced grass species, pasture weed species and heavy grazing have all contributed to the apparent loss of any remnant native grasses and herbs. The remaining original trees on the property are also suffering from the same threats and have declined further in health since the 2019 survey (Figure 6 a & b) however there remain potential faunal habitat opportunities (such as hollows) in a few trees in the trunk and under the roots. A few large hollows in the remaining paddock trees may provide nesting and roosting habitat for the endangered Tasmanian masked owl (Figure 7) (TSPA and EPBCA).

The Eastern Barred bandicoot *(Perameles gunnii)* has been recorded close by and diggings were located in 2019, but no sign was found in this survey. The species is likely to still be present but with the soils drying out, may not dig for invertebrates as much so sign of presence would be scarce. Patches of native and exotic shrubs and log piles provide refuge for them and other fauna.



Figure 6 a & b. Remnant eucalyptus trees in decline



Figure 7. Tree hollows have the potential to provide nesting sites for masked owl and other native fauna

There are patches of gorse and blackberry, woody weeds of national significance (WoNS), along the boundary with the western block (38 Arthur Street (227117/1). In a barren landscape these patches often provide the only refuge for small marsupials such as the threatened Eastern barred bandicoot, listed as vulnerable (EPBCA). There were extensive tracks through these patches indicating high usage by animals using it for refuge and as corridors for movement.

No other sign was found of other native mammals, however several European hares were seen and also evidence of the presence of rabbits.

Native fauna species observed or signs of presence are shown in Table 3 over the 2019 and 2022 surveys. Species noted in the 2019 survey at locations now outside the current proposal envelope are marked with *. They may still be present in low numbers but were not observed during the 2022 survey.

Table 3. Fauna species observed or signs of presence on property in 2019 & 2022. Those species marked with * were on land now outside the current proposed development envelope

Common name	Species	Comments
***Wedge-tailed eagles**	*(Aquila audax subsp. fleayi)*	A pair observed, **endangered under EPBCA and TSPA (2019)**
Eastern barred bandicoot	*(Perameles gunnii)*	**vulnerable under EPBCA (2019)**
Brush-tailed possum	*(Trichosurus vulpecula)*	(2019)
***Common wombat**	*(Vombatus ursinus)*	(2019)
***Tasmanian pademelon**	*(Thylogale billardierii)*	(2019)
***Ring-tailed possum**	*(Pseudocheirus peregrinus)*	(2019)
Brown goshawk	*(Accipiter fasciatus)*	*(2019)*
Brown falcon	*(Falco berigora)*	*(2019, 2022)*
Sulphur-crested cockatoo	*(Cacatua galerita)*	**Australian native, Introduced (2019,2022)**
***Little pied cormorant**	*(Microcarbo melanoleucos)*	*(2019)*
***Hoary-headed grebe**	*(Poliocephalus poliocephalus)*	*(2019)*
Australasian grebe	*(Tachybaptus novaehollandiae)*	*(2022)*
Black duck	*(Anas superciliosa)*	*(2019)*
Grey butcherbird	*(Cracticus torquatus)*	*(2022)*
Masked lapwing	*(Vanellus miles)*	(2019, 2022)
***Australian shelduck**	*(Tadorna tadornoides)*	*(2019)*
Wood ducks	*(Chenonetta jubata)*	*(2019, 2022)*
Australasian pipit	*(Anthus novaeseelandiae)*	*(2019, 2022)*
Australian magpie	*(Cracticus tibicen)*	*(2019, 2022)*
Noisy miner	*(Manorina melanocephala)*	(2019)
Common starling	*(Sturnus vulgaris)*	**Introduced** *(2019, 2022)*
Delicate skink	*(Lampropholis delicata)*	*(2019, 2022)*
Green & gold frog	*(Litoralis raniformis)*	(2022)
Banjo frog	*(Limnodynastes dumerilii)*	(2022)
Spotted marsh-frog	*(Limnodynastes tasmaniensis)*	(2022)
Common froglet	*(Crinea signifera)*	(2022)
Swamp bluet	*(Coenagrion lyelli)*	*(2019, 2022)*

Native plant species were also recorded where present, as well as weed species. The main opportunity for native plants to be established was the edges of the dams and in waterbodies where the impact of livestock was limited. Plant species are shown in Table 4.

Table 4. Plant species observed on the property in 2019 & 2022 with native species followed by weed species

Common name	Species	Comments
seaclubsedge	*(Bolobschoenus caldwellii)*	**Rare under TSPA**. Found on edges of some dams (2019)
slender spike-rush	*(Eleocharis gracilis)*	Found on edges of dams
tall spike-rush	*(Eleocharis sphacelata)*	Grows in dams
thin pondweed	*(Potamogeton australiensis)*	Grows in dams
clasping leafed pondweed	*(Potomageton perfoliatus)*	Grows in dams
reeds	*(Juncus spp.)*	Edges of dams and poorly drained areas. May include Juncus amabilis-Rare TSPA
water plantain	*(Alisma plantago-aquatica)*	Edges of dams
toad rush	*(Juncus bufonius)*	Edges of dams and poorly drained areas
tree violet	*(Melicytus dentatus)*	Near stockyards at rear of property
black peppermint	*(Eucalyptus amygdalina)*	Remnants of woodlands
Black gum	*(Eucalyptus ovata)*	Large trees in native windbreak
bluegum	*(Eucalyptus globulus)*	Near old shed/yards
blackwood	*(Acacia melanoxylon)*	Near old shed/yards
pale sundew	*(Drosera peltata)*	Under fenceline (2022)
cumbungi	*(Typha latifolia)*	**Weed: Tall aquatic weed**
gorse	*(Ulex europaeus)*	**Weed (WoNS):** scattered plants. NB may provide refuge when other cover options are absent
hawthorn	*(Crataegus monogyna)*	Weed: a few scattered plants
blackberry	*(Rubus fruticosus aggregate)*	**Weed (WoNS):** scattered plants. NB may provide refuge when other cover options are absent

Discussion

After years of being run as a grazing property, the land is biologically impoverished. Areas that used to be woodland with native grasses have no native grasses remaining and many trees are dead or dying with no regeneration. Remaining live Black peppermint trees provide potential habitat for a small range of adaptable species such as the Brush-tailed possum, and probably introduced species such as the Common starling. There is a possibility the endangered Masked owl may find potential nesting sites where these trees have large (>15cm) hollows.

There are several windbreaks on the property composed of a variety of golden macrocarpa *Cupressus macrocarpa.* These provide little benefit to native fauna however the windbreak composed of Australian native trees and shrubs is providing foraging and nesting sites for a range of birds and provides both habitat and refuge areas. There are several large eucalypts of an age that they are starting to form hollows essential for the many hollow dependent species.

With the proposed change in the boundaries of the development, most areas previously noted in the 2019 survey where there was greater evidence of native animal activity (areas of refuge, such as the windbreaks on the northern and eastern boundaries), have been removed from the development envelope.

The boundary change has also removed several of the ponds and dams on the original footprint, leaving only two. However, the larger pond is currently providing excellent aquatic habitat as indicated by the presence of four frog species including the threatened green and gold frog, while the smaller dam may be infested with the introduced pest species, the yabby.

Due to the lack of suitable habitat, it is unlikely devils and quolls would be inhabiting the property although it could be part of their foraging range. The eastern barred bandicoot is likely to be present, using patches of gorse and adjoining gardens for refuge. The parcel 81897/1 (PID 6395373), which has not been assessed to date for natural values appears to have a mature native vegetation shelter belt which may provide habitat opportunities for a wide variety of fauna.

Recommendations

- Log piles and gorse patches providing potential refuge should be monitored for the presence of Eastern barred bandicoots prior to any removal work.
- Alternative refuge areas should be provided/planted to offset loss of log piles and gorse patches.
- The waterbody with intact fringing vegetation where the vulnerable Green and gold frog has been confirmed, should if possible be retained as habitat for aquatic fauna.
- The waterbody identified in 2019 as having the pest crustacean the yabby (*Cherax destructor)* should be checked thoroughly to determine whether it is still present. If it is, it should be treated to control this species. Options for treatment include lowering the water level and treating with Rotenone, or filling these dams in if they are not required within the overall plan.

- Where possible the few remaining copses of trees and solitary mature trees should be retained as potential habitat for hollow dependent species, including the endangered Masked owl. These areas should be protected from further degradation and could be rehabilitated with native grasses and shrubs consistent with the lowlands grass complex and woodlands vegetation types. This would potentially provide habitat for other local and threatened fauna species.
- Ideally develop some connectivity and structural complexity within the landscape to provide areas of refuge and movement of fauna. This would need to be tied in with the broadscale plans for the site. Bandicoot friendly garden design can be incorporated. See design booklet https://api.nrmnorth.org.au/serve-resource/Urban_Refuges_A5-20pp
- Consider imposing cat management restrictions into the development to reduce the impact of wandering cats on native fauna through both predation and disease.
- Develop an ecological plan to include rehabilitation of those areas that could be restored to provide conservation values through using selected plant species for each location. This could be integrated with open spaces and recreational areas.
- Ensure vehicles and machinery entering the site are clean to prevent spread of environmental weeds and pathogens.
- References and Resources section provides information on best practice for weed management, threatened species present and protecting/managing natural habitats.

References & Resources

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- Northern Midlands Council, Northern Midlands Interim Planning Scheme 2013
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- Wind, A., Burns, D., Kinsey, M., Roberts, J. and Crane, A. (eds.) *A Guide to Coastal and Environmental Weeds of Tasmania* funded by the Commonwealth Government through the Australian Government Envirofund program https://dpipwe.tas.gov.au/Documents/Coastal-Weed-of-Tasmania-booklet.pdf

Appendix A



Figure 8. The Evandale original property boundaries proposed for development by Traders in Purple with the boundary shown in red.

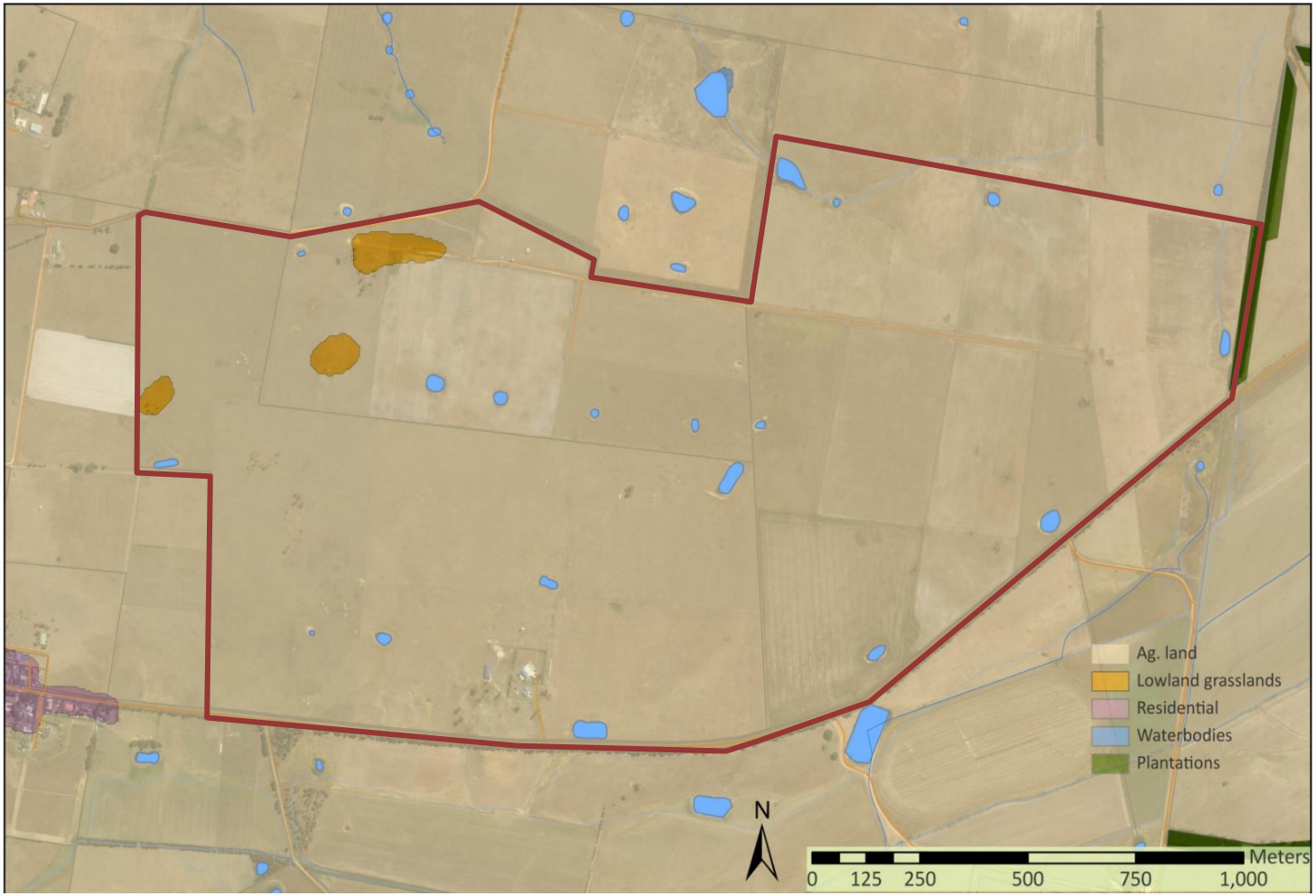


Figure 9. Imagery showing original property boundary, waterbodies and position of mapped vegetation types

EVANDALE – PLANNING SCHEME AMENDMENT

REZONING - BUSHFIRE HAZARD MANAGEMENT REPORT

Date: 21 March 2023
Author: Jacqui Blowfield
Accreditation Number: BFP – 102

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ireneinc PLANNING AND URBAN DESIGN

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1. INTRODUCTION

1.1 AUTHOR STATEMENT

Jacqui Blowfield is an Accredited Person under Section 60B of the *Fire Services Act 1979* (Accreditation number BFP – 102) with scope of work - 1, 2, 3A, 3B and 3C and has reviewed the assessment undertaken and opinions expressed within this Bushfire Hazard Management Report by the author.

1.2 LIMITATIONS

The assessments within this report have been undertaken in accordance with the provisions of *Australian Standard 3959-2018 Construction of buildings in bushfire-prone areas*, the Bushfire-Prone Areas Code of the applicable Planning Scheme and the applicable Director's Determinations.

I have taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site at the date of this report.

2. THE SITE

2.1 SITE DETAILS

The subject land is comprised of the following title:

- 38 Arthur Street (CT 227117/1)
- Logan Road (CT 116759/1)
- 211 Logan Road (CT 106773/1) part of lot only
- 4 Ridgeside Lane (CT 81897/1)

The location of the subject land is described in the following figure:

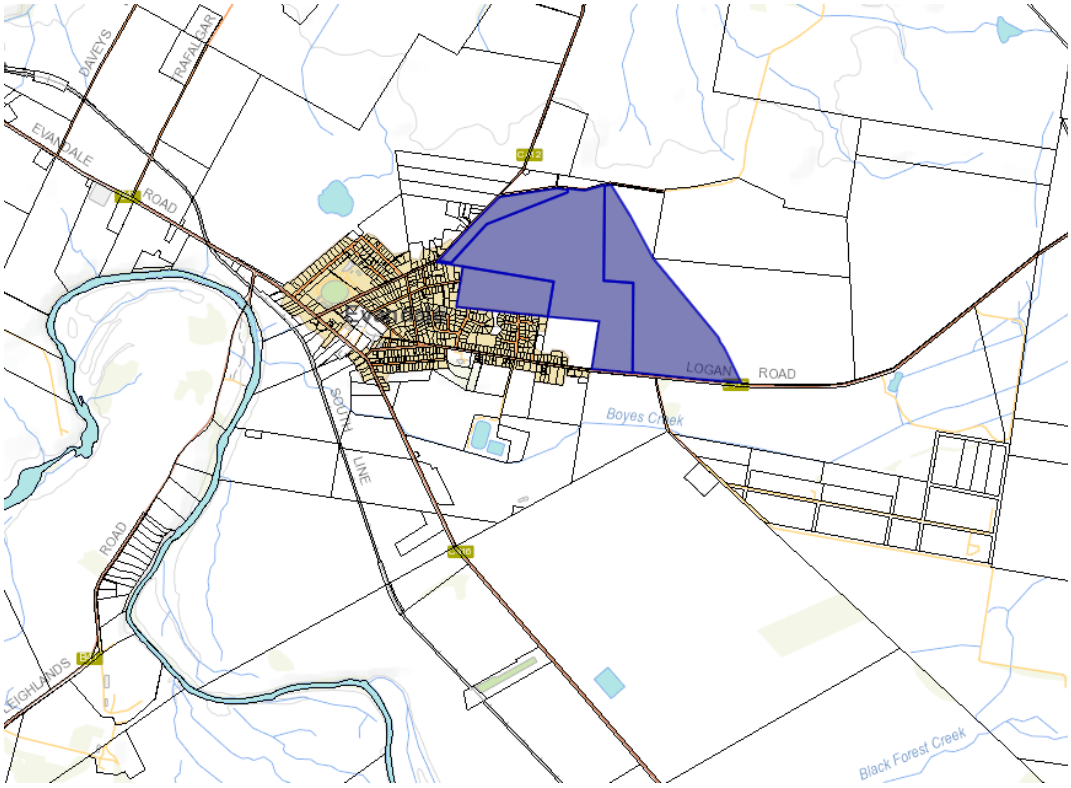


Figure 1: Subject land location with topographic & cadastral parcels from** www.thelist.tas.gov.au **© the State of Tasmania

2.2 PROPOSAL DESCRIPTION

The proposal is an amendment to the *Tasmanian Planning Scheme - Northern Midlands* to rezone land from the Agricultural Zone to the General Residential Zone. The amendment would provide for future residential and other development consistent with the General Residential Zone.

2.3 SITE ANALYSIS

The following section describes the characteristics of the land and adjacent land.

2.3.1 LOCALITY

The land area is approximately 100ha in size and is situated immediately east of the existing township of Evandale. The land is currently used for rural/agricultural purposes, including for grazing. The land area is predominantly cleared of native vegetation, it contains some existing built development including residential dwellings and outbuildings.

The Evandale township is located southwest of the subject land, while the land to the north, adjoining Ridgeside Lane, includes a small handful of Rural Living style lots. Elsewhere the area is typically rural/agricultural land comprised of larger holdings.

The following figure further describes the subject land and surrounds:

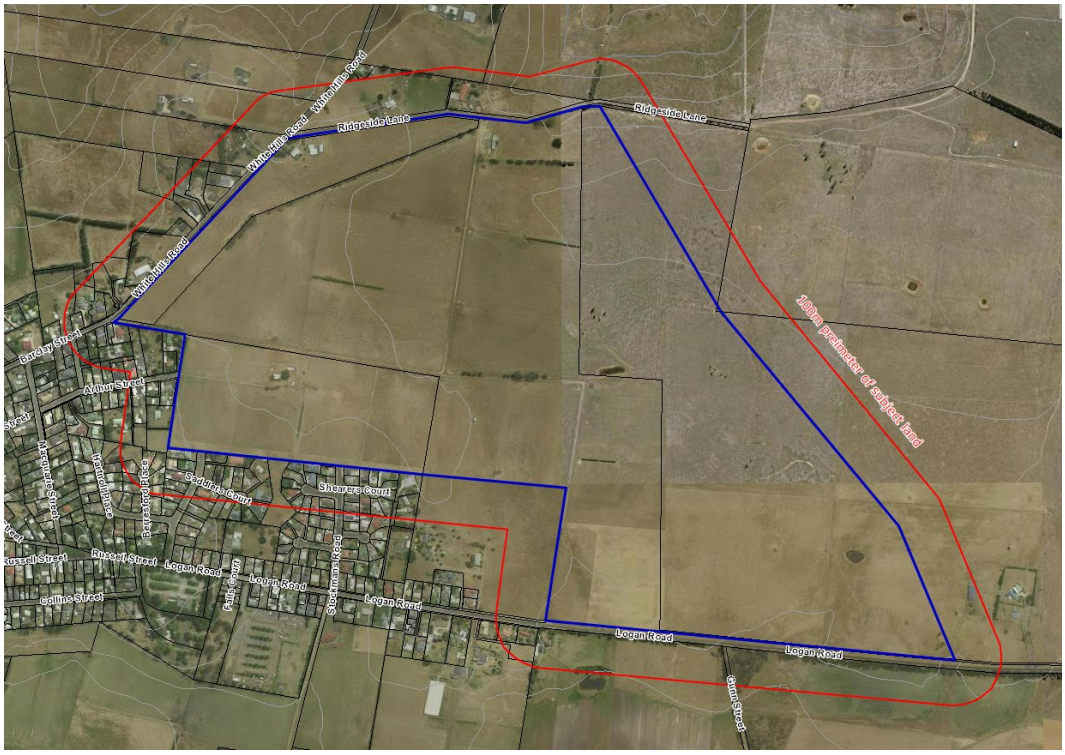


Figure 2: Subject land and surrounds with State aerial, road names & cadastral parcels from www.thelist.tas.gov.au © the State of Tasmania

2.3.2 PLANNING

The applicable planning scheme is the *Tasmanian Planning Scheme – Northern Midlands*.

As detailed in the figure below, the subject land is currently within the Agricultural Zone, it is surrounded by other land in the Agriculture Zone to the north, east and south and adjoins land in the Rural Living Zone to the north and the General Residential zone to the west.

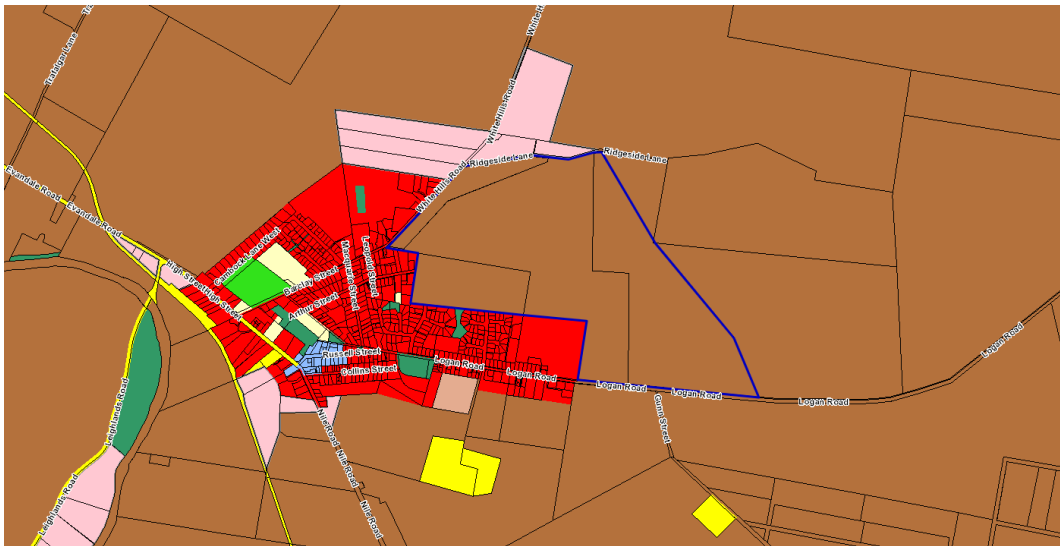


Figure 3: Zoning with TPS zones, road names & cadastral parcels from www.thelist.tas.gov.au © the State of Tasmania

The subject land is also covered by overlays associated with various Codes within the Planning Scheme, including:

- Bushfire-prone area overlay covers the entirety of the subject land;
- Attenuation area overlay affects part of the south of the subject land;
- Airport obstacle limitation area covers all of the land.

The only Code relevant to this assessment is the Bushfire Prone Areas Code.

The subject land is also adjacent to the Evandale Specific Area Plan. This SAP includes provisions including masterplans for 2 General Residential parcels of land adjacent the subject land, detailed in the following figures:

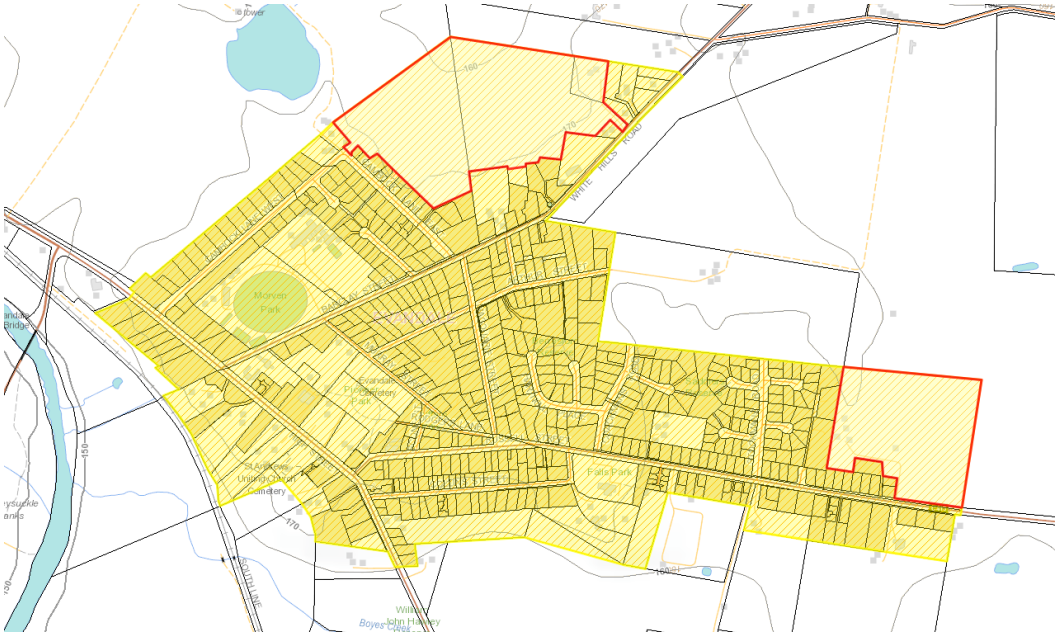


Figure 4: Evandale Specific Area Plan shown yellow, with precinct development masterplan locations outlined in red from https://iplan.tas.gov.au/pages/plan/book.aspx?exhibit=tpsnor

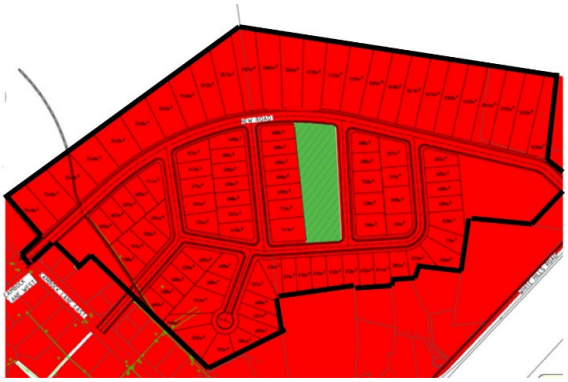


Figure 5: Cambock Lane West Development Precinct Masterplan from https://iplan.tas.gov.au

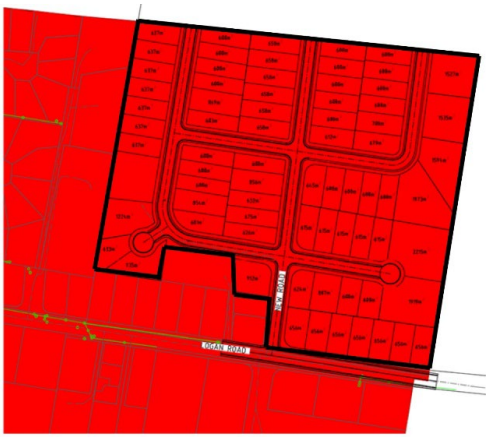


Figure 6: Logan Road Development Precinct Masterplan from https://iplan.tas.gov.au

2.3.3 TOPOGRAPHY

The following figure illustrates the topography of the subject land and surrounds:

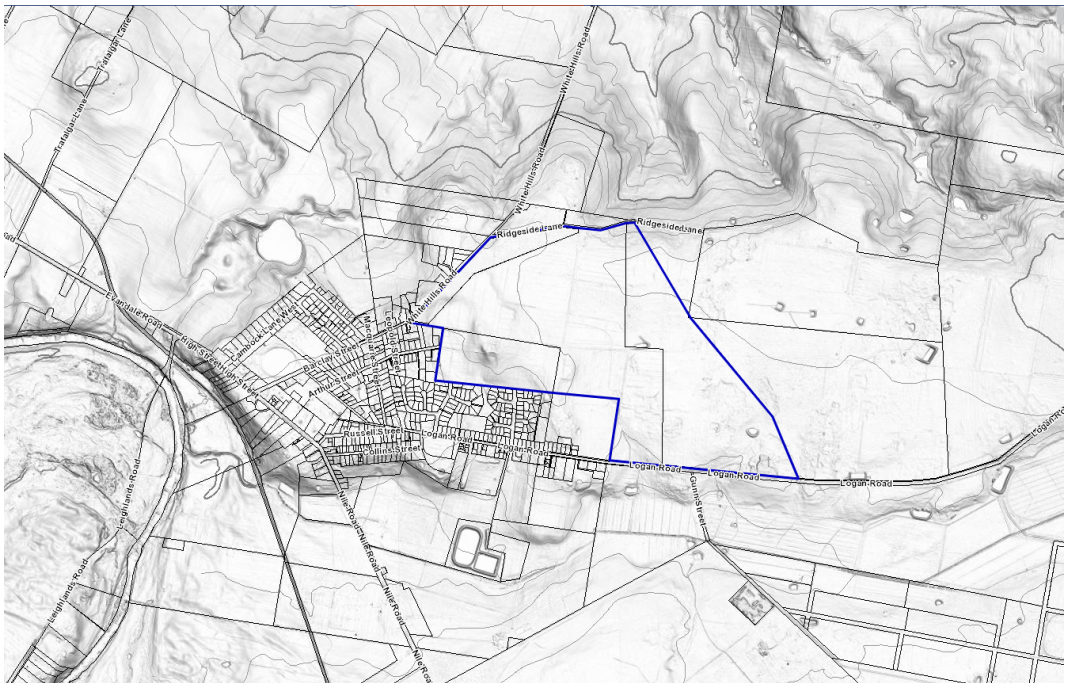


Figure 7: Indicative topography with Hillshade grey, 5m contours, road names and cadastral parcels from www.thelist.tas.gov.au © the State of Tasmania

As described in the previous figure the subject land and surrounding areas are generally flat, except to the north over Ridgeside Lane, where the land rises gently at approximately 1:10, and where it slopes down slightly to the south to Boyes Creek.

2.3.4 VEGETATION DESCRIPTION

The subject land is predominantly mapped by TASVEG 4.0 mapping as Modified Agricultural Land (FAG). As described in the figure below, the TasVeg community groups present on the subject land are as follows:

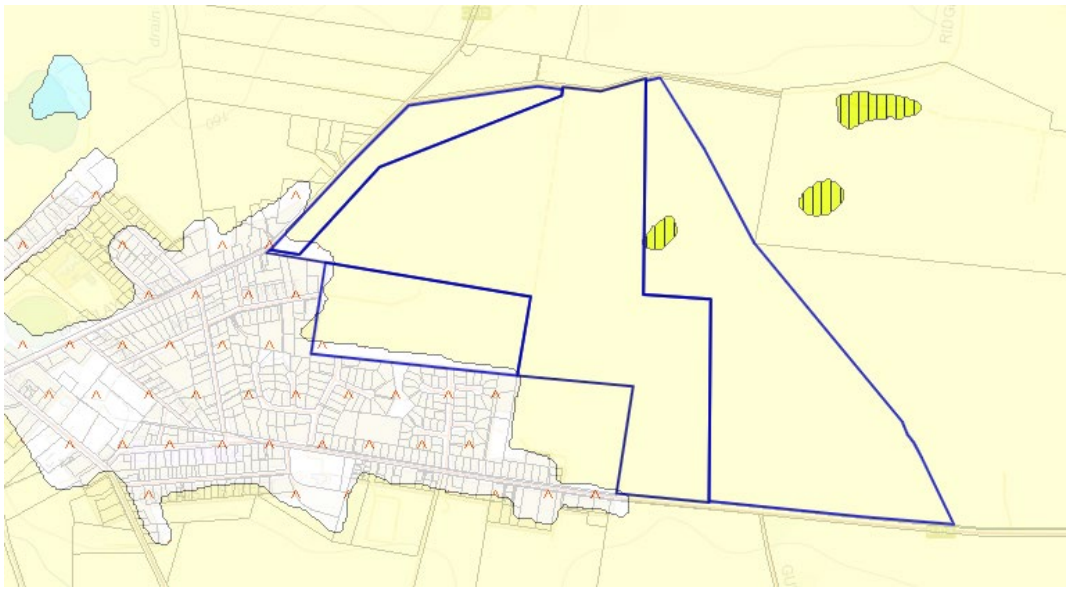


Figure 8: TasVEG mapping of the site (FAG land indicated in yellow, GCL land indicated by hatched green lines, FUR modified urban areas indicated in white) with topographic & Tasveg 4 from www.thelist.tas.gov.au © the State of Tasmania

The nearest native vegetation community to the subject land are small patches of native grassland (GCL) south of Ridgeside Lane. The accompanying Natural Values Assessment has indicated that there are no threatened flora or communities across the site.

2.3.5 FIRE HISTORY

The following provides detail of the mapped fire history of the surrounding area:

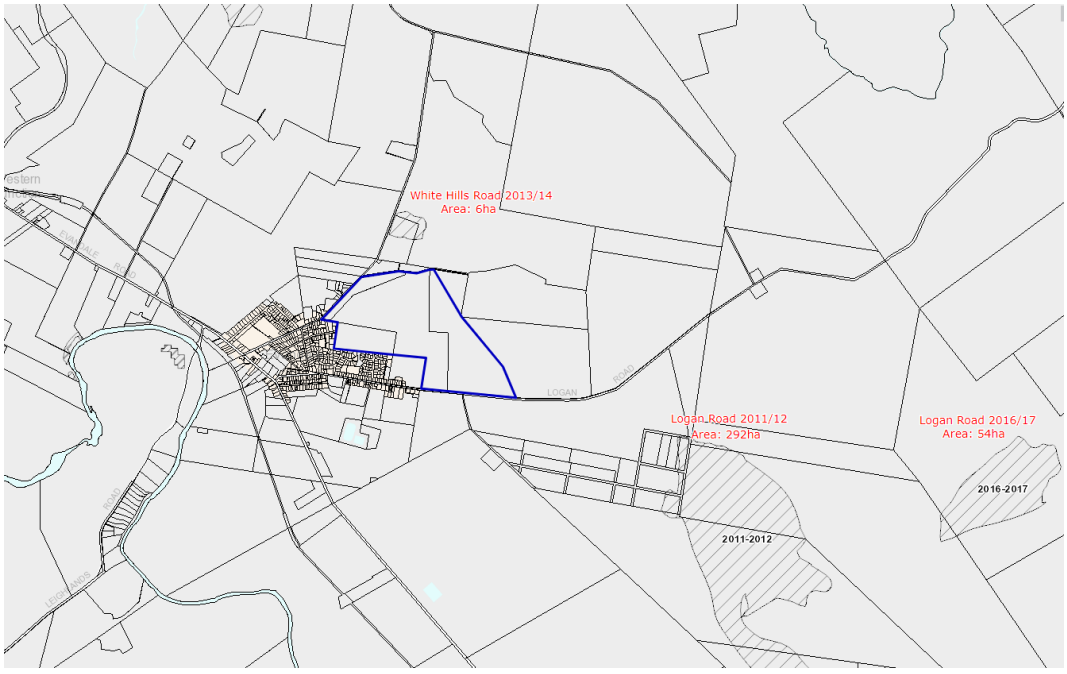


Figure 9: Fire History surrounding immediate site context with cadastral parcels & fire history from www.thelist.tas.gov.au © the State of Tasmania

The most recent fire was a relatively small event that occurred during the 2013/14 season, where 6ha of land was burnt just over 250m north of the site. There are also 2 recorded larger events from 2011/12 and 2015/16, 1.5km and 4km respectively from the subject land.

2.4 BAL ASSESSMENT

The following section includes an indicative Bushfire Attack Level (BAL) assessment, based on a desktop assessment, rather than onsite inspection.

2.4.1 ASSESSMENT OF EXCLUSIONS AND VEGETATION

In accordance with Clause 2.2.3.2 of AS 3959-2018:

> *The following vegetation shall be excluded from a BAL assessment:*
>
> *(a) Vegetation of any type that is more than 100m from the site.*
>
> *(b) Single areas of vegetation less than 1ha in area and not within 100m of other areas of vegetation being classified.*
>
> *(c) Multiple areas of vegetation less than 0.25ha in area and not within 20m of the site, or each other or of other vegetation being classified vegetation.*
>
> *(d) Strips of vegetation less than 20m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of the length and not within 20m of the site or each other, or other areas of vegetation being classified vegetation.*
>
> *(e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops.*
>
> *(f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantation, market gardens (and other non-curing crops), cultivated gardens, commercial nurseries, nature strips and windbreaks.*
>
> *NOTES:*
>
> *1 Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognisable as short-cropped grass for example, to a nominal height of 100mm).*
>
> *2 A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.*

Further to the above the Chief Officer's Bushfire Prone Areas Advisory Note No 01-2014, includes the following in relation to the assessment of vegetation within suburban areas:

> *For the purposes of bushfire assessment undertaken to satisfy the requirements of the Bushfire-Prone Areas Code or the Director's Determination – Requirements of Development in Bushfire-prone areas, vegetation may be assumed to be low threat vegetation if located on land that meets the following criteria:*
>
> *a) The land is zoned Inner Residential, General Residential or Village; and*
>
> *b) The land within any given title has a maximum area of 1.500sqm; or*
>
> *c) The vegetation is on land that is shown on a bushfire prone areas map, endorsed by the Tasmania Fire Service, as not being within a bushfire prone area.*

The following diagram provides a site analysis diagram which details the following:

- The subject land is outlined in blue;
- Non-vegetated areas and managed land in developed lots including landscaped gardens which appear consistent with Clause 2.2.3.2 of AS 3959-2018 as above, are outlined and shaded in red;
- Vacant lots that are within 100m of the subject land and within the mapped bushfire prone areas overlay, but that have a lot area of less than 1500m2, which in accordance with Advisory Note No 01-2014 can be considered managed land, are also outlined and shaded in red;
- A Council owned lot that is within 100m of the subject land, partially within the mapped bushfire prone areas overlay, but may be considered either managed land in accordance with 2.2.3.2 of AS 3959-2018 or as grassland, subject to further assessment and information;
- Areas of bushfire prone vegetation, assessed as grassland or potential grassland are shaded in yellow;

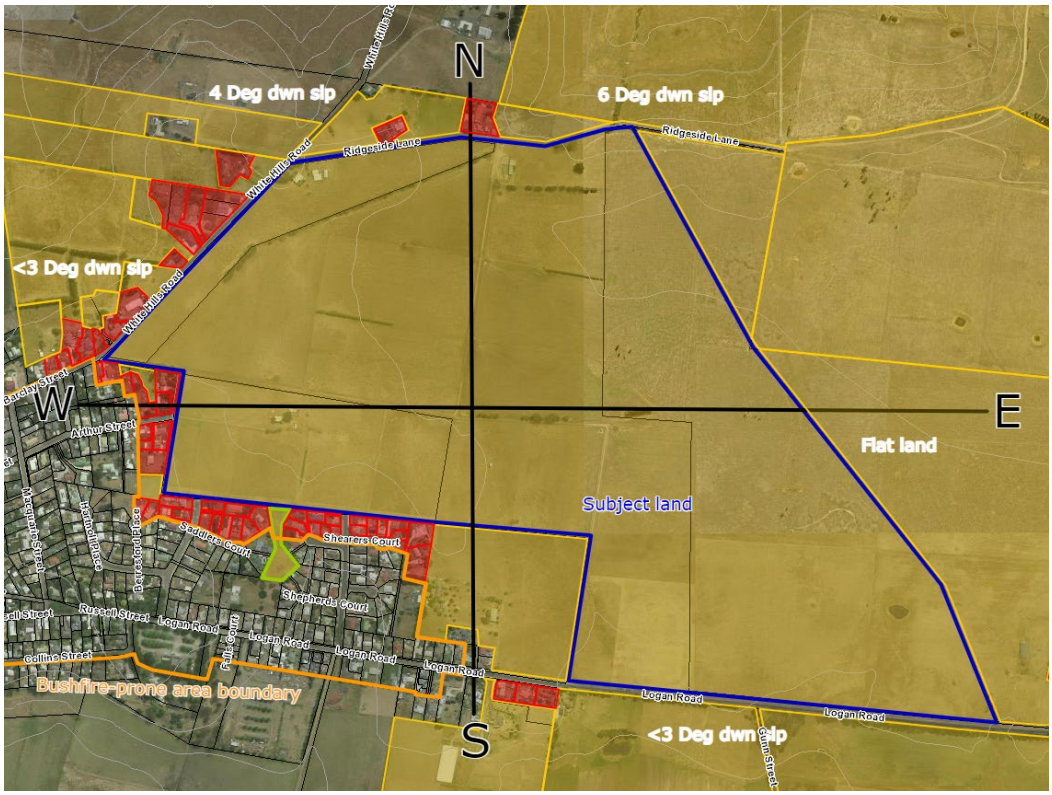


Figure 10: Analysis plan with base plan information including cadastral parcels, 5m contours & State Aerial from www.thelist.tas.gov.au © the State of Tasmania

2.4.2 ASSESSMENT TABLE

The following table considers the perimeter of the subject land.

VEGETATION WITHIN 100m				
Vegetation classification	**North**	**East**	**South**	**West**
A. Forest				
B. Woodland				
C. Shrubland				
D. Scrub				
E. Mallee / Mulga				
F. Rainforest				
G. Grassland	✓	✓	✓	✓
H. Tussock moorland				
Exclusions (where applicable) from clause 2.2.3.2	✓	✓		✓
EFFECTIVE SLOPE OF LAND UNDER THE CLASSIFIED VEGETATION (see clause 2.2.5)				
Slope under the classified vegetation	Upslope			
	Upslope/0º		Upslope/0º ✓	Upslope/0º	Upslope/0º
	Downslope			
	>0 to 5º ✓	>0 to 5º	>0 to 5º ✓	>0 to 5º ✓
	>5 to 10º ✓	>5 to 10º	>5 to 10º	>5 to 10º
	>10 to 15º	>10 to 15º	>10 to 15º	>10 to 15º
	>15 to 20º	>15 to 20º	>15 to 20º	>15 to 20º
WIDTH OF HAZARD MANAGEMENT REQUIRED FOR BAL 19				
Minimum Distance to classified vegetation	Distances in metres			
	11 to 13	10m	11	11
WIDTH OF HAZARD MANAGEMENT REQUIRED FOR BAL 12.5				
Minimum Distance to classified vegetation	Distances in metres			
	16 to 19	14	16	16
WIDTH OF HAZARD MANAGEMENT REQUIRED FOR BAL LOW				
Minimum Distance to classified vegetation	Distances in metres			
	51	51	51	51

Notes: The above is based on AS3959:2018 Table 2.6, FDI 50 (1090K). On days where the Fire Danger Rating exceeds High the FDI may exceed 50.

Based on the above building areas for proposed subdivision lots or proposed habitable buildings would requires separation to areas of classified grassland vegetation of between 10m and 13m depending on the slope of adjacent land.

3. BUSHFIRE-PRONE AREAS CODE

3.1 APPLICATION OF THE CODE

The subject land is covered by the Bushfire-prone area overlay of the Planning Scheme and therefore in accordance with C13.2.1 the Code applies to applications for subdivision or to development for vulnerable or hazardous uses.

The Code defines vulnerable and hazardous uses in C13.3, as follows:

Hazardous use	*means a use where:* *(a) hazardous chemicals of a manifest quantity are stored on a site; or* *(b) explosives are stored on a site and where classified as an explosives location or large explosives location as specified in the Explosives Act 2012.*
Vulnerable use	*means a use that is within one or more of the following use classes:* *(a) Custodial Facility;* *(b) Education and Occasional Care;* *(c) Hospital Services;* *(d) Residential if the use is for assisted housing, residential care facility, respite centre or retirement village.*

3.2 USE STANDARDS FOR VULNERABLE USES

Relevant to the proposed planning scheme amendment the following details vulnerable uses applicable to the existing and proposed zones in accordance with the respective Use Tables:

Vulnerable Uses	**Agriculture Zone**	**General Residential Zone**
Education and Occasional Care	Discretionary	Discretionary
Residential … for assisted housing, residential care facility, respite centre or retirement village	Discretionary	Permitted

As described above the proposed rezoning does not introduce additional vulnerable uses.

Notwithstanding other standards of the respective Zones or other relevant Codes the following standard would be required to be considered and complied with by any future application which included a vulnerable use.

C13.5.1 Vulnerable uses
Objective: *Vulnerable uses can only be located on land within a bushfire-prone area where tolerable risks are achieved through mitigation measures that take into account the specific characteristics of both the vulnerable use and the bushfire hazard.*

A1 *No Acceptable Solution.*	*P1* *A vulnerable use must only be located in a bushfire-prone area if a tolerable risk from bushfire can be achieved and maintained, having regard to:* *(a) the location, characteristics, nature and scale of the use;* *(b) whether there is an overriding benefit to the community;* *(c) whether there is no suitable alternative lower-risk site;* *(d) the emergency management strategy and bushfire hazard management plan; and* *(e) other advice, if any, from the TFS.*
A2 *An emergency management strategy (vulnerable use), endorsed by the TFS or accredited person.*	*P2* *No Performance Criterion.*
A3 *A bushfire hazard management plan that contains appropriate bushfire protection measures that is certified by the TFS or an accredited person.*	*P2* *No Performance Criterion.*

As there is no acceptable solution for A1, any application involving a vulnerable use require discretionary consideration against P1. Whether a specific proposal could meet P1 would entirely depend on the type of use, the intensity and scale of the use, the specific siting and access as well as the detailed design of buildings.

Any future application for vulnerable uses would require the development of a Bushfire Emergency Management Strategy that was then endorsed by TFS in accordance with A2, detailing the structure proposed for the Bushfire Emergency Plan required for vulnerable uses for building approval. The strategy would be required to consider the degree of hazard and risk associated with the site and proposal as well as the on and off site refuge locations and evacuation actions and triggers.

A3 would also require a certified bushfire hazard management plan which would detail building construction level under AS3959, the extent of hazard management, provision of firefighting water supply and access.

3.3 USE STANDARDS FOR HAZARDOUS USES (C13.5.2)

Under the definition detailed above, a hazardous use can be any use in any Use Class where hazardous chemicals are stored over a specified quantity.

Given this definition it would be expected that if hazardous uses occurred they would be most likely to be associated with non-residential development. Things like agricultural or industrial operations where quantities of fuel may be stored for convenience may trigger a hazardous use definition.

Relevant to the proposed planning scheme amendment the following details non-residential uses which appear more likely to be potentially associated with storage of above manifest quantities of controlled materials in accordance with the respective Use Tables:

	Agriculture Zone	General Residential Zone
Emergency Services	Discretionary	Discretionary
Extractive Industry	Discretionary	Prohibited
Manufacturing and Processing	Discretionary	Prohibited
Resource Development	Discretionary	Prohibited
Resource Processing	Discretionary	Prohibited
Storage	Discretionary	Prohibited
Transport Depot and Distribution	Discretionary	Prohibited

As described above the proposed rezoning is anticipated to reduce the likelihood of development of hazardous uses being proposed.

Notwithstanding other standards of the respective Zones or other relevant Codes the use standard C13.5.2 Hazardous uses would be required to be considered and complied with by any future application which included a hazardous use, the requirements of the Acceptable Solutions and Performance criteria mirror those of the previously detailed vulnerable uses.

3.4 DEVELOPMENT STANDARDS FOR SUBDIVISION

The proposed planning scheme amendment would provide for subdivision of the land to urban residential densities, subject to relevant standards for the Zone and other Codes. The following Standard of this Code would be applicable:

<table>
<tr><td colspan="2">C13.6.1 Provision of hazard management areas</td></tr>
<tr><td colspan="2">Objective: That 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.</td></tr>
<tr><td>A1
(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or
(b) The proposed plan of subdivision:
(i) shows all lots that are within or partly within a bushfire-prone area, including those developed at each stage of a staged subdivision;
(ii) shows the building area for each lot;
(iii) shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL 19 in Table 2.6 of Australian Standard AS3959:2018</td><td>P1
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) the dimensions of hazard management areas;
(b) a bushfire risk assessment of each lot at any stage of staged subdivision;
(c) the nature of the bushfire-prone vegetation including the type, fuel load, structure and flammability;
(d) the topography, including site slope;
(e) any other potential forms of fuel and ignition sources;
(f) separation distances from the bushfire-prone vegetation not unreasonably restricting subsequent development;</td></tr>
</table>

Construction of buildings in bushfire-prone areas; and *(iv) is accompanied by a bushfire hazard management plan that addresses all the individual lots and that is certified by the TFS or accredited person, showing hazard management areas equal to, or greater than the separation distances required for BAL 19 in Table 2.6 of Australian Standard AS3959:2018 Construction of buildings in bushfire-prone Areas; and* *(c) if hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of that land to enter into an agreement under section 71 of the Act that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.*	*(g) an instrument that will facilitate management of fuels located on land external to the subdivision; and* *(h) any advice from the* TFS.
As detailed previously in part 2.4 the vegetation on the subject land and surrounding (where not assessed as non-vegetated or low threat) based on desktop assessment would be classified as grassland. Grassland on flat to gently sloping land requires hazard management of between 10m to 13m depending on the slope of the land to meet BAL 19. This degree of management would appear to be able to be accommodated in any future subdivision, provided for through the rezoning, and it would therefore be anticipated that lots would be able to be provided with BAL 19, BAL 12.5 or BAL low building areas, depending on the location within a subdivision.	
C13.6.2 Public and fire fighting access	
Objective: That 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.*	
A1 *(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant specific measures for public access in the*	*P1* *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:*

subdivision for the purposes of fire fighting; or *(b) A proposed plan of subdivision showing the layout of roads, fire trails and the location of property access to building areas, is included in a bushfire hazard management plan that:* *(i) demonstrates proposed roads will comply with Table C13.1, proposed property accesses will comply with Table C13.2 and proposed fire trails will comply with Table C13.3 and* *(ii) is certified by the TFS or an accredited person.*	*(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; and* *(b) the provision of access to:* *(i) bushfire-prone vegetation to permit the undertaking of hazard management works; and* *(ii) fire fighting water supplies; and* *(c) any advice from the TFS.*

The following table provide the design standards which would be applicable for new roads or accesses for new lots within the subject land.

Table C13.1 Standards for Roads

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 20 tonnes, 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;* *(e) minimum horizontal clearance of 2m from the edge of the carriageway;* *(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 7m in width;* *(j) dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius; and* *(k) carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with*

		Australian Standard, AS 1743:2018 Road signs-Specifications.

Table C13.2 Standards for Property Access

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.*
B.	*Property access length is 30m or greater; or access is required for a fire appliance to a fire fighting water point.*	*The following design and construction requirements apply to property access:* *(a) all-weather construction;* *(b) load capacity of at least 20t, including for bridges and culverts;* *(c) minimum carriageway width of 4m;* *(d) minimum vertical clearance of 4m;* *(e) minimum horizontal clearance of 0.5m from the edge of the carriageway;* *(f) cross falls of less than 3 degrees (1:20 or 5%);* *(g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;* *(h) curves with a minimum inner radius of 10m;* *(i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and* *(j) terminate with a turning area for fire appliances provided by one of the following:* *(i) a turning circle with a minimum outer radius of 10m; or* *(ii) a property access encircling the building; or* *(iii) a hammerhead "T" or "Y" turning head 4m wide and 8m long.*
C.	*Property access length is 200m or greater.*	*The following design and construction requirements apply to property access:* *(a) the requirements for B above; and* *(b) passing bays of 2m additional carriageway width and 20m length provided every 200m.*
D.	*Property access length is greater than 30m, and access is provided to 3 or more properties.*	*The following design and construction requirements apply to property access:* *(a) complies with requirements for B above; and* *(b) passing bays of 2m additional carriageway width and 20m length must be provided every 100m.*

Given the qualities of the land there would appear to be no natural constraint on future subdivisions, provided for through the proposed rezoning, of the land being able to meet the standards for construction of roads and accesses.

C13.6.3 Provision of water supply for fire fighting purposes	
Objective: That an adequate, accessible and reliable water supply for the purposes of fire fighting can be demonstrated at the subdivision stage to allow for the protection of life and property associated with the subsequent use and development of bushfire-prone areas.	
A1 *In areas serviced with reticulated water by the water corporation:* *(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of a water supply for fire fighting purposes;* *(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 C13.4; 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.*	*P1* *No Performance Criterion.*

The following table provide the design standards which would be applicable for reticulated water supply for new lots within the subject land.

Table C13.4 Reticulated Water Supply for Fire Fighting

Element		*Requirement*
A.	*Distance between building area to be protected and water supply.*	*The following requirements apply:* *(a) the building area to be protected must be located within 120m of a fire hydrant; and* *(b) the distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.*
B.	*Design criteria for fire hydrants.*	*The following requirements apply:* *(a) fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia, WSA 03-2011-3.1 MRWA 2nd edition; and* *(b) fire hydrants are not installed in parking areas.*
C.	*Hardstand.*	*A hardstand area for fire appliances must be provided:* *(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) with 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.*

It is understood that that future urban subdivision, provided for through the rezoning, would be serviced with reticulated water supply and therefore would be able to meet the above design requirements.

Notwithstanding there are also alternative design requirements which can be applied in areas where reticulated water supply is not available.

4. BUILDING ACT

The requirements under the Building Act are considered to not be directly relevant to consideration of the proposed rezoning as these requirement s would be applicable to future habitable buildings regardless of whether the land is rezoned or not.

New habitable buildings or additions to existing habitable buildings within the specified Building Classes are required to meet the requirements of the directors determination as detailed below.

4.1 APPLICATION

As specified in clause 2.(1) the Determination applies:

(1) This Determination applies to a building located in a bushfire-prone area of the following Class:
- *(a) Class 1;*
- *(b) Class 2;*
- *(c) Class 3;*
- *(d) Class 8;*
- *(e) Class 9; and*
- *(f) Class 10a that is closer than 6 metres to a habitable building.*

(2) Despite subsection (1), this Determination does not apply to buildings which are integral to the agricultural use of the land and which are not normally occupied.

4.2 DEEMED-TO-SATISFY REQUIREMENT

4.2.1 CONSTRUCTION REQUIREMENTS (4.1)

(1) Building work (including additions or alterations to an existing building) in a bushfire-prone area must be designed and constructed in accordance with an Acceptable Construction Manual determined by the BCA, being either: - *(a) AS 3959-2018; or* *(b) Nash Standard - Steel Framed Construction in Bushfire Areas* *as appropriate for a BAL determined for that site.*
(2) Subclause (1)(a) is applicable to the following: *(a) a Class 1, 2 or 3 building; or* *(b) a Class 10a building or deck associated with a Class 1, 2 or 3 building.*
(3) Subclause (1)(b) is applicable to the following: *(a) a Class 1 building; or* *(b) a Class 10a building or deck associated with a Class 1 building.*
(4) Despite subsection (1) above, variations from requirements specified in 1(a) and 1(b) are as specified in Table 4.1 below.

(5) Despite subsections (1) and (4) above, performance requirements for buildings subject to BAL 40 or BAL Flame Zone (BAL-FZ) are not satisfied by compliance with subsections (1) or (4) above. *Comment: this means that where BAL 40 or BAL FZ is assessed, the Performance Requirements are not satisfied by complying with the Deemed-to-Satisfy Requirements.*

Table 4.1 Construction Requirement & Construction Variations

Column 1		***Column 2***
Element		***Requirement***
A	*Straw Bale Construction*	*May be used in exposures up to and including BAL 19.*
B	*Shielding provisions under Section 3.5 of AS3959-2018.*	*To reduce construction requirements due to shielding, building plans must include suitable detailed elevations or plans that demonstrate that the requirements of Section 3.5 of the Standard can be met.* *Comment: Application of Section 3.5 of the Standard cannot result in an assessment of BAL-LOW*
C	*Construction standard for vulnerable use*	*Building work for a building classified as a vulnerable use must be constructed to a BAL that is determined in a BHMP certified by an accredited person.* *****

**** Note:***

Building Regulations 2014

PART 1A - Bushfire-prone Areas

11A. Vulnerable use

The use of a building for any of the following is a vulnerable use:

(a) an accommodation building (corresponding to BCA Class 1b or Class 3);

(b) an accommodation building (corresponding to BCA Class 2) but only if it is used as a guest house, hostel, group home for persons with a disability, respite centre or residential aged care facility;

(c) a factory or laboratory (corresponding to BCA Class 8);

(d) a health-care building (corresponding to BCA Class 9a);

(e) an assembly building (corresponding to BCA Class 9b);

(f) an aged care facility (corresponding to BCA Class 9c).

4.2.2 PROPERTY ACCESS (4.2)

(1) A new building constructed in a bushfire-prone area must be provided with property access to the building area and the firefighting water point, accessible by a carriageway, designed and constructed as specified in subsection (4) below.
(2) For an addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(C) of the Building Regulations 2014, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.
(3) For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to the bushfire-prone vegetation and there is no property access available, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.
(4) Vehicular access from a public road to a building must: *(a) Meet the property access requirements described in Table 4.2;*

(b) *Include access from a public road to within 90 metres of the furthest part of the building measured as a hose lay; and*
(c) *Include access to the hardstand area for the firefighting water point.*

Table 4.2 Requirements for Property Access

Column 1		***Column 2***
Element		***Requirement***
A	*Property access length is less than 30 metres; or access is not required for a fire appliance to access a firefighting water point.*	*There are no specified design and construction requirements.*
B	*Property access length is 30 metres or greater; or access for a fire appliance to a firefighting water point.*	*The following design and construction requirements apply to property access:* *(a) All-weather construction;* *(b) Load capacity of at least 20 tonnes, including for bridges and culverts;* *(c) Minimum carriageway width of 4 metres;* *(d) Minimum vertical clearance of 4 metres;* *(e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;* *(f) Cross falls of less than 3° (1:20 or 5%);* *(g) Dips less than 7° (1:8 or 12.5%) entry and exit angle;* *(h) Curves with a minimum inner radius of 10 metres;* *(i) Maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and* *(j) Terminate with a turning area for fire appliances provided by one of the following:* *(i) A turning circle with a minimum inner radius of 10 metres;* *(ii) A property access encircling the building; or* *(iii) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.*
C	*Property access length is 200 metres or greater.*	*The following design and construction requirements apply to property access:* *(a) The Requirements for B above; and* *(b) Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.*
D	*Property access length is greater than 30 metres, and access is provided to 3 or more properties.*	*The following design and construction requirements apply to property access:* *(a) Complies with Requirements for B above; and* *(b) Passing bays of 2 metres additional carriageway width and 20 metres length must be provided every 100 metres.*

4.2.3 WATER SUPPLY FOR FIRE FIGHTING (4.3)

(1)	*A new building constructed in a bushfire-prone area, must be provided with a water supply dedicated for firefighting purposes as specified in subsections (4) and (5) below.*
(2)	*For an addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(C) of the Building Regulations 2014, a water supply for firefighting must be provided as specified in subsections (4) and (5) below.*
(3)	*For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to the bushfire-prone vegetation and there is no water supply for firefighting available, a water supply for firefighting must be provided as specified in subsections (4) and (5) below.*
(4)	*Water supplies for firefighting must meet the requirements described in Tables 4.3A or 4.3B.*
(5)	*The water supply must be:* *(a) Provided from a fire hydrant or static water supply;* *(b) Located within the specified distance from the building to be protected; and* *(c) Provided with a hardstand and suitable connections.*

Table 4.3A Requirements for Reticulated Water Supply for Fire fighting

Column 1		***Column 2***
Element		***Requirement***
A	*Distance between building area to be protected and water supply*	*The following requirements apply:* *(a) The building area to be protected must be located within 120 metres of a fire hydrant; and* *(b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.*
B	*Design criteria for fire hydrants*	*The following requirements apply:* *(a) Fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA Edition 2.0; and* *(b) Fire hydrants are to be installed outside of the minimum access road width, and clear of any passing bay or parking area, to ensure access at all times to reticulated water for fire suppression.*
C	*Hardstand*	*A hardstand area for fire appliances must be provided:* *(a) No more than three metres from the hydrant, measured as a hose lay;* *(b) No closer than six metres from the building area to be protected;* *(c) With a minimum width of three metres 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.*

Table 4.3B Static Water Supply for Fire fighting

Column 1		***Column 2***
Element		***Requirement***
A	*Distance between building area to be protected and water supply*	*The following requirements apply:* *(a) The building area to be protected must be located within 90 metres of the water connection point of a static water supply; and* *(b) The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.*
B	*Static Water Supplies*	*A static water supply:* *(a) May have a remotely located offtake connected to the static water supply;* *(b) May be a supply for combined use (firefighting and other uses) but the specified minimum quantity of firefighting water must be available at all times;* *(c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including firefighting sprinkler or spray systems;* *(d) Must be metal, concrete or lagged by non-combustible materials if above ground; and* *(e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2018, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by:* *(i) metal;* *(ii) non-combustible material; or* *(iii) fibre-cement a minimum of 6 mm thickness.*
C	*Fittings, pipework and accessories (including stands and tank supports)*	*Fittings and pipework associated with a firefighting water point for a static water supply must:* *(a) Have a minimum nominal internal diameter of 50mm;* *(b) Be fitted with a valve with a minimum nominal internal diameter of 50mm;* *(c) Be metal or lagged by non-combustible materials if above ground;* *(d) Where buried, have a minimum depth of 300mm;* *(e) Provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to firefighting equipment;* *(f) Ensure the coupling is accessible and available for connection at all times;* *(g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length);* *(h) Ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and* *(i) Where a remote offtake is installed, ensure the offtake is in a position that is:*

		(i) Visible; *(ii) Accessible to allow connection by firefighting equipment;* *(iii) At a working height of 450 – 600mm above ground level; and* *(iv) Protected from possible damage, including damage by vehicles.*
D	*Signage for static water connections*	*The firefighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:* *(a) comply with water tank signage requirements within Australian Standard AS 2304-2019; or* *(b) comply with the Tasmania Fire Service Water Supply Signage Guideline published by the Tasmania Fire Service.*
E	*Hardstand*	*A hardstand area for fire appliances must be provided:* *(a) No more than three metres from the water connection point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like);* *(b) No closer than six metres from the building area to be protected;* *(c) With a minimum width of three metres 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.*

4.2.4 HAZARD MANAGEMENT AREAS (4.4)

(1)	*A new building constructed in a bushfire-prone area must be provided with a HMA of sufficient dimensions and which provides an area around the building which separates the building from the bushfire hazard and complies with subsections (4), (5) and (6) below.*
(2)	*For an addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(C) of the Building Regulations 2014, the building must be provided with a HMA of sufficient dimensions and which provides an area around the building which separates the building from the bushfire hazard and complies with subsections (4), (5) and (6) below.*
(3)	*For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to the bushfire-prone vegetation it must be provided with a HMA of sufficient dimensions and which provides an area around the building which separates the building from the bushfire hazard and complies with subsections (4), (5) and (6) below.*
(4)	*The HMA must comply with Table 4.4; and*
(5)	*The HMA for a particular BAL must have the minimum dimensions required for the separation distances specified for that BAL in Table 2.6 of AS 3959-2018; and*
(6)	*The HMA must be established such that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to the bushfire attack.*

Table 4.5 Hazard Management Area Requirements

Column 1		*Column 2*
Element		***Requirement***
A	*Hazard management areas for new buildings on lots provided with a BAL at the time of subdivision.*	*A new building must:* *(a) Be located on the lot so as to be provided with a HMA no smaller than the required separation distances for the BAL determined at the time of subdivision; and* *(b) Have a HMA established in accordance with a certified bushfire hazard management plan.*
B	*Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision.*	*A new building must:* *(a) Be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and* *(b) Have an HMA established in accordance with a certified bushfire hazard management plan.*
C	*Hazard management areas for alterations or additions to buildings.*	*An alteration or addition to a building must:* *(a) Be located on the lot so as to be provided with a HMA which:* *(i) Has the separation distances required for the BAL assessed for the construction of the existing building; or* *(ii) In the case of a building without an existing BAL assessment, is no smaller than the separation distances required for BAL 29; and* *(b) Have an HMA established in accordance with a certified bushfire hazard management plan.*
D	*Hazard management areas for new buildings and additions and alterations to buildings classified as an accommodation building BCA Class 1b, BCA Class 2, or BCA Class 3, other than communal residence for persons with a disability, a respite centre or a residential aged care facility or similar.*	*A new building or an alteration or addition must:* *(a) Be:* *(i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or* *(ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for firefighting;* *and* *(b) Have an HMA established in accordance with a certified bushfire hazard management plan.*
E	*Hazard management areas for new buildings and additions and alterations to existing buildings classified as vulnerable use as*	*A new building or an addition or alteration including change of use must:* *(a) Be:* *(i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or*

	defined in the Bushfire-Prone Areas Code (Planning Directive 5.1)	*(ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for firefighting;* *and* *(b) Have a HMA established in accordance with a certified bushfire hazard management plan.*
F	*Hazard management areas for new buildings or additions and alterations to buildings associated with a hazardous use*	*A new building or an alteration or addition, including change of use, for a building determined as a hazardous use must:* *(a) Be located on the lot so as to be provided with HMAs no smaller than the required separation distances for the BAL determined in the certified bushfire hazard management plan; and* *(b) Have a HMA established in accordance with a certified bushfire hazard management plan.*

4.2.5 EMERGENCY PLAN (4.5)

(1) An emergency plan must be provided for:
- *(a) New buildings and additions and alterations to buildings classified as an accommodation building (Class 1b, Class 2, or Class 3) other than a group home for persons with a disability, a respite centre or a residential aged care facility or similar; or*
- *(b) A new building, extension or addition to a building, or change of use classified as a vulnerable use, constructed in a bushfire-prone area; and*

(2) The emergency plan must comply with Table 4.5.

Table 4.5 Requirements for Emergency Planning

Column 1		***Column 2***
Element		***Requirement***
A	*Emergency plans*	*An emergency plan must be developed for the site which is:* *(a) Compliant with the TFS Bushfire Emergency Planning Guidelines; and* *(b) Approved by TFS or a person accredited by the TFS.*

5. CONCLUSION

The current application is for a planning scheme amendment requesting rezoning of the land to General Residential. This report considers matters related to the management of bushfire risk with specific consideration of the proposed rezoning.

The land subject to the amendment is mapped with the Bushfire-Prone Areas overlay and therefore the Bushfire-Prone Areas Code of the *Tasmanian Planning Scheme* applies. The Code has standards applicable to defined vulnerable and hazardous uses or subdivision.

In addition to the requirements of the Planning Scheme the mapping of the subject land as Bushfire Prone land under the Planning Scheme means that habitable buildings are subject to the Director Determination however these requirements would also apply to habitable buildings on the land regardless of the proposed rezoning of the land.

The assessment undertaken indicated that the land, while subject to bushfire risk, the required mitigation measure would be able to be accommodated within any future subdivision or development applications which the proposed rezoning would provide for.

pitt&sherry

Preliminary Site Investigation

Evandale Expansion Masterplan

Prepared for
Traders In Purple (TIP)

Client representative
Ms Jennifer Cooper

Date
11 April 2023

Rev 00



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List of abbreviations

Abbreviation	Description
ABARES	Australian bureau of agricultural and resource economics and sciences
ACM	Asbestos-containing material(s)
AES	Areas of Ecological Significance
AHD	Australian height datum
ASC NEPM	*National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013*
ASS	Acid sulfate soils
BDR	Building demolition Rubble
BOM	Bureau of meteorology
BYDA	Before You Dig Australia
CEnvP SC	Certified Environmental Practitioner Site Contamination Specialist
CoC	Chain of custody
CoPC	Contaminant(s) of potential concern
CSIRO	Commonwealth scientific and industrial research organisation
DAWE	Australian government department of agriculture, water and the environment
DG(s)	Dangerous good(s)
DPIPWE	Department of Primary Industries, Parks, Water and Environment (Tasmania)
EIANZ	Environment Institute of Australia and New Zealand
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
EPA	Environment Protection Authority (Tasmania)
EPN	Environment Protection Notice
GIAP	Groundwater Information Access Portal
HIL / HSL	Health Investigation Level / Health Screening Level
IB105	*Information Bulletin No. 105 Classification and Management of Contaminated Soil for Disposal,* v3, EPA, 2018
CCC	Clarence City Council
LISTmap	Land Information System Tasmania interactive mapping tool
LOR	Limit of reporting
mBGS / mBGL	Metres below ground surface / metres below ground level
MRT	Mineral resources Tasmania

Abbreviation	Description
NATA	National Association of Testing Authorities
PCLC	Potentially Contaminated Land Code
PID	Photoionization detector
QA/QC	Quality assurance / quality control
RPD	Relative percentage difference
SAQP	Sampling analysis and quality plan
TPC	Tasmanian planning commission
TPH / TRH	Total petroleum hydrocarbons / total recoverable hydrocarbons
UPSS	Underground petroleum storage system(s)
UST	Underground storage tank
VOCs	Volatile organic compounds
WST	WorkSafe Tasmania

Executive summary

This report presents the findings of a desktop preliminary site investigation (PSI) undertaken by Pitt & Sherry (Operations) Pty Ltd (pitt&sherry) to assess the risks associated with potential contamination of land (the Site) proposed for re-zoning and mixed-use development. The Site comprises Logan Road (Certificate of Title (CT) 116759/1), 211 Logan Road (part of CT 1066773/1), 4 Ridgeside Lane (CT 81897/1) and 38 Arthur Street (CT 227117/1), all located in Evandale, Tasmania 7212.

The objectives of this PSI were to:

- Identify potential sources of contamination and contaminants of potential concern (CoPC)
- Identify the potential for the identified contamination (if any) to pose an unacceptable level of risk to human health and/or the environment; and
- Identify the need for further investigation, including providing information to allow for scoping.

This PSI was carried out in general accordance with the *National Protection (Assessment of Site Contamination) Measure 1999, as amended 2013* (ASC NEPM). The scope of work included the review of available sources of historical information, review of Site characteristics in the context of the proposed rezoning and mixed-use development, and a Site inspection.

The PSI has identified a number of potential risks:

- Risk to current and future Site users – associated with
    - Residual surface domestic and construction waste, including potential ACM (38 Arthur Street)
    - Buried domestic and construction waste, including potential ACM (211 Logan Road); and
    - Former and potentially ongoing use of pesticides and herbicides and/or fuels (whole Site).
- Risk to onsite construction workers and future IMW – associated with
    - Residual surface domestic and construction waste, including potential ACM (38 Arthur Street)
    - Buried domestic and construction waste, including potential ACM (211 Logan Road)
    - Potential septic tanks (38 Arthur Street and 4 Ridgeside Lane); and
    - Former and potentially ongoing use of pesticides and herbicides and/or fuels (whole Site).
- Risk to offsite sensitive aquatic fauna within Rose Rivulet (to the north) or Boyes Creek (to the south) – associated with
    - Buried domestic and construction waste (211 Logan Road); and
    - Former and potentially ongoing use of pesticides and herbicide and/or fuels (whole Site).

In the context of the Proposal:

- Residual surface and buried wastes can be removed from Site which will reduce, if not remove, the risks to future residential Site users, construction workers and IMW associated with these wastes
- The potential presence of septic tanks is unlikely to present an unacceptable risk to future residential Site users, construction workers and IMW; if present, the septic tanks can be removed
- The former and potentially ongoing use of pesticides and herbicide and/or fuels
    - May present an unacceptable risk to future residential Site users, construction workers and IMW; additional investigations are required to confirm (or otherwise); and
    - Is unlikely to present an unacceptable risk to offsite sensitive aquatic fauna within Rose Rivulet or Boyes Creek.

Based on these findings, the following recommendations are made:

- Remove the residual surface and buried wastes from 38 Arthur Street and 211 Logan Road.
- Assess abandoned buildings at 38 Arthur Street for the presence of ACM. If present, ACM is to be removed by a licenced asbestos removalist.
- Confirm the presence (or otherwise) of disused septic tanks at 38 Arthur Street and 4 Ridgeside Lane; remove if present and test the surrounding soils for biological parameters; and
- Test shallow soils across the Site for CoPC associated with agricultural land use and determine whether the reported concentrations present an unacceptable risk to future residential Site users, construction workers and/or IMW.

1. Introduction

1.1 Background

pitt&sherry was engaged by Traders In Purple (TIP) to prepare this PSI for a proposed re-zoning and mixed use development known as the Evandale Expansion Masterplan (the Proposal). The Proposal comprises a number of properties namely, Logan Road (Certificate of Title (CT) 116759/1), 211 Logan Road (part of CT 1066773/1), 4 Ridgeside Lane (CT 81897/1) and 38 Arthur Street (CT 227117/1), in Evandale, Tasmania 7212 (the Site), as shown on Figure 1 (Appendix A).

The Site consists predominantly of agricultural grazing and pastoral land, primarily zoned "Agriculture" under the *Tasmanian Planning Scheme – Northern Midlands* (the Planning Scheme).

The Proposal consists of two main parts:

- Re-zoning of the Site for residential use
- Residential development (Evandale Expansion Masterplan), which will target only Logan Road (CT 116759/1) and 211 Logan Road (part of CT 1066773/1) and will comprise:
    - 182 residential allotments ranging in size from 450 m^2 to 850 m^2
    - 82 rural allotments greater than 1,500 m^2
    - 2 super lots of 62,200 m^2 and 24,700 m^2
    - 60,000 m^2 of public open space area; and
    - Internal roadways.

As a component of the re-zoning application, Northern Midlands Council (NMC) has requested that "risks associated with potential land contamination" are assessed, in accordance with the Department of Justice, Planning Policy Unit information sheet titled *'Reviewing and Amending the Regional Land Use Strategies'*.

An assessment of the risks associated with potential land contamination is also required as a component of the Development Application (DA) for the Evandale Expansion Masterplan.

The Proposal replaces the former Ridgeside Lane Development. A number of previous investigations were completed for the former Ridgeside Lane Development, including a Phase 1 PSI[1]. The Proposal, however, comprises different CTs to the former Ridgeside Lane Development, with the exception of a small overlap at 211 Logan Road (CT 1066773/1), and therefore the Phase 1 PSI (pitt&sherry, 2019) requires revision to incorporate the current Site footprint.

This PSI will enable development of an initial conceptual site model (CSM) for the Site from a contamination perspective and will identify any data gaps which may require further investigation.

[1] pitt&sherry, 2019. Stage 1 Preliminary Site Investigation – Ridgeside Lane Mixed Use Development. June 2019.

1.2 Objectives

The objectives of this PSI are to:

- Identify potential sources of contamination and CoPC within and surrounding the Site
- Identify the potential for the identified contamination (if any) to pose an unacceptable level of risk to human health and/or the environment within the Site; and
- Identify the need for further investigation, including providing information to allow for scoping.

1.3 Scope of works

The scope of work comprised:

- Reviewing available sources of historical information, including Site plans, historical maps and aerial photographs, including the LotSearch Enviro Professional report (LotSearch report) for the Site
- Completing a Site inspection
- Reviewing title ownership to identify past users of the Site to identify historical activities relevant to potential contamination
- Reviewing Site characteristics including Site layout, geological and hydrogeological settings in the context of the Proposal; and
- Reviewing historical environmental records for the Site to identify any incidents that may have given rise to contamination.

1.4 Legislation

This PSI was undertaken in general accordance with the following legislation and guidelines:

- ASC NEPM
- *Tasmanian Environmental Management and Pollution Control Act 1994* (EMPC Act) and relevant Regulations
- The Planning Scheme; and
- Department of Justice Planning Policy Unit's information sheet *Reviewing and Amending the Regional Land Use Strategies*. January 2019.

1.5 Limitations

Limitations comprise:

- Site and CT information review was limited to those documents supplied by TIP (Appendix D); no information was provided for 4 Ridgeside Lane
- All supplied information is assumed to be correct and current
- No intrusive investigations were completed
- Site inspection was completed via walkover through accessible areas of the Site. While all previously identified points of interest were accessed during the Site inspection, some areas where access was not possible (e.g. cattle yards and restricted areas where property owners had requested no access due to the presence of calves) were only visually inspected from the outside; and
- This PSI was completed considering the available Proposal design information supplied by TIP.

2. Site setting

2.1 Site Identification

The Site consists of three titles (CT 116759/1; CT 81897/1; and CT 227117/1) plus a portion of CT 1066773/1, with a combined area of approximately 100 ha. A Site Location Plan is provided in Figure 1 (Appendix A) and Site details are summarised in Table 1.

Table 1: Site details

Item	Detail
Address	• Logan Road, Evandale, Tasmania 7212 • 211 Logan Road, Evandale, Tasmania 7212 • 38 Arthur Street, Evandale, Tasmania 7212; and • 4 Ridgeside Lane, Evandale, Tasmania 7212.
Certificates of Title	• CT 116759/1 • CT 227117/1 • Part of CT 1066773/1; and • CT 81897/1.
Property Identification (PID)	• PID 1662145 • PID 7286347 • Part of PID 1898289; and • PID 6395373.
Site area	Approximately 100 ha
Current owners	Various private owners: • Craig John Mitchell and Patricia Jean Mitchell (Logan Road) • TIP 119 Pty Ltd and TIP 120 Pty Ltd (211 Logan Road) • Zurcher Pty Ltd (38 Arthur Street); and • Unknown (4 Ridgeside Lane).
Current land use	Predominantly rural land (pasture and agriculture)
Local government	Northern Midlands Council
Land tenure	Private Freehold
Regional setting	• The Site is used for arable and cattle grazing. A few buildings (residential and sheds) are present at the Site, to the west (38 Arthur Street), north (Logan Road) and north-west (4 Ridgeside Lane). The buildings are mostly farmhouses and associated sheds for storage of agricultural materials. Another farmhouse is present at 211 Logan Road, though located offsite, as the Site comprises only a portion of this CT • There are a few artificial water ponds present and tree lines, usually along fence lines at property boundaries; and • Rural land with low density residential buildings is present to the north, east and south of the Site. The urban area of Evandale is adjacent to the south-western portion of the Site, comprising predominantly residential and commercial land uses. A mix of residential and rural areas are present immediately to the south, west and north-west of the Site.

Item	Detail
Zoning	• The Site is currently zoned “Agriculture” under the Planning Scheme; and • The Site surroundings are predominantly zoned “Agriculture”, except for the Evandale urban area which is mostly zoned “General Residential” with a few properties to the north-west which are zoned “Rural living”. A few isolated areas zoned “Open space” and “Community purposes” are present within the Evandale urban area to the south-west of the Site.

2.2 Site description

Available information on Site features is summarised in Table 2, including the information obtained from the LotSearch report. A description of the LotSearch report databases and main information obtained is presented in Section 3.2.

Table 2: Site description

Feature	Description	Information Source
Infrastructure features	• The Site is partially located within the Evandale sewerage system polygon • With the exception of 211 Logan Road, the remainder of the Site is mapped as “water serviced land” • The majority of the Site is vacant and unlikely to have any services present. Lateral water and sewer lines are present at the boundaries of the Site, especially on the south-western boundary, associated with the Evandale urban area. It is expected that most buildings within the Site are supplied with water and potentially sewer; and • A Tasmania Irrigation pipeline is present crossing the northern boundary of the Site.	LISTmap – easements layer
Easements	• No easements are mapped within the Site, though it is expected that the presence of the Tasmanian irrigation line would represent an easement at the northern boundary of the Site.	LISTmap – easements layer
Elevation	• The Site is located between 170 m in the west and east and 160 m in the north and south (Australian Height Datum - AHD).	LISTmap – elevation (5 m contour) layer LotSearch report (Appendix B)
Topography	• The Site is situated between two slightly elevated areas at the east and west and a subtle ridgeline divides the Site close to its northern limit, thus the gradient falls from east and west inwards and then either to the north or to the south • This ridgeline marks the separation of two different catchment areas (North Esk, sub-catchment Rose; and South Esk, sub-catchment Lower South Esk, including Golden Gully). The ground slope is more accentuated at to the north of the ridgeline (towards Rigeside Lane) than to the south (towards Logan Road); and • There’s no evidence of any major ground levelling works being completed at the Site.	LISTmap – elevation (5 m contour) layer LISTmap – CFEV Catchments layer Site inspection

Feature	Description	Information Source
Surface water	• No water bodies or perennial drainage lines are present at the Site, with the exception of artificial ponds • Surface water runoff is anticipated to flow either to the north (areas within the North Esk catchment) towards the tributaries of the Rose Rivulet; or to the south (areas within the South Esk catchment), towards the Boyes Creek • Drainage swales are present along both Ridgeside Lane (north) and Logan Road (south) • Boyes Creek is located approximately 310 m south of the Site at its closest point; and • The closest tributary of the Rose Rivulet is located approximately 300 m north-east of the northern boundary of the Site.	LISTmap – hydrographic lines layer LISTmap – CFEV Catchments layer Site inspection
Groundwater	• The Site is located on a porous intergranular aquifer consisting of either Quaternary sand and gravel or Tertiary sediments. The aquifer is reported to be often high yielding where sand and gravel deposits are greater than 5 m thick. Yields may be limited where thick clay deposits exist • The quality is usually suitable for most purposes. The aquifer has a high vulnerability to pollution unless a layer of low permeability material, such as clay overlies the aquifer • The recorded standing water levels in the two groundwater bores listed in the Groundwater Information Access Portal (GIAP) within 500 m from the Site (one feature being at the Site), show groundwater is present between 9.1 and 14 metres below ground surface (mBGS); and • A further four groundwater holes registered in the National Groundwater Information System (NGIS) and 2 Mineral Resources Tasmania (MRT) drill holes are identified in the LotSearch report outside the Site, however, no water level information is provided.	LISTmap – groundwater prospectivity layer GIAP search (Appendix C) LotSearch report (Appendix B)
Groundwater dependent ecosystems (GDE)	• No GDE are mapped for the Site and/or surroundings.	LISTmap – GDE layer
Geology	• The 1:250,000 Geology of Tasmania map indicates that the Site consists of dominantly non-marine sequences of gravel, sand, silt, clay and regolith from the Upper Cretaceous period; and • Undifferentiated Quaternary sediments consisting of sand gravel and mud of alluvial, lacustrine and littoral origin are mapped to the south of the Site (offsite).	LISTmap – geological polygons 250K layer
Acid sulfate soils (ASS)	• The Site includes areas of mapped low (6-70% chance of occurrence) and very low (<5% chance of occurrence) risk areas for encountering ASS.	LISTmap – Inland ASS (>20m AHD) layer
Heritage	The Site is: • Not listed on the Tasmanian Heritage Register, the National Heritage List, the Commonwealth Heritage List or the World Heritage List; and • Not a Heritage precinct, place or landscape precinct, or place or precinct of archaeological potential as per Local Historic Heritage Code of the Planning Scheme.	LISTmap – Tasmanian Heritage Register layer Planning Scheme

Feature	Description	Information Source
Ecology	• No threatened fauna or flora species have been mapped or recorded within the Property and immediate surroundings; and • No raptor nests or sightings have been recorded within the Property and immediate surroundings.	LISTmap – Natural Values Atlas Report layers
Vegetation	• The Site is predominantly classified as modified land – agricultural land. The south-western boundary overlaps an area classified as modified land – urban land associated with the Evandale urban area, and one area to the north-east of the Site is classified native grassland – lowland grassland complex; and • The Site consists predominantly of vacant paddocks with a few clusters of trees and shrubby vegetation, predominantly along fence lines.	LISTmap – TASVEG 4.0 layer Site inspection
Weeds	• No weeds have been documented within the Property in the available database; and • Some weeds were observed across the Site during the Site Inspection.	LISTmap – Natural Values Atlas Report layers Site inspection
Wetlands	• There are no Ramsar Wetlands within at least 1 km of the Site; and • No wetlands were observed during the Site inspection.	LISTmap – Ramsar wetlands layer Site inspection
Geoconservation	• No geoconservation sites have been documented within 500 m of the Site.	LISTmap – Natural Values Atlas Report layers
Fire history	• No bushfires have been documented for the Site.	LISTmap – Natural Values Atlas Report layer

2.3 Natural hazards

Under the Planning Scheme, there are a number of natural hazard overlays; these are available on the Land Systems of Tasmania interactive mapping tool (LISTmap). Additionally, other natural hazard layers are also available on the LISTmap. A summary of natural hazards in the vicinity of the Site is provided in Table 3.

Table 3: Natural hazards

Natural hazard	Description	Information Source
Flood	The Site and immediate surroundings are not subject to flooding.	LISTmap – flood plain layer LISTmap – Tasmanian Planning Scheme Overlay map
Coastal inundation	The Site and immediate surroundings are not subject to coastal inundation.	LISTmap – coastal inundation layer LISTmap – Tasmanian Planning Scheme Overlay map
Coastal erosion	The Site and immediate surroundings are not subject to coastal erosion.	LISTmap – coastal erosion layer LISTmap – Tasmanian Planning Scheme Overlay map
Landslide	The Site is not within a mapped landslide-prone area.	LISTmap – Landslide planning Map LISTmap – Tasmanian Planning Scheme Overlay map
Bushfire	The Site is • Partially within the Bushfire Remediation Management Plan risk register for 'Human Settlement Area'; and • Entirely within the bushfire prone areas overlay in the Bushfire-prone Areas Code of the Planning Scheme.	LISTmap – Tasmanian Planning Scheme Overlay map

3. Site history review

Information on the history of the Site was obtained from a number of sources and included:

- Previous Site investigation – Section 3.1
- LotSearch report – Section 3.2
- Consultation with the relevant authorities, including:
    - Environmental Protection Authority (EPA) regarding incidents, complaints and records of former investigations at the Site – Section 1.1.
    - WorkSafe Tasmania (WST) regarding dangerous goods (DG) records for the Site – Section 3.5; and
    - NMC regarding environmental protection infringement notices issued for the Site and historical potentially contaminating activities – Section 3.6.

3.1 Previous Site investigations

The only known previous investigation completed at the Site is the Phase 1 PSI completed in 2019 for the Ridgeside Lane Development (pitt&sherry, 2019), which included a site history review and preliminary risk assessment.

The 2019 Phase 1 PSI included Logan Road (CT 101154/1), 98 Ridgeside Lane (CT 145763/2) and 211 Logan Road (CT 106773/1), of which only the western portion of 211 Loga Road is within the current Proposal footprint.

Applicable information from the 2019 Phase 1 PSI relates to historical title records and DG records obtained for 211 Logan Road, as well as extracts from the review of historical aerial images (open-source satellite images and NearMap Ltd. High-resolution aerials (2011 to 2019)). Findings from the DG records and the review of historical aerial images are discussed together with the data for the remainder of the Site in the specific subsections below.

A summary of the historical title information for '211 Logan Road' is provided in Table 4, which also includes title information supplied by TIP for the properties 'Logan Road' and '38 Arthur Street'. The property information reports were obtained from the LISTmap and are attached in Appendix D.

Table 4: Title records

Address	Title reference	Area (Ha)*	Improvements	Owners	From	To
211 Logan Road	106773/1	100.1	House, Two sheds	TIP 119 PTY LTD and TIP 120 PTY LTD Anna and Robert Fergusson Jeannine Carolyn & Suat Ucdereli Carolyn Valborg Dawe Roderick Ernest Wilkes R A W Enterprise Pty Ltd	22/06/2018 09/03/2016 07/02/2005 06/12/2001 31/07/1998 31/01/1992	Current 22/06/2018 09/03/2016 07/02/2005 06/12/2001 31/07/1998
Logan Road	116759/1	50.42	Two sheds Stockyards	Craig John Mitchell and Patricia Jean Mitchell	26/09/1995	Current

Address	Title reference	Area (Ha)*	Improvements	Owners	From	To
38 Arthur Street	227117/1	11.89	Dwelling Reticulated water supply Fencing & paving	Zurcher Pty Ltd	23/09/1997	Current

*This value corresponds to the totality of the title area. The Proposal comprises only a portion of the title area for 211 Logan Road. None of the listed improvements are present within the portion of the land covered by the Proposal.

3.2 LotSearch report

A LotSearch Enviro Pro report was requested for the Site. This report compiles relevant environmental information from different databases for the Site and includes a variable buffer of the surroundings, which is relevant for assessing potential off-site sources of contamination. The LotSearch report also compiles a sequence of historical aerial images to allow a visual assessment of the progression of the land use and developments at the Site and surroundings.

A change to the properties contained within the Site occurred post commissioning of the LotSearch report. The change removed 67 Logan Road and included 4 Ridgeside Lane to the Site. This change has not affected the LotSearch report results as both properties are within the limit of the included buffers and within the range of the historical aerial images provided.

Where applicable, the LotSearch report information was used for the Site description and natural hazards identification presented in Section 2. The assessment of historical aerial images provided within the LotSearch report is presented together with other historical aerial images information sources in Section 3.3.

The main extracts from the LotSearch report regarding potential Site contamination comprise:

- The lack of any records of potentially contaminating activities (current or historical) for the Site and immediate surrounds; and
- The lack of registered groundwater wells or boreholes within a 100 m buffer from the Site, with the exception of the onsite groundwater feature. The last updated status for the groundwater feature onsite was recorded in 1969.

A list of the LotSearch datasets is provided in Table 5. The complete LotSearch report is attached in Appendix B.

Table 5: LotSearch report dataset listing

Dataset Name	Custodian	Dataset Buffer (m)	Features Onsite	Features within Buffer
EPA Regulated Premises	EPA	1000	0	2
National Waste Management Facilities Database	Geoscience Australia	1000	0	1
National Liquid Fuel Facilities	Geoscience Australia	1000	0	0
Points of Interest - Service Stations	Department of Primary Industries, Parks, Water and Environment (DPIPWE)	1000	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	2000	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	2000	0	0

Dataset Name	Custodian	Dataset Buffer (m)	Features Onsite	Features within Buffer
Authority Land - Defence	DPIPWE	2000	0	0
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant	150	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant	150	-	3
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant	500	0	1
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant	500	-	3
Points of Interest	DPIPWE	1000	0	19
Easements	TAS Department of Primary Industries, Parks, Water and Environment	0	0	0
Drill Hole Database (DORIS)	Mineral Resources Tasmania (MRT)	2000	0	2
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology (BOM)	2000	1	6
1:250,000 Scale Digital Geology of Tasmania	MRT	1000	1	4
Atlas of Australian Soils	Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)	1000	1	2
Atlas of Australian Acid Sulfate Soils	Commonwealth Scientific and Industrial Research Organisation (CSIRO)	1000	2	2
Areas of Tasmania with Potential to Contain Acid Sulfate Soils	DPIPWE - Natural and Cultural Heritage Division	1000	1	13
Tasmanian Interim Planning Scheme Zoning	Tasmanian Planning Commission (TPC)	1000	2	22
Tasmanian Interim Planning Scheme Overlay	TPC	1000	1	4
Tasmanian Interim Planning Scheme Overlay - Flood	TPC	1000	0	1
Tasmanian Interim Planning Scheme Overlay - Coastal Inundation	TPC	1000	0	0
Tasmanian Interim Planning Scheme Overlay - Coastal Erosion	TPC	1000	0	0
Tasmanian Interim Planning Scheme Overlay - Landslide	TPC	1000	0	0
Tasmanian Interim Planning Scheme Overlay - Bushfire	TPC	1000	1	1
Fire History	DPIPWE	1000	0	1

Dataset Name	Custodian	Dataset Buffer (m)	Features Onsite	Features within Buffer
Commonwealth Heritage List	Australian Government Department of Agriculture, Water and the Environment (DAWE)	1000	0	0
National Heritage List	DAWE	1000	0	0
Tasmanian Heritage Register	Heritage Tasmania	1000	0	51
Authority Land - Aboriginal Land	DPIPWE	1000	0	0
TASVEG 4.0	DPIPWE - Natural and Cultural Heritage Division	1000	3	4
Threatened Native Vegetation Communities 2014	DPIPWE - Natural and Cultural Heritage Division	1000	0	0
Ramsar Wetlands of Australia	DAWE	1000	0	0
Groundwater Dependent Ecosystems Atlas	BOM	1000	0	0
Inflow Dependent Ecosystems Likelihood	BOM	1000	0	0
Property Boundaries & Roads	DPIPWE	-	-	-
Topographic Data	DPIPWE	-	-	-

Notes:

Site limit and dataset buffer based on initial site layout provided to LotSearch. Number of features onsite and within buffer may differ where site layout changes.

"-" means information not applicable to be filtered, i.e. accurate spatial information may be missing (e.g. specific address of business directories) or the dataset contains single class regional features for which filtering is not relevant (e.g. topography).

3.3 Historical aerial imagery review

The review of the aerial images identified two main areas of concern from a contamination perspective:

- A waste storage area within the south-eastern portion of the Site. This area was identified as "area B" in the Phase 1 PSI (pitt&sherry, 2019) and Site photographs and field registers presented in the appendices of that report show the presence of waste materials (e.g. bricks, metal, glass, fabric and potentially asbestos-containing pipes) as well as evidence of larger buried items, such as pipes and large metal scraps; and
- The stockpile of materials around the farmhouse within the western portion of the Site. Aerial images show material being stockpiled onsite reasonably recently (from 2011's aerial photo to the most recent aerial photo). As observed during the Site inspection (Section 0), these stockpiles comprise a variety of materials, including wood waste, building demolition rubble (BDR), soft plastic, hard plastic, glass, tiles, metal scraps, fabric etc. Evidence of waste being burned is also present at this property.

A summary of the historical aerial imagery review is provided in Table 6.

Table 6 Summary of historical aerial imagery

Date (source)	Site Observations	Surroundings Observations
1956 (LotSearch Report)	• The Site is mostly cleared of trees, except for a large area along the eastern boundary, showing spaced trees increasing in density towards the east, and another smaller area at the northern boundary, limited by the outline of Ridgeside Lane • Other smaller groups of trees and tree lines along potential land subdivision boundaries are present • One farmhouse and associated areas is clearly visible at the centre northern portion of the 38 Arthur Street property • A number of access tracks are visible, including a large circular track around the vegetated area at the east of the Site; there are also areas associated with this track where clearing of vegetation appears to have been completed; and • A small portion of the south-eastern part of the Site is not included in this aerial image.	• Farmhouse present at current 67 Logan Road • Residential properties in Evandale are visible to the west, though the area adjacent to the Site is mostly still pasture; and • Other farmhouses and agricultural land are visible around the Site.
1966 (LotSearch Report)	• The Site is largely unchanged from the 1956 image, with continuation of agricultural land use • The vegetated area to the east is diminished and the circular track is less visible (potentially no longer used) • The small portion of the south-eastern part of the Site is visible and appears to be a continuation of the vegetated area at the east; a dam is present at this area and tracks and vegetation clearing areas are visible at the south-eastern boundary; and • A new farmhouse and associated sheds are visible at 4 Ridgeside Lane; the land appears to have an agricultural use.	• Additional development in Evandale is visible.

Date (source)	Site Observations	Surroundings Observations
1975 (LotSearch Report)	• Most of the trees from the Site have been removed, including the vegetated area to the north and most of the vegetation from the east and south-east • These areas appear to have been converted to agricultural use • The access tracks are clearly visible and new tracks are present within the north-eastern portion of the Site • A mosaic of agricultural/pasture areas are visible • New dams are present within the central and southern parts of the Site; and • Improvements to the farmhouse within the western part of the Site, associated with the agricultural use onsite.	• Improvements to the farmhouse offsite to the south (67 Logan Road), which is associated with the agricultural use onsite • Further expansion of Evandale's urban area and surrounding farmlands; and • First changes to the land corresponding to Evandale Waste Transfer Station to the south-east.
1985 (LotSearch Report)	• Continued agricultural land use, and • Low visibility of access tracks.	• Further expansion of Evandale's urban area • New residential developments present adjacent to the Site boundaries • The access to the offsite farmhouse to the south of the Site has changed due to the residential development immediately south of 67 Logan Road. This farmhouse is less apparent and could have potentially been abandoned • Evandale sewerage settlement ponds have been constructed to the south of the Site • Improvements on adjoining farmlands are visible; and • The remainder of the surrounding area are largely unchanged from the 1975 image, with continued agricultural use.
1995 (LotSearch Report)	• The Site is largely unchanged from the 1985 image, with a continuation of agricultural land use.	• The farmhouse to the south of the Site has been demolished and removed, though the footprint is still visible • Further development within Evandale's urban area and at the Site's south-western boundary; beginning to resemble the current layout • A residential building/farmhouse was constructed at the property adjacent to and north of the Site; and • Remainder of the Site's surroundings remain mostly unchanged from the 1985 image, with continuation of agricultural use.

Date (source)	Site Observations	Surroundings Observations
2004 (LotSearch Report)	• A couple of buildings are visible within the northern part of the Site, likely associated with the agricultural use of the land; and • The remainder of the Site is largely unchanged from the 1995 image, with a continuation of agricultural land use.	• Residential buildings are present in the vicinity of the former farmhouse to the south of the Site • Further development within Evandale's urban area and at the Site's south-western boundary; closely resembles the current layout • Further development at the residential building/farmhouse to the north of the Site; and • Remainder of the Site's surroundings remain mostly unchanged from the 1995 image, with continuation of agricultural use.
2011 (LotSearch Report) (NearMap Ltd; pitt&sherry, 2019)	• Farm material (hay bales, farm equipment etc.) is stored alongside the shed structures within the northern part of the Site • Waste material appears to have been stockpiled immediately to the east of the farmhouse within the western portion of the Site • Waste material appears to have been stored (stockpiled or spread) over an area within the south-eastern boundary of the Site, likely associated with the new farmhouse offsite to the east; and • The remainder of the Site is largely unchanged from the 2004 image, with a continuation of agricultural land use.	• Landscaping is complete at the residential buildings to the south of the Site and the access to these buildings off Logan Road is now clearly visible • The footprint of the former farmhouse to the south of the Site is still apparent • A farmhouse is present adjacent to the south-eastern boundary of the Site • There is an apparent intensification of agricultural use to the north • Car storage appears at 55 Gunn Street to the south-east; and • No significant changes within the remainder of the Site's surroundings since the 2011 image.
2015 (NearMap Ltd: pitt&sherry, 2019)	• Additional material has been added to the waste dumping area within the south-eastern portion of the Site.	No image of the surrounding areas visible.
2016 (LotSearch Report) (NearMap Ltd; pitt&sherry, 2019)	• Stockpiles are visible immediately to the east of the farmhouse within the western portion of the Site • The waste material close to the south-eastern boundary appears to have been removed or covered/buried, as the footprint of the waste storage is less visible; and • The remainder of the Site remains largely unchanged since the 2015 image, with a continuation of agricultural land use.	• The farmhouse close to the south-east boundary of the Site is expanded; and • No significant changes within the remainder of the Site's surroundings since the 2015 image.

Date (source)	Site Observations	Surroundings Observations
2019 (Google Earth satellite photos) (NearMap Ltd; pitt&sherry, 2019)	• Stockpiles are visible immediately to the east of the farmhouse within the western portion of the Site. An additional stockpile is also present to the west • The waste material within the south-eastern boundary is no longer present, though the footprint of the waste storage area is still visible; and • The remainder of the Site is largely unchanged since the 2016 image, with a continuation of agricultural land use.	• The farmhouse close to the south-eastern boundary of the Site is expanded; and • No significant changes within the remainder of the Site's surroundings since the 2016 image.

3.4 EPA information request

The EPA maintains a number of databases relating to potentially contaminated land, including:

- The Environmental Management of Pollution Control (Underground Petroleum Storage Systems) Regulations 2010 (UPSS Regulations)
- Industrial sites (which are or have been regulated by the EPA)
- Historic landfills
- Contamination issues reported to the EPA; and
- Incidents and complaints that have been recorded relating to historical storage of dangerous goods (prior to 1993).

Information from the UPSS Regulations and EPA regulated premisses databases is publicly available through the LISTmap. No UPSS or EPA regulated premises are present within, or within a 500 m of, the Site.

pitt&sherry submitted and enquiry to the EPA Contaminated Sites Unit on 29 November 2022. Correspondence from the EPA on 13 December 2022 indicated that the EPA holds no records relating to contamination or potentially contaminating activities on the Site or on adjacent properties. A copy of the EPA correspondence is provided in Appendix E.

3.5 Dangerous goods records

pitt&sherry submitted an enquiry to WorkSafe Tasmania (WST) on 28 November 2022 requesting information relating to the storage of dangerous goods at the Site. Correspondence from WST indicated that there are no listings on their dangerous substances database or current hazardous chemical site / storage notifications relating to the Site or surrounding properties. A copy of the WorkSafe correspondence is provided in Appendix E.

3.6 NMC records

pitt&sherry submitted an enquiry to NMC on 28 November 2022 requesting any information relating to potentially contaminating activities and/or incidents reported for the Site. No response was received.

3.7 Identified potentially contaminating activities

Based on historical and current uses of the Site and surroundings, several potentially contaminating activities have been identified. Details of potentially contaminating activities are summarised in Table 7. Given the distance to the Site and the local topography, none of the offsite potentially contaminating activities are likely to have impacted the Site.

Table 7 Potentially contaminating activities at and surrounding the Site

Potentially Contaminating Activity	Location	Approximate Distance (m)	Direction from Site	Comments
Onsite				
Agricultural use of the land	Onsite	0	-	Whole Site from 1956 to at least 2004 (exact date unknown) (Table 6). CoPC include: • Organochlorine pesticides and organophosphorus pesticides (OCP/OPP); and • Herbicides.
Stockpiles of waste material	Onsite	0	-	Western portion of the Site from 2011 to current (Table 6). CoPC include: • Asbestos containing material (ACM) • Benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN) • Heavy metals: Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), Zinc (Zn) and Mercury (Hg) • Polycyclic aromatic hydrocarbons (PAHs) • Total recoverable hydrocarbons (TRH) / total petroleum hydrocarbons (TPH); and • Phenols.
Presence of buildings onsite and potentially abandoned buildings (potential presence of septic tanks and contaminated materials)	Onsite	0	-	Western portion of the Site from 1956 to current (Table 6). CoPC include: • ACM • Heavy metals: As, B, Ba, Be, Cd, Cr, Co, Cu, Mn, Ni, Pb, Se, Va, Zn and Hg • BTEXN • PAH • TRH / TPH • Phenols; and • Pathogens (E. coli and thermotolerant coliforms).

Potentially Contaminating Activity	Location	Approximate Distance (m)	Direction from Site	Comments
Temporary waste storage and potential burying of waste	Onsite	0	-	South-eastern portion of the Site from 2011 to current (Table 6). CoPC include: • ACM • Heavy metals: As, B, Ba, Be, Cd, Cr, Co, Cu, Mn, Ni, Pb, Se, Va, Zn and Hg • BTEXN • PAH • TRH / TPH; and • Phenols.
Offsite				
Evandale Waste Transfer Station and Recycling Centre	58 Gunn Street	500	South	Aerial imagery indicates stockpiled waste materials from 1975 (Table 6).
Vehicle storage	55 Gunn Street	450	South	Recent aerial imagery (2011) appears to indicate up to 14 vehicles and unidentified stockpiled material (Table 6).
Evandale sewerage treatment ponds	South of Logan Road	875	South-west	EPA regulated premise (LISTmap)
Permanently decommissioned UPSS	6 Russel Street	515	South-west	EPA UPSS register (LISTmap)
UPSS decommissioning in progress	Unit 2, 14 High Street	750	West- south-west	EPA UPSS register (LISTmap)

4. Preliminary Site inspection

A preliminary Site inspection was undertaken by an experienced pitt&sherry environmental scientist on 17 January 2023. The Site inspection comprised a walkover through the Site and inspection of general Site settings and conditions, including completion of a photograph register and Site inspection checklist. Identified onsite potentially contaminating activities (Table 6) were inspected. A copy of the Site inspection checklist and the photograph register is provided in Appendix F. Figure 1 (Appendix A) shows the points of interest observed during the Site inspection and the transects walked. The main findings from the Site inspection and comments regarding the identified potentially contaminating activities comprise:

- Mounds of buried waste within the south-eastern portion of the Site – Section 4.1
- Stockpile of materials and abandoned structures within the western portion of the Site – Section 4.2
- Storage of equipment and agricultural products in sheds within the northern portion of the Site – Section 4.3; and
- Residential dwelling and sheds within the north-western portion of the Site – Section 4.4.

No evidence of sheep dips was observed at the Site.

No evidence of current crops or agricultural use of the land observed.

4.1 211 Logan Road (south-eastern portion of the Site)

Mounds of buried waste material are present within the south-eastern extent of the Site, at 211 Logan Road. These mounds are currently overgrown with grass and tussock, though the ground remains exposed in some areas with the buried material visible. Historical aerial images show the progression of the waste storage and burial within this area from 2011. Types of waste visible at the surface include bricks, concrete, glass, plastic, fabric, metal scraps and potentially asbestos-containing pipes. Some of the materials observed on the surface suggest there may be larger materials, scraps and pieces of equipment buried deeper. Three main mounds were observed during the Site inspection and are marked on Figure 1 (Appendix A). The waste in this region is likely associated with the farmhouse to the east, within the 211 Logan Road property, though outside the Site footprint.

Scattered aggregate and concrete were also observed across 211 Logan Road, though no evidence of material being buried was noted. The main location where these materials were observed is shown on Figure 1 (Appendix A).

4.2 38 Arthur Street (western portion of the Site)

The residential building and sheds at 38 Arthur Street were found to be abandoned at the time of the Site inspection. All buildings were in generally poor conditions and contained a large amount of rubbish (mostly wood waste and metal scraps). An old car and boat were present.

A few stockpiles of wood waste were present around the buildings. There were also piles of metal scraps and stockpiles of earth and foreign material/waste (e.g. glass, plastic, soft plastic, fabric, animal bones, ceramics, metal scraps). Evidence of waste being burned (burn marks on the ground with residual ash) was noted in proximity to the buildings.

4.3 Logan Road (northern portion of the Site)

Old farm equipment and machinery was observed within the sheds to the north of the Logan Road property, along with hay bales and agricultural products, including wetting agent and fertilizers in gallons (containers) and intermediate bulk containers (IBCs).

Metal scraps and wood waste were also present in the area, together with a stockpile of likely clean soil. A trailer and camping tent were present adjacent to the sheds, though it appeared to be a temporary set up rather than a permanent occupation.

4.4 4 Ridgeside Lane (north-western portion of the Site)

A single residential building is present at 4 Ridgeside Lane, within the northern portion of the Site. A few sheds used to store agricultural equipment and parts are also present in the vicinity of the building.

Anecdotal information from the building owner indicated that the land is currently used for livestock only (cattle), however, historically it was used as a racing kennel (no dates provided). Surrounding land is anecdotally used only for livestock (cattle and sheep), with no current cultivation of crops.

5. Preliminary risk assessment

5.1 Preliminary conceptual site model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, likely receptors and potential exposure pathways between those sources and likely receptors. For contamination to pose a risk to a receptor, an exposure pathway must exist.

The sources of potential contamination, nature of the contaminants of potential concern (CoPC), receptors, exposure pathways and data gaps identified in the preliminary CSM underpin the preliminary risk evaluation presented in Section 5.2.

5.1.1 Potential contamination sources

Potential contamination sources comprise the following primary and secondary sources:

- Primary sources
    - Residual surface and potentially buried domestic and construction waste
    - Potential septic tanks; and
    - Former and potentially ongoing use of agricultural chemicals (i.e. pesticides and herbicides).
- Secondary sources
    - Contaminated soil and groundwater due to spills and uncontrolled release of fuels or agricultural chemicals.

5.1.2 Contaminants of potential concern

The primary CoPC related to the identified sources of potential contamination within the Site comprise:

- ACM, including friable asbestos (asbestos fibres)
- BTEXN
- Heavy metals: As, Cd, Cr, Cu, Ni, Pb, Zn and Hg
- PAH
- TRH / TPH
- Phenols
- OCP/OPP
- Herbicides; and
- Pathogens (E. coli and thermotolerant coliforms).

5.1.3 Receptors

Onsite receptors comprise:

- Human receptors
    - Current Site users (residents and agricultural workers)
    - Construction workers and intrusive maintenance workers (IMW); and
    - Future Site users (residential and public open space).
- Ecological receptors
    - Current Site livestock and transitory fauna; and
    - Future Site vegetation.

Offsite receptors comprise:

- Human receptors
    - Residents of neighbouring properties
- Ecological receptors
    - Livestock and transitory fauna
    - Aquatic fauna associated with Rose Rivulet (to the north of the Site); and
    - Aquatic fauna associated with Boyes Creek (to the south of the Site).

5.1.4 Potential migration pathways

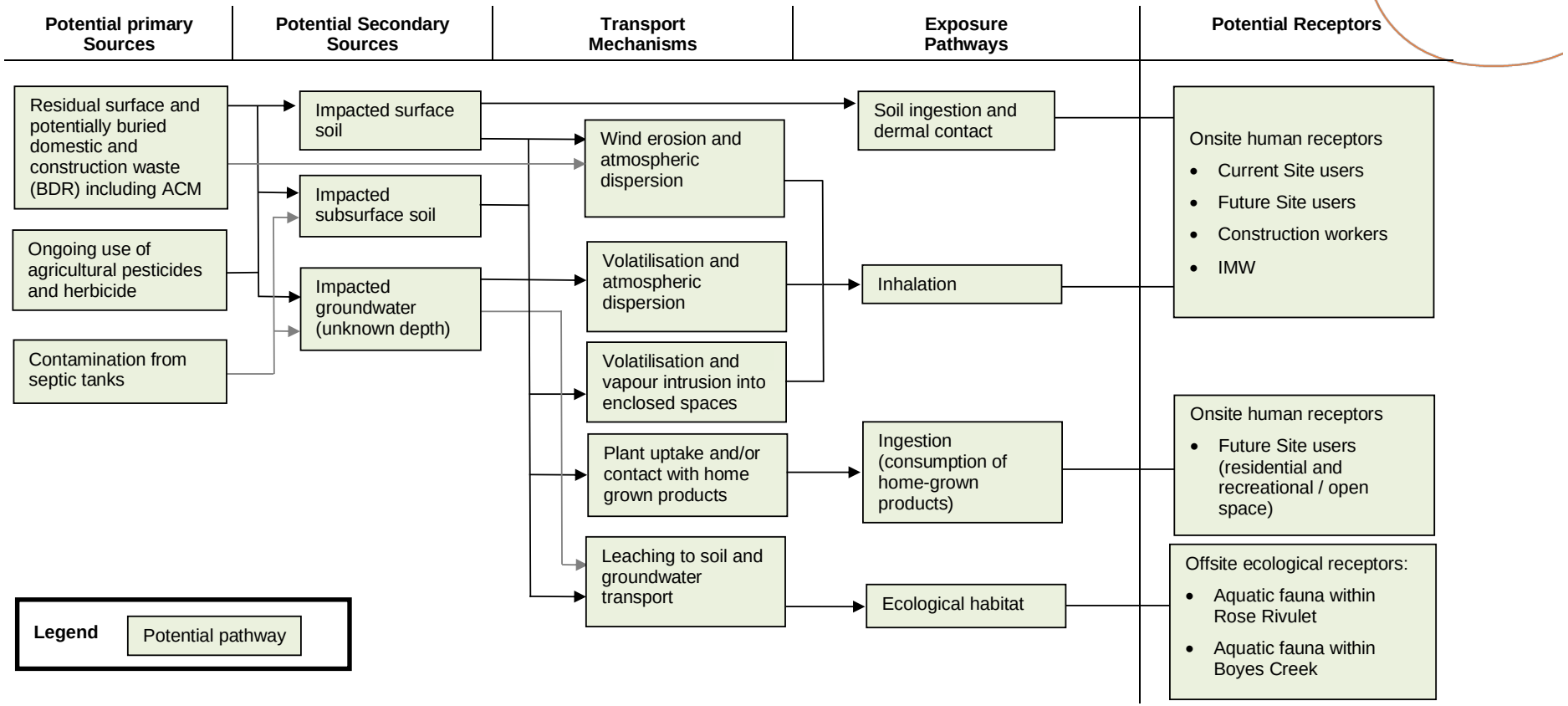
The identified potential pathways by which receptors may be exposed to CoPC comprise:

- Human health
    - Direct contact (dermal / ingestion) with contaminated surface soils and/or sub-surface soils (current / future Site users, construction workers / IMW)
    - Ingestion through consumption of home-grown produce (future Site users); and
    - Inhalation of contaminated dust and/or vapours (current / future Site users, construction workers / IMW).
- Ecological
    - Plant uptake and subsequent ingestion by sensitive fauna; and
    - Migration of contaminants through groundwater to Rose Rivulet and/or Boyes Creek.

5.1.5 Source-pathway-receptor linkage assessment

Based on the information captured in the Site history review (Section 3) and the Site inspection (Section 0), a number of the source-pathway-receptor (SPR) linkages have been assessed as incomplete or very unlikely and have therefore been excluded from the preliminary CSM. Excluded receptors comprise:

- Onsite ecological receptors – these are limited and the Site use has been agricultural since at least 1956 (earliest historical aerial); the majority of the Site is covered by pasture with a few scattered trees, some livestock and transitory fauna; and
- Offsite human receptors – any onsite soil contamination is expected to be localised and is considered unlikely to have migrated offsite or impacted groundwater; there are no groundwater features in any of the inspected database and there are limited human receptors between the Site and Boyes Creek and Rose Rivulet.


Potential primary Sources
Potential Secondary Sources
Transport Mechanisms
Exposure Pathways
Potential Receptors
Residual surface and potentially buried domestic and construction waste (BDR) including ACM
Ongoing use of agricultural pesticides and herbicide
Contamination from septic tanks
Impacted surface soil
Impacted subsurface soil
Impacted groundwater (unknown depth)
Wind erosion and atmospheric dispersion
Volatilisation and atmospheric dispersion
Volatilisation and vapour intrusion into enclosed spaces
Plant uptake and/or contact with home grown products
Leaching to soil and groundwater transport
Soil ingestion and dermal contact
Inhalation
Ingestion (consumption of home-grown products)
Ecological habitat
Onsite human receptors
Current Site users
Future Site users
Construction workers
IMW
Onsite human receptors
Future Site users (residential and recreational / open space)
Offsite ecological receptors:
Aquatic fauna within Rose Rivulet
Aquatic fauna within Boyes Creek
Legend
Potential pathway

5.2 Preliminary risk evaluation

Based on the preliminary CSM (Section 5.1), the following potential risks have been identified:

- **Risk to current and future Site users** – associated with residual waste from abandoned structures, stored material and stockpiles onsite, and from buried waste at 211 Logan Road; requires further investigation in response to the data gaps outlined in Section 5.3
- **Risk to onsite construction workers and future IMW** – associated with exposure to potentially contaminated soils, wastes and groundwater during excavation; this includes potential exposure to ACM in waste stockpiles and pathogens from any septic tanks associated with the farmhouses; and
- **Risk to offsite ecological receptors** – associated with potential migration of contamination in groundwater, which has the potential to flow offsite to either Rose Rivulet (to the north) or Boyes Creek (to the south).

5.3 Data gaps

This PSI indicates that contamination may be present onsite and that it could potentially present a risk to human health and ecological receptors, under a residential and recreational / open space land use scenario. Further information is required to enable a complete assessment of SPR linkages and the development of Site management strategies, where required.

The following data gaps need to be addressed by further investigations:

- The nature and extent of waste onsite, including abandoned structures, stockpiles and the area within the south-east of the Site where buried waste was observed
- The concentrations of CoPC from
    - The historical and ongoing (if any) use of agricultural chemicals
    - Potential significant leaks, spills or incidents associated with fuels or agricultural chemicals; and
    - Septic tanks (if present).
- The presence (or otherwise) of septic tanks
- The general soil profile at the Site and aquifer geology; and
- The depth to the groundwater, groundwater flow direction and hydraulic conductivity of the aquifer.

Note that where no significant contamination is identified (i.e. in excess of ASC NEPM criteria) and/or confining conditions preventing CoPC from reaching the groundwater are observed, the risks of groundwater impact and potential migration offsite in concentrations that may pose a risk to ecological receptors will be very low groundwater investigation will not be required.

A Site investigation comprising targeted soil sampling and a broad suite of CoPC (Section 5.1.2) is required to investigate the identified human health and ecological contamination risks in the context of the Proposal.

6. Conclusions and recommendations

6.1 Conclusions

This PSI presents the findings of a desktop Site history review undertaken by pitt&sherry to assess the risk associated with potential land contamination at the Site in the context of the Proposal.

Based on the preliminary CSM (Section 5.1) and noting the limitations and data gaps presented in Sections 1.5 and 5.3, respectively a number of potential risks have been identified:

- Risk to current and future Site users – associated with
    - Residual surface domestic and construction waste, including potential ACM (38 Arthur Street)
    - Buried domestic and construction waste, including potential ACM (211 Logan Road); and
    - Former and potentially ongoing use of pesticides and herbicides and/or fuels (whole Site).
- Risk to onsite construction workers and future IMW – associated with
    - Residual surface domestic and construction waste, including potential ACM (38 Arthur Street)
    - Buried domestic and construction waste, including potential ACM (211 Logan Road)
    - Potential septic tanks (38 Arthur Street and 4 Ridgeside Lane); and
    - Former and potentially ongoing use of pesticides and herbicides and/or fuels (whole Site).
- Risk to offsite sensitive aquatic fauna within Rose Rivulet (to the north) or Boyes Creek (to the south) – associated with
    - Buried domestic and construction waste (211 Logan Road); and
    - Former and potentially ongoing use of pesticides and herbicide and/or fuels (whole Site).

In the context of the Proposal:

- Residual surface and buried wastes can be removed from Site which will reduce, if not remove, the risks to future residential Site users, construction workers and IMW associated with these wastes
- The potential presence of septic tanks is unlikely to present an unacceptable risk to future residential Site users, construction workers and IMW; if present, the septic tanks can be removed
- The former and potentially ongoing use of pesticides and herbicide and/or fuels
    - May present an unacceptable risk to future residential Site users, construction workers and IMW; additional investigations are required to confirm (or otherwise); and
    - Is unlikely to present an unacceptable risk to offsite sensitive aquatic fauna within Rose Rivulet or Boyes Creek.

6.2 Recommendations

Based on the preliminary CSM (Section 5.1) and noting the limitations and data gaps presented in Sections 1.5 and 5.3, respectively, the following recommendations are made:

- Remove the residual surface and buried wastes from 38 Arthur Street and 211 Logan Road.
- Assess abandoned buildings at 38 Arthur Street for the presence of ACM. If present, ACM is to be removed by a licenced asbestos removalist.
- Confirm the presence (or otherwise) of disused septic tanks at 38 Arthur Street and 4 Ridgeside Lane; remove if present and test the surrounding soils for biological parameters; and
- Test shallow soils across the Site for CoPC associated with agricultural land use (Table 7) and determine whether the reported concentrations present an unacceptable risk to future residential Site users, construction workers and/or IMW.

7. Important Information

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the Report were limited to those specifically detailed in the report and are subject to the restrictions, limitations and exclusions set out in the Report. The Report's accuracy is limited to the time period and circumstances existing at the time the Report was prepared. The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of preparation of the Report. pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring after the date that the report was prepared. If such events or changes occurred after the date that the report was prepared render the Report inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Report, in whole or in part, for whatever purpose.

8. References

CRC CARE, 2012. *Technical Report No. 10 Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater September 2011, including errata August 2012* (CRC Care Technical Report No. 10)

Environmental Management and Pollution Control Act 1994 (EMPC Act) and relevant Regulations

LotSearch, 2022. *LotSearch Enviro Professional Report – Logan Road, Evandale TAS 7212*. November 2022

National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended 2013 (ASC NEPM)

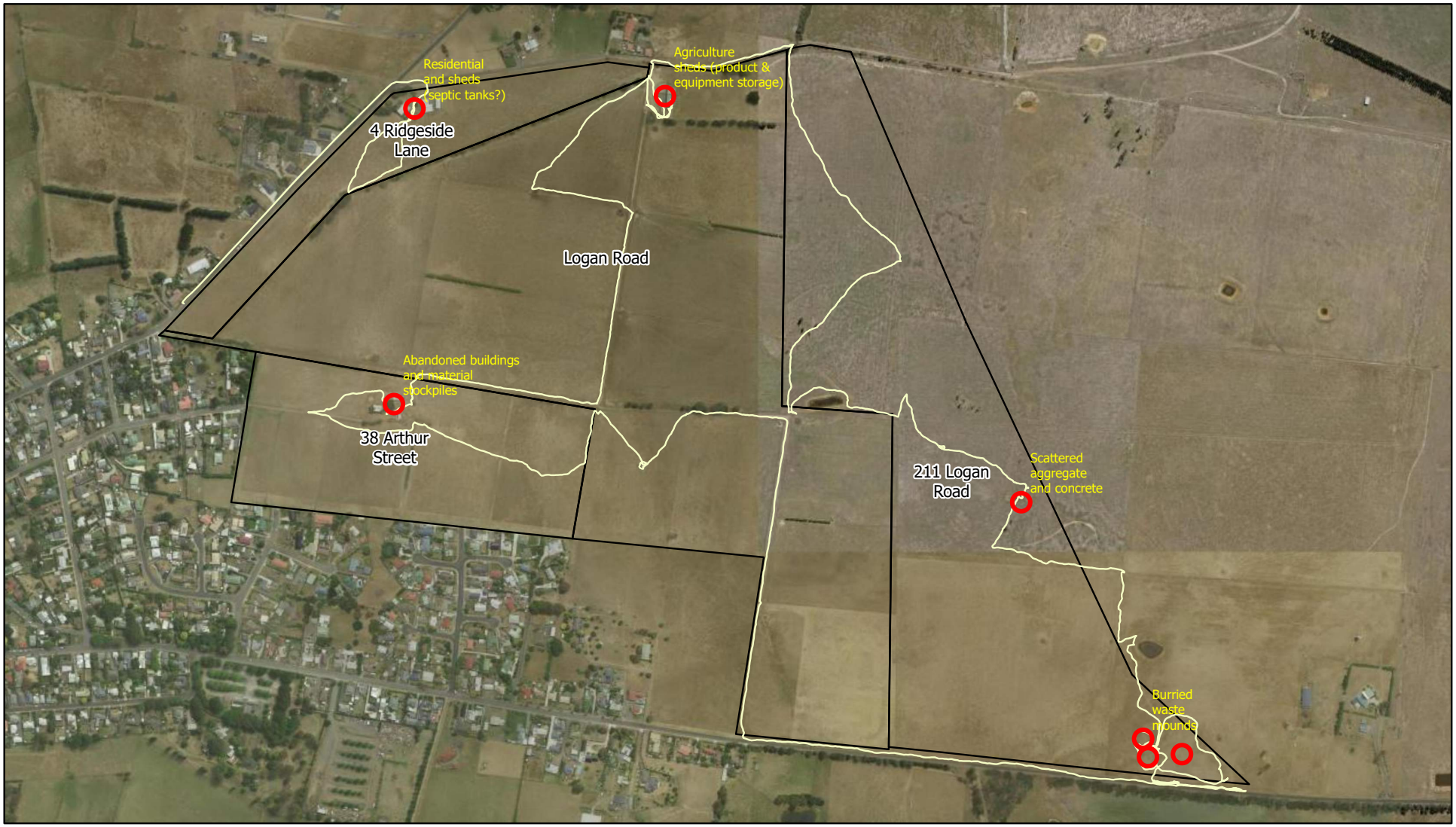
pitt&sherry, 2019. *Stage 1 Preliminary Site Investigation – Ridgeside Lane Mixed Use Development*. June 2019

Tasmanian Planning Scheme – Northern Midlands, Tasmanian Planning Commission, 2021

Figure 1 – Site Plan

Appendix A

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Evandale Expansion Masterplan
Preliminary Site Investigation (PSI)
Figure 1 - Site Plan

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N

0 75 150 300 Meters

Coordinate System: WGS 1984 UTM Zone 55S

1:8,000 When Printed at A4

MAP REF	-
AUTHOR	EPM
REVISION	Rev00
DATE	19/01/2023
DATA SOURCES	Base map from ESRI Project specific data Site inspection

Legend

- Interest Points
- Site Inspection Track
- Site Limits



LotSearch Report

Appendix B

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LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 30 November 2022 12:41:25

Reference: LS038468 EP

Address: Logan Road, Evandale, TAS 7212

Disclaimer:
The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features.
You should obtain independent advice before you make any decision based on the information within the report.
The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
EPA Regulated Premises	Environment Protection Authority Tasmania	01/11/2022	01/11/2022	Monthly	1000	0	0	2
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000	0	0	1
National Liquid Fuel Facilities	Geoscience Australia	23/08/2022	25/07/2011	Annually	1000	0	0	0
Points of Interest - Service Stations	TAS Department of Primary Industries, Parks, Water and Environment	18/10/2022	18/10/2022	Quarterly	1000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	09/11/2022	09/11/2022	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	02/09/2022	02/09/2022	Quarterly	2000	0	0	0
Authority Land - Defence	TAS Department of Primary Industries, Parks, Water and Environment	18/10/2022	18/10/2022	Quarterly	2000	0	0	0
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	3	3
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	1
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	3
Points of Interest	TAS Department of Primary Industries, Parks, Water and Environment	18/10/2022	18/10/2022	Quarterly	1000	0	0	19
Easements	TAS Department of Primary Industries, Parks, Water and Environment	18/10/2022	18/07/2022	Quarterly	0	0	0	0
Drill Hole Database (DORIS)	Mineral Resources Tasmania	18/10/2022	18/10/2022	Quarterly	2000	0	0	2
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology	02/11/2022	02/11/2022	Annually	2000	1	1	6
1:250,000 Scale Digital Geology of Tasmania	Mineral Resources Tasmania	07/02/2020	16/06/2010	As required	1000	1	2	4
Atlas of Australian Soils	ABARES	19/05/2017	17/02/2011	As required	1000	1	1	2
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	2	2	2
Areas of Tasmania with Potential to Contain Acid Sulfate Soils	TAS Department of Primary Industries, Parks, Water and Environment - Natural and Cultural Heritage Division	07/02/2020	07/02/2020	As required	1000	1	3	13
Tasmanian Interim Planning Scheme Zoning	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	2	5	22
Tasmanian Interim Planning Scheme Overlay	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	1	1	4
Tasmanian Interim Planning Scheme Overlay - Flood	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	0	0	1
Tasmanian Interim Planning Scheme Overlay - Coastal Inundation	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	0	0	0
Tasmanian Interim Planning Scheme Overlay - Coastal Erosion	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	0	0	0
Tasmanian Interim Planning Scheme Overlay - Landslide	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	0	0	0
Tasmanian Interim Planning Scheme Overlay - Bushfire	Tasmanian Planning Commission	13/09/2021	13/09/2021	Monthly	1000	1	1	1
Fire History	TAS Department of Primary Industries, Parks, Water and Environment	09/11/2022	09/11/2022	Monthly	1000	0	0	1

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Commonwealth Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000	0	0	0
National Heritage List	Australian Government Department of Agriculture, Water and the Environment	03/06/2022	13/04/2022	Annually	1000	0	0	0
Tasmanian Heritage Register	Heritage Tasmania	18/10/2022	18/10/2022	Quarterly	1000	0	1	51
Authority Land - Aboriginal Land	TAS Department of Primary Industries, Parks, Water and Environment	18/10/2022	18/10/2022	Quarterly	1000	0	0	0
TASVEG 4.0	TAS Department of Primary Industries, Parks, Water and Environment - Natural and Cultural Heritage Division	13/09/2021	11/10/2020	As Required	1000	3	3	4
Threatened Native Vegetation Communities 2014	TAS Department of Primary Industries, Parks, Water and Environment - Natural and Cultural Heritage Division	27/05/2022	14/02/2021	Annually	1000	0	0	0
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	28/03/2022	19/03/2020	Annually	1000	0	0	0
Groundwater Dependent Ecosystems Atlas	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000	0	0	0
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000	0	0	0
Property Boundaries & Roads	TAS Department of Primary Industries, Parks, Water and Environment	04/11/2022	04/11/2022	Monthly		-	-	-
Topographic Data	TAS Department of Primary Industries, Parks, Water and Environment	05/09/2022	05/09/2022	Annually		-	-	-

Logan Road, Evandale, TAS 7212



Legend

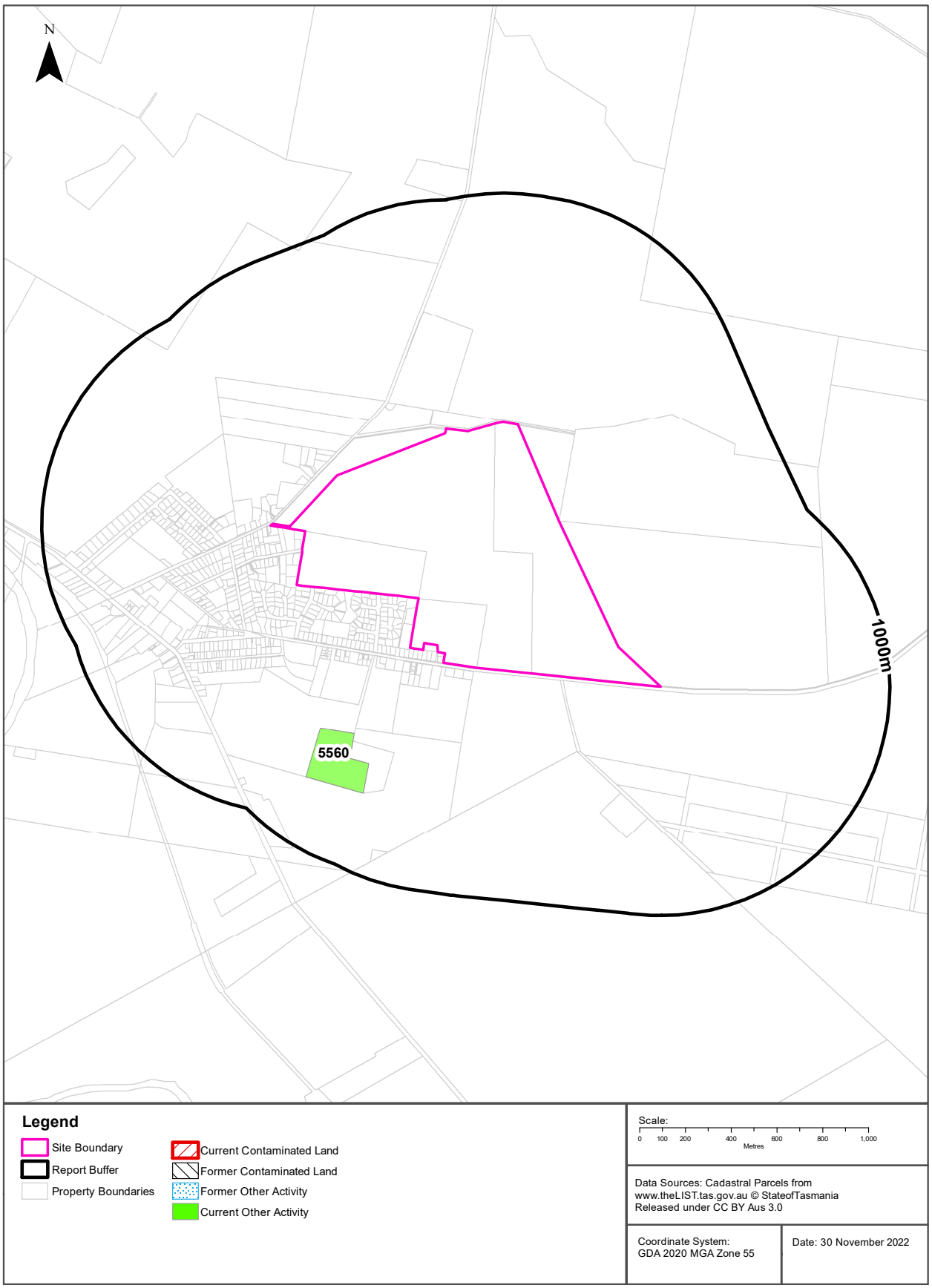
Site Boundary

Buffer 150m

Scale: 0 100 200 300 400 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 2020 MGA Zone 55	Date: 28 November 2022

EPA Regulated Premises

Logan Road, Evandale, TAS 7212



EPA Regulated Premises

Logan Road, Evandale, TAS 7212

EPA Regulated Premises

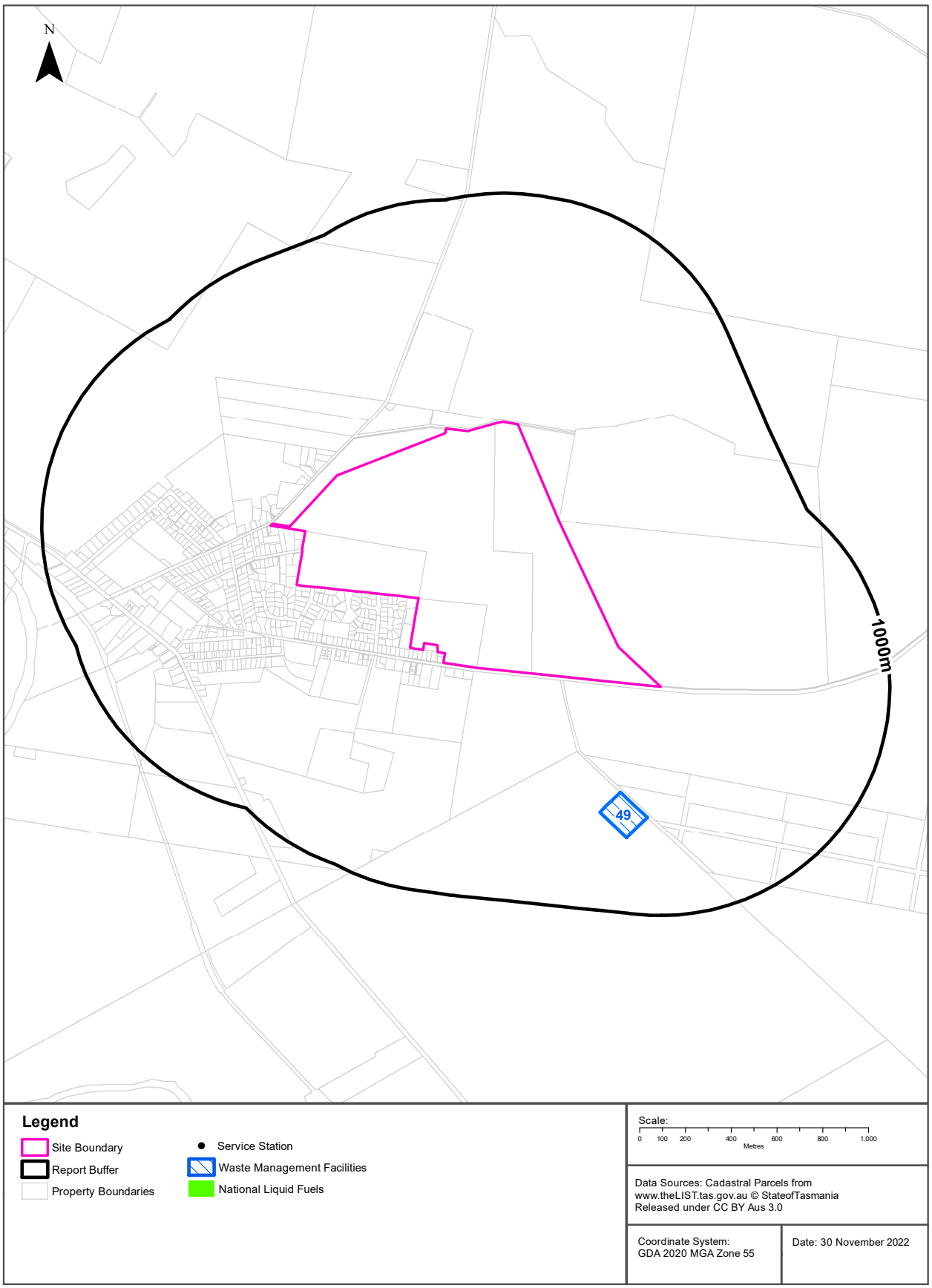
EPA Regulated Premises within the dataset buffer:

Site Id	Premise	Client	Activity Category	Activity Type	Doc No.	Document Type	Status	Loc Conf	Dist	Dir
5560	EVANDALE WASTEWATER TREAT. PLANT	TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	Wastewater Treatment	3A Wastewater Treatment Works	3609	Permit or Permit Conditions Environmental (PCE)	Current	Premise Match	444m	South West
	EVANDALE WASTEWATER TREAT. PLANT	TASMANIAN WATER & SEWERAGE CORPORATION PTY LTD	Wastewater Treatment	3A Wastewater Treatment Works	8404	Environment Protection Notice (EPN)	Former	Premise Match	444m	South West

EPA Regulated Premises from www.theLIST.tas.gov.au ©State of Tasmania
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Waste Management & Liquid Fuel Facilities

Logan Road, Evandale, TAS 7212



Waste Management and Liquid Fuel Facilities

Logan Road, Evandale, TAS 7212

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Landfill	Reprocess	Transfer	Revision Date	Loc Conf	Dist	Dir
49	Northern Midlands Council	Evandale Waste Transfer Station	Gunn Street	Evandale			Operational	21/07/2011	Premise Match	476m	South East

Waste Management Facilities Data Source: Australian Government Geoscience Australia
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National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Dir
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia
Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Service Stations

Service stations from the LIST Points of Interest dataset within the dataset buffer:

Map Id	Name	Distance	Direction
N/A	No records within buffer		

Points of Interest from www.theLIST.tas.gov.au©State of Tasmania
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PFAS Investigation and Management Programs

Logan Road, Evandale, TAS 7212

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map Id	Site Name	Impacts	Location Confidence	Distance	Direction
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

Logan Road, Evandale, TAS 7212

Defence 3 Year Regional Contamination Investigation Program

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property Id	Base Name	Address	Known Contamination	Location Confidence	Distance	Direction
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

Defence Land

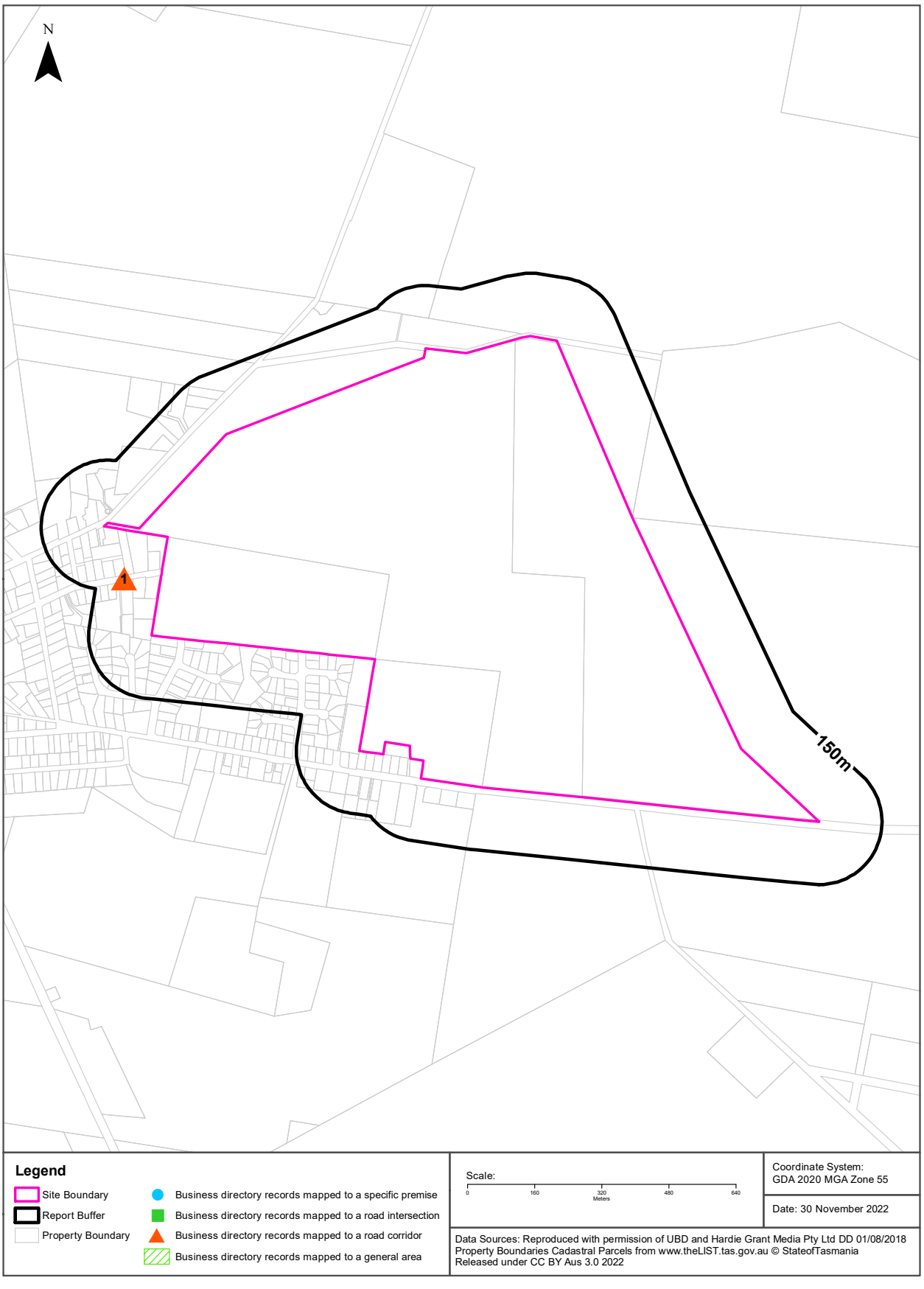
Defence land from the LIST Authority Land dataset within the dataset buffer:

Map Id	Title Volume	Title Folio	Location Confidence	Distance	Direction
N/A	No records in buffer				

Authority Land from www.theLIST.tas.gov.au©State of Tasmania
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Historical Business Directories

Logan Road, Evandale, TAS 7212



Historical Business Directories

Logan Road, Evandale, TAS 7212

Business Directory Records 1950-1991
Premise or Road Intersection Matches

Universal Business Directory records from years 1950, 1960, 1971, 1984 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance	Direction
	No records in buffer						

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Business Directory Records 1950-1991
Road or Area Matches

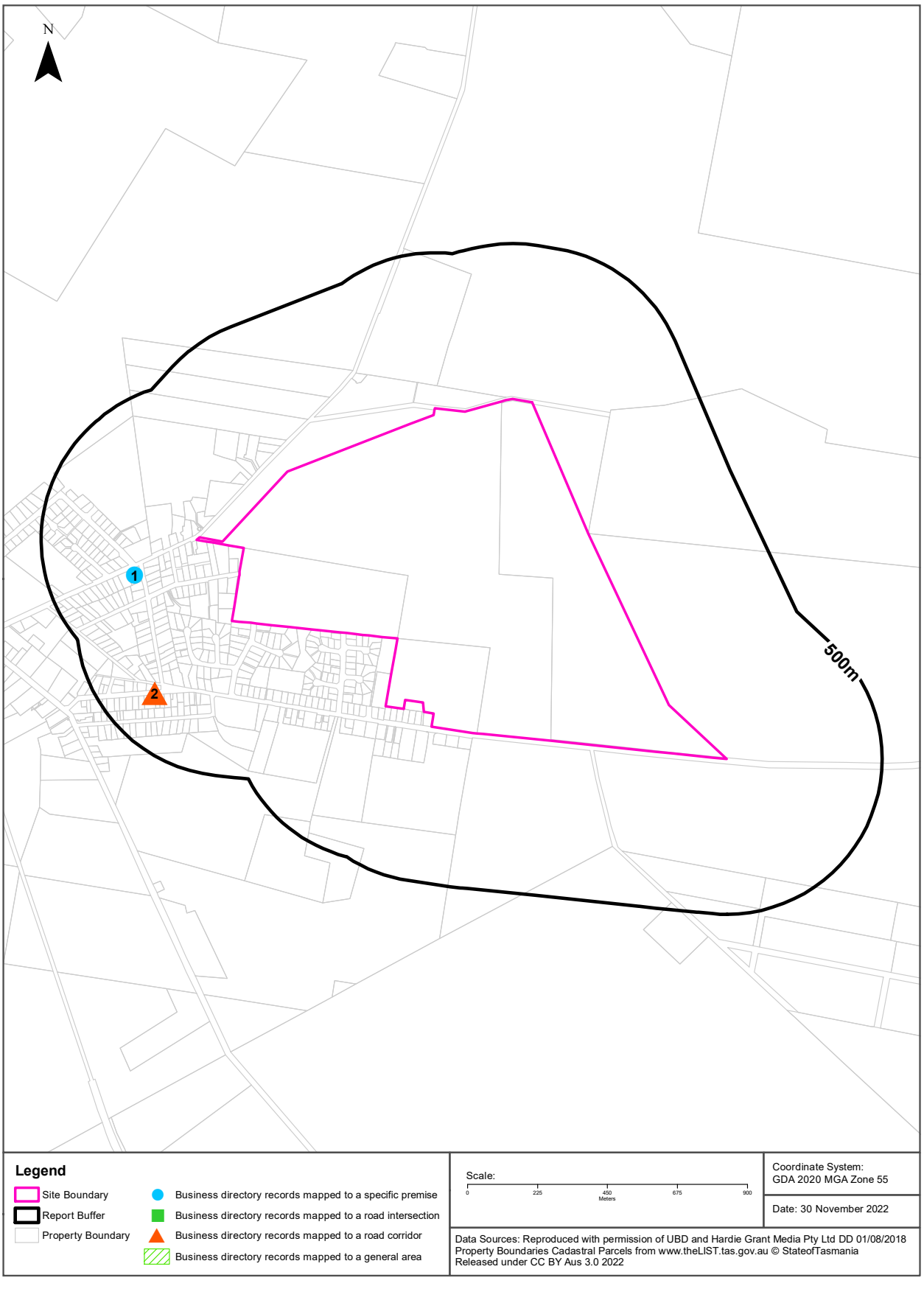
Universal Business Directory records from years 1950, 1960, 1971, 1984 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance
1	ASSOCIATIONS & SOCIETIES	R. S. S. & A. I. L. A., Arthur St., Evandale	15164	1960	Road Match	0m
	ASSOCIATIONS & SOCIETIES	R.S.S. A.I.L.A. (K. Chamberlain, Secy.)., Arthur St., Evandale	20332	1950	Road Match	0m
	BUTCHERS	Wells, H. G., Arthur St., Evandale	20339	1950	Road Match	0m

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Dry Cleaners, Motor Garages & Service Stations

Logan Road, Evandale, TAS 7212



Historical Business Directories

Logan Road, Evandale, TAS 7212

Dry Cleaners, Motor Garages & Service Stations 1950-1991 Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 1950, 1960, 1971, 1984 and 1991, mapped to a premise or road intersection, within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance	Direction
1	MOTOR GARAGES & SERVICE STATIONS	BP Evandale., 4 Macquarie St., Evandale. 7212	8958	1991	Premise Match	204m	West

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Dry Cleaners, Motor Garages & Service Stations 1950-1991 Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories for years 11950, 1960, 1971, 1984 and 1991, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance
2	MOTOR GARAGES & SERVICE STATIONS	Cutler's Garage., Russell St., Evandale 7212	41187	1971	Road Match	240m
	MOTOR GARAGES & SERVICE STATIONS	Carter's Garage., Russell St., Evandale	15191	1960	Road Match	240m
	MOTOR GARAGES & SERVICE STATIONS	Carter's Garage., Russell St., Evandale	20375	1950	Road Match	240m

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Aerial Imagery 2016

Logan Road, Evandale, TAS 7212



Legend

Site Boundary

Report Buffer

Scale:

0 160 320 480 640

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 November 2022

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Aerial Imagery 2011

Logan Road, Evandale, TAS 7212



Legend

Site Boundary

Report Buffer

Scale:

0 160 320 480 640

Meters

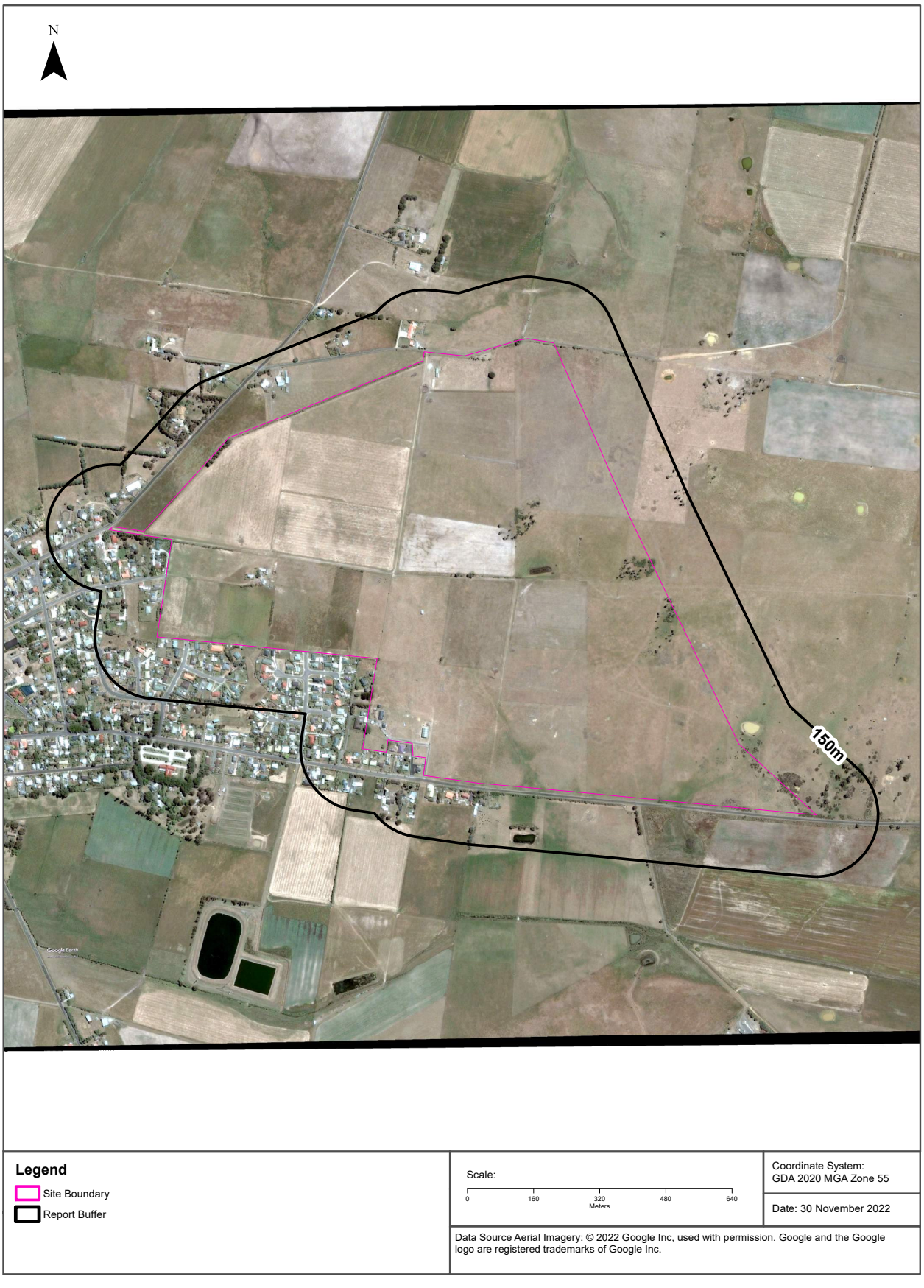
Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 November 2022

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Aerial Imagery 2004

Logan Road, Evandale, TAS 7212



Legend

Site Boundary

Report Buffer

Scale:

0 160 320 480 640

Meters

Coordinate System:
GDA 2020 MGA Zone 55

Date: 30 November 2022

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Aerial Imagery 1995

Logan Road, Evandale, TAS 7212



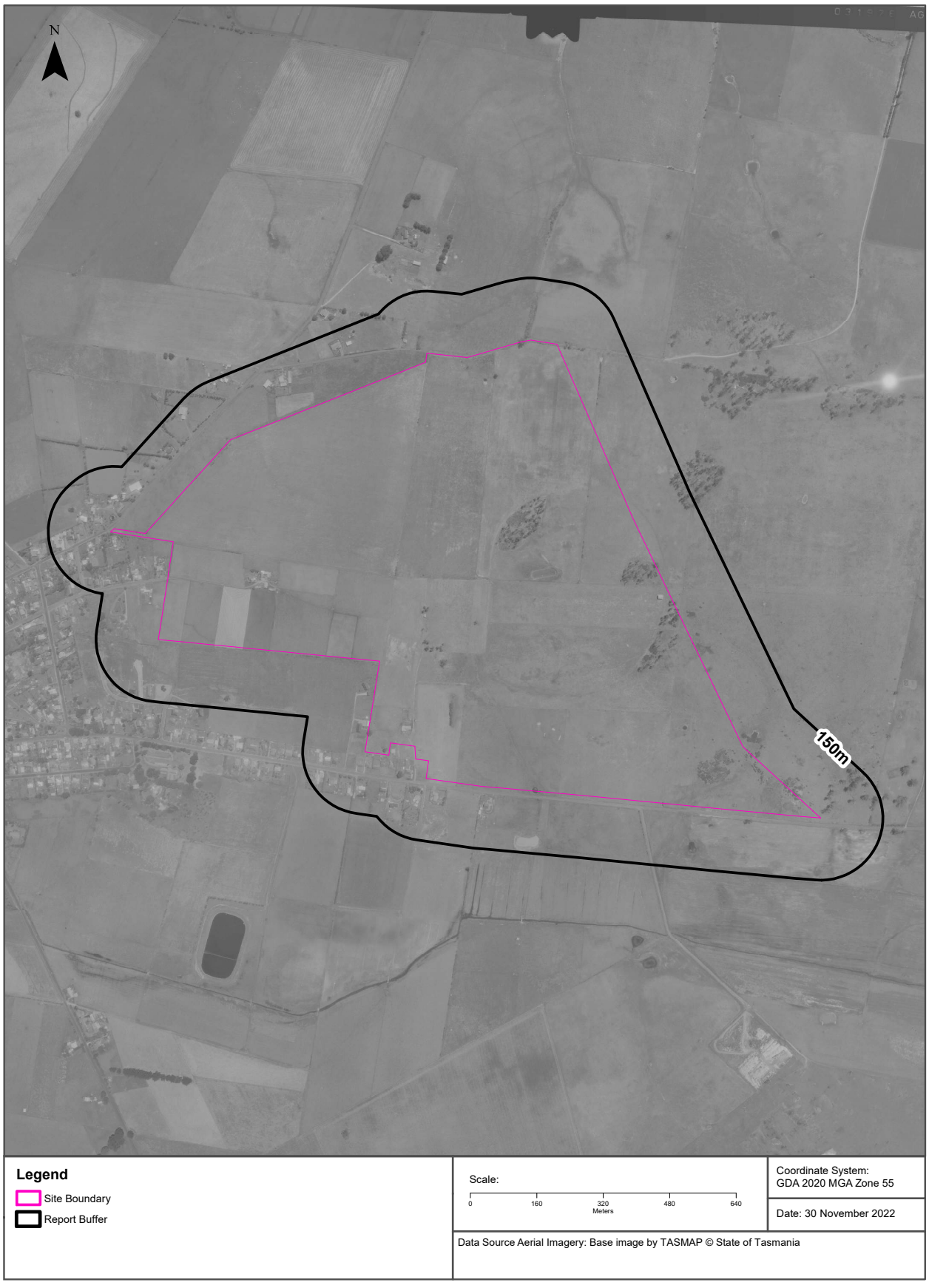
Aerial Imagery 1995

Logan Road, Evandale, TAS 7212



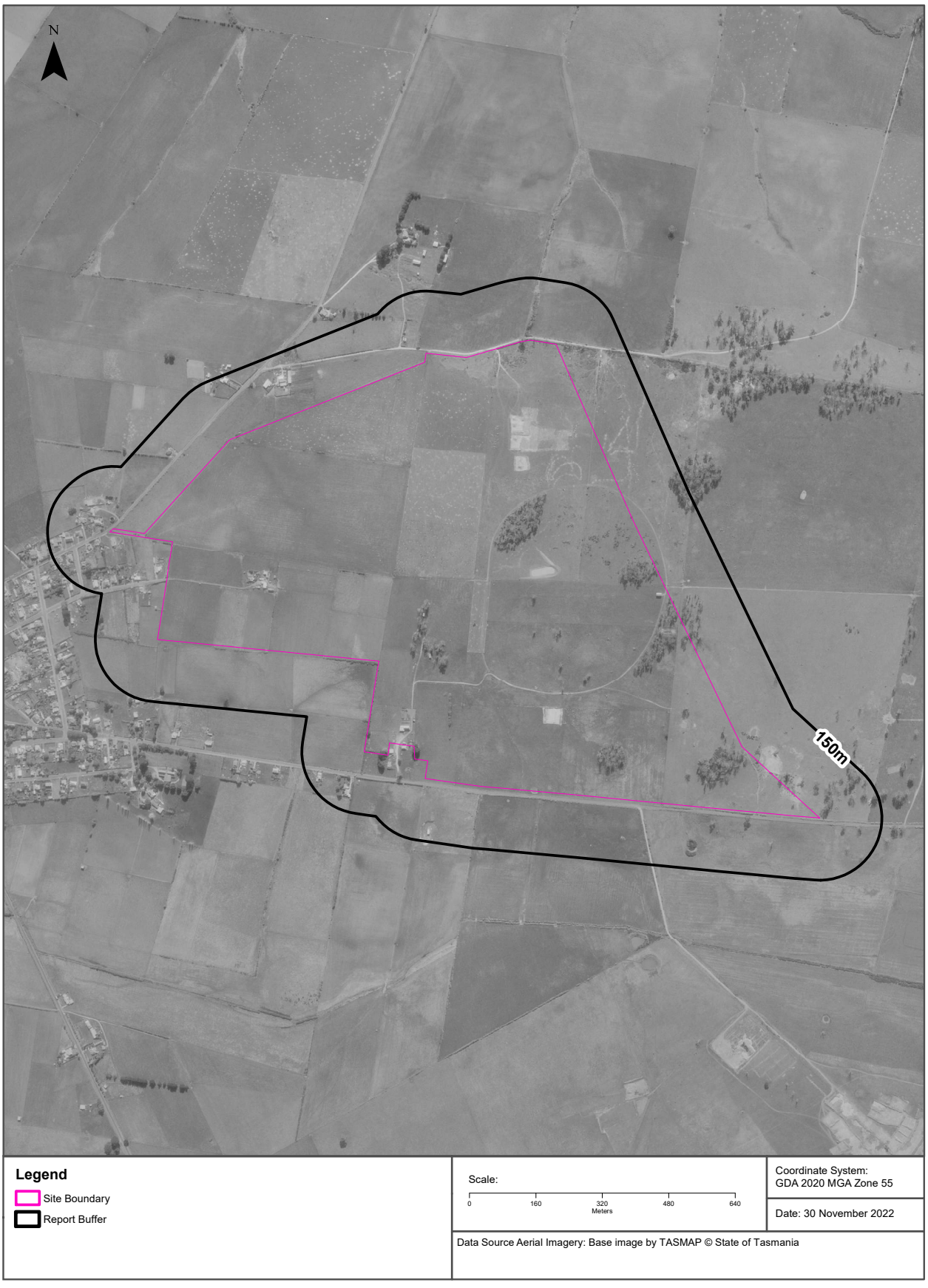
Aerial Imagery 1985

Logan Road, Evandale, TAS 7212



Aerial Imagery 1975

Logan Road, Evandale, TAS 7212



Aerial Imagery 1966

Logan Road, Evandale, TAS 7212



Aerial Imagery 1956

Logan Road, Evandale, TAS 7212



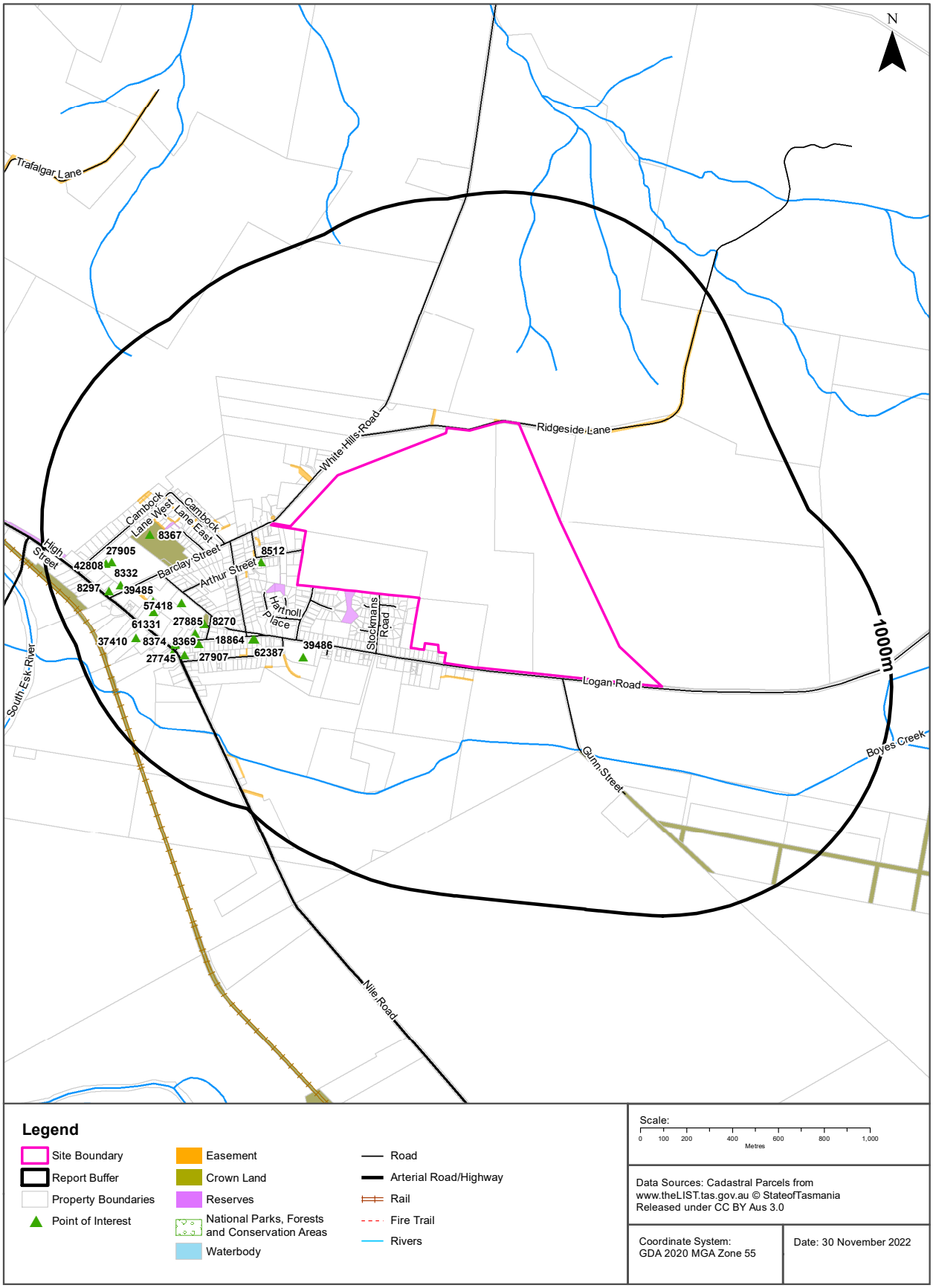
Aerial Imagery 1956

Logan Road, Evandale, TAS 7212



Topographic Features

Logan Road, Evandale, TAS 7212



Legend

- Site Boundary
- Report Buffer
- Property Boundaries
- Point of Interest
- Easement
- Crown Land
- Reserves
- National Parks, Forests and Conservation Areas
- Waterbody
- Road
- Arterial Road/Highway
- Rail
- Fire Trail
- Rivers

Scale: 0 100 200 400 600 800 1,000 Metres

Data Sources: Cadastral Parcels from www.theLIST.tas.gov.au © StateofTasmania Released under CC BY Aus 3.0

Coordinate System: GDA 2020 MGA Zone 55

Date: 30 November 2022

Topographic Features

Logan Road, Evandale, TAS 7212

Points of Interest

Features from the LIST Points of Interest dataset that exist within the dataset buffer:

Map Id	Feature Type	Feature Subtype	Name	Distance	Direction
8512	State police and emergency	Fire station	Evandale Fire Station	168m	West
62387	Accommodation	Holiday Unit/ Flat	Arendon Cottage	301m	West
18864	Accommodation	Holiday Unit/ Flat	Old Wesleyan Chapel	306m	West
39486	Tourist feature	Cultural	Evandale Market	312m	South West
8270	State police and emergency	Police station	Evandale Police Station	440m	West
27885	Accommodation	Holiday Unit/ Flat	Stables Accommodation, The	493m	West
27907	Tourist feature	Other	Evandale Antiques	499m	West
57418	Ground	Picnic Area	Picnic Area	511m	West
8367	Education and training	Primary and infant	Evandale Primary School	530m	West
27745	Accommodation	Hotel	Prince of Wales	579m	West
8374	Commonwealth government	Post offices and agencies	Evandale Post Office	592m	West
39485	Medical service	Family & child health centre	Evandale Child Health Centre	613m	West
8369	Accommodation	Guest House/ Bed and Breakfast	Solomon Cottage	621m	West
61331	Club	Scout	Evandale	636m	West
8332	Club	Tennis	Evandale Tennis Club	707m	West
42808	Club	Football	Evandale Football Club	713m	West
37410	Accommodation	Guest House/ Bed and Breakfast	Esk Guest House	739m	West
27905	Tourist feature	Amusement or entertainment	Evandale Light Railway & Steam Society	740m	West
8297	Tourist feature	Cultural	Evandale Community & Information Centre	763m	West

Points of Interest from www.theLIST.tas.gov.au©State of Tasmania
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Easements

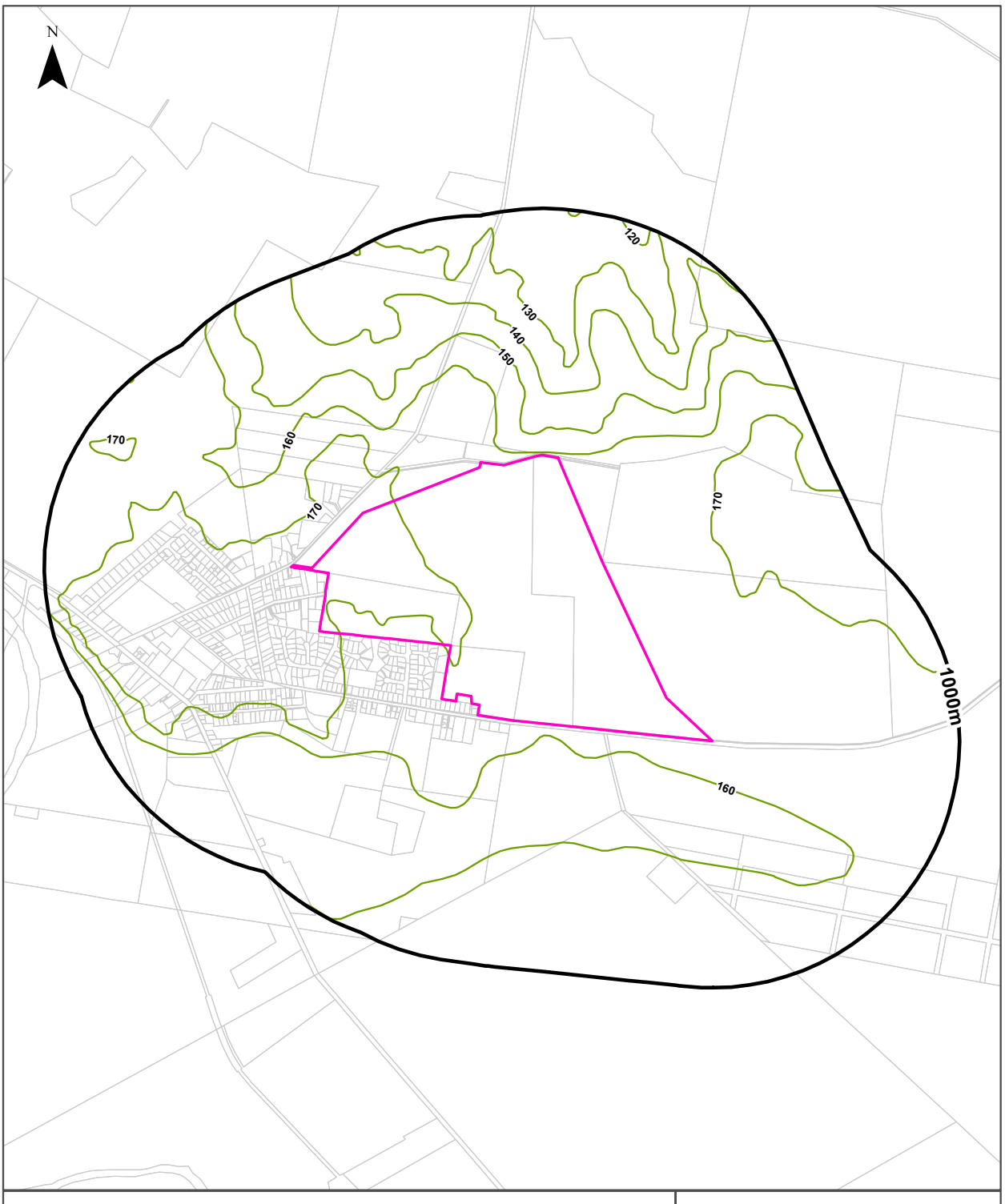
Features from the LIST Easements dataset that exist on-site:

Map Id	Feature Type	Feature Subtype
N/A	No records within buffer	

Easements from www.theLIST.tas.gov.au©State of Tasmania
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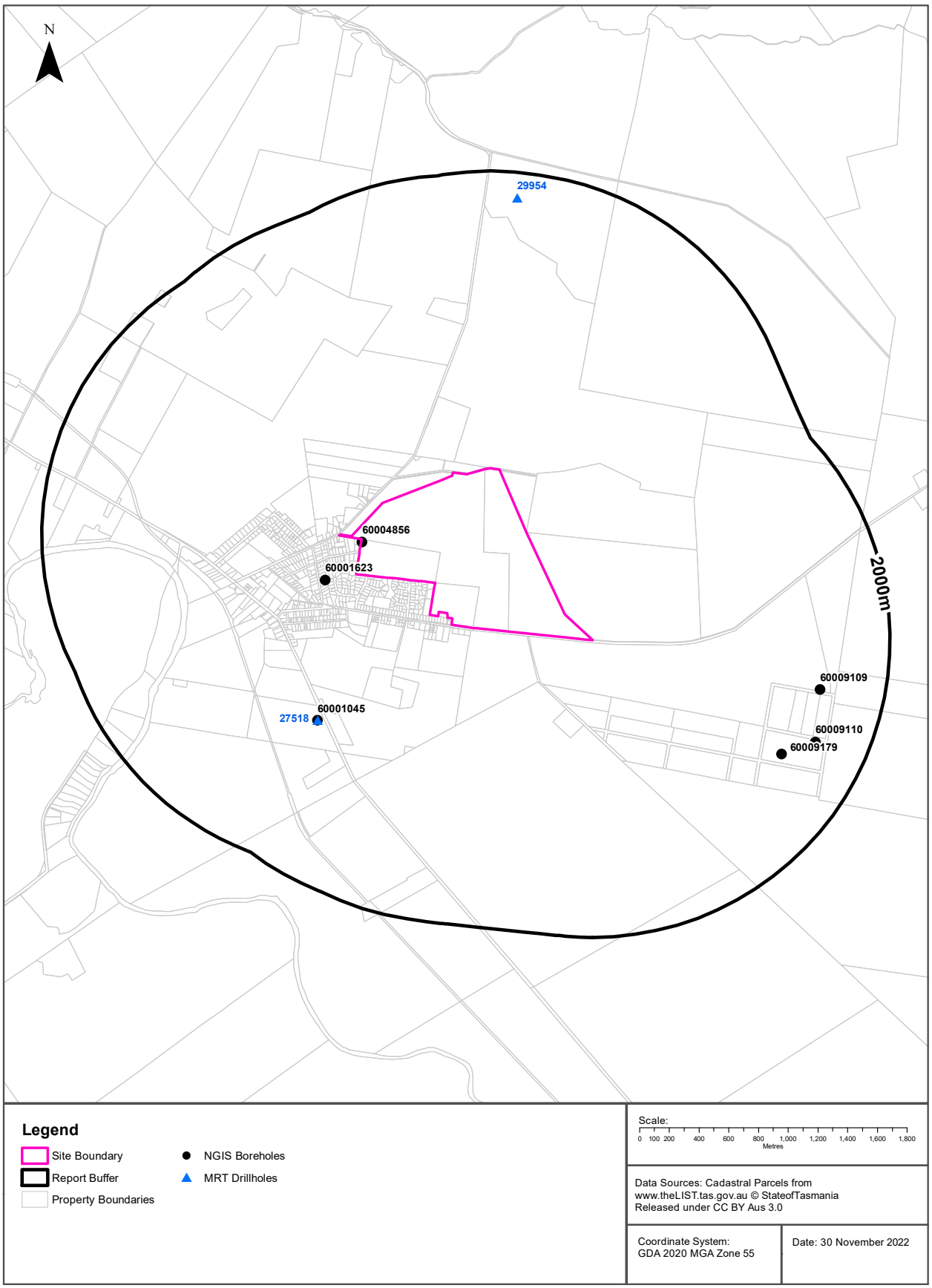
Elevation Contours (m AHD) 10m Interval at 1:25,000

Logan Road, Evandale, TAS 7212



Boreholes

Logan Road, Evandale, TAS 7212



Groundwater Boreholes

Logan Road, Evandale, TAS 7212

Drill Hole Database (DORIS)

Drill holes from the Drill Hole Database (DORIS) within the dataset buffer:

Drill Id	Name	Purpose	Date Drilled	Company	Associated Tenaments	Reports	Length (m)	Reduced Level	Intersections	Core Status	Dist	Dir
27518	IH45	Groundwater	22/06/1970	Tasmania Department of Mines		GSB59	14	157.3	13-14m: Tertiary basalt	Open	1018m	South West
29954	WHDH1	Engineering geology	30/09/1985	Tasmania Department of Mines			48	134.7	0-48m: Launceston Group	Open	1829m	North

Drill Hole Database (DORIS) from Mineral Resources Tasmania
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Groundwater Boreholes

Logan Road, Evandale, TAS 7212

Boreholes (NGIS)

Boreholes from the National Groundwater Information System (NGIS) within the dataset buffer:

NGIS Bore Id	State Bore Id	Drilled Date	Bore Depth (m)	Drilled Depth (m)	Elevation (m)	Distance	Direction
60004856	3829	23/10/1969	26.80	33.50	170.00	0m	On-site
60001623	41599	29/01/2016	26.00	26.00	170.00	209m	West
60001045	3810	29/06/1970	12.20	14.00	160.00	1018m	South West
60009179	41228	12/12/2006		46.00	164.60	1487m	South East
60009109	41083	30/06/2007		50.00	167.60	1568m	East
60009110	41084	29/06/2007		36.00	166.00	1650m	South East

Borehole Data Source: © Commonwealth of Australia (Bureau of Meteorology)
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Borehole Logs (NGIS)

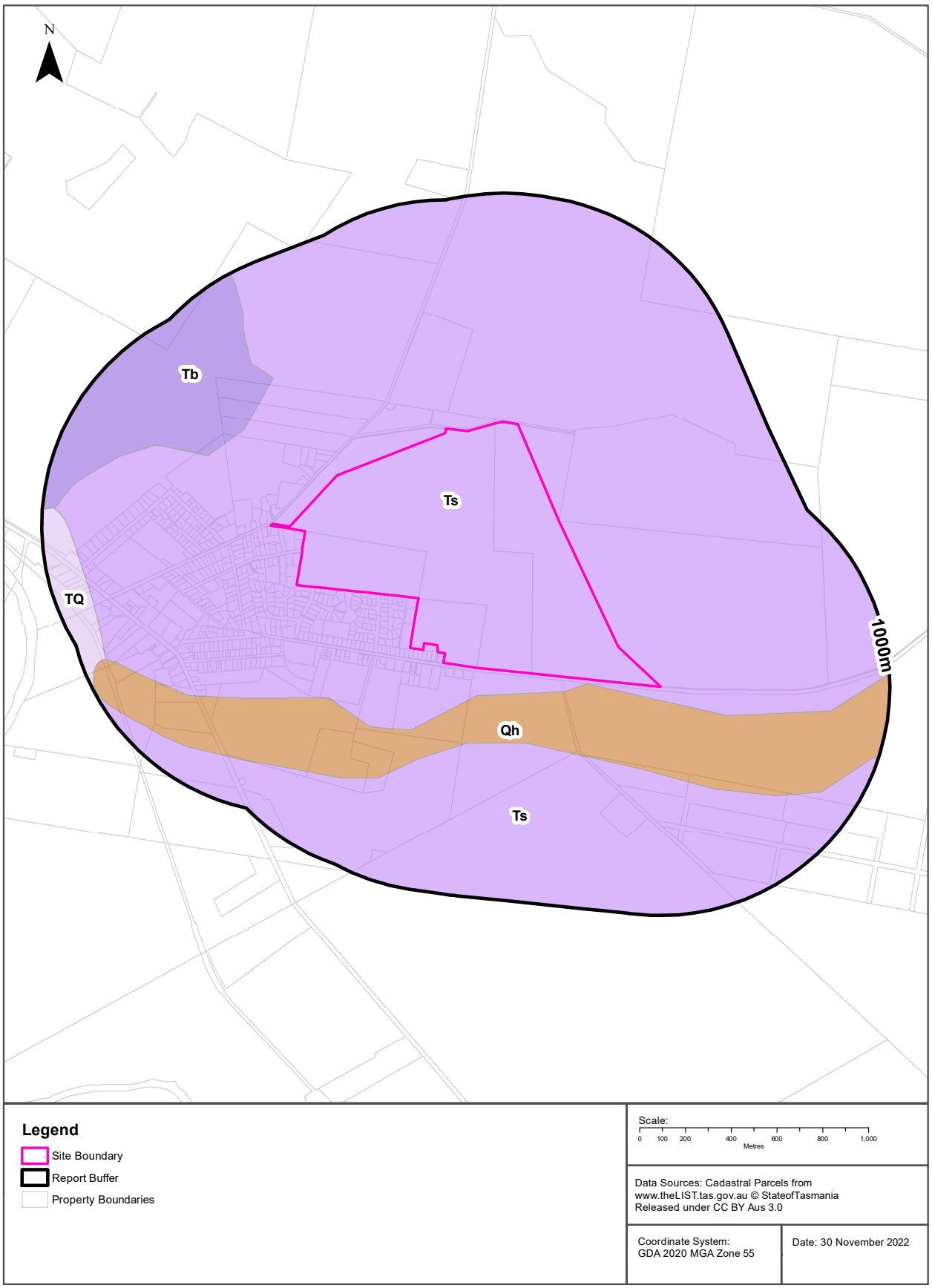
Borehole logs from the National Groundwater Information System (NGIS) within the dataset buffer:

NGIS Bore Id	Driller's Log	Distance	Direction
60001623	81.00m-129.00m	209m	West
60001045	0.00m-21.30m 21.30m-61.00m	1018m	South West
60009109	0.00m-75.00m	1568m	East
60009110	0.00m-78.00m	1650m	South East

Borehole Log Data Source: © Commonwealth of Australia (Bureau of Meteorology)
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Geology 1:250,000

Logan Road, Evandale, TAS 7212



Geology

Logan Road, Evandale, TAS 7212

Geological Units (1:250,000)

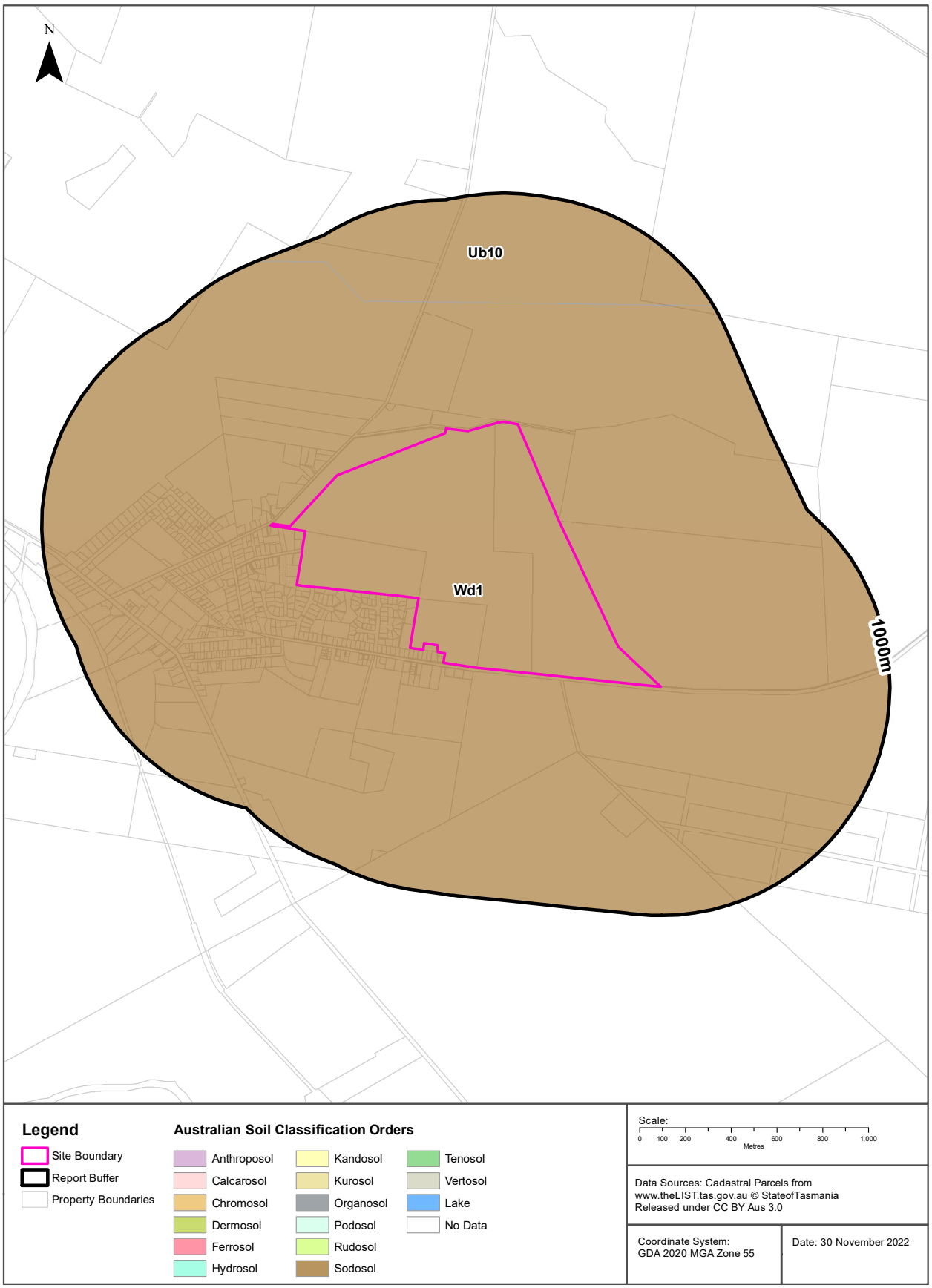
Geological units at a scale of 1:250,000, within the dataset buffer:

Symbol	Description	Region	Super Group	Group	Sub Group	Formation	Era	Period	Distance to Nearest Feature
Ts	Dominantly non-marine sequences of gravel, sand, silt, clay and regolith.	Cenozoic cover sequences					Mesozoic - Cenozoic	Cretaceous - Quaternary	On-site
Qh	Sand gravel and mud of alluvial, lacustrine and littoral origin.	Cenozoic cover sequences					Cenozoic	Quaternary	19m
Tb	Basalt (tholeiitic to alkalic) and related pyroclastic rocks.	Cenozoic cover sequences					Mesozoic - Cenozoic	Cretaceous - Neogene	406m
TQ	Undifferentiated Cenozoic sediments.	Cenozoic cover sequences					Mesozoic - Cenozoic	Cretaceous - Quaternary	837m

1:250,000 Digital Geology from Mineral Resources Tasmania
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Atlas of Australian Soils

Logan Road, Evandale, TAS 7212



Soils

Logan Road, Evandale, TAS 7212

Atlas of Australian Soils

Australian soil types within the dataset buffer:

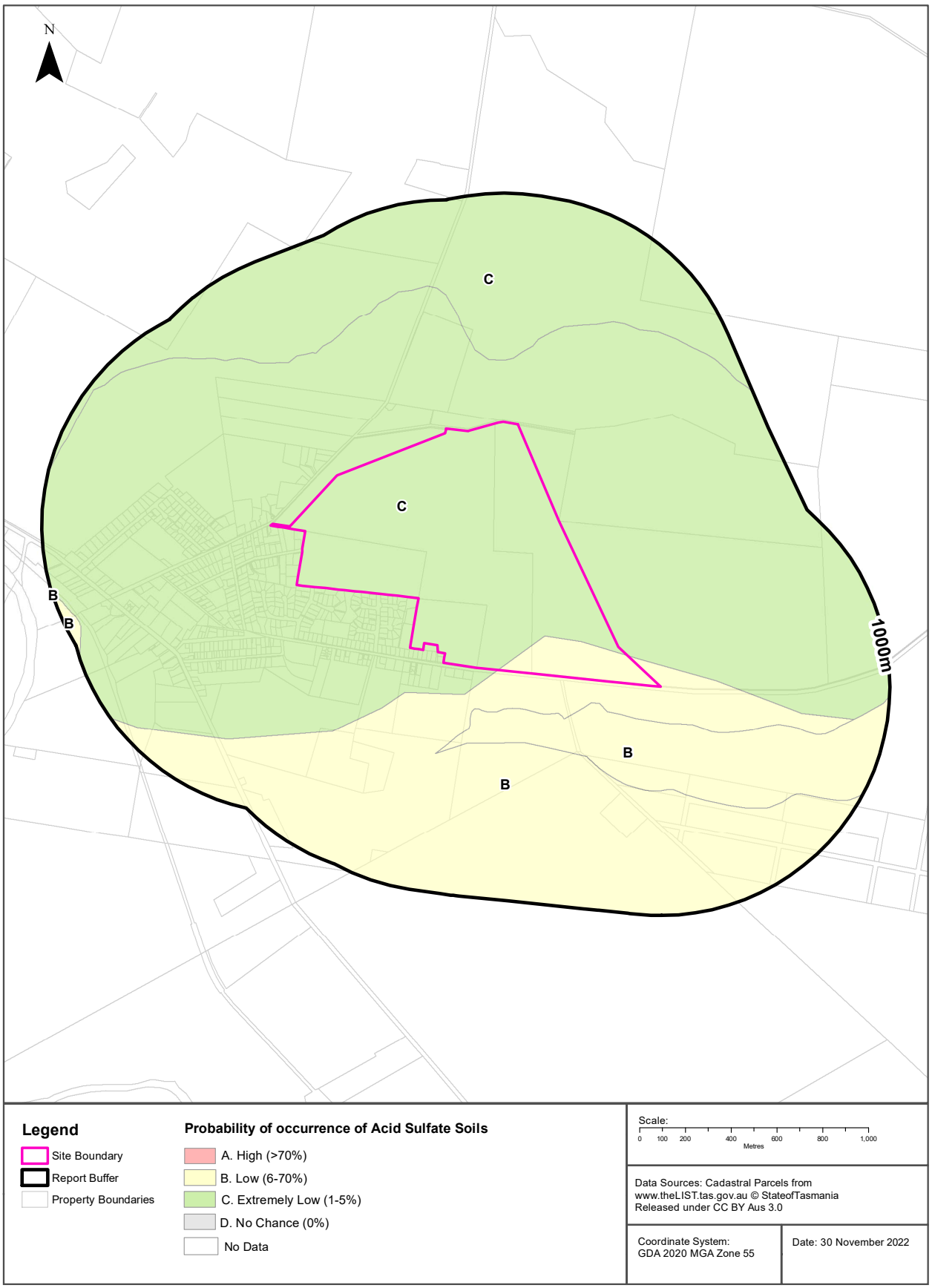
Symbol	Soil Order	Map Unit Description	Distance to Nearest Feature
Wd1	Sodosol	Series of peneplains and terraces traversed by narrow valley plains, with lagoons, lunettes, dunes, and sandsheets: undulating peneplain remnants at the highest levels of sandy acidic yellow mottled soils (Dy5.6 1); gravely river terraces at intermediate levels of sandy acidic yellow mottled soils (Dy5.81) in association with (Dy5.41) and (Db3.41); river terraces at lower levels of hard acidic yellow mottled soils (Dy3.41) in association with (Db2.41), (Dy3.42), sometimes with puffs of Ug5.2 and depressions of (Dy5.12) and (Dy3.43) close to stream channels; all these traversed by narrow valley plains of dark cracking clays (Ug5.16) where streams are incised, and (Ug6.1) where plain is poorly drained; dunes, sandsheets, and lunettes of leached sands (Uc4.31) and rated (Uc3.3) and (Uc2.3) soils.	On-site
Ub10	Sodosol	Gentle to steep slopes separated by benches and traversed by narrow valley plains: slopes and valley sides of hard neutral yellow mottled soils (Dy3.42) in association with (Dy3.43) and other soils, including (Gn) soils; flat to undulating benches of hard acidic yellow mottled soils (Dy3.41) in association with (Dy3.42 and Dy3.43) and (Dy5.61); narrow stream valleys of dark cracking clays (Ug5.16) and (Ug6.1); minor areas of dunes or sand sheets of leached sands (Uc4.31) and (Uc3.31).	523m

Atlas of Australian Soils: ABARES

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Atlas of Australian Acid Sulfate Soils

Logan Road, Evandale, TAS 7212



Acid Sulfate Soils

Logan Road, Evandale, TAS 7212

Atlas of Australian Acid Sulfate Soils

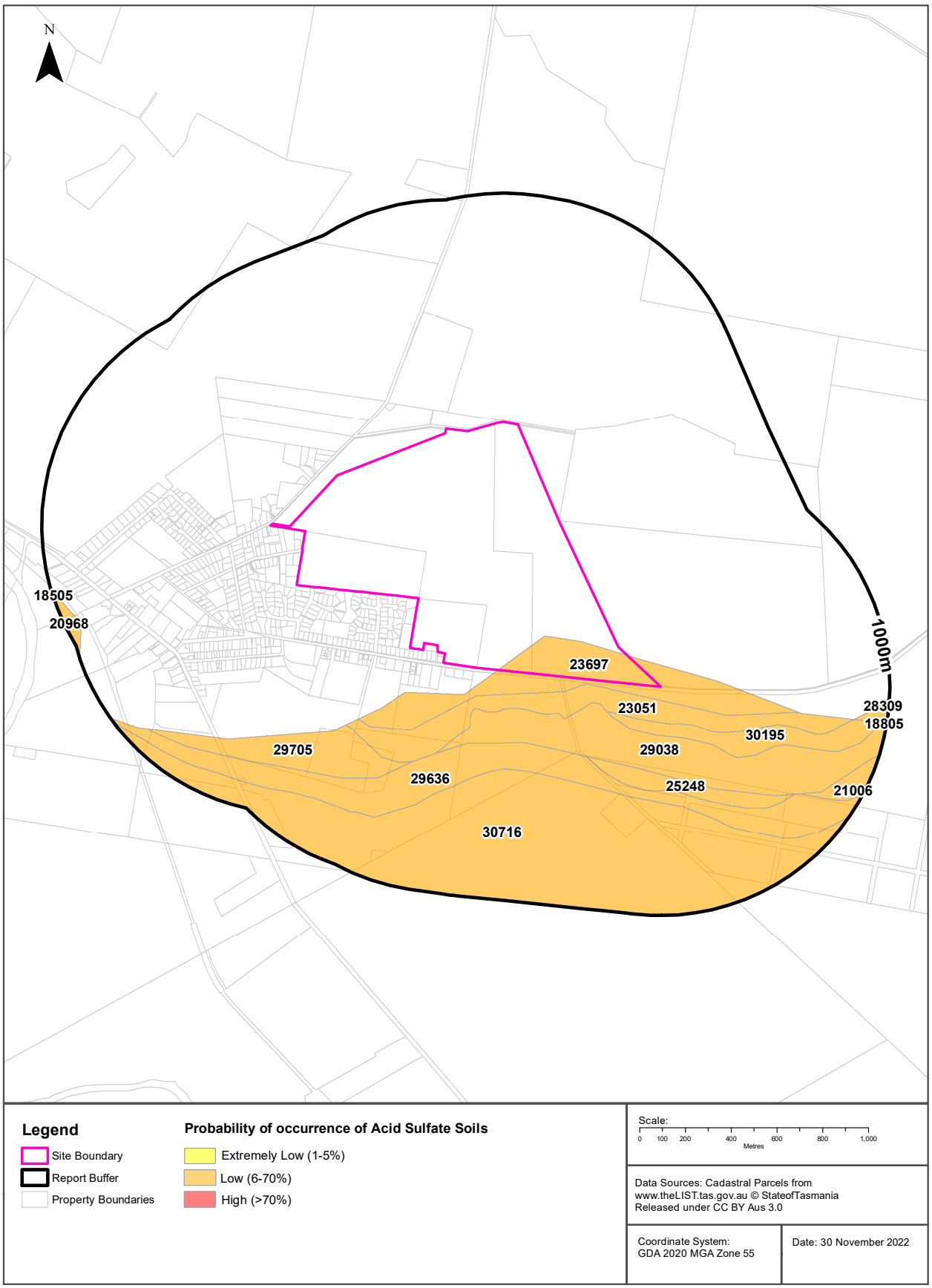
Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance to Nearest Feature
B	Low Probability of occurrence. 6-70% chance of occurrence.	On-site
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	On-site

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO
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Acid Sulfate Soils

Logan Road, Evandale, TAS 7212



Acid Sulfate Soils

Logan Road, Evandale, TAS 7212

Areas of Tasmanian with Potential to Contain Acid Sulfate Soils

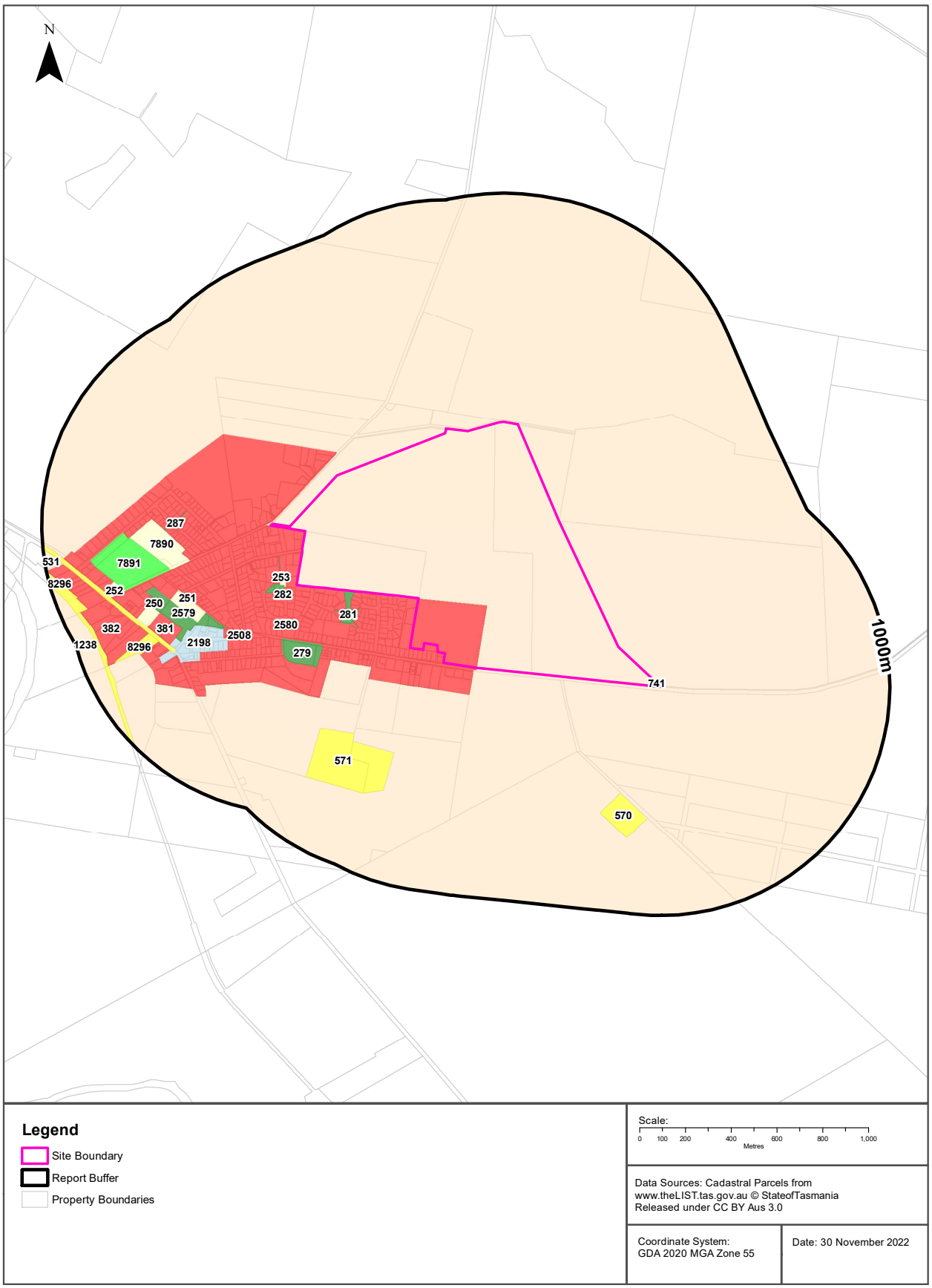
Coastal, inland and marine areas of Tasmania with the potential to contain acid sulfate soils, within the dataset buffer:

Map Id	Atlas Code	Probability	Total Weight	Depth Range	Distance	Direction
23697	Bj(p4)	Low	1.5		0m	On-site
23051	Bj(p4)	Low	2		19m	South East
29038	Bg(p4)	Low	3		99m	South East
30195	Bg(p4)	Low	3		132m	South East
29636	Bj(p4)	Low	1.5		304m	South
25248	Bg(p4)	Low	2.5		335m	South East
30716	Bj(p4)	Low	1.5		425m	South
29705	Bj(p4)	Low	2		433m	South West
21006	Bg(p4)	Low	2.5		765m	South East
28309	Bg(p4)	Low	2		853m	East
20968	Bg(p4)	Low	3		934m	West
18805	Bg(p4)	Low	2		977m	East
18505	Bg(p4)	Low	3		991m	West

Coastal areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
Inland areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
Marine areas of Tasmania with potential to contain Acid Sulfate Soils fromwww.theLIST.tas.gov.au©State of Tasmania
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Planning Zones

Logan Road, Evandale, TAS 7212



Planning

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Zoning

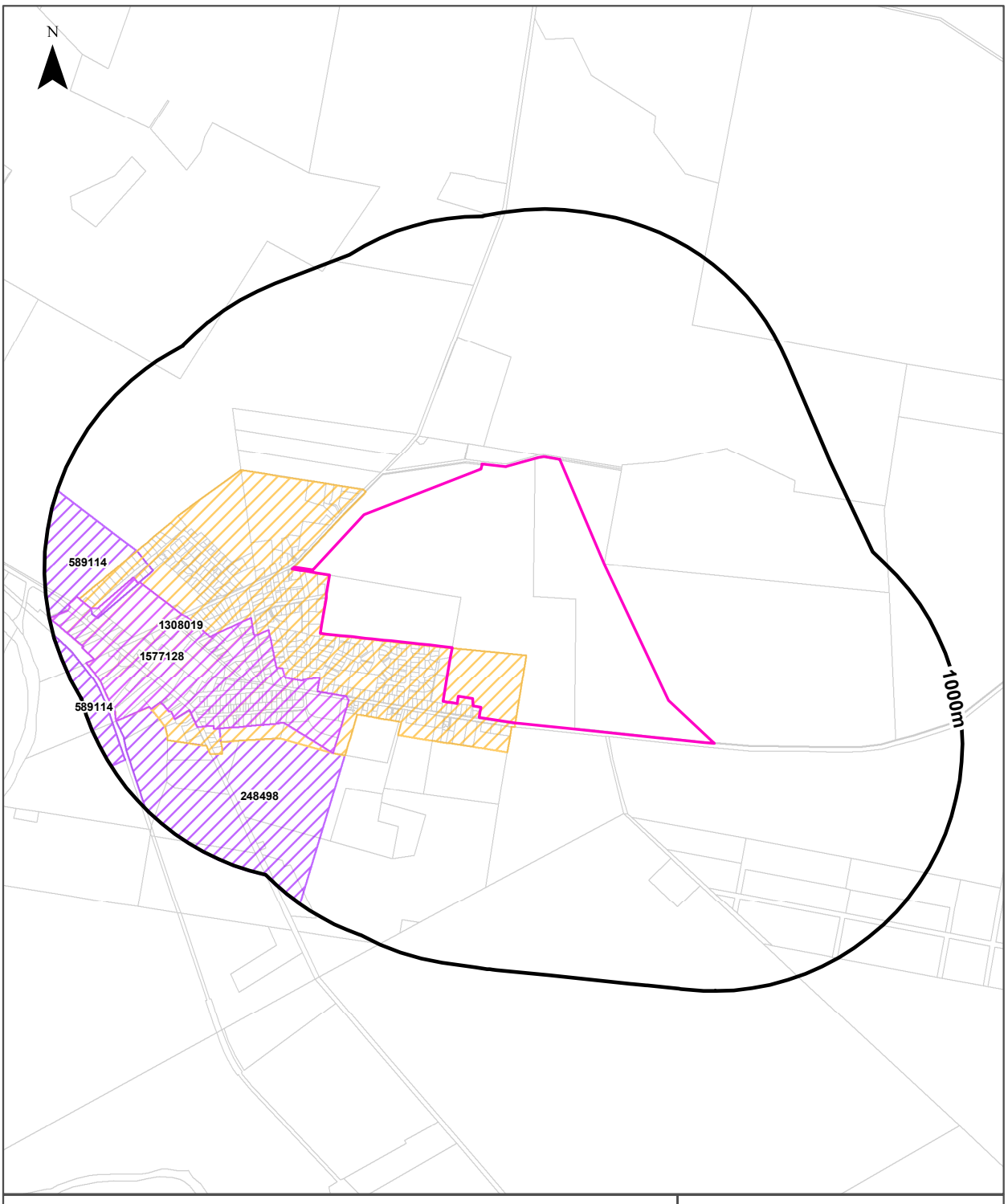
Interim Planning Scheme Zones within the dataset buffer:

Map Id	Zone Code	Zone Name	Plan Scheme	Comments	Distance	Direction
741	26	26.0 Rural Resource	Northern Midlands Interim Planning Scheme 2013		0m	On-site
2580	10	10.0 General Residential	Northern Midlands Interim Planning Scheme 2013		0m	On-site
281	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		2m	South West
253	17	17.0 Community Purpose	Northern Midlands Interim Planning Scheme 2013		44m	West
282	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		52m	West
279	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		241m	South West
2508	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		305m	West
2579	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		362m	West
287	19	19.0 Open Space	Northern Midlands Interim Planning Scheme 2013		370m	West
2198	20	20.0 Local Business	Northern Midlands Interim Planning Scheme 2013		372m	West
7890	17	17.0 Community Purpose	Northern Midlands Interim Planning Scheme 2013		382m	West
251	17	17.0 Community Purpose	Northern Midlands Interim Planning Scheme 2013		411m	West
571	28	28.0 Utilities	Northern Midlands Interim Planning Scheme 2013		445m	South West
7891	18	18.0 Recreation	Northern Midlands Interim Planning Scheme 2013		475m	West
570	28	28.0 Utilities	Northern Midlands Interim Planning Scheme 2013		478m	South East
381	10	10.0 General Residential	Northern Midlands Interim Planning Scheme 2013		533m	West
250	17	17.0 Community Purpose	Northern Midlands Interim Planning Scheme 2013		593m	West
8296	28	28.0 Utilities	Northern Midlands Interim Planning Scheme 2013		599m	South
382	10	10.0 General Residential	Northern Midlands Interim Planning Scheme 2013		678m	West
252	17	17.0 Community Purpose	Northern Midlands Interim Planning Scheme 2013		693m	West
1238	26	26.0 Rural Resource	Northern Midlands Interim Planning Scheme 2013		909m	South
531	26	26.0 Rural Resource	Northern Midlands Interim Planning Scheme 2013		920m	West

Tasmanian Interim Planning Scheme Zoning from www.theLIST.tas.gov.au©State of Tasmania
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Planning Overlays

Logan Road, Evandale, TAS 7212



Planning

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays

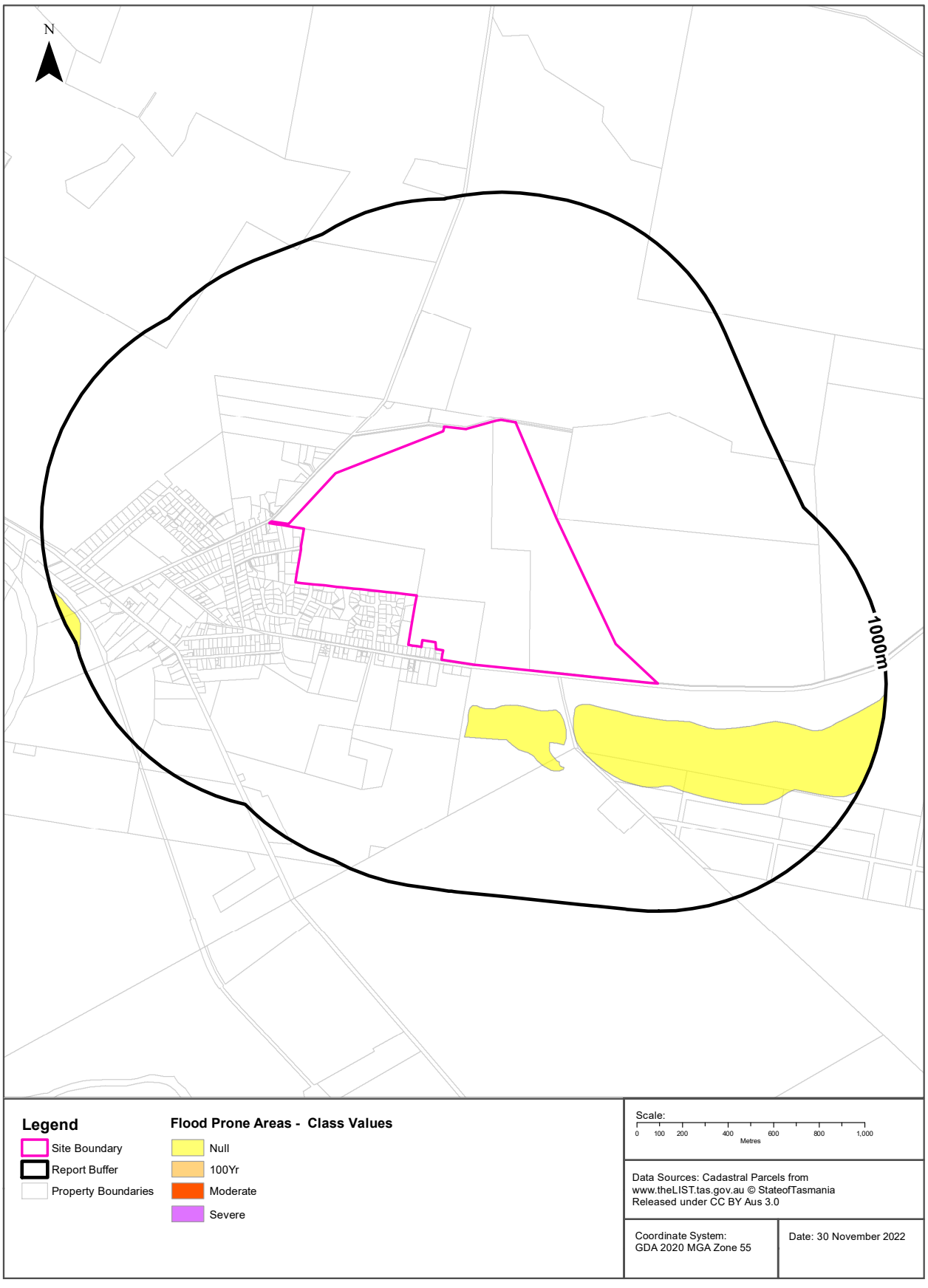
Interim Planning Scheme Overlays within the dataset buffer:

Map Id	Overlay Code	Overlay Name	Plan Scheme	Description	Class	Comments	Distance	Direction
1308019	101.URB	Urban Growth Boundary	Northern Midlands Interim Planning Scheme 2013				0m	On-site
1577128	101.HER	Heritage Precincts	Northern Midlands Interim Planning Scheme 2013				179m	West
248498	101.SCN	Scenic Management Area	Northern Midlands Interim Planning Scheme 2013				390m	South West
589114	101.SCN	Scenic Management Area	Northern Midlands Interim Planning Scheme 2013				560m	West

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Natural Hazards - Flood

Logan Road, Evandale, TAS 7212



Natural Hazards

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays - Flood

Interim Planning Scheme Flood Overlays within the dataset buffer:

Overlay Name	Plan Scheme	Description	Class	Comments	Distance to Nearest Feature
Flood Prone Areas	Northern Midlands Interim Planning Scheme 2013				121m

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Natural Hazards

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays - Coastal Inundation

Interim Planning Scheme Coastal Inundation Overlays within the dataset buffer:

Overlay Name	Plan Scheme	Description	Class	Comments	Distance to Nearest Feature
N/A	No records within buffer				

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Natural Hazards

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays - Coastal Erosion

Interim Planning Scheme Coastal Erosion Overlays within the dataset buffer:

Overlay Name	Plan Scheme	Description	Class	Comments	Distance to Nearest Feature
N/A	No records within buffer				

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Natural Hazards

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays - Landslide

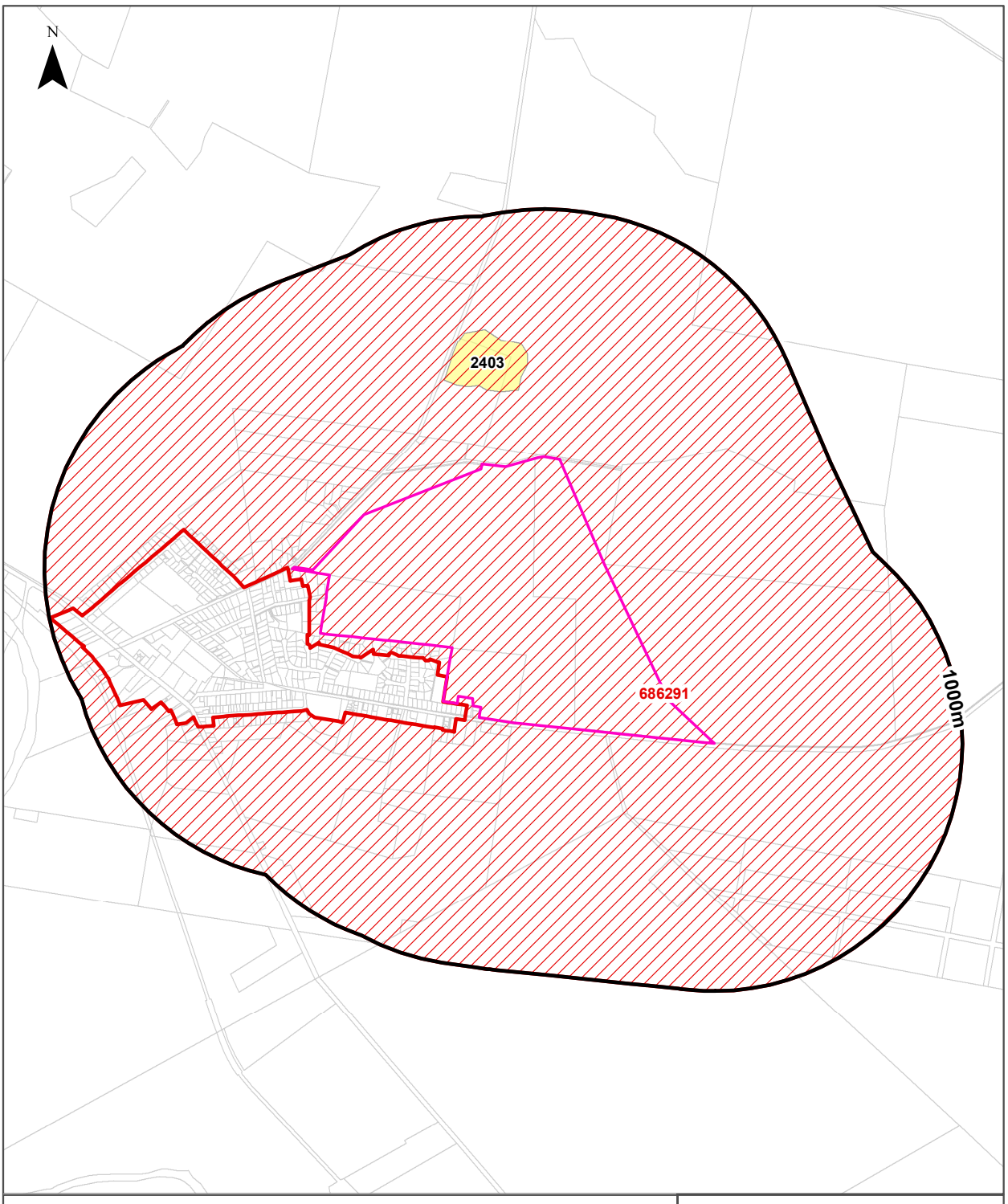
Interim Planning Scheme Landslide Overlays within the dataset buffer:

Overlay Name	Plan Scheme	Description	Class	Comments	Distance to Nearest Feature
N/A	No records within buffer				

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Natural Hazards - Bushfire

Logan Road, Evandale, TAS 7212



Natural Hazards

Logan Road, Evandale, TAS 7212

Interim Planning Scheme Overlays - Bushfire

Interim Planning Scheme Bushfire Overlays within the dataset buffer:

Map Id	Overlay Name	Plan Scheme	Description	Class	Comments	Distance	Direction
686291	Bushfire Prone Areas	Northern Midlands Interim Planning Scheme 2013			Bushfire-prone areas added to overlays - refer to https://iplan.tas.gov.au/Pages/XC.Track.Assessment/SearchAssessment.aspx?id=872	0m	On-site

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Bushfire History

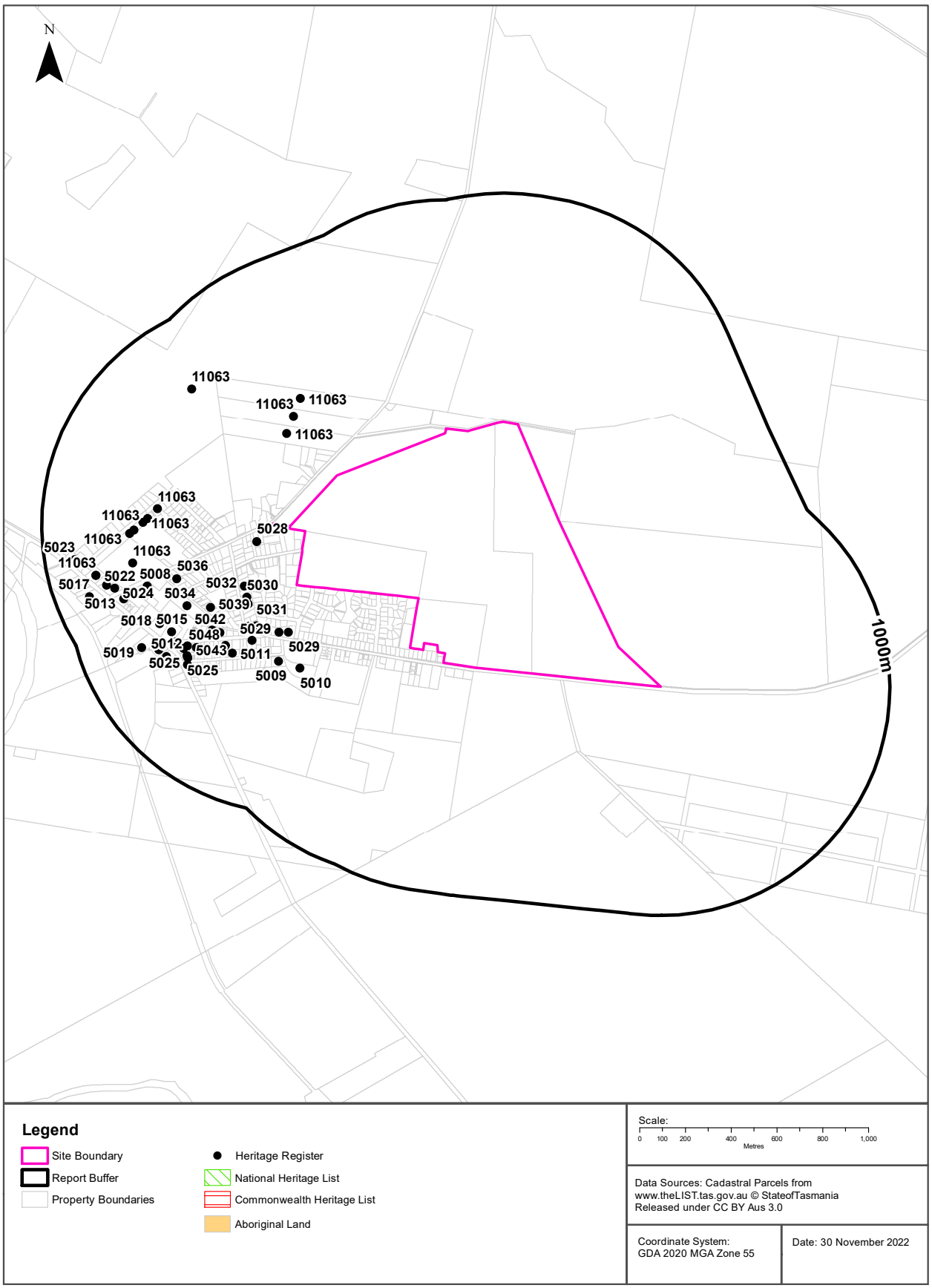
Bushfire history within the dataset buffer:

Map Id	Fire Name	Fire Type	Ignition Date	Severity	Incident Number	Distance	Direction
2403	WHITE HILLS ROAD	Bushfire	3/14/2014 12:00:00 AM		215535	284m	North

Fire History from www.theLIST.tas.gov.au©State of Tasmania
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Heritage

Logan Road, Evandale, TAS 7212



Heritage

Logan Road, Evandale, TAS 7212

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer:

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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National Heritage List

What are the National Heritage List Items located within the dataset buffer:

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch
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Tasmanian Heritage Register

Tasmanian Heritage Register sites within the dataset buffer:

Map Id	Name	Address	Status	CPR No	Title	Folio	Dist	Dir
5028	House	1 LEOPOLD ST EVANDALE TAS 7212	Permanently Registered		134630	2	94m	West
5029	Fallgrove	1 LOGAN RD EVANDALE TAS 7212	Permanently Registered		78827	4	209m	South West
5029	Fallgrove	1 LOGAN RD EVANDALE TAS 7212	Permanently Registered		78827	3	220m	West
5030	Cottage	21 MACQUARIE ST EVANDALE TAS 7212	Permanently Registered		92370	1	224m	West
5031	House	23 MACQUARIE ST EVANDALE TAS 7212	Permanently Registered		139560	1	227m	West
5032	Roman Catholic Church	15 MACQUARIE ST EVANDALE TAS 7212	Permanently Registered		65683	3	227m	West
5041	Anjou Villa	8 RODGERS LANE EVANDALE TAS 7212	Permanently Registered		137789	1	251m	West
5033	Cottage	6 RODGERS LANE EVANDALE TAS 7212	Permanently Registered		111388	2	275m	West
11063	Evandale to Launceston Water Scheme	WHITE HILLS RD EVANDALE TAS 7212	Permanently Registered		38076	1	285m	North West
5047	Former Methodist Chapel	28 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		43841	1	311m	West
11063	Evandale to Launceston Water Scheme	WHITE HILLS RD EVANDALE TAS 7212	Permanently Registered		36474	1	320m	North West
5009	House	33 COLLINS ST EVANDALE TAS 7212	Permanently Registered		157378	2	344m	South West
5010	Briars Lane	35 COLLINS ST EVANDALE TAS 7212	Permanently Registered		141411	1	361m	South West
11063	Evandale to Launceston Water Scheme	WHITE HILLS RD EVANDALE TAS 7212	Permanently Registered		227393	1	372m	North West
5039	Cottage	21 MURRAY ST EVANDALE TAS 7212	Permanently Registered		35167	1	389m	West
5045	Cottage	13-15 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		150003	1	394m	West
5046	Conjoined Cottages	18 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		43855	1	407m	West

Map Id	Name	Address	Status	CPR No	Title	Folio	Dist	Dir
5011	Cottage	14 COLLINS ST EVANDALE TAS 7212	Permanently Registered		28875	1	409m	South West
5044	Clarendon Arms Hotel	11 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		114143	1	417m	West
5044	Clarendon Arms Hotel	11 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		114143	2	427m	West
5036	Cottage	5 MURRAY ST EVANDALE TAS 7212	Permanently Registered		197784	1	472m	West
5034	Cemetery	6-8 MURRAY ST EVANDALE TAS 7212	Permanently Registered		48212	1	486m	West
5042	Shop	5 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		122508	1	492m	West
11063	Evandale to Launceston Water Scheme		Permanently Registered		139554	100	499m	West
5048	Royal Oak Hotel	6 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		237292	1	515m	West
11063	Evandale to Launceston Water Scheme	12 CAMBOCK LANE W EVANDALE TAS 7212	Permanently Registered		47879	11	537m	West
5043	Council Chambers	4 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		92371	1	546m	West
11063	Evandale to Launceston Water Scheme	10 CAMBOCK LANE W EVANDALE TAS 7212	Permanently Registered		47879	12	557m	West
5027	Shops	2 RUSSELL ST EVANDALE TAS 7212	Permanently Registered		222996	1	567m	West
5025	Prince of Wales Hotel	2 NILE RD EVANDALE TAS 7212	Permanently Registered		41271	2	569m	West
5025	Prince of Wales Hotel	2 NILE RD EVANDALE TAS 7212	Permanently Registered		41271	1	571m	West
5015	Former Anglican Rectory	4 HIGH ST EVANDALE TAS 7212	Permanently Registered		123412	1	582m	West
5026	Post Office	2 HIGH ST EVANDALE TAS 7212	Permanently Registered		201996	1	584m	West
8208	Cottage	4 NILE RD EVANDALE TAS 7212	Permanently Registered		110036	1	590m	West
11063	Evandale to Launceston Water Scheme	6 CAMBOCK LANE W EVANDALE TAS 7212	Permanently Registered		47879	14	596m	West
5008	Police Residence	8 BARCLAY ST EVANDALE TAS 7212	Permanently Registered		6228	1	600m	West
11063	Evandale to Launceston Water Scheme	4 CAMBOCK LANE W EVANDALE TAS 7212	Permanently Registered		47879	15	617m	West
5018	St Andrew's Anglican Church	6 HIGH ST EVANDALE TAS 7212	Permanently Registered		123412	2	622m	West
11063	Evandale to Launceston Water Scheme	1-3 BARCLAY ST EVANDALE TAS 7212	Permanently Registered		155644	1	624m	West
5012	Solomon House	1 HIGH ST EVANDALE TAS 7212	Permanently Registered		59808	1	649m	West
5014	Euroka	5 HIGH ST EVANDALE TAS 7212	Permanently Registered		227755	1	665m	West
11063	Evandale to Launceston Water Scheme	WHITE HILLS RD EVANDALE TAS 7212	Permanently Registered		107326	1	685m	North West
5013	Patriot King William IV Inn	16 HIGH ST EVANDALE TAS 7212	Permanently Registered		149380	1	718m	West
5019	St Andrew's Presbyterian Church and Cemetery	9 HIGH ST EVANDALE TAS 7212	Permanently Registered		161393	1	728m	West
5024	Former State School	18 HIGH ST EVANDALE TAS 7212	Permanently Registered		202589	1	735m	West
5016	The Laurels	15 High ST Evandale TAS 7212	Permanently Registered	CPR10903	32492	1	736m	West
5020	Former School House	20 HIGH ST EVANDALE TAS 7212	Permanently Registered		226956	1	763m	West
5022	Ventnor	24 HIGH ST EVANDALE TAS 7212	Permanently Registered		22382	1	794m	West
11063	Evandale to Launceston Water Scheme	24 HIGH ST EVANDALE TAS 7212	Permanently Registered		22382	1	794m	West
5017	Manse	27 HIGH ST EVANDALE TAS 7212	Permanently Registered		125035	1	850m	West
5023	Water Tower	28-30 High ST Evandale TAS 7212	Permanently Registered		236838	1	868m	West

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Aboriginal Land

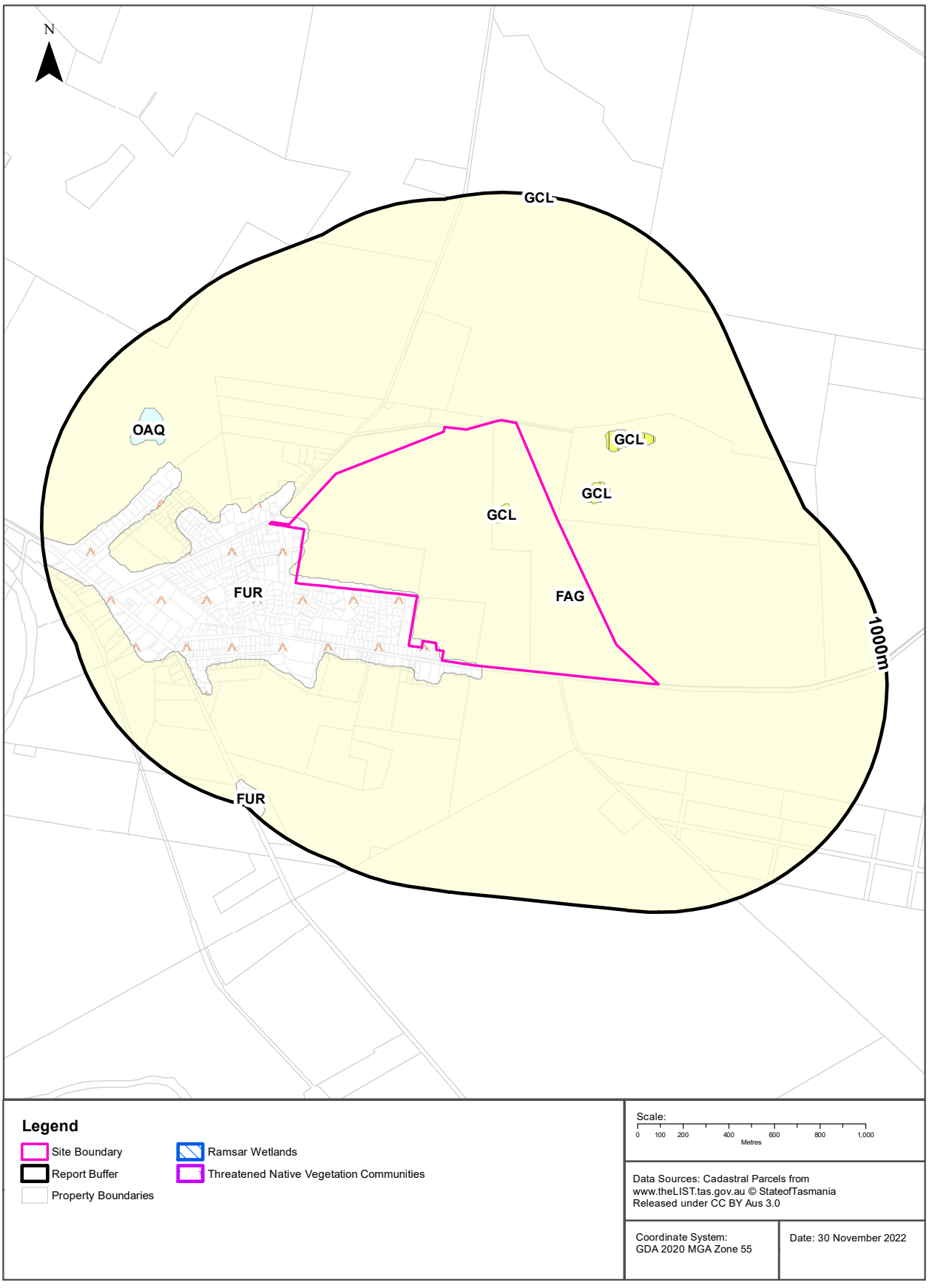
Aboriginal land from the LIST Authority Land dataset within the dataset buffer:

Map Id	Instrument Type	Instrument No	Gazettal Date	Volume	Folio	Distance	Direction
N/A	No records in buffer						

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Ecological Constraints

Logan Road, Evandale, TAS 7212



Ecological Constraints

Logan Road, Evandale, TAS 7212

TASVEG

TASVEG vegetation units within the dataset buffer:

Vegetation Code	Vegetation Group	Description	Distance to Nearest Feature
FAG	Modified land	Agricultural land	On-site
FUR	Modified land	Urban areas	On-site
GCL	Native grassland	Lowland grassland complex	On-site
OAQ	Other natural environments	Water, sea	583m

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Threatened Native Vegetation Communities

Threatened native vegetation communties within the dataset buffer:

Schedule Id	Schedule Name	Distance to Nearest Feature
N/A	No records within buffer	

Threatened Native Vegetation Communities 2014 from www.theLIST.tas.gov.au©State of Tasmania
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Ramsar Wetlands

Ramsar Wetlands within the dataset buffer:

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints

Logan Road, Evandale, TAS 7212

Groundwater Dependent Ecosystems Atlas

GDEs within the dataset buffer:

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance to Nearest Feature
N/A	No records within buffer				

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints

Logan Road, Evandale, TAS 7212

Inflow Dependent Ecosystems Likelihood

IDEs within the dataset buffer:

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance to Nearest Feature
N/A	No records within buffer				

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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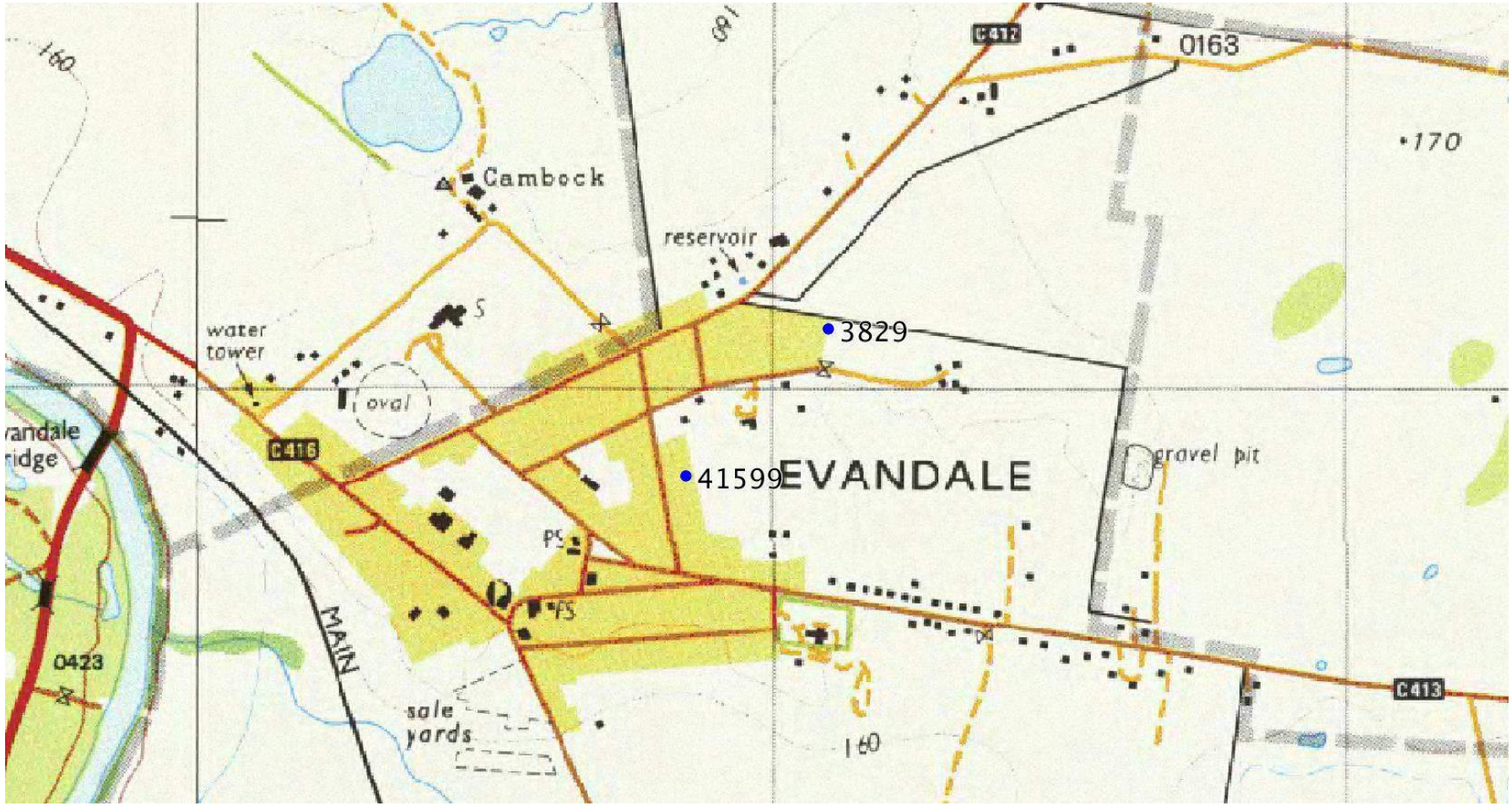
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Groundwater Information Access Portal Search Report

Appendix C

pitt&sherry

Evandale Expansion Masterplan - GIAP Search ***Groundwater Feature Detailed Report***



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Evandale Expansion Masterplan - GIAP Search ***Groundwater Feature Detailed Report***

Identification

Feature id: 3829 **Feature type:** Bore

Location

Locality: Evandale
Easting: 521213 **Datum:** GDA94
Northing: 5398283 **Accuracy:** 200
Ground level (m ASL):

Construction

Date drilled: 23/10/1969
Drilling company: Mono Pumps Australia Pty Ltd
Depth (metres): 33.50
Initial yield (L/sec): 0.88
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	33.5	114.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	16.8		127.00	unknown

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

Geological / Hydrogeological Information

Lithological Log

From (m)	To (m)	Lithological description
0.0	19.8	clay
19.8	24.4	coal
24.4	25.0	mudstone
25.0	25.9	soft mudstone
25.9	26.2	quartz
26.2	33.5	mudstone

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
23/10/1969	17.1		

Main aquifer geology: Tertiary Sediments
Final TDS (mg/L):

Standing Water Levels

Standing water levels

Date	SWL (metres)
23/10/1969	9.10

Current status

Last recorded statuses

Type	Value	Date recorded
function	Unknown	23/10/1969

Evandale Expansion Masterplan - GIAP Search ***Groundwater Feature Detailed Report***

Identification

Feature id: 41599 **Feature type:** Bore

Location

Locality: Evandale
Easting: 520965 **Datum:** GDA94
Northing: 5398028 **Accuracy:** 2
Ground level (m ASL):

Construction

Date drilled: 29/01/2016
Drilling company: Tasmanian Drilling Services Pty Ltd
Depth (metres): 26.00
Initial yield (L/sec): 0.38
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	13.0	150.00	Auger
13.0	26.0	150.00	Downhole Hammer (Rotary Hammer)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	4.0	175.00	180.00	unplasticised polyvinylchloride uPVC
0.0	20.0	100.00	110.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
20.0	26.0	slotted casing

Seals

From (m)	To (m)	Material type
0.0	0.2	cement
0.2	18.5	spoil-cuttings
18.5	19.8	rubber

Geological / Hydrogeological Information

Lithological Log

From (m)	To (m)	Lithological description
0.0	13.0	clay
13.0	21.0	sandy clay with gravels
21.0	23.0	fractured basalt
23.0	26.0	fresh basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
29/01/2016	20.0	21.0	0.38

Main aquifer geology:
Final TDS (mg/L):

Standing Water Levels

Standing water levels

Date	SWL (metres)
29/01/2016	14.00

Current status

Last recorded statuses

Type	Value	Date recorded
function	capped	29/01/2016

Certificate of Title Information

Appendix D

pitt&sherry

PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government

PROPERTY ID: 1898289

MUNICIPALITY: NORTHERN MIDLANDS

PROPERTY ADDRESS: 211 LOGAN ROAD
EVANDALE TAS 7212

PROPERTY NAME:

TITLE OWNER: 106773/1 : TIP 119 PTY LTD, TIP 120 PTY LTD

INTERESTED PARTIES: TIP 119 PTY LTD, TIP 120 PTY LTD

POSTAL ADDRESS: (Interested Parties) 113 LANDSBOROUGH AV
SCARBOROUGH QLD 4020

MAIN IMPROVEMENTS SUMMARY

Improvements: DWELLING & FARM IMPS

Improvement Sizes (Top 3 by Size):

Improvement:	Area:
DWELLING	383.0 square metres
SHED	192.0 square metres
SHED	144.0 square metres

Number of Bedrooms: 6

Construction Year of Main Building: 2006

Roof Material: Colorbond

Wall Material: Masonry Brick Veneer

Land Area: 100.1 hectares

LAST SALES

Contract Date	Settlement Date	Sale Price
22/12/2017	22/06/2018	$2,000,000
19/12/2015	09/03/2016	$1,350,000

LAST VALUATIONS

Date Inspected	Levels At	Land	Capital	A.A.V.	Reason
24/02/2019	01/07/2018	$1,200,000	$1,850,000	$74,000	FRESH VALUATION
28/11/2012	01/07/2012	$410,000	$975,000	$39,000	REVALUATION

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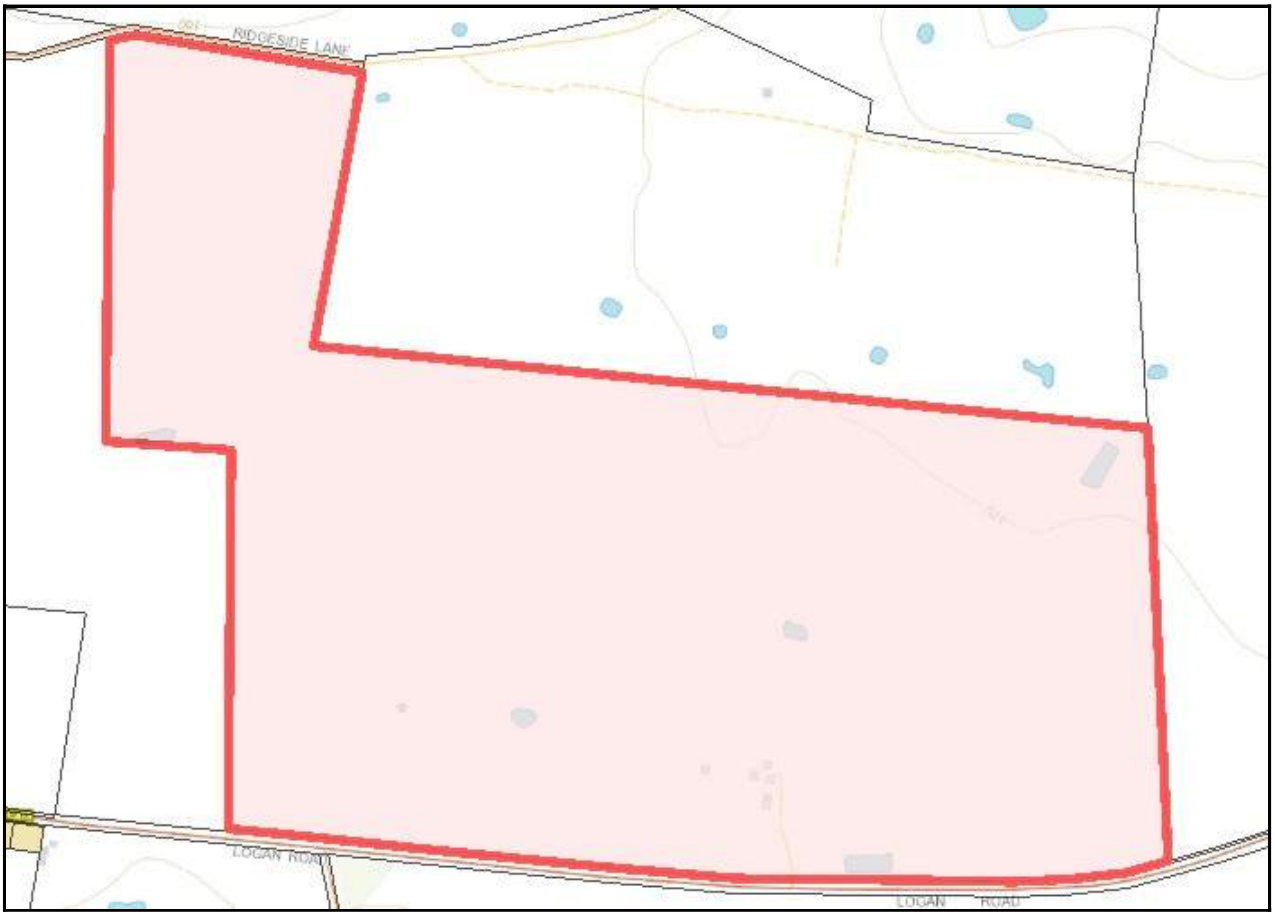
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PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government



Explanation of Terms

Property ID - A unique number used for Valuation purposes.

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Capital Value - Capital Value is the total value of the property (including the land value), excluding plant and machinery.

AAV - Assessed Annual Value. AAV is the gross annual rental value of the property excluding GST, municipal rates, land tax and fixed water and sewerage, but cannot be less than 4% of the capital value.

Interested Parties - This is a list of persons who have been recorded by the Valuer-General as having interest in the property (ie owner or Government agency).

Postal Address - This is the last advised postal address for the interested parties.

Multiple Tenancies - Properties that have multiple tenants are assessed for separate AAV's. e.g. a house and flat.

FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

OWNER Lots 1,2,4 & 5 R.A.W. Enterprises Pty Ltd. Lot 3 Alfred Ernest Wilkes & Betty Blanche Wilkes.
FOLIO REFERENCE
Lots 1,2,4 & 5 CT Vol 101155 Fol 1
Lot 3 CT Vol 4102 Fol 99
GRANTEE Part of 659 acres granted to Patricius. W. Welsh, Neil Campbell & Neil McLean. Part of 500 acres granted to James Aitkin, Thomas Williams & John Sinclair.

PLAN OF SURVEY

BY SURVEYOR R.V.Tait of Cohen & Associates Pty Ltd.

LOCATION

LAND DISTRICT OF CORNWALL
PARISH OF EVANDALE

SCALE 1: ~~7000~~ 7500 LENGTHS IN METRES

REGISTERED NUMBER

SP106773

APPROVED 27 OCT 1993

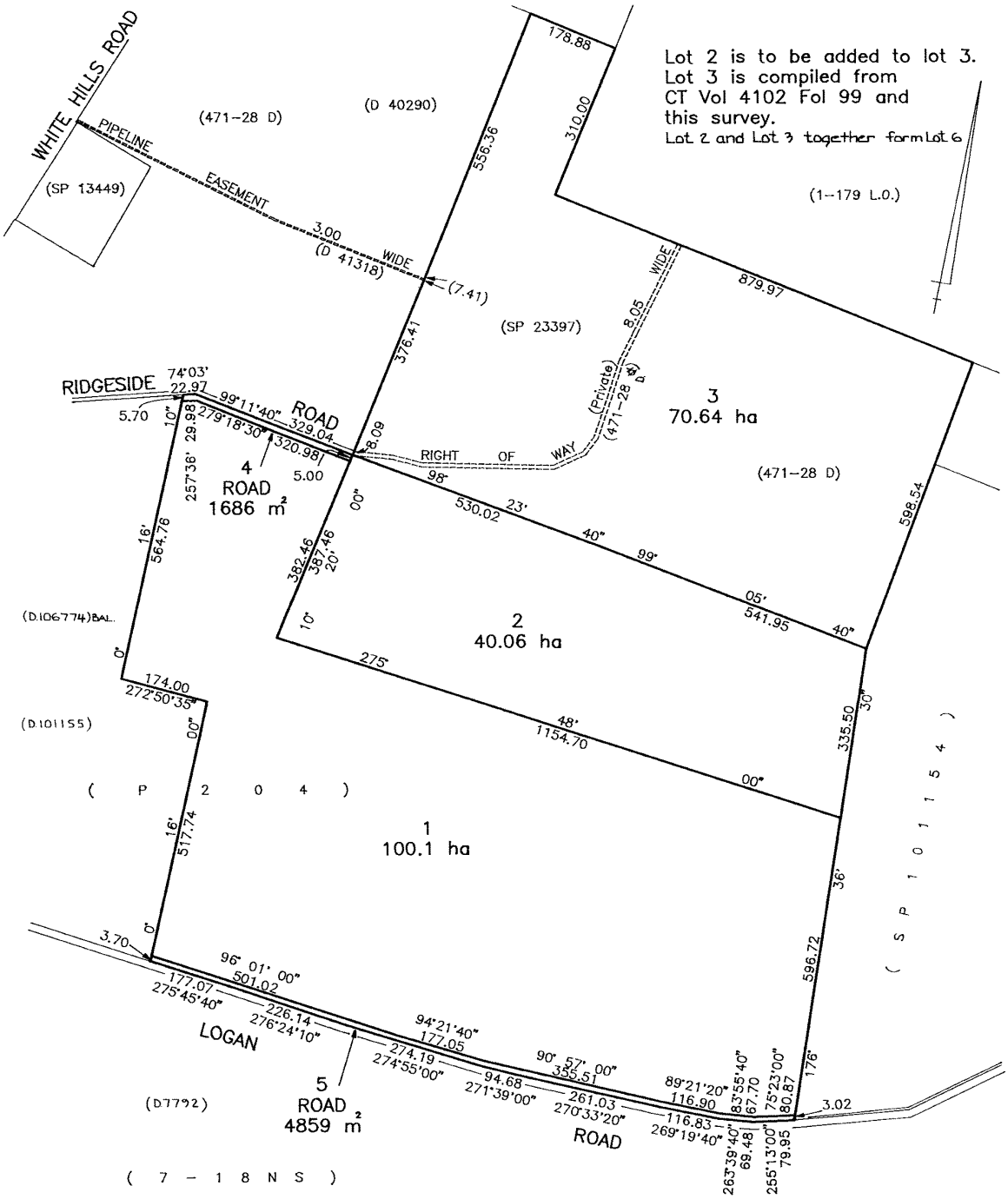
Recorder of Titles

TASMAP MUNIC. CODE SHEET No. 5239 N/S 47

LAST UPI No. ~~0162 &~~ 0560 & 0561 ~~0165~~

LAST SURVEY PLAN (D.101155) No. (471–28 D) & (P 204)

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
106773	1
EDITION	DATE OF ISSUE
11	04-Jul-2018

SEARCH DATE : 09-Dec-2022
SEARCH TIME : 10.38 AM

DESCRIPTION OF LAND

Parish of EVANDALE, Land District of CORNWALL
Lot 1 on Sealed Plan 106773
Derivation : Part of 659 Acres Gtd to P W Welsh & others, part of 55a 2r 33ps & 534 Acres Gtd to K Murray, part of54 Acres Gtd to J W Bell, and part of 76a 3r 0ps Gtd to J R Kenworthy
Prior CT 101155/1

SCHEDULE 1

M698024 TRANSFER to TIP 119 PTY LTD and TIP 120 PTY LTD
Registered 04-Jul-2018 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP 106773 FENCING COVENANT in Schedule of Easements
E127975 MORTGAGE to National Australia Bank Limited
Registered 04-Jul-2018 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government

PROPERTY ID: 1662145
MUNICIPALITY: NORTHERN MIDLANDS

PROPERTY ADDRESS: LOGAN ROAD
EVANDALE TAS 7212
PROPERTY NAME:
TITLE OWNER: 116759/1 : CRAIG JOHN MITCHELL, PATRICIA JEAN MITCHELL
INTERESTED PARTIES: CRAIG JOHN MITCHELL, PATRICIA JEAN MITCHELL
POSTAL ADDRESS: (Interested Parties) 394 GLENWOOD RD
RELBIA TAS 7258

MAIN IMPROVEMENTS SUMMARY

Improvements: FARM IMPS

Improvement Sizes (Top 3 by Size):	Improvement:	Area:
	SHED	42.0 square metres
	SHED	
	STOCKYARDS	

Number of Bedrooms:
Construction Year of Main Building:
Roof Material:
Wall Material:
Land Area: 50.42 hectares

LAST SALES

Contract Date	Settlement Date	Sale Price
24/08/1995	18/09/1995	$125,000

LAST VALUATIONS

Date Inspected	Levels At	Land	Capital	A.A.V.	Reason
05/03/2019	01/07/2018	$600,000	$660,000	$26,400	FRESH VALUATION
16/06/2016	01/07/2012	$420,000	$480,000	$19,200	RNJ - P15 007 FARM SHED

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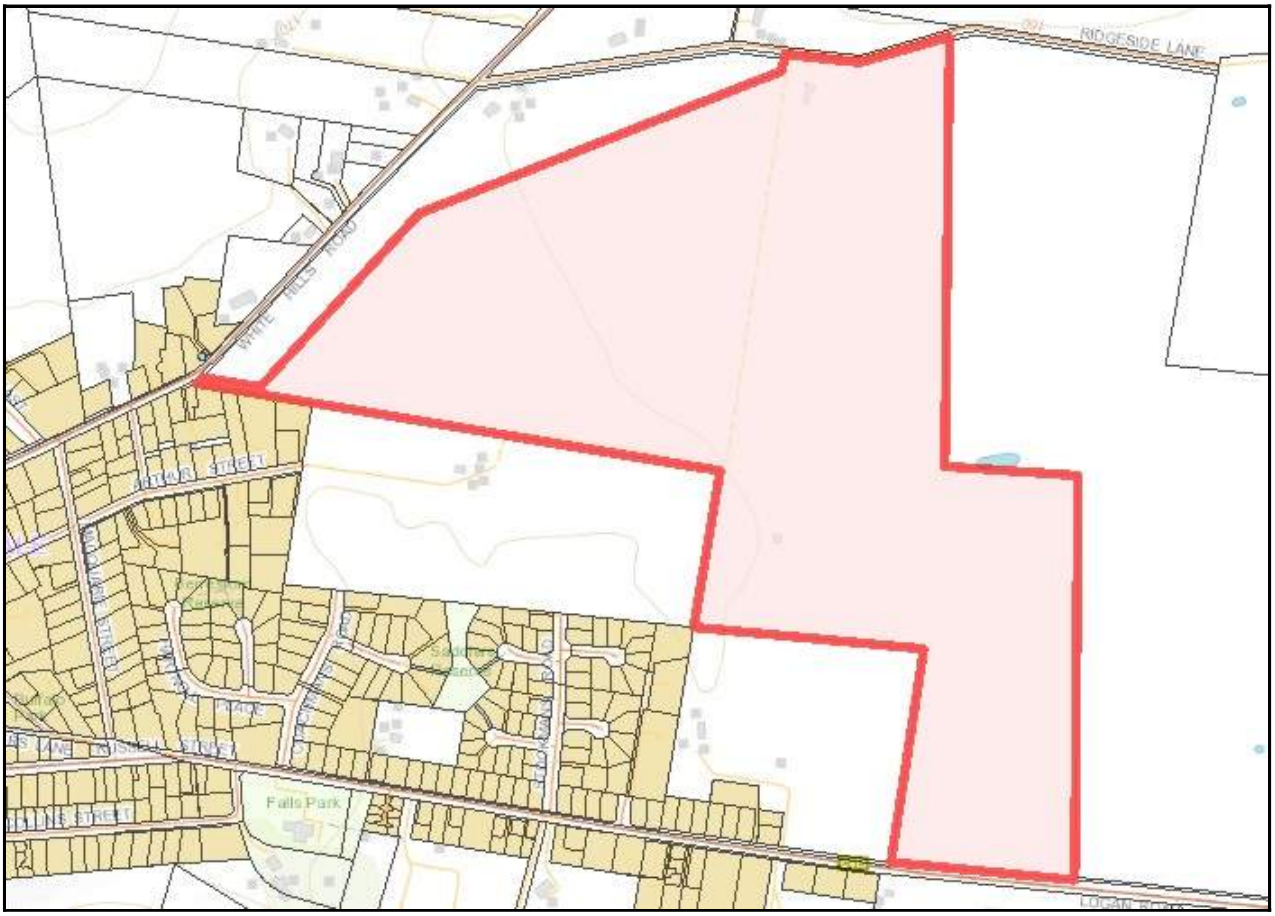
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PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government



Explanation of Terms

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AAV - Assessed Annual Value. AAV is the gross annual rental value of the property excluding GST, municipal rates, land tax and fixed water and sewerage, but cannot be less than 4% of the capital value.

Interested Parties - This is a list of persons who have been recorded by the Valuer-General as having interest in the property (ie owner or Government agency).

Postal Address - This is the last advised postal address for the interested parties.

Multiple Tenancies - Properties that have multiple tenants are assessed for separate AAV's. e.g. a house and flat.

FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

OWNER
R.A.W ENTERPRISES PTY LTD

FOLIO REFERENCE
C.T.VOL 106774 FOL 1

GRANTEE PART OF 55a 2r 33p & 334 acres GRANTED TO KENNEDY MURRAY. PART OF 54 acres GRANTED TO J.W. BELL. PART OF 659 acres GRANTED TO PATRICIUS W. WELSH, NEIL CAMPBELL & NEIL McLEAN & PART OF 76a 3r 0p GRANTED TO J. R. KENWORTHY.

PLAN OF TITLE

LOCATION TOWN OF EVANDALE
LAND DISTRICT OF CORNWALL
PARISH OF EVANDALE

FIRST SURVEY PLAN No. P.204

COMPILED BY COHEN & ASSOCIATES PTY LTD

SCALE 1: 20 000 LENGTHS IN METRES

REGISTERED NUMBER
P116759

APPROVED 30 MAY 1995
Recorder of Titles

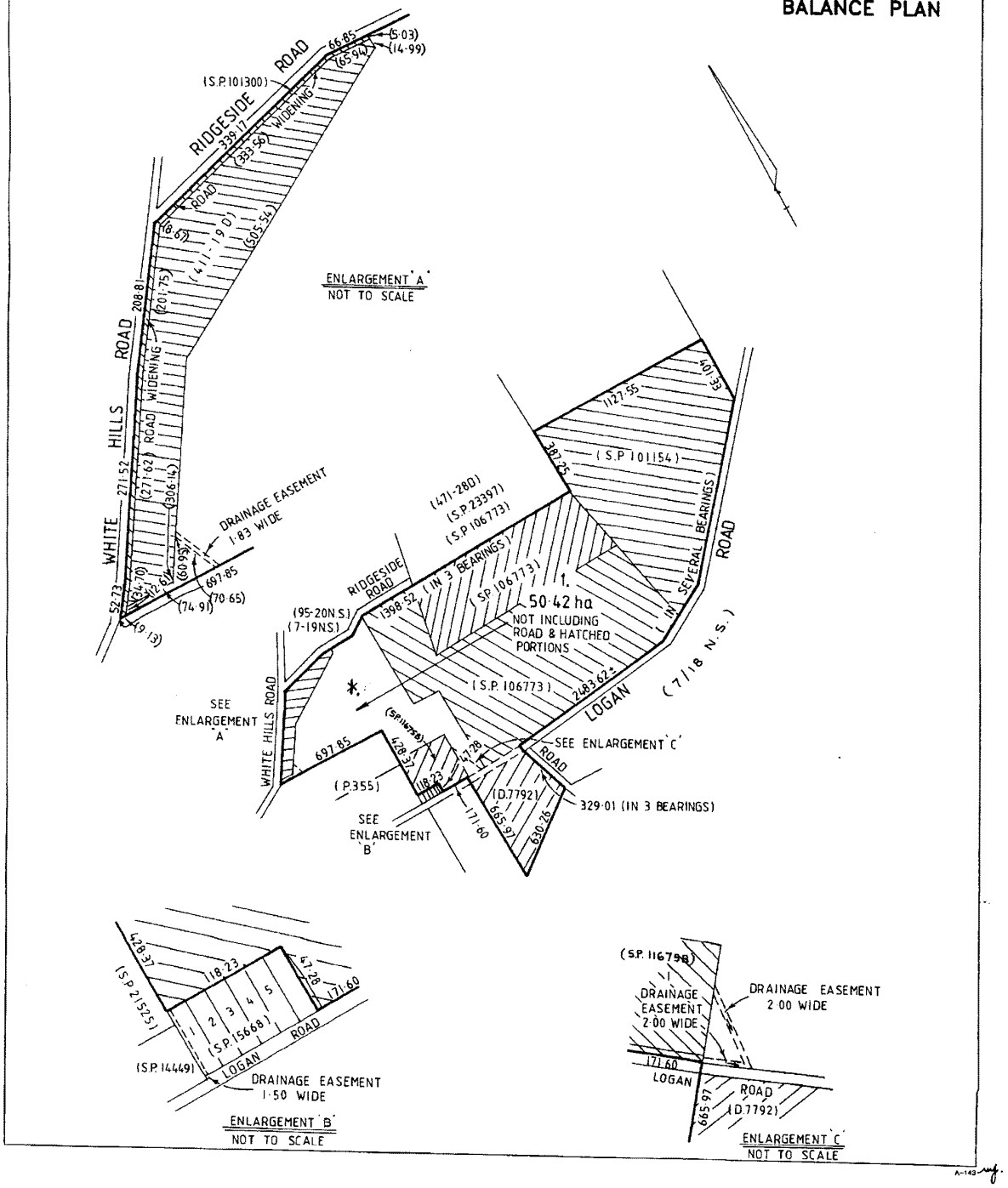
MAPSHEET MUNICIPAL CODE No. ~~56~~ 47

LAST UPI No 0165

LAST PLAN No. 0 106774

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

BALANCE PLAN



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
116759	1
EDITION	DATE OF ISSUE
2	26-Sep-1995

SEARCH DATE : 09-Dec-2022
SEARCH TIME : 10.37 AM

DESCRIPTION OF LAND

Town of EVANDALE
Lot 1 on Plan 116759
Derivation : Part of 659 Acres Gtd to P W Welsh & others, part of 55a 2r 33ps & 534 Acres Gtd to K Murray, part of 54 Acres Gtd to J W Bell, and part of 76a 3r 0ps Gtd to J R Kenworthy
Prior CT 106774/1

SCHEDULE 1

B825558 TRANSFER to CRAIG JOHN MITCHELL and PATRICIA JEAN MITCHELL Registered 26-Sep-1995 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BURDENING EASEMENT: Right of Drainage [appurtenant to the land comprised in Certificate of Title Volume 1023 Folio 55) over the drainage easement 1.83 wide on Diagram No.116759.
BENEFITING EASEMENT: Right of Drainage over the drainage easement 1.50 wide on Diagram No.116759.
SP116758 BURDENING EASEMENT: Right of Drainage [appurtenant to Lots 1 and 2 on Sealed Plan No.116758] over the Drainage Easements 2.00 wide shown on Plan No.116759.
M913110 CAVEAT by TIP 119 PTY LTD and TIP 120 PTY LTD Registered 05-Aug-2021 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government

PROPERTY ID: 7286347
MUNICIPALITY: NORTHERN MIDLANDS

PROPERTY ADDRESS: 38 ARTHUR STREET
EVANDALE TAS 7212
PROPERTY NAME:
TITLE OWNER: 227117/1 : ZURCHER PTY. LTD.
INTERESTED PARTIES: ZURCHER PTY LTD
POSTAL ADDRESS: (Interested Parties) C/- PO BOX 3204
MANUKA ACT 2603

MAIN IMPROVEMENTS SUMMARY

Improvements: DWELLING & FARM IMPTS

Improvement Sizes (Top 3 by Size):	Improvement:	Area:
	DWELLING	110.0 square metres
	WATER	
	FENCING & PAVING	

Number of Bedrooms: 3
Construction Year of Main Building: 1900
Roof Material: Galvanised Iron
Wall Material: Weatherboard
Land Area: 11.888 hectares

LAST SALES

Contract Date	Settlement Date	Sale Price
14/08/1997	12/09/1997	$175,000

LAST VALUATIONS

Date Inspected	Levels At	Land	Capital	A.A.V.	Reason
26/03/2019	01/07/2018	$500,000	$660,000	$26,400	FRESH VALUATION
07/08/2012	01/07/2012	$450,000	$550,000	$22,000	REVALUATION

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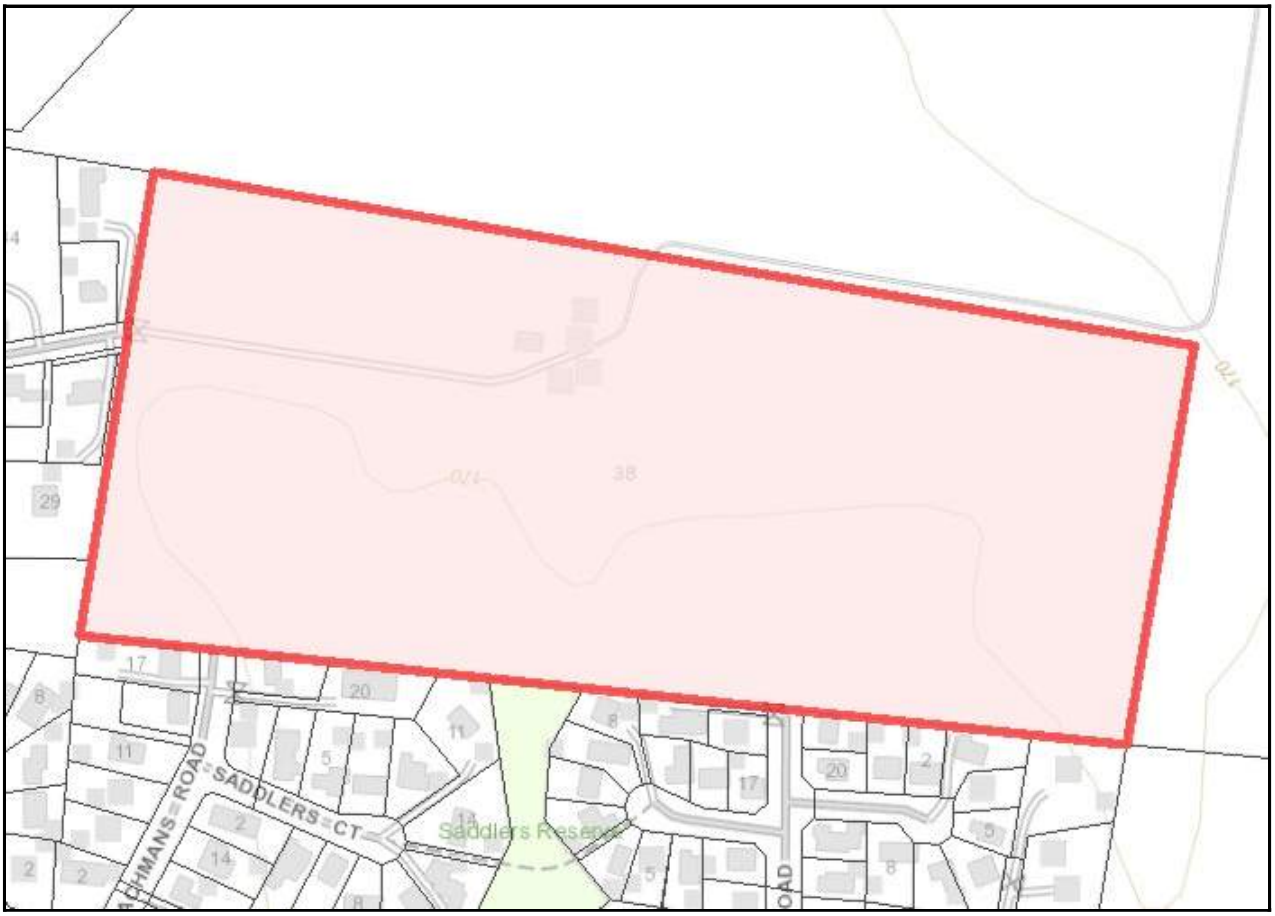
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PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA

Issued pursuant to the Valuation of Land Act 2001

Tasmanian Government



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FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

ORIGINAL – NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1469
TASMANIA
REAL PROPERTY ACT, 1862, as amended
NOTE—REGISTERED FOR OFFICE CONVENIENCE TO REPLACE

CERTIFICATE OF TITLE

Register Book
Vol. 2938 Fol. 51

Cert. of Title Vol. 327 Fol. 41.

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

Recorder of Titles.

DESCRIPTION OF LAND

PARISH OF EVANDALE LAND DISTRICT OF CORNWALL
TWENTY NINE ACRES ONE ROOD TWENTY PERCHES on the Plan hereon

FIRST SCHEDULE (continued overleaf)

DONALD MARK REDBURN of Evandale, Shepherd

SECOND SCHEDULE (continued overleaf)

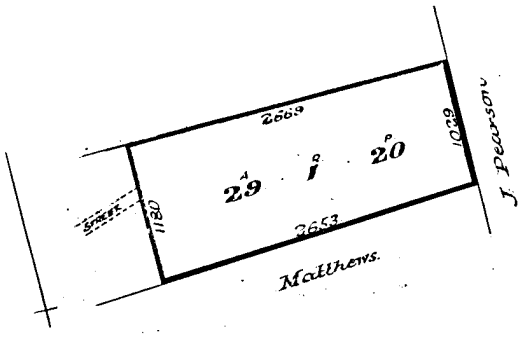
NIL.

CANCELLED
15 FEB 1995
RECORDER OF TITLES
NEW TITLE ISSUED

NOTE.—ENTRIES CANCELLED UNDER SIGNATURE OF THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.

REGISTERED NUMBER 227117

Lot 1 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register



Part of 55A-2R-33Ps. - Gtd. to K. Murray - Meas. in Links. 1/28A Cor.

FIRST Edition. Registered - 8 FEB 1971

Derived from C.T. Vol.327.Fol.41. Transfer A14781 E.M.A. Thompson.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
227117	1
EDITION	DATE OF ISSUE
2	23-Sep-1997

SEARCH DATE : 09-Dec-2022
SEARCH TIME : 10.37 AM

DESCRIPTION OF LAND

Parish of EVANDALE, Land District of CORNWALL
Lot 1 on Plan 227117
Derivation : Part of 55A-2R-33Ps Gtd to K Murray
Prior CT 2938/51

SCHEDULE 1

B866505 TRANSFER to ZURCHER PTY. LTD. Registered 23-Sep-1997 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Correspondence with Authorities

Appendix E

pitt&sherry

Eduardo Pereira Maes

From: Case, Lorraine <Lorraine.Case@justice.tas.gov.au>
Sent: Monday, 28 November 2022 9:49 AM
To: Eduardo Pereira Maes
Subject: RE: P.22.1701 DG Records enquire

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Eduardo

No, we have no dangerous substances site files for these properties. Only an old one for No 3 Arthur St, Evandale – the Council Works Depot.

Kind regards



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From: Eduardo Pereira Maes <EPereiraMaes@pittsh.com.au>
Sent: Monday, 28 November 2022 8:16 AM
To: Case, Lorraine <Lorraine.Case@justice.tas.gov.au>
Subject: P.22.1701 DG Records enquire

Hi Lorraine,

We are completing a site history review for a group of properties in Evandale (listed below and in attached snip). Can you please check if there are any records with WST for these properties?

- Logan Rd. – CT 116759/1
- 67 Logan Rd. – CT 145468/1
- 211 Logan Rd. – CT 1066773/1
- 38 Arthur St. – CT 227117/1

Thanks in advance,

pitt&sherry

Eduardo Pereira Maes
Senior Environmental Consultant
BEng (Enviro) | PostGradDip WHS Engineering
Phone +61 3 6240 6608 | Mobile +61 414 023 658 | epereiramaes@pittsh.com.au

Hobart Office — Level 1, Surrey House, 199 Macquarie Street
PO Box 94 Hobart Tasmania 7001 | Phone +61 3 6210 1400
pittsh.com.au

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Eduardo Pereira Maes

From: Eduardo Pereira Maes
Sent: Tuesday, 13 December 2022 10:08 AM
To: council@nmc.tas.gov.au
Subject: RE: P.22.1701 Contaminated land records

Hi NMC team,
Just following up on my request for information below.
Please let me know if there's any records available.
Regards,

pitt&sherry

Eduardo Pereira Maes
Senior Environmental Consultant
BEng (Enviro) | PostGradDip WHS Engineering
Phone +61 3 6240 6608 | Mobile +61 414 023 658 | epereiramaes@pittsh.com.au

Hobart Office — Level 1, Surrey House, 199 Macquarie Street
PO Box 94 Hobart Tasmania 7001 | Phone +61 3 6210 1400
pittsh.com.au

From: Eduardo Pereira Maes
Sent: Monday, 28 November 2022 8:34 AM
To: council@nmc.tas.gov.au
Subject: P.22.1701 Contaminated land records

Hi Northern Midlands Council team,

We are completing a site history review as part of a contaminated land assessment for a group of properties in Evandale (listed below and in attached snip), and part of our scope is to assess any existing records related to land contamination with the relevant authorities (i.e. Council, EPA, WST).

Can you please forward this enquire to the planning and environment officers so they can advise on the existence of any public records for these properties? Relevant records include: records of potentially contaminating activities on or adjacent to the properties (current or historical), records of incidents and complaints, dangerous goods records etc.

The properties are:

- Logan Rd. – CT 116759/1
- 67 Logan Rd. – CT 145468/1
- 211 Logan Rd. – CT 1066773/1
- 38 Arthur St. – CT 227117/1

I'm happy to lodge a formal request for information, if required to access any existing records. Please just forward the procedure for this request and likely fees that may be applicable to the request.

Thanks in advance,

pitt&sherry

Eduardo Pereira Maes

Senior Environmental Consultant
BEng (Enviro) | PostGradDip WHS Engineering
Phone +61 3 6240 6608 | Mobile +61 414 023 658 | epereiramaes@pittsh.com.au

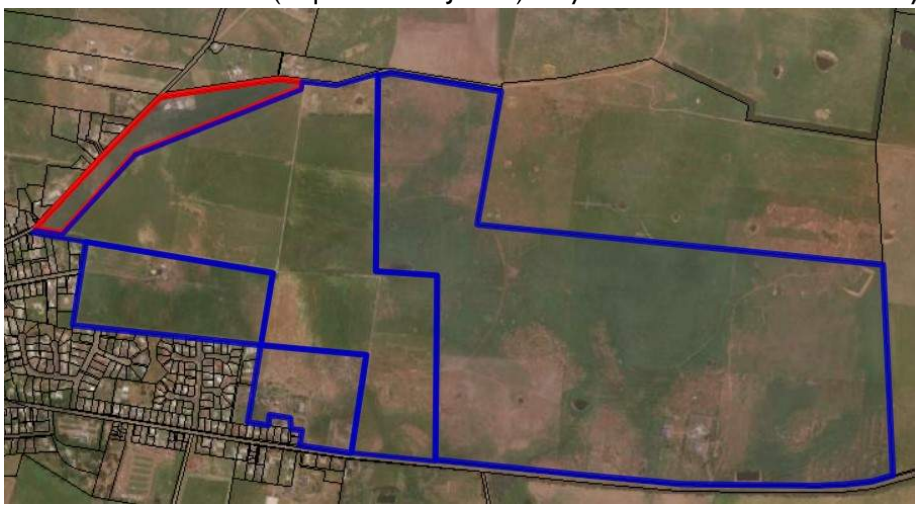
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Eduardo Pereira Maes

From: Contaminated Sites <ContaminatedSites@epa.tas.gov.au>
Sent: Monday, 30 January 2023 5:02 PM
To: Eduardo Pereira Maes
Subject: Properties in Logan Road , Evandale P.22.1701.001 Contaminated land records

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Eduardo
No additional EPA records relating to 4 Ridgeside Lane, Evandale were found
As previously advised the EPA does not hold records on all sites that are or may be contaminated. Local councils and WorkSafe Tasmania (Department of Justice) may also have records relevant to your enquiry.



Please contact us if you have further enquiries

Kind regards
Deborah
Contaminated Sites Unit
Contaminated Land & Regulatory Systems
Environment Protection Authority
GPO BOX 1550, HOBART, TAS, 7001
T: (03) 6165 4599
E: contaminatedsites@epa.tas.gov.au
W: www.epa.tas.gov.au

From: Eduardo Pereira Maes <EPereiraMaes@pittsh.com.au>
Sent: Wednesday, 18 January 2023 1:22 PM
To: Contaminated Sites <ContaminatedSites@epa.tas.gov.au>
Subject: RE: Properties in Logan Road , Evandale P.22.1701.001 Contaminated land records

Hi Contam Land team,
The client informed they are now considering the inclusion of the property 4 Ridgeside Lane (Property ID 6395373 and CT 81897/1) into the project.

Can you please inform whether there are any records for this property as well?
Regards,

pitt&sherry

Eduardo Pereira Maes
Senior Environmental Consultant
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From: Contaminated Sites <ContaminatedSites@epa.tas.gov.au>
Sent: Tuesday, 13 December 2022 1:12 PM
To: Eduardo Pereira Maes <EPereiraMaes@pittsh.com.au>
Subject: Properties in Logan Road , Evandale P.22.1701.001 Contaminated land records

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Good afternoon, Eduardo

I refer to your enquiry concerning Evandale properties

- Logan Road. CT 116759/1
- 211 Logan Road. CT 1066773/1
- 38 Arthur Street CT 227117/1
- 67 Logan Road. CT 145468/1

No records regarding contamination or potentially contaminating activities were found however, the EPA does not hold records on all sites that are or may be contaminated.

- WorkSafe Tasmania (1300 366 322 or wstinfo@justice.tas.gov.au) may have issued dangerous goods licences and/or may hold relevant records for the Sites. As the storage of dangerous goods/fuels is an environmentally relevant activity, you may wish to contact them for further information.
- Municipal councils can issue Environment Protection Notices, Environmental Infringement Notices, and record complaints, you may wish to contact them for additional information that may be relevant to the site. Further, if the Site has historically been subject to a permit under the *Land Use Planning and Approvals Act 1993*, the Council would have issued the permit.

Three of the Sites are zoned Agricultural in the Northern Midlands Council Planning Scheme. Some activities associated with this land use have the potential to cause land and groundwater contamination; please refer to our website for further explanation: Potentially Contaminating Activities, Industries and Land Uses | EPA Tasmania

Lastly your company requested information on Logan Road and 211 Logan Road in April 2019 . your reference was LN18224 CO4

Should you have further enquiries please contact Us
Kind regards
Deborah
Contaminated Sites Unit
Contaminated Land & Regulatory Systems
Environment Protection Authority
GPO BOX 1550, HOBART, TAS, 7001
T: (03) 6165 4599
E: contaminatedsites@epa.tas.gov.au
W: **www.epa.tas.gov.au**

From: Eduardo Pereira Maes <EPereiraMaes@pittsh.com.au>
Sent: Tuesday, 29 November 2022 2:39 PM
To: Contaminated Sites <ContaminatedSites@epa.tas.gov.au>
Subject: P.22.1701.001 Contaminated land records

Hi Contaminated Sites team,

We are doing a site history review as part of a contaminated land assessment for a group of properties in Evandale (listed below and in attached snip), and thus are checking for any registers with the relevant authorities.

The properties are:

- Logan Rd. – CT 116759/1
- 67 Logan Rd. – CT 145468/1
- 211 Logan Rd. – CT 1066773/1
- 38 Arthur St. – CT 227117/1

A review of the databases on theLIST showed no EPA records for this property (i.e. UPSS and regulated premisses). Can you confirm if there are any records for this property that would justify us lodging a formal request for information with the EPA?

Regards,

pitt&sherry

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Site Inspection Checklist and Photograph Register

Appendix F

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Preliminary Site Investigation

Site Inspection Checklist

General site notes:	Site:	Marinus Link
Site comprises the Properties - 211 Logan Rd - Logan Rd - 34 Arthur St. - 4 Ridgeside Lane	Job #:	P.22.1701
	Date:	17/01/23
	p&s staff:	Eduardo P. Maes

Item	Notes	Photos
The land		
Current uses of the site	Predominantly paddocks used for livestock (cattle & sheep). Residential use & building @ 4 Ridgeside Lane sheds for storage @ 4 Ridgeside Lane and Logan Road	
Current uses of the surrounding land	Similar uses. Residential to the southwest.	
Vegetation extent and type	Paddocks. Few scattered trees along some of the fencelines.	

Item	Notes	Photos
Topography in relation to surrounding areas	Ridgeline crosses the northern portion of the site from west to East. Undulating topography w/ higher areas to the west and east.	
Slope (position on slope, direction)	From the ridgeline to the north (towards Ridgeside Lane) and South (towards Logan Rd.). Secondary slopes from west & east towards centre of the site.	
Surface water drainage	According to slope	
Evidence of cut and fill activities	Soil mounds (buried waste) at 211 Logan Road. Cut & fill activities for artificial water ponds.	
Presence of pits, pond or lagoons	Yes, ponds across most of the properties for livestock	

Item	Notes	Photos
Signs of erosion	NA	
Buildings		
Details of buildings - age, occupancy	New residential building @ 4 Ridgeside lane + older sheds old sheds & cattle fences @ Logan Road. Abandoned residential building & sheds @ 34 Arthur St. → cattle house for calves	
Building construction (frame, openings and height)	Bricks @ residential house at 4 Ridgeside lane all other buildings are either wooden or metal frame sheds.	
Building construction (slab on ground or other, presence or absence of crawl spaces and basements)	Slab for house @ 4 Ridgeside Lane & sheds. Crawl space under calves House	
The means of heating (fuel type) and cooling in the buildings on the site	—	
Description of services and utilities	water & power for buildings. sewer unknown, though no septic tanks were found.	
Condition of buildings (e.g. cracks in foundations)	All poor conditions, except residence @ 4 Ridgeside Lane. Buildings abandoned @ 34 Arthur St.	
Hazardous building materials - e.g. lead or asbestos	None observed.	

Item	Notes	Photos
Presence of septic tanks	None observed, but assumed to be potentially present.	
Evidence of services on site, in particular underground services (provide preferential pathways for contamination)	water & power	
Any underground stormwater / mains water / sewerage lines - sketch on plan	NA	
Water		
Any underground gas - sketch on plan	TAS Irrigation line crossing northern portion of the site	
Any underground communications lines - sketch on plan	NA	
Any underground power lines - sketch on plan	NA	

Item	Notes	Photos
Quality of surface water	water on ponds for livestock only	
Presence and type of groundwater bores on the site and adjacent landholdings	NA	
Sheens on water surfaces	NA	
Condition of GW bore headworks	NA	
Measurement of GW (water table and/or piezometric) levels	NA	

Item	Notes	Photos
Contamination		
Disturbed, coloured or stained soil	NA	
Bare soil patches	Yes, along mounds at 211 Logan Rd.	
Disturbed or stressed vegetation	as above	
Odours	No	
Presence and condition of any underground storage tank (USTs) and associated infrastructure	None observed.	

Item	Notes	Photos
Presence or absence of bonded asbestos-containing materials (bonded ACM) on the ground surface	None observed	
Presence and condition of chemical containers, holding tanks, bunds etc.	Agricultural products in small quantities (gallons) @ Logan Rd property, within the sheds.	
Any evidence of on-site spillage of dangerous goods and/or off-site migration	None observed	
Presence of pits containing buried waste	Yes, at least 3 locations south east of 211 Logan Rd. Scattered metal scraps, concrete & aggregate also observed.	

Item	Notes	Photos
Other		
Presence of fill materials, including building demolition rubble, mixed wastes, soils of unknown origins, etc.	mixed waste stockpiles present at 34 Arthur St., including wood waste, metal scraps, ceramics, soft plastic and fabrics. Evidence of former waste incineration @ 34 Arthur St. metal scraps and old equipment/parts @ Logan Rd. and 4 Ridgeside Lane (within sheds)	
Presence of stockpiles, fill, containment areas, sumps, drains and waste disposal areas - operational and closed	as above	
Debris or waste disposal	as above Some debris scattered across the site, especially @ 2m Logan Rd.	
Underground structures that may be associated with sub-surface construction	None observed.	
Condition of materials storage and handling facilities and any solid or liquid waste disposal areas	NA	

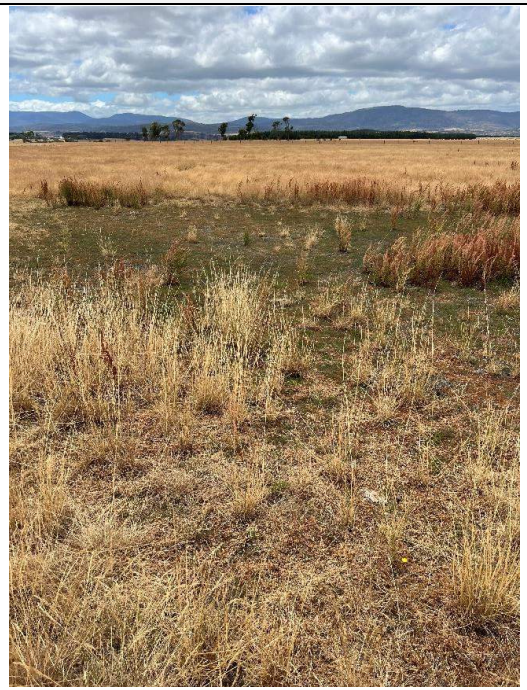
Item	Notes	Photos
Neighbouring Uses	—	
Any evidence of contamination from neighbouring properties	None observed	
Are neighbouring uses potentially contaminating	No	
Were historical neighbouring uses potentially contaminating	No	

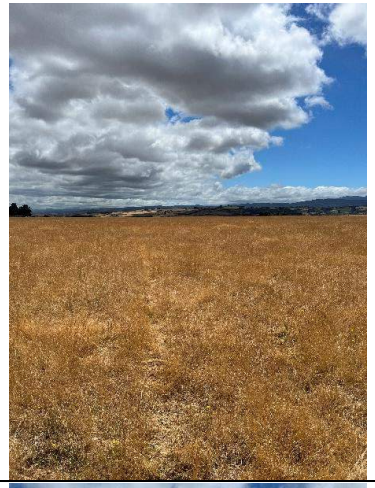
Anecdotal info from resident of 4 Ridgeside Lane: Property only used as residential & livestock, but used to be a kennel for racing dogs. Resident informed that neighbouring properties are used only for livestock/ no crops.

Photo Register

Activities description		
Site inspection	Project:	P.22.1701.001
	Date:	17/01/2023
	p&s staff:	Eduardo Pereira Maes

1. Site inspection

Description	Photos
Dry pond and scattered aggregate rocks at 211 Logan Rd.	 

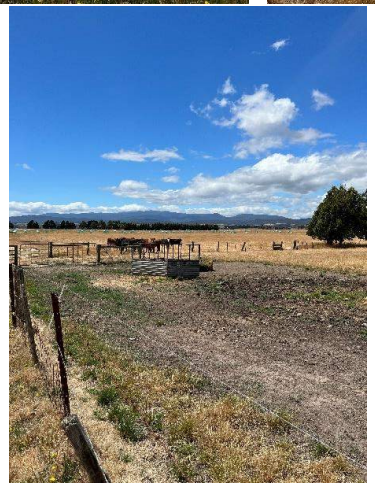
Paddocks at 211 Logan Rd. From centre portion of the property, looking north (left) From Logan Road, looking north (right)	 
Scattered trees along fence line at Logan Road property	

Tas Irrigation marks near the northern boundary of the Site at 211 Logan Road	
Drainages along Ridgeside Lane (left) and Logan Road (right).	 

Sheep and cattle observed in all properties across the Site:
-Artificial ponds present, with mounds of earth build around to trap water, and water tanks for livestock
-Sheep/cattle enclosures (not sheep dips)
-
-House for calves at Logan Road property, with water supply and crawlspace.

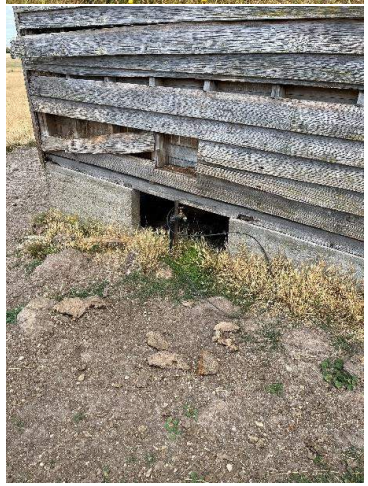










Birds and rabbits observed at the Site.

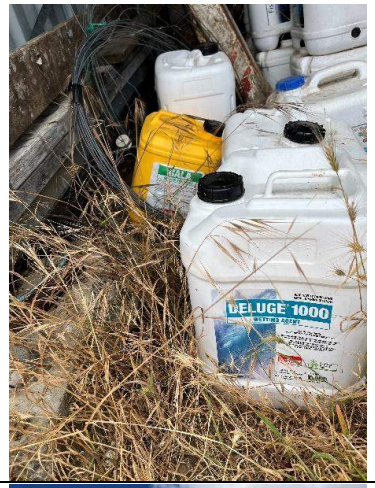
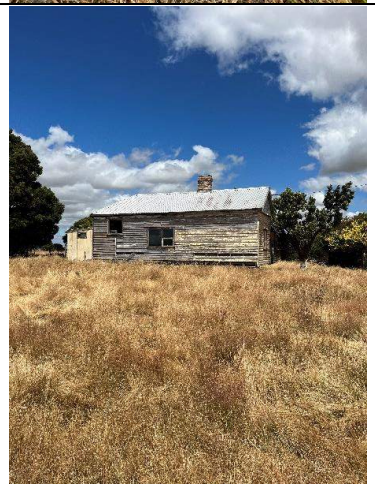


Farm shed and trailer at northern portion of Logan Road property. Agricultural machinery/equipment and gallons of agricultural products (wetting agent, fertilizers, growth regulator) and rubbish (wood waste, metal scraps and old parts) stored in and around sheds.
Stockpile of soil near the shed.








				
Abandoned residential building and sheds at 34 Arthur Street: -Stockpiles of earth and waste material (animal bones, soft plastic, wood waste, ceramics, metal scraps, glass) -Stockpiles of wood waste -Evidence of waste burning practices. -Old car and boat present. -Storage of metal scraps, old parts and wood waste within sheds.				



Residential dwelling and sheds at 4 Ridgeside Lane: -Residential building -Set of sheds for storage of livestock supplies, equipment and parts -paddock used for livestock (cattle)				
				

Mounds of buried waste at the southeast of 211 Logan Road
-Approximately 3 mounds (one very large and two smaller) were identified, with metal scraps, plastic (old pipes), glass bottles, bricks and concrete.
-Scattered concrete and aggregate observed across the middle portion of 211 Logan Road.












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P.22.1701 Stage 1 Preliminary Site Investigation

Evandale Expansion Masterplan

Pitt & Sherry (Operations) Pty Ltd
ABN 67 140 184 309

Phone 1300 748 874
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Located nationally —
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport

ref: T-P.22.1701-001-ENV-REP-001-Rev00/EPM/ac

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Landslide Hazard Assessment

Evandale Expansion Masterplan

Prepared for
Traders in Purple

Client representative
Brett Robinson

Date
26 May 2023

RevC



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DRAFT

Prepared by — Andrew Tyson		**Date —** 26 May 2023
Reviewed by — Austen Easterbrook		**Date —** 26 May 2023
Authorised by — Austen Easterbrook		**Date —** 26 May 2023

Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
A	DRAFT	AT	AE	AE	10/01/2023
B	DRAFT	AT	AE	AE	16/02/2023
C	Amended following client comments	MA/AT	AT	RR	26/05/2023

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DRAFT

1. Introduction

Traders in Purple are planning a mixed-use development off Ridgeside Lane, east of Evandale, Tasmania. This proposal is an adjustment of a previously planned development, with the new area partially covering the old area and extending further towards the centre of Evandale. As the area for rezoning covers some features not encountered in the original development area this report is provided as an update to the Landslide Hazard Assessment previously produced on 2 May 2019 and referenced as LN18224L001 Rep 31P Rev00.

The location of the proposed rezoning as compared to the previous location is shown in Figure 1 below.

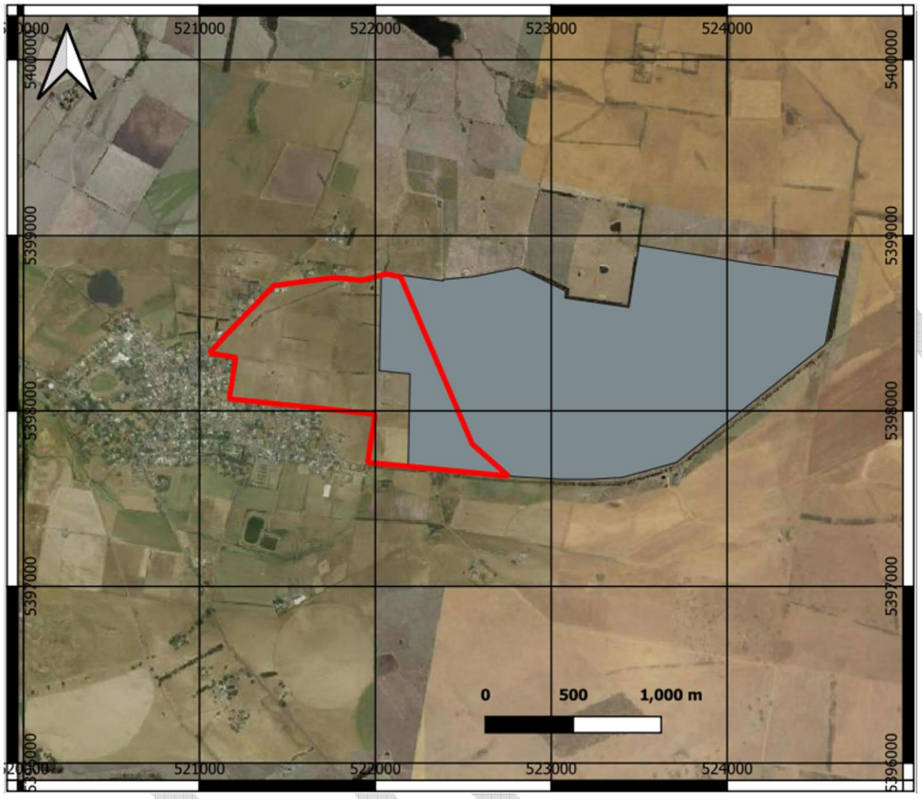


Figure 1: Rezoning outline (red) and previous development outline (grey)

2. Assumptions and Limitations

This report has been prepared based on site walkover, surface/slope investigations and desktop analysis only. No subsurface investigations were performed.

3. Desktop Analysis

An initial literature review was undertaken; covering the geology, geomorphology, landslide hazards and acid sulfate soil potential of the site, plus the location and examination of relevant borehole and report data that was publicly available. The results of this literature review are presented below.

3.1 Previous Geotechnical Reports

The Mineral Resources Tasmania website was searched for past reports on landslides in the Evandale area. No previous reports were found inside the proposed site area, however there is one report and one map available regarding a landslip in White Hills, approximately 2km north-west of the site, which has been summarised below.

MRT Report UR1977_43: Stability of a proposed subdivision Everton Lane area, Evandale

The Department of Mines published this brief report which describes the area of the subdivision at White Hills as being included in the Landslip Zone Map of the Tamar Valley, Zone III & IV. Of relevance to the current proposed rezoning is that a figure in the report shows that the Ridgeside Lane rezoning area would be in Zones I and II, i.e., safe for development.

It also concludes that there are acceptable zones for development on the White Hills site and recommends subsurface investigations and dispersion of household drainage to not reactivate the old landslip.

5188P EVANDALE – WHITE HILLS ROAD – MORPHOLOGY

This map, produced by the Department of Mines in 1986, shows that the White Hills site, located 2km north-west shows geomorphological features of an existing landslip. The features include concave and convex changes in slope, scarps, and steep slopes. The slopes measured on this site range from 5° to 27°, with most of the slopes being greater than 12°.

This area is well known to the author of this report, and the slope instability in this area is due to a combination of geological units that do not occur on the current development area.

DRAFT

3.2 Landslide Hazard Bands

The landslide hazard bands generated by Mineral Resources Tasmania (MRT) are presented below in Figure 2.

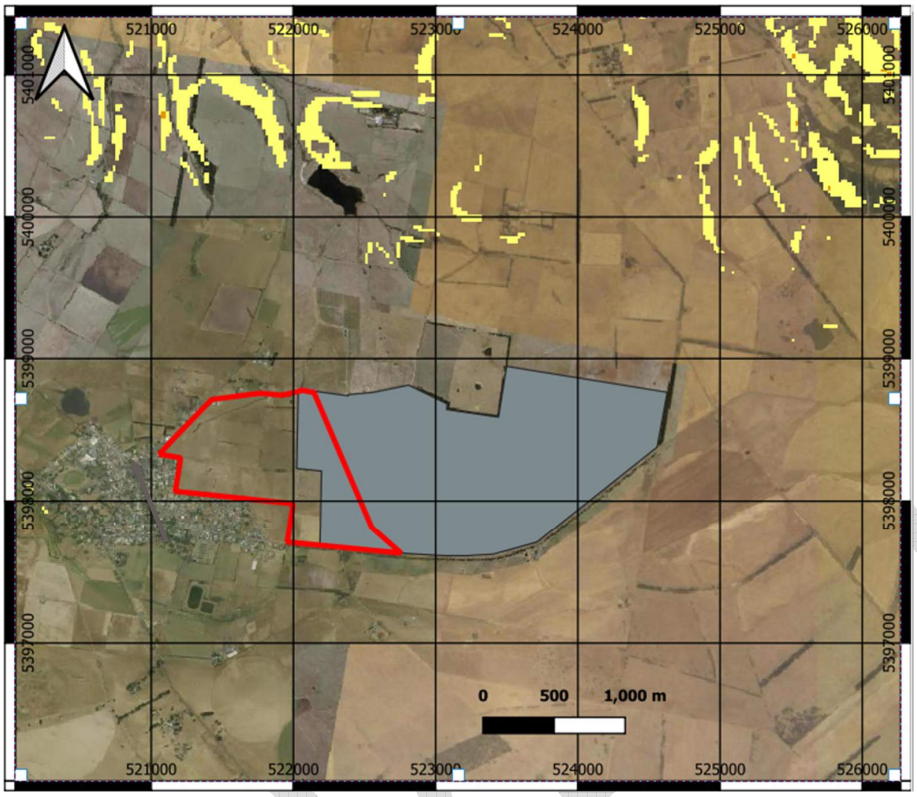


Figure 2: Landslide Hazard Bands map

This map shows:

- That no parts of the site are classified as hazardous under the Landslide Planning Scheme.
- There are a few regions to the north that have been marked as “Low” hazard band, with the following hazard exposure: “*This area has no known active landslides; however, it has been identified as being susceptible to landslide by Mineral Resources Tasmania (MRT).*”; and
- The “Low” hazard areas are listed as any remaining areas mapped with slopes ranging from 11^0 – 20^0.

3.3 Geology

An extract of the Department of Mines Longford Geological Map, 1:63,360 Series 1959, is shown in

Figure 3.

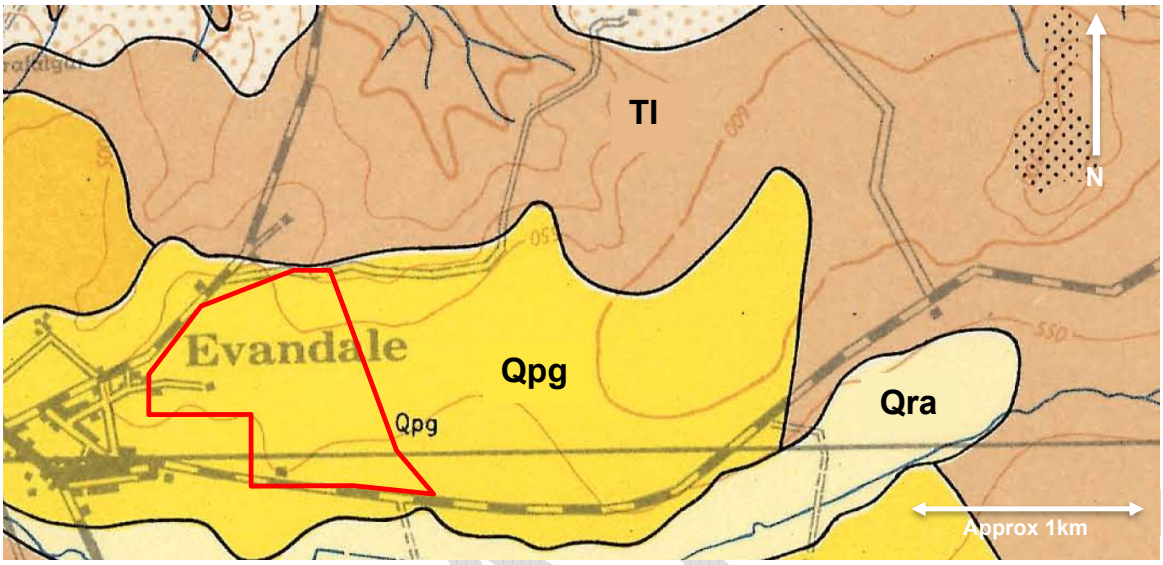


Figure 3 An extract of the Longford Geological Map

Symbol	Geology
Qpg	PLEISTOCENE, River terraces, gravels and sands
Qra	RECENT, Alluvium
Tl	EOCENE, Launceston Beds: Lacustrine clays, sands, lignite.

From the map it can be seen that the proposed development area lies entirely within the Pleistocene units; landsliding in the Evandale area typically occurs withing the Eocene Launceston Beds, frequently where they directly underlie the Pleistocene gravels.

3.4 Land Stability Maps

Mineral Resources Tasmania have not published any maps for the Evandale region. There are therefore no mapped features present on the site that would indicate Rockfall Hazard, Landslides, Geomorphology and Slide Susceptibility.

3.5 Proclaimed Landslip Zones

There are no proclaimed landslip zones in this area.

3.6 Google Earth / Nearmap Satellite Imagery

The aerial imagery available on Nearmap from 2011 to 2019 and the Google Earth imagery available from 2004 to 2018 was reviewed. There were no geotechnical features of interest observed, and the land has undergone normal agricultural changes with the seasons.

3.7 Topography

Hillshade data sourced from Tasmanian Government sources is presented below in Figure 4

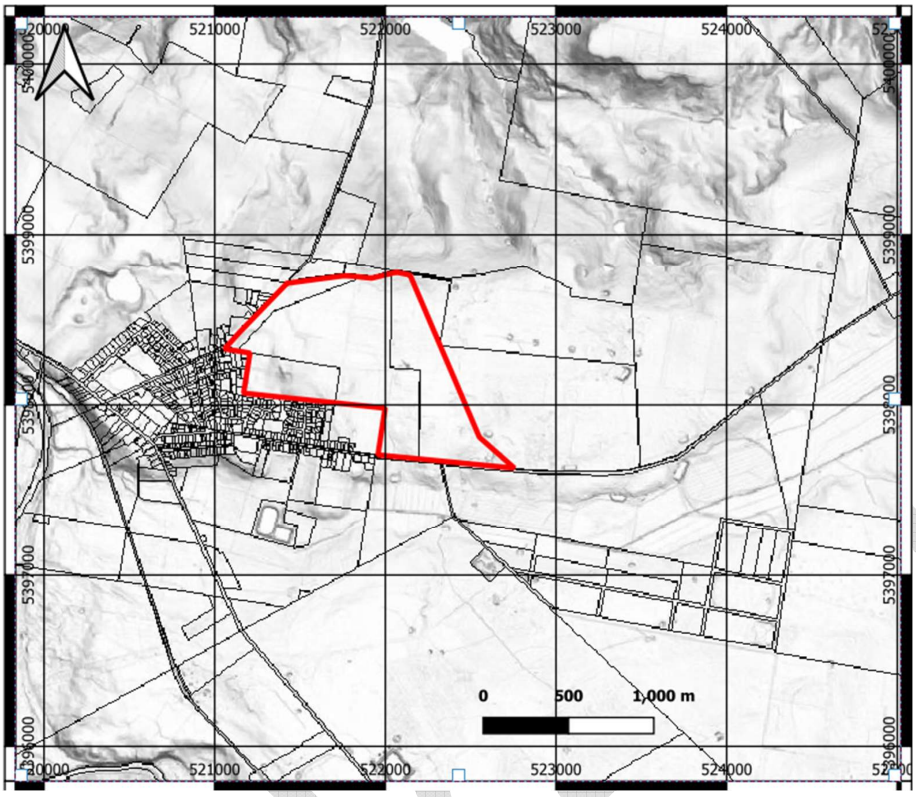


Figure 4 Hillshade data for the area

The topographic data shows that the land is generally flat, with no landslide features visible. There is a steeper section of site in the southwestern section of the site which is shown below in Figure 5.



Figure 5: Features in southwestern section

This section of the site shows buildup of fill associated with an access to a house and that the house is situated on the steepest section of natural topography across the site. The new development plan includes a gardens area entirely covering the steeper section identified here.

3.8 Acid Sulphate Soils

The Acid Sulphate Soil Risk for the site has been checked using theLIST and an extract of the map is shown below in Figure 6.



Figure 6: Acid Sulphate Soil Risk

Hazard Band	Acid Sulphate Soil Risk
LOW	Low probability of occurrence (6-70% chance of occurrence in mapping unit). Sandplains and dunes <2m AHD, ASS generally within 1m of the surface. Often wet heath. Holocene or Pleistocene. Potential acid sulphate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available, but confidence is fair, based on a knowledge of similar soils in similar environments.
EXTREMELY LOW	EXTREMELY LOW: Extremely low probability of occurrence (1-5% of mapping unit) with occurrences in small areas. Sandplains and dunes >10m AHD, ASS generally below 1m from the surface. Heath, forests. Mainly Pleistocene. Potential acid sulphate soil (PASS) = sulfidic material (Isbell 1996 p.122). No necessary analytical data are available, but confidence is fair, based on a knowledge of similar soils in similar environments.

There is a small portion of the site that is in the “Low” risk category for Acid Sulfate Soils. This should be investigated further before construction in this section by following the *Tasmanian Acid Sulfate Soil Management Guidelines.*

3.9 Existing Boreholes

The Mineral Resources of Tasmania website was searched for any records of drilling activities in the nearby area. Some records were found of nearby activities, with only one borehole close to one boundary of the development. A summary of the records found is presented below in Figure 7.

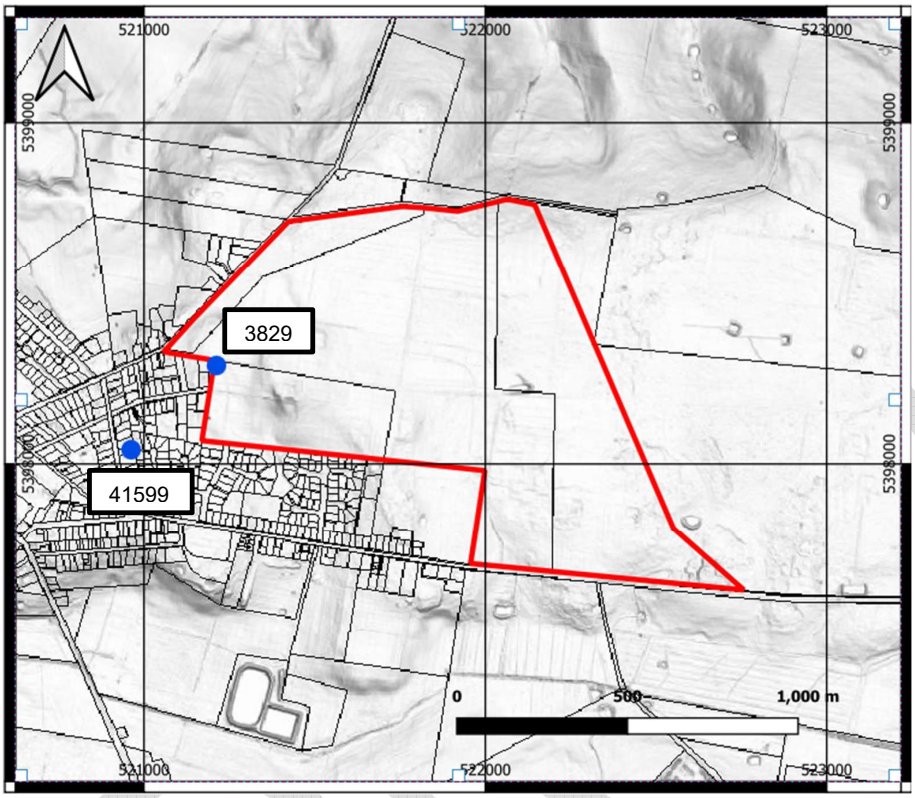


Figure 7 Existing boreholes and wells surrounding Evandale

Borehole ID	Depth (m)	Material Encountered
41599	26.0	Tertiary Sediments
3829	33.5	Tertiary Sediments

3.10 Rainfall Data

Monthly rainfall data from the Bureau of Meteorology site Evandale, TAS, located at Cambock Lane (just west of site), from 1957 to date is summarised below.

Table 1: Monthly rainfall data from Cambock Lane BOM station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	39.8	36.1	48.3	52.3	60.2	59.1	71.6	81.6	60.7	54.6	50.2	50.3	682.3
Median	33.6	30.4	43.9	47.8	49.0	54.2	60.5	77.0	58.1	50.4	44.6	45.2	666.7
Highest	111.8	179.4	112.8	186.9	190.7	132.7	173.8	205.4	126.2	132.8	136.4	134.4	913.0
2020	33.6	59.0	109.4	150.4	49.8	39.4	25.2	99.6	48.8	97.4	33.6	72.8	819.0
2021	62.4	41.2	23.2	23.2	49.6	51.2	120.8	76.8	35.4	132.8	35.6	11.6	663.8
2022	45.4	16.0	40.0	66.0	*31.2*	*91.2*	*19.0*	*118.4*	*55.4*	*97.2*	*68.6*		

It can be seen from the data that 2020 was wetter than average, while 2021 was around average. Data from 2022 is still incomplete.

4. Site Visit

A site walkover of the original development area was undertaken by Matt Moore and Austen Easterbrook on 17 April 2019. The following general statements were made:

- The site is mostly clear and is covered in pastural grasses. There are small patches of denser vegetation and some trees
- There are several existing dwellings on the southern boundary of the property, off Logan Road. There are also sheds and outbuildings located throughout the property
- Overall, the site is generally flat, with some gentle slopes between 10 and 40
- There is in the order of 16 ponds/small dams on the property; and
- There is one area of site on the northern boundary that has slopes ranging from 50 to 90. Two of the ponds/small dams are in this area.

Visually the site did not present any indication of landslips past or present and no geomorphological features were observed.

Given that the new development area is very similar to the previous development area, and that the author of this report has had recent experience in the area, it was assessed that further site investigation was not warranted.

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5. Land Stability Assessment

5.1 Geotechnical Model and Site Features

There were no geomorphological features indicative of slope instability observed on site. The steeper area to the southwest of the development area shows rounded features indicative of no recent activity. There is a section feature potentially indicative of old filling in the far southeast of the development area. This is inside the 100m from agricultural land setback and is not planned for significant development.

There is one dam still in use and several other indicators of features that are either old dam sites or small ponds that are periodically wet. Groundwater seepage is a possible trigger for future landslides.

5.2 Landslide Risk Assessment

A risk assessment has been carried out for the proposed development and is based on the qualitative approach described by the Landslide Risk Management Guidelines 2007 Appendix C published by the Australian Geomechanics Society. This describes assessing the risk to property.

There is one possible landslide scenario:

Small Scale Landslide

A small-scale landslide could be triggered by high groundwater levels or concentrated groundwater infiltration. A small-scale landslide could involve 100 to 1000m^3 of soil. If the storm water and groundwater infiltration was controlled, the risks will be reduced.

The risk assessment has been carried for the landslide scenario and all for site without development and a site with development. The risk assessment is presented in the table below:

Small Scale Landslide

Event	Likelihood	Consequence	Risk Rating
Without Development	Rare – no change to ground surface or groundwater	Insignificant	Very Low
With controlled development (refer section 5.3)	Rare – the effect of a residence on a large slope is not significant	Minor to Medium -limited to moderate damage could occur	Very Low to Low

The highest risk rating is Low, and this is acceptable for development.

5.3 Conditions on Future Development

Future development of the site is subject to the following conditions:

- All earthworks such as cutting, retaining walls, filling, and surface/subsurface drainage should be undertaken with sound engineering practice, including fill embankments being keyed into sloping ground
- All bulk earthworks and structural foundations should have geotechnical designs based on detailed site investigation
- All existing fill in the vicinity of structures should be treated as uncontrolled unless evidence is provided otherwise. Removal or reuse of these materials may be necessary
- All existing ponds/small dams not used for Water Sensitive Urban Design (WSUD) should be removed
- Ponds being used for WSUD, and storm water catchments should be impermeable to prevent the uncontrolled release of excessive water into the ground
- All exposed/disturbed soil should be protected from erosion by using erosion control materials or by planting grass and/or vegetation
- Wastewater should be treated in an impermeable structure to prevent the uncontrolled release of excessive water into the ground; and
- The development should harness rainwater for use as potable water, irrigation, and other means before being stored in the ponds.

6. Conclusion and Recommendations

The site has been inspected and geotechnical information has been considered. The site, when developed under sound engineering practice, is considered to be rated low risk to impact from small- and large-scale landslips. The site is therefore considered suitable for development from a geotechnical perspective. Development at the site should incorporate the conditions listed in Section 5.3. It is considered that if the conditions are implemented, then the landslide susceptibility will be reduced.

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7. References

AGS (2007c): Practice Notes Guidelines for Landslide Risk Management. *Australian Geomechanics* Vol 42 No 1 March 2007

Tasmanian Government (2022): theLIST, developed by the Tasmanian Government, Hobart, viewed in December 2022, www.thelist.tas.gov.au

Department of Mines: A. Telfer, Morphology White Hills, ref 5188P, 1986.

Department of Mines: W. L. Matthews, Stability of a proposed subdivision Everton Lane Area, Evandale, ref UR1977_43, 1977.

Department of Mines: Longford, Geological Survey of Tasmania, Geological Atlas, 1 Mile Series, Zone 7, Sheet No. 47, Published 1959.

Tasmanian Government (2019): Groundwater Information Access Portal, developed by The Department of Primary Industries, Parks, Water and Environment, viewed in December 2022, https://wrt.tas.gov.au/groundwater-info/

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Important information about your ground engineering report

These notes are additional to any limitations noted within the report. They have been provided by pitt&sherry to clarify the limitations of the report, and to clearly identify the individual responsibilities of all parties involved. It is important that all documents from pitt&sherry are read thoroughly, and that clarification is sought when necessary.

Specificity

Your report has been developed based on pitt&sherry's understanding of your project requirements and applies only to that project. If there are subsequent changes to the proposed project, pitt&sherry should be consulted to assess how the changes impact on the report's recommendations. If pitt&sherry are not consulted, they do not accept responsibility for issues that may occur due to project changes. No responsibility is accepted for the use of this report, in whole or in part, in other contexts or for any other purpose.

Report integrity

This report is presented as a whole; with conclusions and recommendations reliant upon data presented in other sections. Reading parts of the report in isolation may lead to misinterpretations, and as such the report should not be copied in part or altered in any way.

Where information contained within this report is to be used for tendering purposes it is recommended that the entire report be made available. In situations where this is not appropriate, pitt&sherry can assist in preparing a specially edited document to provide the information within an appropriate context.

Site variability

The results presented in this report represent the conditions at the specific sampling and testing locations. They also represent the conditions at the time that the work was carried out. Variations in conditions may occur between or beyond assessment locations, either due to natural variability or previous excavations.

It is recognised that conditions may change over time. This can be due to natural processes (landslides, water content change) or driven by human activities (cutting or filling in the vicinity).

The advice presented in this report is based on the data gathered during the investigation, and the accuracy may be impacted by undetected variations in ground conditions or later changes to the site. Retaining pitt&sherry throughout development stages can assist in reducing the impact of these issues by identifying variances, conducting additional testing if required, and recommending solutions to problems encountered on site.

Interpretation by others

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a ground engineering report. To help avoid these problems, pitt&sherry can work with other project design professionals to explain the findings in this report, and to review the adequacy of their plans and specifications with respect to these issues. pitt&sherry will not be responsible for interpretations of report findings by others involved in the design and construction process.

Third party and client supplied information

Data supplied by the client or third parties is assumed to be correct, unless otherwise stated. While every care has been taken by pitt&sherry in producing the report, pitt&sherry has not checked or verified the accuracy of such information (unless specifically included in pitt&sherry's scope of services). Accordingly, no responsibility is accepted by pitt&sherry for incomplete or inaccurate data supplied by others.

Safety in design

This report does not contain information sufficient to constitute a safety report. Such a document would require inputs beyond pitt&sherry's current knowledge of the project and is beyond the scope of this investigation. pitt&sherry can assist in the risk assessment process required to produce such a document, if requested.

Geoenvironmental issues

Unless stated otherwise, your report does not make any findings, conclusions, or recommendations about the potential for hazardous materials existing at the site. In the absence of such a statement, pitt&sherry take no responsibility for such issues. Since unanticipated environmental problems have led to numerous project failures it is pitt&sherry's recommendation that you obtain your own geoenvironmental information.

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Disclaimer

In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. The Report may only be used and relied on by the Client for the purpose set out in the Report. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of the Client or such third parties.

The services undertaken by pitt&sherry in connection with preparing the Report were limited to those specifically detailed in the report and are subject to the restrictions, limitations and exclusions set out in the Report. The Report's accuracy is limited to the time period and circumstances existing at the time the Report was prepared. The opinions, conclusions and any recommendations in the Report are based on conditions encountered and information reviewed at the date of preparation of the Report. pitt&sherry has no responsibility or obligation to update the Report to account for events or changes occurring after the date that the report was prepared. If such events or changes occurred after the date that the report was prepared render the Report inaccurate, in whole or in part, pitt&sherry accepts no responsibility, and disclaims any liability whatsoever for any injury, loss or damage suffered by anyone arising from or in connection with their use of, reliance upon, or decisions or actions based on the Report, in whole or in part, for whatever purpose.

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pitt&sherry

Landslide Hazard Assessment

Evandale Expansion Masterplan

Pitt & Sherry (Operations) Pty Ltd
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Located nationally —
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Our ref: PLN-24-0030

NORTHERN MIDLANDS COUNCIL

2 May 2024

George Geagea
TIP 119 Pty Ltd & TIP 120 Pty Ltd
Traders In Purple
Level 27, 1 Farrer Place
SYDNEY NSW 2000

Attention: Jennifer Cooper

By email only: jennifer.cooper@tradersinpurple.com

Dear Ms. Cooper,

Additional Information Required
Request to Amend Northern Midlands Local Provisions Schedule
Draft Planning Scheme Amendment 14/2024 to rezone 4 Ridgeside Lane, 38 Arthur Street, CT 116759/1 Logan Road & part of 211 Logan Road, Evandale

Thank you for your application. In accordance with section 40(1) of the *Land Use Planning and Approvals Act 1993*, the following additional information is required before the planning authority considers your request to amend the Local Provisions Schedule.

The stated purpose of the amendment is to:

- *Rezone the entirety of Logan Road (CT116759/1), 38 Arthur Street, 4 Ridgeside Lane, and approximately 32 ha of 211 Logan Road to a combination of General Residential, Local Business, Open Space and Community Purpose (in accordance with the Evandale Expansion Plan); and*
- *Expand the existing Evandale Specific Area Plan to encompass the subject sites, including implementing the Evandale Expansion Plan into the SAP as a Precinct Development Plan.*

1. Proposed Rezoning Plan

The application submits that the rezoning will facilitate the Proposed Evandale Expansion Plan (Expansion Plan). The figures below provide a comparison between the proposed zones and the draft layout and density of lots proposed by the Expansion Plan. The proposed zone configuration would significantly increase the density of future residential development well beyond that which has been envisaged by the Expansion Plan.

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Longford Tas 7301

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www.northernmidlands.tas.gov.au

Figure 37 of the *ireneinc* report shows the areas proposed to be zoned General Residential. It is proposed to apply the Evandale SAP over the area which would have lot size provisions in substitution for those of the Geneal Residential Zone. The Evandale SAP would allow subdivision down to 510m^2 under the Performance Criteria. The Subdivision Master Plan shows 'rural lots greater than 1,500m^2' which are shown in the General Residential zone under Figure 37.

To appropriately reflect the proposed Subdivision Master Plan, the residential zones introduced should vary according to intention for the density of development as shown in the Expansion Plan such as Low Density Residential zone (minimum of 1,500m^2 as an acceptable solution) for the 'rural lots greater than 1,500m^2'.

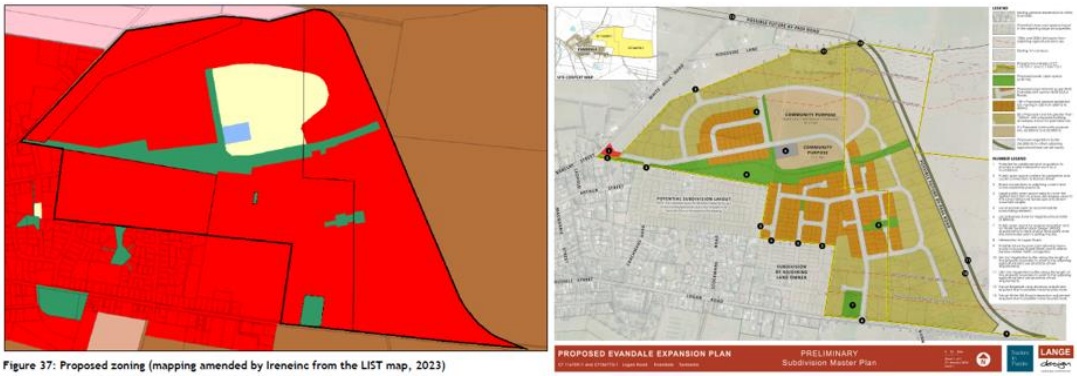


Figure 1 - Proposed rezoning and Proposed Evandale Expansion Plan

Additional Information Request
Please provide a revised proposed zoning map showing:

1.1 Zones that more closely align with the Expansion Master Plan (e.g., 'rural lots largely than 1,500m^2' as Low Density Residential Zone.

1.2 Appropriate zone/s for the 'possible future by-pass road' and the vegetation buffers each side.

2. 4 Ridgeside Lane

The application proposes to rezone the property 4 Ridgeside Lane to General Residential without providing a potential subdivision layout. Given the shape and dimensions of the title the result may be that the design will encourage undesirable 'strip development' with many lots having direct access to White Hills Road.

Additional Information Request
2.1 Please provide a potential subdivision layout of 4 Ridgeside Lane as it bears a relationship to the Expansion Plan.

3. Subdivision Master Plan layout design

The application proposes to rezone 4 Ridgeside Lane and 38 Arthur Street to General Residential. It is necessary to appropriately assess future access requirements, design layout and intercommunication both within the Expansion area, and the township.

Additional Information Request
3.1 Please provide a revised Preliminary Subdivision Master Plan showing the future layout and density of development proposed for 4 Ridgeside Lane and 38 Arthur Street to be included in the Expansion Plan.

4. Development within the current Evandale SAP boundary

Discussion in regard to development yield needs to recognise and consider the areas within the current Evandale SAP boundary earmarked for residential development (NOR-S5.2.2 and NOR-S5.2.3) (refer Figure 2 and Figure 3 below). The number of lots planned for development within NOR-S5.2.2 (96 lots) and NOR-S5.2.3 (72 lots) could possibly satisfy demand for some years based upon the SGS calculation of 5.8 new dwellings per annum within the Evandale area (SGS Supply and Demand Analysis for Evandale, 05/05/2022). These areas total approximately 19 ha.

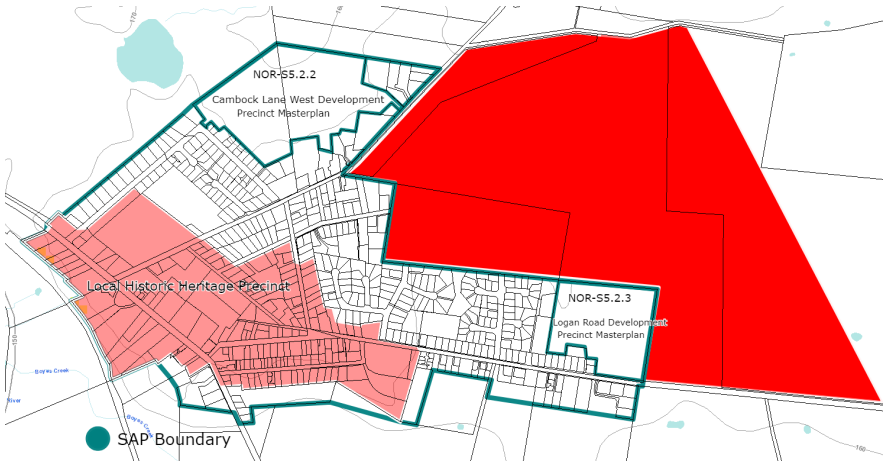


Figure 2 - Proposed Residential Zone extension

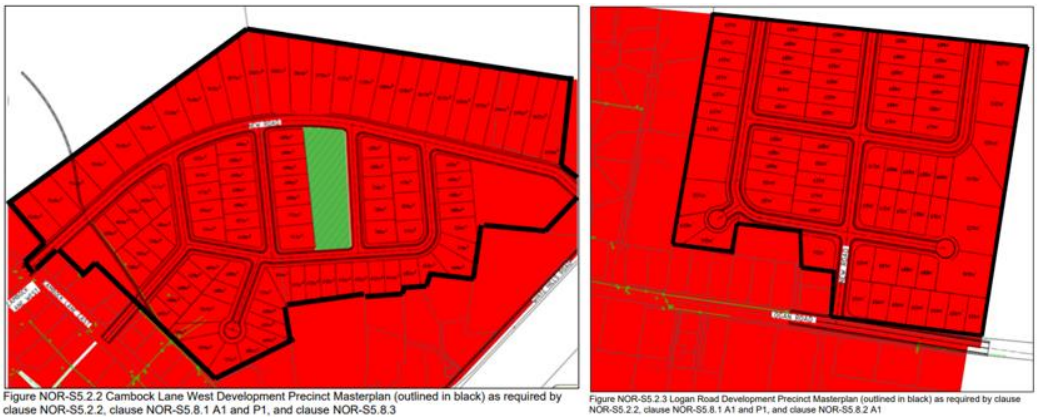


Figure 3 - Masterplan development plans – Evandale SAP

Additional Information Request
4.1 Please provide a revised Supply and Demand Analysis including analysis and discussion of the relationship of the areas within NOR-S5.2.2 and NOR-S5.2.3 to the proposed rezoning.

5. Status of the Evandale Expansion Plan – Subdivision Master Plan

The Expansion Plan performs the role of the structure plan for the future development of the greenfield area adjacent the existing Evandale SAP and town surrounds. The plan provides a level of certainty which should reflect a synthesis of the development vision and the community's expectation. Therefore, the inclusion of the Expansion Plan as a critical guide to implementation is considered to be essential. This aligns with the approach within the existing Evandale SAP which incorporates subdivision layouts for Cambock Lane and Logan Road masterplans.

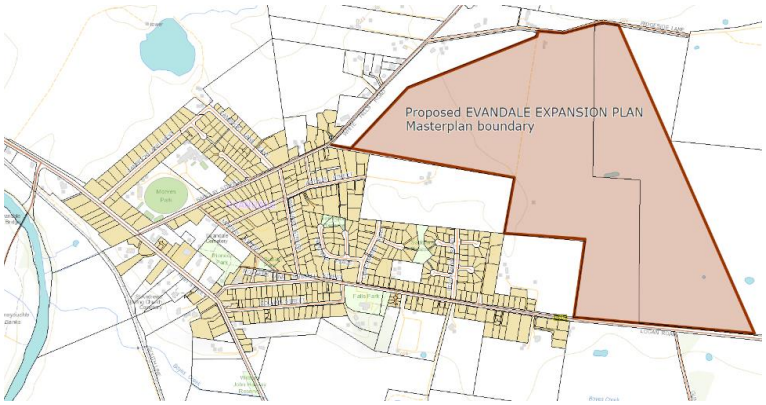


Figure 4 - Expansion Plan

Additional Information Request
5.1 The existing Evandale SAP identifies two areas - NOR-S5.22 Cambock Lane West Development Precinct Masterplan and NOR-S5.2.3 Logan Road Development Precinct Masterplan, incorporating a masterplan layout for each. **Please provide** information as to why the proposal does not seek to include the layout demonstrated by the Expansion Plan (Subdivision Master Plan), and further discuss more generally the principle of this approach and process relative to the structure of the Evandale SAP.

6. Existing General Residential Zoned Land

The Evandale SAP identifies two development masterplans for land zoned for residential development. These areas are:

- Figure NOR-S5.2.2 Cambock Lane West Development Precinct Masterplan - 96 lots;
- Figure NOR-S5.2.3 Logan Road Development Precinct Masterplan - 72 lots (total of 168 lots).

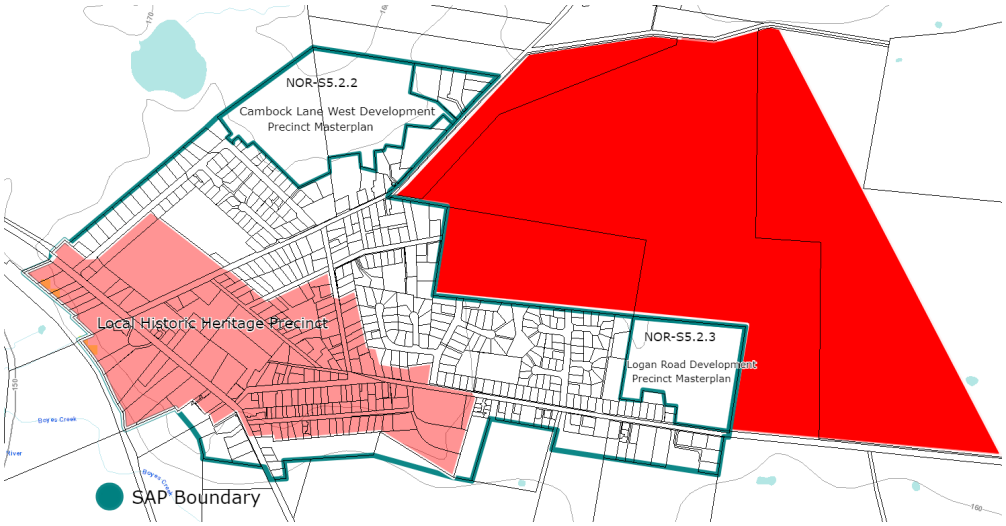


Figure 5 - Masterplan sites within the existing Evandale SAP and Proposed expansion area zoning

Additional Information Request
6.1 Please provide considered argument as to why those areas within the existing Evandale SAP boundary zoned for residential development should not take precedence in a timing development sense over the proposed rezonings being sought. In particular the argument should consider strategic, ordered and programmed land release meeting demand and overall sustainability.

7. Undeveloped land immediately proximate to the Evandale SAP residential boundary

The land at 38 Arthur Street shown on the Expansion Plan has the potential for the development of up to 122 residential lots based upon the indicative layout within the proposed master plan. Figures 6 and 7 locate 38 Arthur Street within the township. Figure 8 shows the indicative subdivision layout and yield of 122 lots.

The location of the site suggests that in terms of staging, Arthur Street might legitimately be developed as the next stage of residential development, outside the Evandale SAP boundary. However, the road linkages within the network are problematic and the addition of a further 122 allotments bring into focus the impact upon the existing settlement together with ultimate impact of development within zoned areas of the existing Evandale SAP.

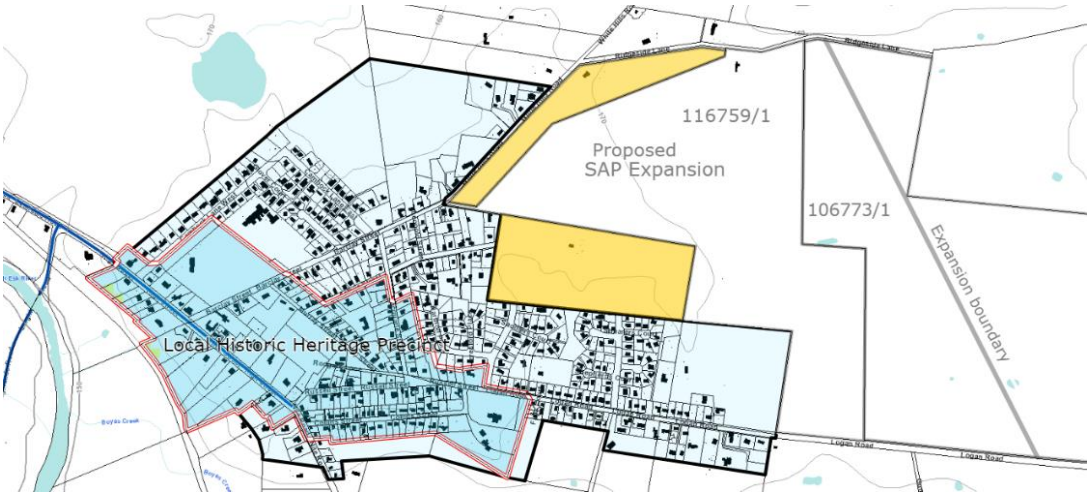


Figure 6 - Vacant land adjoining the Evandale SAP boundary

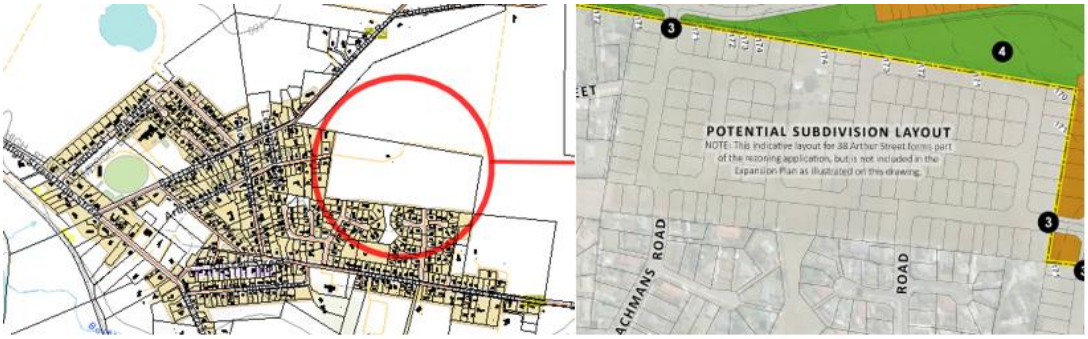


Figure 7 - 38 Arthur Street - Indicative Layout

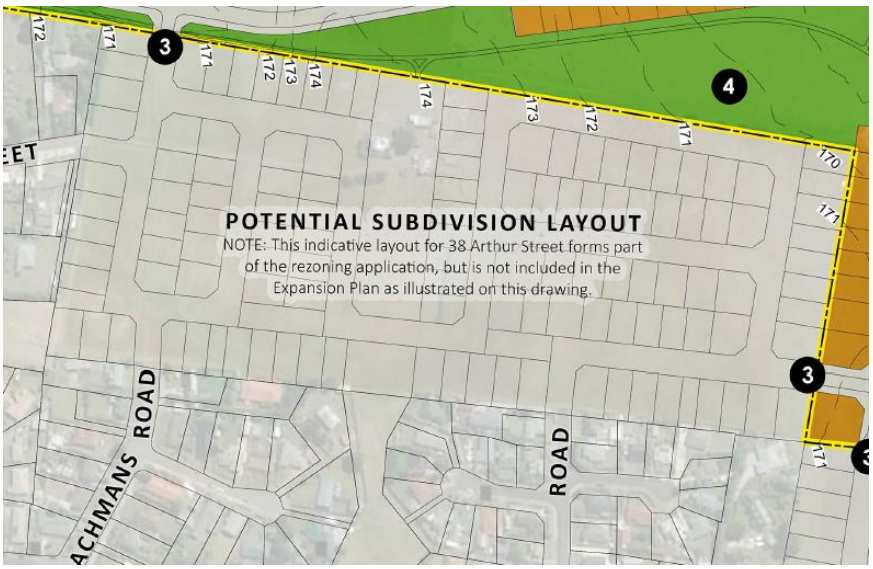


Figure 8 - Masterplan areas-suggested Lot yield at 38 Arthur Street

Additional Information Request
38 Arthur Street (122 lots) combined with the development areas NOR-S5.2.2 (96 lots) and NOR-S5.2.3 (72 lots) totals a potential 290 lots located within and adjacent the existing Evandale SAP boundary. In terms of development staging, it would be expected that the development of this land would necessarily precede the extension of residential zoned land at the periphery of the settlement.

The development of the lots within the areas shown would represent approximately 65% of the town's existing residential lot development of approximately 440 lots.

Even assuming the property at 38 Arthur Street was not rezoned, the existing vacant land set aside for development under the Evandale SAP represents 38% of the existing residential lots.

Assuming then the addition of the proposed 189 General Residential density lots in the master plan including 38 Arthur Street, the lots available for development will total 479 or 108% of the existing developed residential lots. Then adding the Rural Living lots (82) proposed by the master plan, the total potential lot yield (excluding 4 Ridgeside Lane) is 561 residential lots (+128% of the town's current developed allotments).

7.1 Please provide argument as to the merits of why such a strategy leading to orderly development of the settlement is not to be preferred.

8. Traffic Impact

The structure of the settlement pattern and road layout is typical of small towns and reflects the heritage nature of the Evandale township in particular. This includes the collector roads of Barclay Street and Logan Road. These collector roads do not allow traffic to avoid the main town centre, and all development is channeled through the town centre to the High Street/Nile Road and Evandale Road to the west. Whilst the application proposes a rezoning only and is not a combined application seeking approval for subdivision, the Evandale Expansion Subdivision Master Plan prepared for the subject area provides critical information as to the future development of the land, the likely lot yield and patterns for traffic movement. Therefore, the plan, although in preliminary form, allows an understanding of the pattern of development and on that basis provides adequate information to assess the impacts of increased traffic on the existing settlement.

To adequately assess the sustainability of the proposal to rezone the subject land (96.4 ha or 83% of the town's presently developed footprint), a detailed analysis of resulting traffic numbers and patterns needs to demonstrate the capacity of the existing network to deal with the ultimate traffic numbers. This analysis must include the development of the two areas identified by the Evandale SAP - NOR-S5.2.2 Cambock Lane West Development Precinct Masterplan and NOR-S5.2.3 Logan Road Development Precinct Masterplan, the development of which will yield up to 168 residential lots.

The area immediately adjacent the Evandale SAP boundary and included with the rezoning application is 38 Arthur Street. The Subdivision Master Plan provides a potential subdivision layout for this site yielding 122 lots.

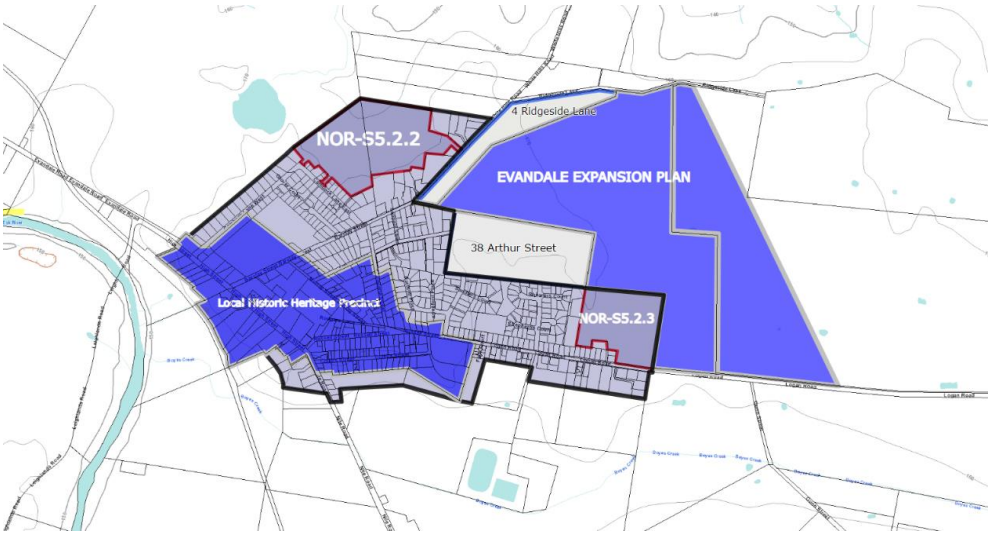


Figure 9 – Evandale SAP Precinct; Local Historic Heritage Precinct; Proposed Evandale SAP expansion; Titles outside Expansion area masterplan

Additional Information Request

8.1 Please provide a revised Traffic Impact Assessment addressing the traffic implication of the combined/ultimate development incorporating the likely/forecasts of development for the following areas:

i. The two areas identified for residential development by the current Evandale SAP - NOR-S5.2.2 Cambock Lane West Development Precinct Masterplan and NOR-S5.2.3 Logan Road Development Precinct Masterplan (168 Lot potential);
ii. 38 Arthur Street (122 Lot potential);
iii. Evandale Expansion Plan – Preliminary Subdivision Master Plan (271 lot potential); and
iv. 4 Ridgeside Lane.

Council engaged SALT3 Traffic Engineering Consultants to undertake a review of the applicant's Traffic Impact Assessment (pitt&sherry, 29 January 2024). The following additional information request is based on that review.

8.2 The Traffic Impact Assessment (pitt&sherry TIA) has presented the base/original results of only the April 2018 midblock tube traffic counts on White Hills Road and Logan Road and has not presented the base/original results of either the April 2019 intersection turning movement counts, or of the April 2022 midblock tube traffic counts that were undertaken at the same locations. The April 2018 and April 2022 traffic data was used to determine an overall traffic growth rate, which was used to estimate the 'existing' 2023 traffic volumes, as well as future traffic volumes. **Please provide** the base/original results of the April 2019 turning movement counts and April 2022 midblock counts, and the specific dates provided (given that Tasmanian school holidays typically start around the middle of April, which means that there is a risk that these surveys were undertaken during unrepresentative periods).

8.3 When comparing the April 2018 and 'existing' 2023 (i.e., adjusted) midblock volumes on White Hills Road and Logan Road, it is apparent that the presented volumes are the same. **Please provide** clarification and rectification of discrepancy.

8.4 If the previous traffic surveys were carried out during school holidays, **please provide** additional traffic surveys carried out at appropriate times to ensure that the traffic data is representative of normal conditions, or the available data suitably adjusted.

8.5 Please provide the June 2022 traffic surveys that were undertaken to determine the actual residential traffic generation (and possibly directional splits) in Evandale in the TIA and confirm whether the proposed daily rate is based on the surveyed traffic data (as the proposed daily traffic generation rate is very low).

8.6 Based on the details provided in the pitt&sherry TIA in terms of the expected traffic generation, SALT3 has calculated traffic generation volumes that differ from those provided in the pitt&sherry TIA. **Please provide** a revised TIA providing details regarding the methodology for calculating the expected traffic generation of the proposed development and including an estimation of the Sunday peak hour traffic generation.

8.7 The pitt&sherry TIA has only stated the factors that will influence the distribution of the proposed development's generated traffic and have not provided the metrics/directional percentages. **Please provide** these details in a revised TIA.

8.8 Please provide an analysis of the intersections based on the minor roads having only single-lane approaches, which is more conservative and accounts for vehicles occasionally being positioned such that adequate space for another vehicle next to it is does not exist.

8.9 Please revise the SIDRA analyses with appropriate gap acceptance parameters. The two-way sign control function should only be used with the default software settings and should be turned off if the gap acceptance parameters are to be adjusted to reflect the values outlined in the Austroads Guidelines.

8.10 Please provide an assessment of the operational performance of the proposed access intersections on White Hills Road and Logan Road.

8.11 Based on the provided 'existing' 2023 traffic volumes, it is evident that the Sunday peak period can reasonably be considered the critical road network period, regardless of the likely reduced traffic generation of the proposed development. **Please provide** an assessment of the relevant Sunday periods in terms of intersection performances and midblock capacities.

8.12 Please provide a revised TIA applying higher traffic growth rates (e.g., 2-3% per annum) to the 'existing' 2023 traffic volumes when assessing the 10-year post development scenario as a means of sensitivity testing.

8.13 The pitt&sherry TIA provides spot parking surveys on Tuesday 17th January 2023 to verify the findings of previous on-street parking occupancy surveys that were carried out on Wednesday 5th December 2018. The more recent spot parking surveys occurred during the school holidays. **Please provide** additional surveys should be undertaken during normal periods (outside school holidays).

8.14 Please provide a revised TIA calculating the parking availability using a length of 6.7m instead of 6.0m for a parallel on- street parking space.

8.15 Please provide a revised TIA rectifying discrepancies regarding the results of the post-development midblock capacity analyses.

8.16 Please provide a revised TIA requiring the proponent to widen the section of Logan Road along the southern boundary of the subject site to the ultimate requirement of 7.0m (and not only 6.0m) to avoid the implementation of upgrades in a piecemeal fashion.

8.17 Please provide a revised TIA assessing the relevant Performance Criteria of the Planning Scheme's Road and Railway Assets Code (C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction) following the completion of the preceding requirements.

8.18 Please provide a revised TIA determining the required layouts of the proposed access intersections based on the requirements of both operational performance and safety and identifying and reserving any associated land acquisitions.

8.19 Please provide a revised TIA investigating and recommending on measures to mitigate the prevailing sight distance concerns at the Barclay Street / Macquarie Street / Cambock Lane intersection.

8.20 Please provide a revised TIA determining the fundamental design parameters of the proposed by-pass road and incorporating the likely resulting alignment requirements into the proposed Evandale expansion master plan layout.

8.21 Please provide a revised TIA showing an improved alignment of the proposed by-pass road to ensure an appropriate configuration of the intersection between this proposed road and Logan Road.

8.22 Please provide a revised TIA reviewing the design of the internal road for appropriate sight distances.

9. Infrastructure servicing

The future residential development (at scale) of the Evandale township, requires investigation as to water and sewerage services, given the forecast that existing capacity of these systems will require augmentation. The Engineering Services Report does not demonstrate how the development of the expanded area will be serviced, given existing service capacities.

The development of NOR-S5.2.2 (96 lots) and 5.2.3 (72 lots) plus Arthur Street (122 lots) will yield an additional 290 Lots and this would be in addition to the lots proposed by the expansion plan.

Additional Information
9.1 Please provide a demonstration of the sustainable servicing of the proposed expansion area incorporating water, sewer, stormwater and electrical/energy capacity incorporating the future development potential of those areas zoned for residential development within the existing Evandale SAP boundary.

10. Stormwater

The site drains mainly to a point on Logan Road. A detention basin is proposed on site to temporarily store site stormwater prior to exiting the site. It has not been demonstrated how stormwater will be directed to the stormwater system from there, noting that Council will not allow site stormwater to discharge to the Logan Road open drain, and the nearest watercourse is approximately 300m away through private land.

There are current overland flows paths through the site towards Drovers Court and Stockmans Road. The Subdivision Master Plan needs to take these overland flow paths into consideration in its design.

Additional Information
10.1 To demonstrate that stormwater can be drained from the site, and noting that council will not permit site stormwater to discharge to the Logan Road open drain, please provide long sections, gradients and diameters of proposed trunk mains, main channels and overland flow paths, proposed easements and/or acquisition requirements, connection points, proposed/required

extensions and/or upgrades to Council infrastructure to provide connectivity, and proposed/required cut/fill areas throughout the development.

10.2 Please provide a revised Subdivision Master Plan considering the overland flow paths through the site towards Drovers Court and Stockmans Road.

11. Launceston Airport

The Launceston Airport has requested that the following be addressed as a part of the amendment.

Additional Information Request
Please provide a response to the following:
11.1 Due to the proximity to the prescribed airspace surfaces (OLS) for Launceston Airport, any plant or equipment that extends to a height greater than 211m AHD, including during construction (such as cranes), may infringe the OLS and must be referred to the Launceston Airport for written approval prior to use. Approval from CASA and Air Services Australia may be required, and the process may take 12 weeks or longer to obtain.
11.2 Lights within 6km radius of an airport may cause confusion, distraction or glare to pilots in the air. Should any external lighting compromise aviation safety, Under Regulation 94 of the Civil Aviation Regulations 1998 (CAR1988) CASA may seek that the lighting be modified, shielded or extinguished to ensure aviation safety.
11.3 Prospective purchasers of lots within the proposed development should be notified as follows: *The subject site is located outside the Australian Noise Exposure Forecast (ANEF) and N contours as mapped and laid out in the Launceston Airport Master Plan 2020. However, the site is located under or near the departure tracks runway 14R and the arrival tracks for runway 32L as shown in the Master Plan. Hence this development may be subject to low-level noise from aircraft using these flight paths in the future. As a result, Launceston Airport does not accept any responsibility or liability in respect of any matter arising from aircraft noise and will not enter into any correspondence with the owner/occupier of the future dwellings relating to noise complaints due to the dwellings being located close to the airport and its flight paths.*

12. Mapping

Additional Information Request
12.1 Please provide GIS files in MapInfo of ArcInfo of the proposed mapping amendments.

This information is required under section 40 (1) of the *Land Use Planning and Approvals Act* 1993. In accordance with section 40 (2) of the Act, the statutory period for deciding on the application under section 38 of the Act will not recommence until the requested information has been satisfactorily supplied.

Please send any emails to planning@nmc.tas.gov.au including the reference **PLN-24-0030**. If you have any questions, please contact me on 6397 7303, or e-mail planning@nmc.tas.gov.au

Yours sincerely

Paul Godier
Senior Planner

Our ref: PLN-24-0030

03 December 2024

NORTHERN MIDLANDS COUNCIL

George Geagea
TIP 119 Pty Ltd & TIP 120 Pty Ltd
Traders in Purple
Level 27, 1 Farrer Place
SYDNEY NSW 2000

Attention: Jennifer Cooper

By email only: jennifer.cooper@tradersinpurple.com

Dear Ms Cooper

Additional Information
Request to Northern Midlands Council Local Provisions Schedule
Draft Planning Scheme Amendment 14/2024 – Rezone 4 Ridgeside Lane, 38 Arthur Street, CT116759/1 Logan Road & Part 211: Logan Road, Evandale

I refer to our teleconference on 28 November 2024 and as agreed provide the following outline of the issues for which further information is sought. In doing so I thank you for the valuable discussion which assists in the understanding of the intent of the application and those matters which are directly relevant to the Council's process.

1. Preliminary report Water and Sewerage

The revised report from MRC assists in the understanding of future service loads, noting your advice that discussions are continuing with TasWater. Whilst Council will refer the application to TasWater as a part of the process, the need for future augmentation as a part of the development sequencing is a critical consideration as to the sustainability of the application, particularly given those areas of the SAP currently zoned for general residential development. Advice as to infrastructure capacity and upgrades to meet demand sequencing based upon TasWater projections is sought.

2. 4 Ridgeside Lane

The issue of the most appropriate zone for this area is impacted by considerations as to road access and therefore development density. The discussion noted the proximity of the existing Rural Living Zone C classification to the north which suggests that a Rural Living zone may be the most appropriate for the future development of this site. This is appropriate given the location of the General Residential Zoning to the west reference NOR-5.2.2 Cambock Lane West Development Precinct Masterplan. A discussion and position relevant to the issue is appropriate.

3. Community Purpose Zone

The application would benefit from a more expansive discussion of the function of this zone in the context of the development plan and the existing population profile. In our discussions you referred to child care, aged persons and affordable housing use categories.

4. Local Business Zone

The Local Historic Heritage Code overlay and the existing development within the precinct limits the introduction of larger format retail and commercial services more generally. The introduction of the zone in the context of the expansion is logical and necessary to ensure adequate servicing of the area, whilst avoiding potential compromise of the heritage precinct.

5. Agricultural Land Assessment

As advised the report prepared by Pinion Advisory was referred for peer review. The following summarises the conclusions of that analysis and your response is sought.

- The Report should clarify the assessment area, the proposed development, the author's definition of commercial scale in relation to the ATO's definition and how this affects the assessment conclusions.
- The Report should better identify unconstrained and constrained land and how this affects the assessment conclusions.
- It appears there is an additional 45ML of scheme water associated with the development area that is not included in the Report.
- The Report should be updated to include the Proposed Evandale Expansion Plan proposal and all the identified proposed new zones and how they will impact on adjacent agricultural land.
- Mitigation measures to reduce the impact on adjacent agricultural land should be consistent with measures identified in the Planning Report.
- The Report should better consider the potential agricultural use of this land particularly in relation to potential irrigated horticulture, and the location in proximity to transport routes and access to skilled labour and agronomy support.
- The report should better consider the connectivity of the majority of this land that is relatively unconstrained with other farming land with irrigated horticulture potential and how that affects the potential of this land.
- The report should better consider the local and regional impact of the loss of this land in light of the total highly reliable irrigation water resources, unconstrained land resources and potential for perennial horticulture.

6. Future By Pass Road

If the reference to the future by pass road is to be maintained then clarification as to its relationship to the SAP amendment should be addressed. It is appreciated that the issue was raised during the consultation sessions, however the application should either demonstrate how its inclusion will value add the proposal and is made possible and provide clarity as to its relationship to traffic movement and management impacting the town. It is noted that the future road impacts property to the west which is not the subject of this application, which may raise a level of concern unnecessarily.

If you have any questions, please contact me on 6397 7303, or e-mail planning@nmc.tas.gov.au

Yours sincerely

P Godier.

Paul Godier
Senior Planner

ireneinc
PLANNING & URBAN DESIGN



12th February 2025

Paul Godier
Northern Midlands Council
13 Smith Street
LONGFORD, TAS 7301

Dear Paul

FURTHER INFORMATION RESPONSE – EVANDALE AMENDMENT

I am writing in response to the email received from Council on the 3/12/24 requesting further information in response to the proposed planning scheme amendment (PLN-24-0030).

Response to Council Request

1. Preliminary report Water & Sewerage

The revised report from MRC assists in the understanding of future service loads, noting your advice that discussions are continuing with TasWater. Whilst Council will refer the application to TasWater as a part of the process, the need for future augmentation as a part of the development sequencing is a critical consideration as to the sustainability of the application, particularly given those areas of the SAP currently zoned for general residential development.

Advice as to infrastructure capacity and upgrades to meet demand sequencing based upon TasWater projections is sought.

MRC have been regularly following up with TasWater, who have advised a formal response will be provided within the next 4-6 weeks.

In the interim, verbal feedback has confirmed they are satisfied with the level of information provided regarding staging, anticipated flows/loading etc. The proposal is currently being incorporated into their modelling, and the formal response will include advice on capacity and any potential upgrade requirements.

2. 4 Ridgeside Lane

The issue of the most appropriate zone for this area is impacted by considerations as to road access and therefore development density. The discussion noted the proximity of the existing Rural Living Zone C classification to the north which suggests that a Rural Living zone may be the most appropriate for the future development of this site. This is appropriate given the location of the General Residential Zoning to the west reference NOR-5.2.2 Cambock Lane West Development Precinct Masterplan.

A discussion and position relevant to the issue is appropriate.

smithstreetstudio | ireneinc
49 Tasma St, North Hobart, TAS 7000
Tel (03) 6234 9281
Fax (03) 6231 4727
Mob 0418 346 283
Email planning@ireneinc.com.au
PLANNING TAS PTY LTD TRADING AS IRENEINC PLANNING & SMITH STREET STUDIO PLANNING & URBAN DESIGN
ABN 78 114 905 074

The updated planning report provides analysis outlining the basis for applying the Rural Living Zone, to all proposed 'lifestyle' lots. It is understood that Council is broadly in agreement that the zone is most appropriate.

3. Community Purpose Zone

The application would benefit from a more expansive discussion of the function of this zone in the context of the development plan and the existing population profile. In our discussions you referred to child care, aged persons and affordable housing use categories.

The accompanying planning report has been updated to provide additional rationale regarding the application of the Community Purpose Zone, to facilitate future child care/aged care and retirement living opportunities.

4. Agricultural Land Assessment

As advised the report prepared by Pinion Advisory was referred for peer review. The following summarises the conclusions of that analysis and your response is sought.

- *The Report should clarify the assessment area, the proposed development, the author's definition of commercial scale in relation to the ATO's definition and how this affects the assessment conclusions.*
- *The Report should better identify unconstrained and constrained land and how this affects the assessment conclusions.*
- *It appears there is an additional 45ML of scheme water associated with the development area that is not included in the Report.*
- *The Report should be updated to include the Proposed Evandale Expansion Plan proposal and all the identified proposed new zones and how they will impact on adjacent agricultural land.*
- *Mitigation measures to reduce the impact on adjacent agricultural land should be consistent with measures identified in the Planning Report.*
- *The Report should better consider the potential agricultural use of this land particularly in relation to potential irrigated horticulture, and the location in proximity to transport routes and access to skilled labour and agronomy support.*
- *The report should better consider the connectivity of the majority of this land that is relatively unconstrained with other farming land with irrigated horticulture potential and how that affects the potential of this land.*
- *The report should better consider the local and regional impact of the loss of this land in light of the total highly reliable irrigation water resources, unconstrained land resources and potential for perennial horticulture.*

A response is being prepared and will be provided shortly.

5. Future By-pass Road

If the reference to the future bypass road is to be maintained then clarification as to its relationship to the SAP amendment should be addressed. It is appreciated that the issue was raised

during the consultation sessions, however the application should either demonstrate how its inclusion will value add the proposal and is made possible and provide clarity as to its relationship to traffic movement and management impacting the town.

It is noted that the future road impacts property to the west which is not the subject of this application, which may raise a level of concern unnecessarily.

The area set-aside for the future by-pass has been omitted from the Expansion Plan, given the traffic modelling does not identify a need for such infrastructure to accommodate post-development traffic numbers. Whilst opportunity for a future by-pass has not been ruled out, the area previously set-aside will accommodate a 5m wide vegetation buffer. Given the adjoining land to the east (forming part of 211 Logan Road) is also owned by TiP, an increase in the width and/or further setbacks/offsets from any future agricultural activities can be accommodated if need arises.

***8.14** - Please provide a revised TIA calculating the parking availability using a length of 6.7m instead of 6.0m for a parallel on-street parking space.*

Please refer to the amended TIA, which provides revised parking availability figures based on the above.

***8.17** - Please provide a revised TIA assessing the relevant Performance Criteria of the Planning Scheme's Road and Railway Assets Code (C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction) following the completion of the preceding requirements.*

Please refer to the amended TIA, which provides an assessment against the Road and Railway Assets Code.

6. Mapping

Additional Information Request

***12.1** - Please provide GIS files in MapInfo or ArcInfo of the proposed mapping amendments.*

GIS files are being prepared and will be provided shortly.

If you have any further queries in relation to any of the above, please contact me on 6234 9281.

Yours sincerely,



Phil Gartrell
Senior Planner
IRENEINC PLANNING & URBAN DESIGN

Submission to Planning Authority Notice

Council Planning Permit No.	PLN 24-0030	**Council notice date**	17/04/2024
TasWater details			
TasWater Reference No.	TWDA 2024/00452-NMC	**Date of response**	9/05/2024
TasWater Contact	David Boyle	**Phone No.**	
Response issued to			
Council name	NORTHERN MIDLANDS COUNCIL		
Contact details	Planning@nmc.tas.gov.au		
Development details			
Address	LOGAN RD, EVANDALE	**Property ID (PID)**	1662145
Description of development	Draft Planning Scheme Amendment - rezoning (CT 227117/1, CT 106773/1 and CT 81897/1)		

Conditions

Pursuant to the *Water and Sewerage Industry Act* 2008 (TAS) Section 56P(1) TasWater makes the following submission(s):

1. TasWater does not object to the draft amendment to planning scheme and has no formal comments for the Tasmanian Planning Commission in relation to this matter and will require to be notified of attending any subsequent hearings.

   Advice:

   As most of this rezoning fall outside TasWater's service land layer for sewage and water supply, TasWater has no plans to expand our network, in newly rezoned land or currently zoned vacant general residential land.

   If rezoning is successful, developer will be required to prepare and submit to TasWater for approval a Servicing Strategy for any proposed development of the land that would expand the Evandale water and/or sewerage systems. The Servicing Strategy shall address the construction of internal works for reticulation, any requirement for capacity upgrades of existing TasWater assets external to the development, and transfer infrastructure to the sewage treatment plant. Additionally, the land proposed for rezoning will represent a very significant increase in the demand placed on the sewage treatment plant (STP), vastly exceeding the licence limit for the STP and the capacity to treat and dispose of effluent. When capacity is reached at the STP, the Servicing Strategy may propose increases in treatment capacity and recycled water use for some early stages of development, and long-term transferring flows to Longford STP. These works are not within our current capital works program and funding by the developer may be required. The Servicing Strategy shall be developed in close consultation with TasWater throughout its preparation.

Advice

General

For information on TasWater development standards, please visit https://www.taswater.com.au/building-and-development/technical-standards

For application forms please visit https://www.taswater.com.au/building-and-development/development-application-form

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning

Authority Notice.			
TasWater Contact Details			
Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au

LAUNCESTON
AIRPORT

30 April 2024

Development Services Department
Northern Midlands Council
13 Smith Street
LONGFORD TAS 7301

Dear Sir / Madam

RE: Planning Application PLN24-0030 - Draft Planning Scheme Amendment 14/2024 to rezone folio of the Register 81897/1; 106773/1; 116759/1 and 227117/1 - 4 Ridgeside Lane, 38Arthur St, 95 Logan Rd & 211 Logan Rd, Evandale TAS 7212

I refer to the above Draft Planning Scheme Amendment and after review of the proposal, having regard to the National Airports Safeguarding Framework (NASF) guidelines, provide the following comments relating to the proposal:

- Part of the land falls under the airport's Obstacle Limitation Surfaces (OLS) with a lowest surface of 211m AHD. The proposed development does not infringe the Launceston Airport Prescribed Airspace surfaces if the buildings to be constructed are less than 20m above ground level. Anything above 211m AHD will intrude into the prescribed airspace (OLS) and will require approval under the Airports Act.

- The subject site is located outside the ANEF and N contours as mapped and laid out in the Launceston Airport Master Plan 2020. However, it is noted that the site is located under or near the departure tracks for runway 14R and the arrival tracks for runway 32L. Hence this development may be subject to noise from the aircraft using these flight paths in the future.

- The site is located outside the Maximum Lighting Intensity Zones, as mapped and laid out in the Master Plan, but is located with a 6km radius of the airport.

Therefore, Launceston Airport does not object to the **Draft Planning Scheme Amendment 14/2024 to rezone folio of the Register 81897/1; 106773/1; 116759/1 and 227117/1 - 4 Ridgeside Lane, 38Arthur St, 95 Logan Rd & 211 Logan Rd, Evandale TAS 7212**, however requests the following be addressed as part of the amendment:

1. Due to the proximity to the prescribed airspace surfaces (OLS) for Launceston Airport, any plant or equipment that extends to a height greater than 211m AHD, including during construction (such as cranes), may infringe the OLS and must be referred to Launceston Airport for written approval prior to use. Approval from

PO Box 1220 Launceston TAS 7250 Australia **Phone** +61 3 6391 6222 **Email** information@lst.com.au
launcestonairport.com.au ABN 79 081 578 903

CASA and Airservices Australia may be required, and this process may take 12 weeks or longer to obtain.

2. Lights within a 6km radius of an airport may cause confusion, distraction or glare to pilots in the air. Should any external lighting compromise aviation safety, under Regulation 94 of the Civil Aviation Regulations 1988 (CAR1988), CASA may seek that the lighting be modified, shielded or extinguished to ensure aviation safety.

3. Prospective purchasers of lots within the proposed development should be notified as follows:

   The subject site is located outside the Australian Noise Exposure Forecast (ANEF) and N contours as mapped and laid out in the Launceston Airport Master Plan 2020. However, the site is located under or near the departure tracks for runway 14R and the arrival tracks for runway 32L as shown in the Master Plan. Hence this development may be subject to low-level noise from the aircraft using these flight paths in the future. As a result, Launceston Airport does not accept any responsibility or liability in respect of any matter arising from aircraft noise and will not enter into any correspondence with the owner/occupier of the future dwellings relating to noise complaints due to the dwellings being located close to the airport and it's flight paths.

If you or the applicant has any questions relating to the above comments, please don't hesitate in contacting me.

Yours sincerely



Ilya Bruckscn
Head of Planning, Development and Customer
Australia Pacific Airports (Launceston) Pty. Ltd.

LAUNCESTON
AIRPORT

Department of State Growth
INFRASTRUCTURE TASMANIA

2 Salamanca Square, Battery Point
GPO Box 536, Hobart TAS 7001 Australia
Ph 1800 030 688
Email info@stategrowth.tas.gov.au Web www.stategrowth.tas.gov.au

Tasmanian Government

NMC Planning
Northern Midlands Council

By email: planning@nmc.tas.gov.au

Planning Application PLN-24-0030 - 4 Ridgeside Lane, 38 Arthur St, 95 Logan Rd & 211 Logan Rd and Draft Planning Scheme Amendment 14/2024 to rezone folio of the Register 81897/1; 106773/1; 116759/1 and 227117/1, Evandale TAS 7212

Thank you for the opportunity to comment on the planning scheme amendment for a proposed rezoning at Evandale. The Department of State Growth (State Growth) has reviewed the proposal, noting it will facilitate a substantial expansion of Evandale, and makes the following comments.

The proposed amendment seeks to rezone approximately 100 hectares of land from the Agriculture Zone to a combination of the General Residential Zone, Community Purpose Zone, Local Business Zone, and Open Space Zone. Approximately 85 hectares is proposed to be within the General Residential Zone. The rezoning will facilitate a proposed masterplan which includes the development of 264 residential lots, land for a retirement/aged care facility and other community services, commercial uses, and areas for public open space. Land not included within the masterplan but included in the rezoning (about 18 hectares) could provide for at least an additional 200 hundred lots.

I note that the SGS Economics Residential Supply and Demand Analysis states that land for approximately 200 additional dwellings will be required across the entire Northern Midlands LGA over the next 15 years, beyond the current supply, assuming a realisation rate of 50 percent. The proposed rezoning will provide capacity for at least an additional 460 dwelling lots solely in Evandale. This would nearly double the existing size of the township.

Under the Northern Tasmania Regional Land Use Strategy (NTRLUS), Evandale is a Supporting Consolidation Area. These Areas must support reliable and effective transportation and reduce vehicle dependency, and support access to existing activity centres. Evandale is serviced by low frequency bus services (currently three bus services a day during weekdays), and there are no plans to increase the frequency or review current bus routes. Access to the nearest district service centre at Longford would also be car-based.

State Growth has concerns about the potential demand for upgraded transport infrastructure in the vicinity of Evandale, should this development proceed. More specifically, such potential upgrades have not been scheduled or funded in the department's forward work program. It is noted that since the Evandale expansion was first proposed in 2018, significant areas of Perth have been zoned and developed for residential use. Large areas of Perth are also assigned to the Future Urban Zone. The expansion of Perth is well supported by State Government investment in new transport infrastructure and public transport services, which support improved accessibility to and from the Perth township.

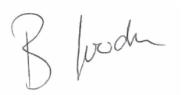
The Tasmanian Government and the eight northern councils are currently undertaking a comprehensive review of the NTRLUS. It is appropriate that proposals of this type, scale and location are considered as part of this review, and any rezoning would ideally be undertaken in context of the

outcomes of the review. It is noted that a study into the supply and demand of residential land across the region has been recently completed to inform the review of the NTRLUS.

Detailed comments on the proposal are provided in Attachment 1.

Please contact Christine Corbett, Development Assessment Planner on (03) 6166 3475 who can coordinate engagement with relevant State Growth officers, or email planningpolicy@stategrowth.tas.gov.au.

Yours sincerely,



BEN GOODSIR
CEO, INFRASTRUCTURE TASMANIA

28 May 2024

Attachment 1 – Detailed comments on proposed rezoning

Passenger transport

Evandale is currently serviced by one Tassielink Transit bus route out of Launceston. It is a 40-minute ride from Evandale via Perth in to Launceston, with three services running a day during the week and two per day on weekends. This frequency of public transport to Evandale is considered appropriate for the current population and demand.

It is unlikely that public transport services would penetrate into the proposed Evandale expansion area. However, the layout of the road network should be designed with a future public transport network in mind. Any future road layout should be well connected and capable of supporting larger vehicles. Residential density should be a minimum of 15 dwellings per hectare (gross density) for greenfield sites in order to potentially support a viable public transport network. However, even if this density target were achieved, this would not commit the Tasmanian Government to servicing the area in the future.

Landslide (Preliminary Site Investigation Evandale Expansion Masterplan, Pitt & Sherry 11 April 2023)

Mineral Resources Tasmania (MRT) is in the process of publishing a landslide map for Evandale. There are no landslides or landslide-susceptible areas identified within the mapping for the area of the proposed development.

Observations made during the site walkover (page 12) identify ‘gentle’ slopes between ‘10 and 40’ but no units are given. Slopes on the northern edge of the property are mentioned as up to ‘90’. Based on the form of the landscape, the units must be percent grade, not degrees.

The landslide scenario considered is a small (100 -1000 m^3) failure of unspecified location. The authors estimated its annual probably as 10^{-5} (corresponding to a return interval of 1 in 100,000 years). This seems reasonable for such a generally flat site, although estimating landslide likelihood (nominal frequency) is very difficult. A value of 10^{-4} (1 in 10,000 years) could be adopted as a more conservative estimate, particularly along the steeper slope at the northeast margin of the site. That area is the most susceptible to failure given its slope angle and the preferential groundwater flow (farm dams in adjacent gullies suggest springs in this approximate landscape position). In this scenario, the landslide would be just beyond the development area. However, a risk assessment should consider not only landslides on the site but also landslides that the site could influence outside its boundaries.

If an ‘unlikely’ (i.e. 10^{-4} annual probably) is adopted and the gully beyond the current development remains as agricultural land (consequence of ‘insignificant’ to possibly ‘minor’), the quantitative risk analysis from AGS’s Landslide Risk Management Guidelines still yields an estimated risk of low to very low. Notably, if development were to be allowed immediately north of this block, the risk would increase.

[2025] TASPComm 24

TASMANIAN PLANNING COMMISSION

DECISION

Planning scheme	Tasmanian Planning Scheme – Northern Midlands
Planning authority	Northern Midlands Council
Applicant	Ireneinc for Trader's In Purple
Date of decision	11 November 2025

Background

On 6 October 2025, Ireneinc Planning and Urban Design (the applicant), on behalf of Trader's In Purple, submitted a request to the Commission under section 40B(1) of Land Use Planning and Approvals Act 1993 (the Act). The request relates to a request to amend (14/2024) the Northern Midlands Local Provisions Schedule (LPS) and seeks a review of the Northern Midlands planning authority's (the planning authority) decision to refuse the request to amend the LPS.

The applicant's letter to the Commission, which outlined the reasons for the requested review, noted the proposed draft amendment was supported by a comprehensive suite of documents and recommended for certification by the assessing officer. The request was also accompanied by a copy of the planning authority's notice of decision.

To assist the Commission in its review, further information was sought from the planning authority on 13 October 2025. The information included:

- a copy of the Council agenda, attachments, and minutes for 15 September 2025; and
- any other material that was relevant to the planning authority's decision.

The planning authority provided the following documents to the Commission on 14 October 2025:

- a copy of the Council agenda and minutes for 15 September 2025; and
- a copy of the attachments to the Council agenda for 15 September 2025, including the applicant's report and supporting documents.

The draft amendment is an iteration of a similar proposal lodged in 2018. Following community consultation, the location and overall design of the proposal evolved. Most notably, the extent of the land proposed to be rezoned was reduced and relocated closer to the Evandale township.

The current iteration of the requested amendment was lodged with the planning authority in 2024. The matter was considered by the planning authority at its meeting on 15 September 2025. The assessing officer recommended the planning authority prepare and certify the amendment, which included rezoning of the land to

General Residential, Rural Living, Local Business, Community Purpose, and Open Space. The requested amendment also included modifications to the Evandale Specific Area Plan (SAP) to extend the SAP over the site and ensure its provisions were relevant to the proposed zones. The proposed modifications to the SAP included two new precincts (the Evandale Expansion Development Precinct Masterplan and the Arthur Street Development Precinct Masterplan) and an amendment to the Logan Road Development Precinct Masterplan. Diagrams were proposed, which would show an anticipated subdivision layout for the Evandale Expansion Development Precinct Masterplan and the Arthur Street Development Precinct Masterplan. Furthermore, Local Area Objectives were proposed for the Local Business Zone in the Evandale Expansion Development Precinct.

The attachments to the agenda report included the following documents submitted by the applicant in support of the requested amendment:

- Planning Report, Ireneinc, February 2025
- Residential Supply and Demand Analysis for Evandale, SGS Economics and Planning, May 2022
- Evandale Expansion Plan Cost Benefit Analysis, SGS Economics and Planning, August 2025
- Agricultural Assessment Report, Pinion Advisory, September 2023
- Engineering Services Report, MRC Consulting Engineers, December 2023
- Preliminary Water and Sewerage Report, MRC Consulting Engineers, October 2024
- Traffic Impact Assessment (Revision 01), Pitt & Sherry, January 2024
- Traffic Impact Assessment (Revision 02), Pitt & Sherry, December 2024
- Evandale Masterplan, proposed residential subdivision, Traffic Engineering Peer Review, May 2024
- Aboriginal Heritage Assessment, Cultural Heritage Management Australia, October 2023
- Historic Heritage Assessment Report, Cultural Heritage Management Australia, October 2023
- Natural Values Report, Natural Environment Services Tasmania, November 2022
- Preliminary Flood Hazard Assessment Report, MRC Consulting Engineers, December 2023
- Bushfire Management Report, Ireneinc, 2023
- Preliminary Site Contamination Investigation, Pitt & Sherry, April 2023; and
- Landslide Hazard Assessment, Pitt & Sherry, May 2023.

On 23 September 2025, the applicant received a notice from the planning authority advising of its decision to refuse the request for an amendment. The notice advised the planning authority had refused to prepare the amendment under section 38(2)(b) of the Act for the following reasons:

> Considering the matters referred to in section 38(1) of the Act, the planning authority is of the opinion that the proposed amendment:

1. Does not represent sound strategic planning and co-ordinated action by State and local government, contrary to Schedule 1, Part 2 (a) of the Act. Specifically, the Department of State Growth has advised it is appropriate that proposals of this type, scale and location are considered as part of the current comprehensive review of the Northern Tasmania Regional Land Use Strategy, and any rezoning ideally be undertaken in context of the outcomes of the review.
2. Does not protect public infrastructure and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community, contrary to Schedule 1, Part 2 (h) of the Act. Specifically,
    a) TasWater has advised that:
        - Most of the land is outside TasWater's serviced land for sewage and water supply.
        - TasWater has no plans to expand its network in newly rezoned land.
        - The land proposed for rezoning will represent a very significant increase in the demand placed on the sewage treatment plant, vastly exceeding the licence limit for the plant and the capacity to treat and dispose of effluent.
    b) The design parameters of the proposed by-pass road have not been determined, and the likely resulting alignment requirements have not been incorporated into the proposed Evandale expansion master plan layout.
    c) The site is located under or near the departure tracks for runway 14R and the arrival tracks for runway 32L as shown in the Master Plan. Hence this development may be subject to low-level noise from the aircraft using these flight paths in the future.
3. Has not considered the effects on the environment, specifically the green and gold frog, contrary to Schedule 1, Part 2 (c) of the Act.
4. Given its scale, does not conserve areas or places (being Evandale) of historical interest, contrary to Schedule 1, Part 2 (g) of the Act.

Commission consideration

1. Section 40B(1) of the Act states:
    (1) A person, within 14 days of receiving a notice under section 38(3) that the planning authority has decided not to prepare a draft

amendment of an LPS in accordance with the person's request, may request the Commission to determine whether the Commission is satisfied that the planning authority took into account, in making its decision, the matters referred to in section 38(1).

2. Section 38(1) states that a planning authority must be satisfied that a draft amendment of an LPS will meet the LPS criteria, which are listed under section 34(2) of the Act.
3. The role of the Commission under section 40B(1) is limited. It does not require that the Commission reviews the planning merit of the planning authority's decision. Rather, it requires that the Commission is satisfied that the planning authority has properly considered the LPS criteria.
4. It is noted that the meeting agenda contained a detailed report by suitably qualified planner that provided a detailed assessment against the LPS criteria. The report concluded the amendment met the LPS criteria and was considered by the planning authority at its meeting on 15 September 2025.
5. It is clear from the planning authority reasons above, that it did consider 4 of the Part 2 Objectives in Schedule 1 of the Act, which are Objectives of the Planning Processes Established by the Act. However, there is no information available to indicate that it considered the merit of the detailed information provided by the applicant. Further there are no reasons why the position adopted by the planning authority has been preferred to the position advanced by the applicant.

Consideration of other LPS Criteria

6. A detailed response to outline how the planning authority considered the remaining LPS criteria was not provided.
7. For example, there is no consideration of the Schedule 1 Part 1(d) objective to facilitate economic development in accordance with the three proceeding objectives in Part 1. There is no consideration of the Schedule 1 Part 2 Objective to promote the health and wellbeing of all Tasmanians by ensuring a pleasant, efficient and safe environment for working, living and recreation. These considerations are also relevant to LPS criterion s34(2)(c).
8. Similarly, there is no consideration of LPS criterion s34(2)(d) which relates to consistency with each State Policy, the Protection of Agricultural Land Policy, being a relevant State Policy.
9. On the information available it is not possible to conclude that the planning authority gave comprehensive consideration to the request in light of the information presented, and took into account all the matters referred to in section 38(1). None of the remarks given by the councillors at the Council meeting clarify same.
10. The Commission accepts that assessment against the LPS Criteria, and indeed within some of the individual criteria (such as the RMPS objectives) may lead to potentially competing outcomes. The challenge for the decision-making process is to ensure that all matters related to relevant LPS criteria are taken into

account, to reconcile any competing outcomes where possible, and provide reasons for a decision having regard to all the information presented.

Decision

11. After reviewing the documents provided by the planning authority, I am satisfied the planning authority was provided enough information to determine whether the requested amendment met the LPS criteria. I also consider it clear that the planning authority did not give comprehensive consideration to the LPS criteria as required by section 38(1).

Direction

12. In accordance with section 40B(4)(a) of the Act, the Commission directs the planning authority to reconsider whether to prepare a draft amendment in relation to a request made on behalf of Trader's In Purple, considered by the planning authority on 15 September 2025.



John Ramsay
Executive Commissioner

SIGNIFICANT TREES NOMINATION LIST

ITEMISED TREES WITH PHOTOS



FINAL FEBRUARY 2026

P.O. Box 156
Longford Tas 7301

Telephone (03) 6397 7303
Facsimile (03) 6397 7331

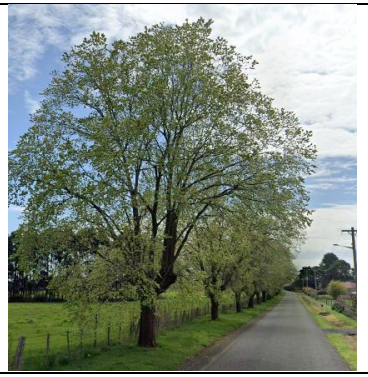
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Tasmania's Historic Heart

AVOCA

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
A1	16 Blenheim Street	Boucher Park	Betula pendula	Silver Birch	52	Memorial Planting - plaques completed ANZAC Day 2015.	
A2	16 Blenheim Street	Boucher Park	Pinus halepensis	Aleppo Pine (Lone Pine)	1	Memorial Planting	

BISHOPSBOURNE

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
B1	Bishopsbourne Road	Road Reserve	Ulmus X hollandica	Dutch Elm	16	War Memorial Avenue of Trees. Believed to have been planted in 1918 in presence of then premier Walter Lee. Of original 20 trees allocated (as per Council Minute 10/08/1918), 16 remain.	

CAMPBELL TOWN

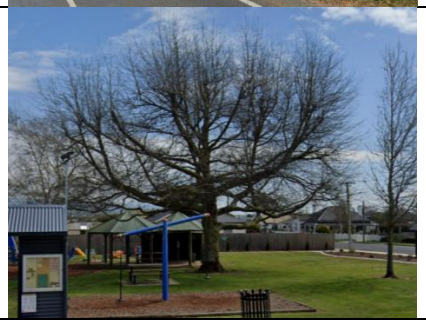
Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
CT0	89 High Street	Valentine Park	Pyrus communis	Pear Tree	1	Already listed as significant tree	N/a
CT1	55 High Street	St Andrews Uniting Church	Ulmus procera	English Elm	32	100+ years old. Significant part of site landscaping and streetscape appeal for northern entrance to Campbell Town	
CT2	151 High Street		Sequoiadendron giganteum	Wellingtonia or Giant Sequoia	1	Significant size. Focal tree on entrance to Campbell Town from the south.	

CT3	In front of 147 High Street	Road Reserve	Quercus robur	English Oak	3	Last remaining oaks in Road Reserve. Soften southern entrance to Campbell Town. Created avenue with oaks/plane trees on other side of the road that have been removed by Tasnetworks.	
CT4	22 Bedford Street		Quercus robur	English Oak	2	Significant trees within streetscape. Size and age.	

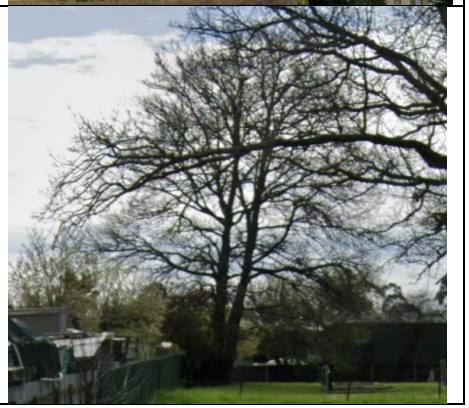
CRESSY

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
C1	54 Main Street		Quercus robur	English Oak	1	Will mature to become significant streetscape tree	
C2	133 Main Street		Quercus robur	English Oak	1	Significant tree within streetscape. Property named Oakview Manor in reference to oaks.	

C3	103 Main Street		Quercus robur	English Oak	1	Not prevalent to streetscape but located on boundary and may be subject to future development pressure as adjacent land is undeveloped and zoned residential.		
C4	109 Main Street		Fraxinus Raywood	Claret Ash	1	Very close to dwelling.		

C5	Cressy Road (on boundary of Cressy House – 919 Cressy Road and CT50936/1)		Quercus robur	English Oak	39	Outstanding avenue of trees. Key feature of streetscape.		
C6	92a Main Street	Bartholome w Park	Quercus palustris	Pin Oak	1	Key landscape element of park		

C7	1 Archer Street		Sequoia sempervirens	Coastal Redwood	1	Only redwood established within Cressy township.	
C8	112-118 Main Street	Cressy District High School	Quercus coccinea	Scarlet Oak	1	Important tree for school community. Outstanding aesthetic value.	

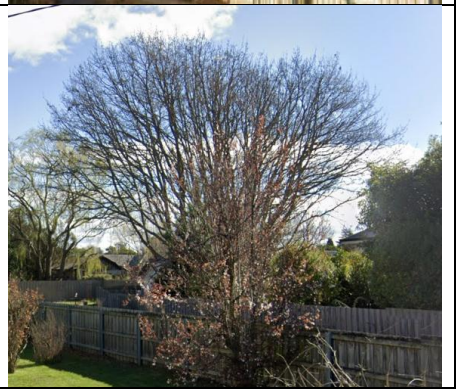
C9	110 Main Street	Holy Trinity Anglican Church		Gum Tree	1	Other similar tree on site removed due to becoming dangerous. Likely that this tree will also outgrow its location in residential area and may require removal for safety reasons.	
C10	6B Saundridge Road	Methodist Church Cemetery	Quercus robur	English Oak	1	Removed.	

C11	11 Wilson Street		Morus Nigra	Mulberry Tree	1	Approximately 140-160 years old. Tree planted by Rev. Norman as the land was the first Anglican Rectory in Cressy. Threat of future development pressure.	
C12	11 Wilson Street		Quercus robur	English Oak	1	150-160 Years old with outstanding aesthetic value. Tree planted by Rev. Norman as the land was the first Anglican Rectory in Cressy. Threat of future development pressure.	

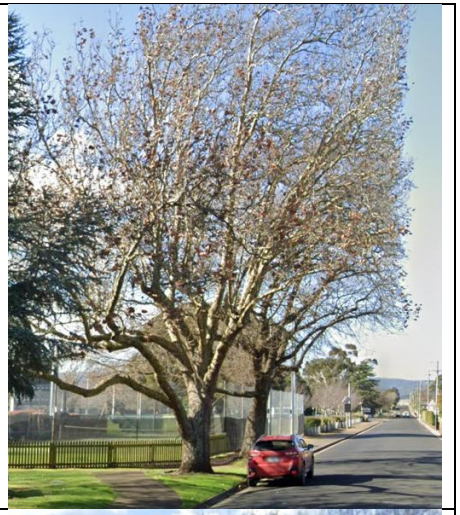
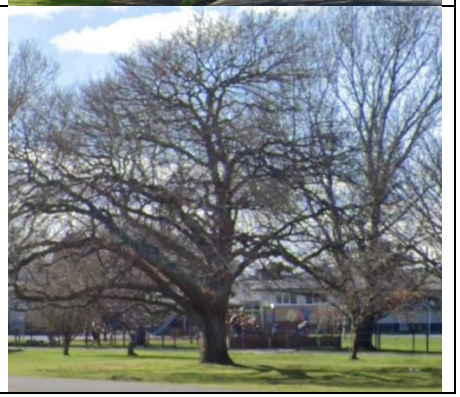
DEDDINGTON

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
D1	Uplands Road		Pinus radiata	Radiata Pine/Monterey Pine	1	Planted by Roy and Percy Pinner in 1917 before they left for World War 1. P. Pinner was killed in action in Baupomme, France. Only one of the two trees originally planted remains. Includes plaque affixed by Roy Pinner in 1966.	

EVANDALE

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
E1	3a Macquarie Street		Quercus robur	English Oak	2	Part five agreement on title to retain 2 oak trees.	
E2	14a Macquarie Street		Quercus robur	English Oak	1	Part of original Evandale plantings - established in 1966 aerial photographs - 60+ years old.	

E3	11 Russell Street		Ulmus minor	Field Elm	1	Important part of streetscape.	
E4	31 Cambock Lane		Quercus robur	English Oak	2	Last remaining trees from group of plantings on Marananga farm.	

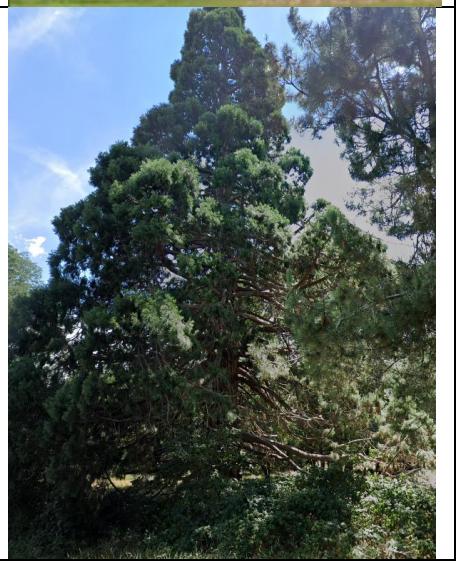
E5	18 High Street	Community Centre	Quercus robur & Platanus x acerifolia	English Oak & London Plane	2	Important element of streetscape - at risk for road widening/works.	
E6	1-3 Barclay Street	Morvan Park	Quercus robur	English Oak	1	Feature tree within the entrance to Morvan Park and Evandale Primary School	

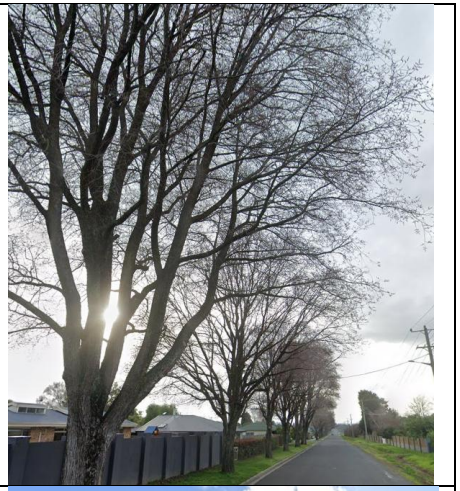
E7	2-14 Logan Road	Falls Park	Ulmus procera, Quercus robur, Cupressus Sempervire, Sequoia sempervirens	English Elm, English Oak, Italian Cypress & Coastal Redwood	32	A significant collection of established trees of varying age.	

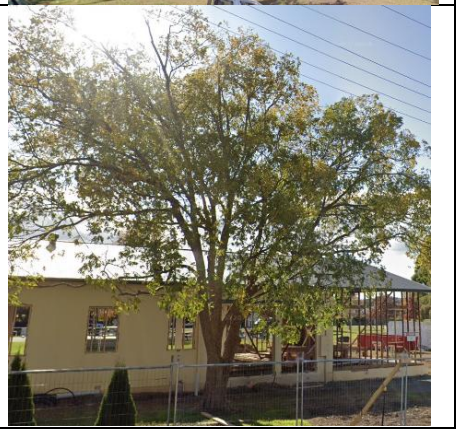
LIFFEY

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
LY1	1443 Liffey Road	Liffey Hall	Cryptomeria Japonica, Cryptomeria Deodara, Pinus halepensis	Japanese cedar, Himalayan cedar, Aleppo pine	19	19 Trees, each representing a former pupil at Liffey School who fought in WW1. Replacement plantings in 2015.	

LONGFORD

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
L1	23 William Street	Longford Primary School	(Luma apiculata) Emerald Tree	Chilean Myrtle	3	Of social value to the local school community and place of gathering.	
L2	390 Illawarra Road	Mountford	Sequoiadendron giganteum	Sequoia Wellingtonia	1	Likely planted by Alexander Clerke, previous owner of Mountford around 1844, making tree 180+ years old	

L3	Wellington Street	Road Reserve	Ulmus procera, Ulmus glabra, Ulmus minor & Platanus x acerifolia	English Elm, Wych Elm, Field Elm & one London Plane	52	Iconic part of streetscape, planted in 1894 by then Warden W.H.D. Archer.	
L4	53 Wellington Street	Longford Village Green 'Victoria Square'	Eucalyptus camaldulensis	River Red Gum	7	Planted post 1961 once pool removed. Some trees with limited life expectancy	
L5	53 Wellington Street	Longford Village Green 'Victoria Square'	Eucalyptus ovata	Swamp Gum	1	Planted post 1961 once pool removed. Some trees with limited life expectancy	

L6	53 Wellington Street	Longford Village Green 'Victoria Square'	Eucalyptus viminalis	Manna Gum	3	Planted post 1961 once pool removed	
L7	53 Wellington Street	Longford Village Green 'Victoria Square'	Eucalyptus nicholii	Narrow-leaved Black Peppermint	9	Planted post 1961 once pool removed. Some trees with limited life expectancy	
L8	53 Wellington Street	Longford Village Green 'Victoria Square'	Ulmus parvifolia	Chinese Elm	1	Key planting at entrance to War Memorial Hall	

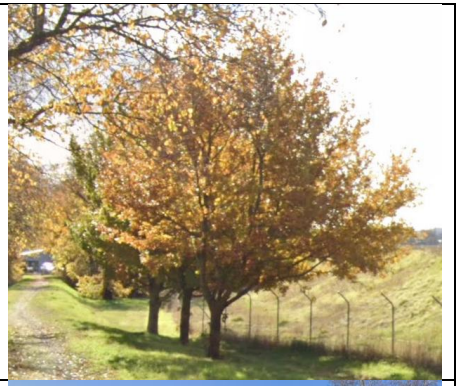
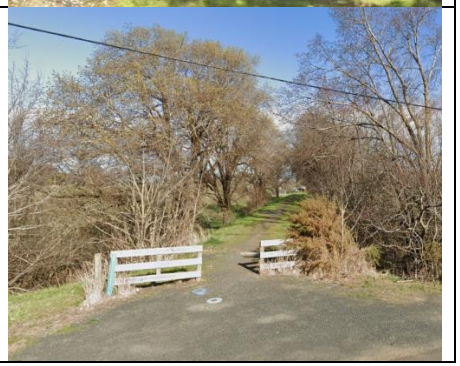
L9	53 Wellington Street	Longford Village Green 'Victoria Square'	Pinus halepensis	Aleppo Pine	1	Commemorative planting	
L10	53 Wellington Street	Longford Village Green 'Victoria Square'	Quercus ilex	Holm Oak	1	Significant age and key planting on the Village Green.	

L11	53 Wellington Street	Longford Village Green 'Victoria Square'	Phoenix canariensis	Canary Island Date Palm	1	Unique tree within park setting. One remaining of two originally planted - planted by Warden (Mr. G. Carins) and Mr A. Archer in 1934, either side of the monument.	
L12	53 Wellington Street	Longford Village Green 'Victoria Square'	Sequoiadendron giganteum	Wellingtonia Or Giant Sequoia	1	Iconic tree in Longford streetscape. Has lighting to commemorate important events.	

L13	53 Wellington Street	Longford Village Green 'Victoria Square'	Quercus robur	English Oak	1	Reflects location of original plantings on the Village Green.	
L14	65 Wellington Street		Cedrus Libani	Cedar of Lebanon	1	120 years +, slow growing, uncommon in garden setting	

L15	70 Pakenham Street		Eucalyptus		1	Of personal significance to current property owner (planted by father); however, adjacent to powerline and large species for residential area. Originally part of corpse of trees, with three recently removed by Tas Networks (presumably for safety reasons).	
L16	873 Illawarra Road	Valleyfield	Quercus robur	English Oak	23 (6 old)	Avenue of trees, some of significant age/structure – circa 1850 sketches depict trees along driveway. Younger trees will form replacement plantings.	

L17	Anstey Street	Road Reserve	Melaleuca linariifolia	Snow-in-Summer	14	Unique example of native street tree avenue	
L18	Adjacent to 10 Union Street	Road Reserve	Platanus x acerifolia	London Plane	2	Last two remaining of original plane trees planted along entrance to town. Other trees in avenue lost to floods etc.	

L19	Latour Street Extension (Between Smith and Union St)	Road Reserve	Quercus robur	English Oak	3	Entrance plantings established in 1915	
L20	Latour Street Exension (Between Smith and Union St)	Road Reserve	Ulmus X hollandica	Dutch Elm	13	Entrance plantings established in 1915	

L21	Illawarra Road	Road Reserve	Populus nigra	Lombardy Poplar	16	Poplars closest to bridge visible in historical images dated 1st April 1949. Poplars adjacent to southern farm entrance appear to be planted by Heritage Avenue committee. Impacted by Illawarra Road upgrades.	
L22	Crn Cressy Road, Brickendon & Catherine Streets	Coronation Park	Acacia Melanoxylon	Tasmanian Blackwood	6	Longford Heritage Avenue - Australian Bicentenary. One tree incorrectly identified in nomination	
L23	Crn Cressy Road, Brickendon & Catherine Streets	Coronation Park	Eucalyptus viminalis	Manna Gum	1	Planted 14th Sep 1985 as part of Longford Heritage Avenue - A Community Project to Honour the Pioneers of this District	

L24	2a William Street	Christ Church	Various	Various. Already listed: Irish Strawberry, Olive, Portugese Laurel	125	Refer separate ENSPEC data (2014) for complete listing (98 trees nominated). Grounds were originally laid out by a Dr James Appleyard, who aimed to plant every tree listed in the Bible in the grounds. Heritage listed site with minimal risk of development pressure.	
L25	Tannery Road (eastern side)	Road Reserve	Various	Golden Ash, Desert Ash, English Oak, Common Ash, Black Poplar, White Poplar, unspecified pear variety, English Oak, Claret Ash, Small-leaved Linden, Silver Birch, Sycamore, Norway	47 nominated	Consider Local Historic Landscape Precinct to capture all trees forming part of the entrance avenue to Longford and	

				Maple, Indian Paper Birch, Balsam Poplar			
L26	39 Smith Street	Recreation Ground	Sequoia sempervirens & Quercus Robur	Coast Redwood & English Oak	2	Significant age/stature. Believe to have been planted in 1893.	
L27	Smith Street	Road Reserve	Ulmus minor	Field Elm	3	Early (pre war) Longford plantings	

L28	11B Smith Street	Ambulance Station		Elm	1	Early (pre war) Longford plantings	
L29	Archer Street	Caravan Park	Sequoiadendron giganteum	Wellingtonia Or Giant Sequoia	1	Significant age/stature	

L30	23 William Street	Longford Primary School	Sequoiadendron giganteum	Wellingtonia Or Giant Sequoia	1	Potentially planted at same time as rec ground and caravan park redwoods (1890's) – school established 1830.	
L31	23 William Street	Longford Primary School	Quercus Rubra	Red Oak	1	Thought to be tree planted 16th June 1919 in memory of Corporal Guy Briggs who lost his life in Gallipoli in 1915. Planted by his neice and brother. Tree from nursery of Frank Walker, whom he had been working with as an apprentice at the time of his enlistment. Article in Daily Telegraph 19 June 1919 pg. 8 references tree as a Red Oak.	

L32	15 Lewis Street		Phoenix canariensis	Canary Island Date Palm	2	Retention protected by Planning Permit P08-201. An iconic element of the streetscape.	

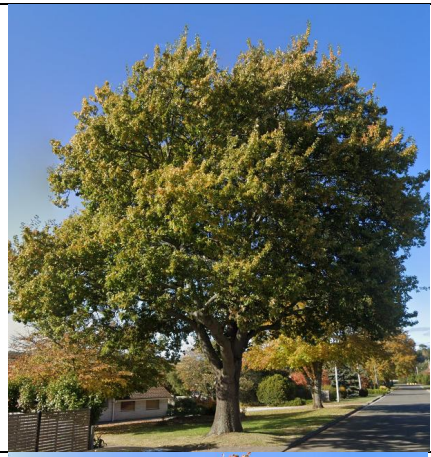
PERTH

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
P1	Adjacent to 2a William Street	Road Reserve	Quercus robur	English Oak	1	Significant age, size, structure - landscape feature of street	

P2	18 William Street	The Stone House	Magnolia Grandiflora?	Magnolia	1	Significant part of garden landscape		
P3	18 William Street	The Stone House	Quercus coccinea	Scarlet Oak	1	Significant part of garden landscape		
P4	18 William Street	The Stone House	Fagus sylvatica 'purpurea'	Copper Beech	1	Significant part of garden landscape		

P5	57 Clarence Street		Araucaria bidwillii	Bunya Pine	1	75 years +. Significant tree within township visible from highway. Dwelling constructed in 1890 – possible tree was planted around this time.	
P6	Clarence Street (in front of 69 & 71-73)	Road Reserve	Platanus x acerifolia	London Plane	2	75 years +. Mark junction of Clarence and Talisker Streets	

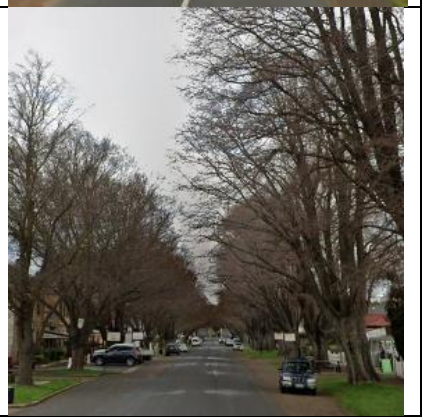
P7	Rear of 12 Old Bridge Road	Road Reserve	Quercus robur	English Oak	1	75 years +. Similar age to those planted along Old Bridge Road.	
P8	Eskleigh Entrance road	Road Reserve	Quercus robur	English Oak	1	75 years +. Similar age to those planted along Old Bridge Road.	

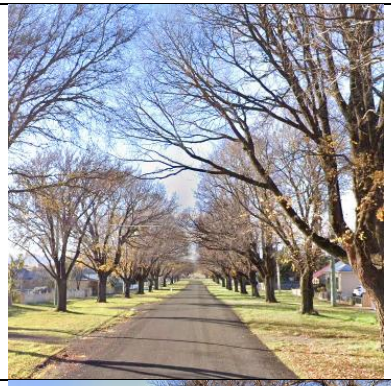
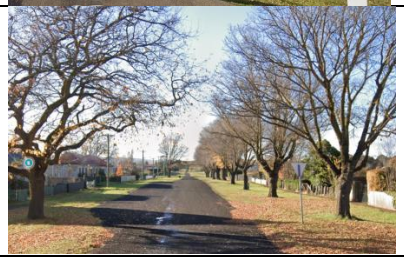
P9	Old Bridge Road	Road Reserve	Quercus robur	English Oak	3	75 years +. Original plantings along road side.	
P10	Old Bridge Road	Road Reserve	Tilia X europaea	Common Linden (also historically known as Lime Trees)	3	75 years +. Original plantings along road side.	

P11	William Street Reserve	Crown Land	Quercus robur	English Oak	1	75 years +. Similar age to those planted along Old Bridge Road.	
P12	163 Fairtlough Street	Sports Ground	Quercus robur	English Oak	2	Last of original sports ground plantings	

P13	in front of 19 & 23 Main Road	Road Reserve	Ulmus X hollandica	Dutch Elm	2	Pioneer Avenue Elm Trees. THC Listed. As per datasheet - their age and their position on the Midland Highway makes it very likely that they were planted as part of the Pioneer Avenue in the period 1935-41.	
P14	In front of 15 Scone St & rear of 80 Main Rd	Road Reserve	Quercus robur	English Oak	2	75 years +. Original plantings along road side - last of existing avenue	

ROSS

Nomination Ref #	Address	Park/place Name	Species	Common name	# of trees	Comment on significance	Photo
R1	Chiswick Road, Midland Highway to the Boulevards	Road Reserve	Ulmus glabra 'Lutescens'	Golden Elm	110	Extensive avenue of trees that creates entrance statement for Ross	
R2	Church Street, between Boulevards and Bridge Street	Road Reserve	Ulmus X hollandica	Dutch Elm	56 trees form avenue	48 trees already listed on Significant Trees Register.	

R3	Badajos Street, between Esplanade and Park Street	Road Reserve	Ulmus X hollandica	Dutch Elm	37	Significant streetscape trees	
R4	Badajos Street, between Park Street & Waterloo Street	Road Reserve	Quercus robur & Ulmus X hollandica	English Oak & Dutch Elm	11	Significant streetscape trees. Partly impacted by powerlines	
R5	High Street, between Esplanade and Bond Street	Road Reserve	Ulmus X hollandica, Ulmus procera & Quercus robur	Dutch Elm, English Elm & English Oak	14	Significant streetscape trees	

R6	Bridge Street, between Church Street and the Ross Bridge	Road Reserve	Ulmus X hollandica	Dutch Elm	13	Significant streetscape trees. Some replanting.	
R7	Church Street, between the Ross Cenotaph on Bridge Street and the Ross Uniting Church	Road Reserve	Quercus robur, Fraxinus oxycarpa, Ulmus sp., Ulmus X hollandica	English Oak, Desert Ash, Unspecified Elm & Dutch Elm	8	Significant streetscape trees. Median Planting.	
R8	In front of 14 Bridge St	Road Reserve	Ulmus parvifolia	Chinese Elm	1	Provides shade and ambiance to streetscape.	

R9	18 Bridge Street	Old Ross School	Fraxinus sp	Ash	8	THC listed site – creates avenue along driveway visible from street.	
R10	33 Church Street	Village Green	Pinus halepensis	Aleppo Pine (Lone Pine)	1	Memorial Planting	

Department of State Growth
Transport Group

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Tasmanian Government

Erin Miles
Strategic Project Officer
Northern Midlands Council
13 Smith Street
Longford TAS 7301

Significant Tree Register, Illawarra Road

Dear Erin,

Thank you for your correspondence regarding the Significant Tree Register project that you are working on in relation to the Local Provisions Schedule.

We understand that there are a number of trees which may be listed in the Significant Tree Register, which are adjacent to, or within the Department of State Growth's road reserve. Of particular note are the trees adjacent to Illawarra Road.

To assist in your assessment, please find attached a summary of the trees adjacent to the Illawarra Road corridor which may be impacted by the upcoming road works:

Site/Trees	**Status**
Illawarra Road Longford, Road Reserve. (Mountford Hill) – 16 Poplars	At least 7 of these more substantial poplar trees, which are currently within the road reserve, will require imminent removal. The design has aimed to retain as many of the trees along the corridor as possible, however removal of these 7 poplar trees closest to the bridge will be required as these will restrict the feasible and cost-effect design to improve safety and efficiency for the travelling public along this section of highway. The adjoining land-owner is in support of reinstating the trees as soon as possible, and agreed to replant poplars within his property, to replace those lost.

	The trees in question can be seen on the attached plan.
390 Illawarra Road, Longford Sequoia Wellingtonia	No anticipated impacts from the road works.
873 Illawarra Road, Longford English Oak	This property is located in Stage 2a of the Illawarra Road upgrades. The plans are not finalised in this section of the road corridor to determine whether there will be any impact upon this tree.
Tannery Road – entrance plantings to Longford	The Department is currently assisting Council regarding access options for the Tannery Road Fuel Depot at 26a Tannery Road. The impact of these works has not been determined however early investigations suggest it will be minimal and restricted to relocation of some rose bushes.

Given this advice, it is our preference that the Poplar Trees in particular, and the Rose bushes adjacent to Tannery Road, to not be nominated on the Significant Tree Register. We anticipate lodging detailed plans to Council for the Stage 3 Illawarra Road upgrade in the coming months and are actively progressing Stage 2a simultaneously.

Yours sincerely



Kristian Pierson
PROJECT MANAGER

10 December 2025

Department of State Growth
Transport Group

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Ph (03) 6165 4021
Email Kristian.pierson@stategrowth.tas.gov.au
Web www.stategrowth.tas.gov.au

Tasmanian Government

Erin Miles
Strategic Project Officer
Northern Midlands Council
13 Smith Street
Longford TAS 7301

Significant Tree Register, Illawarra Road

Dear Erin,

Thank you for your correspondence dated 18 December 2025 regarding the Significant Tree Register project that you are working on in relation to the Local Provisions Schedule.

Despite our previous advice, we understand that the Council intends to continue listing a number of trees which are either adjacent to, or within the road corridor. Of particular interest in relation to the Illawarra Road Upgrade project, are the Lombardy Poplar trees on Illawarra Road, adjacent to 'Mountford', 389 Illawarra Road, Longford.

We understand that the decision to list these trees has come about from community nominations.

As previously advised, at least 7 of these more substantial poplar trees, are within the road reserve, and are proposed to be removed over the next 6 months. The removal of these trees is currently exempt under Clause 4.2.4 of the State Planning Provisions. The Department may progress to removing these trees, based on this exemption, in the coming months.

The Department has been working with the Northern Midlands Council and with the adjacent landowner in relation to this project for over 5 years, and over this timeframe, the Council has been advised of the need to remove these trees. Further to that, the adjacent landowner has commenced a program of replanting poplars in this area, and the Department is happy to commit to supporting the landowner in ensuring these trees are established, and protected from grazing, to maximise their opportunity for growth.

The Department understands that the Council can determine which trees it nominates to list on the Significant Tree Register, noting that the listing on that register will also require a Scheme amendment through the Tasmanian Planning Commission which can take some months to complete. Given this, it is plausible that by the time the Scheme amendment process is completed, these trees may have already been removed.

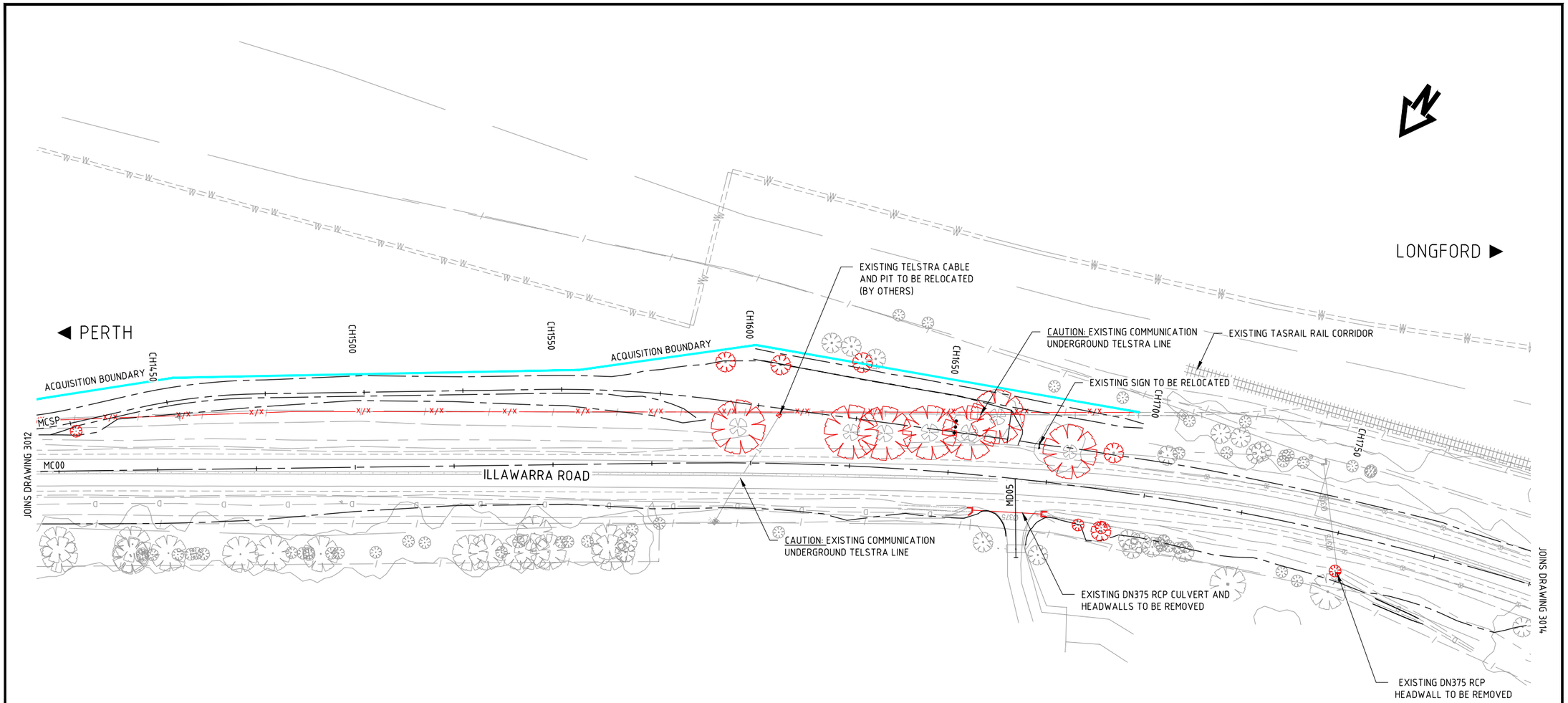
Accordingly, we request that the Council reconsider their approach of listing these trees. In the event that Council takes the view that they should be listed, please be advised that the Department will make a formal representation, as well as present to the Tasmanian Planning Commission, opposing the listing of these trees.

Yours sincerely



Kristian Pierson
PROJECT MANAGER

29 January 2026



LEGEND:

- VEGETATION TO BE REMOVED
- ACQUISITION LINE
- EXTENT OF PROJECT
- DEMOLISH
- xTx TELEPHONE LINE - REDUNDANT
- x/x FENCE - REDUNDANT/REMOVED
- xSWx STORMWATER PIPE - REDUNDANT
- xSx SEWER MAIN - REDUNDANT

BOUNDARY LINES SHOWN ARE PRELIMINARY ONLY AND IN A COMBINATION OF COMPILED PLANS AND OTHER RELEVANT TITLE INFORMATION. FIELD SURVEY CONFIRMATION OF BOUNDARIES TO BE UNDERTAKEN TO DETERMINE SURVEY ACCURATE BOUNDARY LOCATIONS FOR ANY PROPERTY ACQUISITION DETERMINATION

BASE SURVEY SUPPLIED BY JACOBS
SURVEYED ON: 21.08.20
HORIZONTAL DATUM: GDA2020
GRID: MGA2020, ZONE 55
LEVEL DATUM: AHD

TO PROTECT THE ENVIRONMENT, CLEARING SHALL BE IN ACCORDANCE WITH SPECIFICATION AND CONFINED TO THAT REQUIRED FOR EARTHWORKS, DRAINAGE AND FENCING. EXISTING TREES, SHRUBS AND GRASSES NOT AFFECTED BY THE ABOVE WORKS SHALL BE RETAINED AND DISTURBED AS LITTLE AS POSSIBLE.

BEFORE YOU DIG www.byda.com.au

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

No.	Amendment Description	Initials	Date
C	ISSUED FOR DEPARTMENT REVIEW	AM	14/11/2025
B	ISSUED FOR INTERNAL REVIEW	MM	13/11/2025
A	ISSUED FOR INTERNAL REVIEW	GD	13/11/2025

A3 original | This sheet may be prepared using colour and may be incomplete if copied | Co-ordinate System: GDA2020/MGA 55 | Height Datum: AHD 83

SCALES
0 10 20 30 40 50
SCALE 1:1000

Burbury CONSULTING
Tasmanian Government

DESIGNED DH
REVIEWED MM

Department of State Growth
ILLAWARRA ROAD UPGRADE - STAGE 3
PATEENA ROAD TO SOUTH ESK RIVER BRIDGE
ROADWORKS
EXISTING SITE CONDITIONS AND DEMOLITION PLAN
SHEET 4

CONTRACT No.	DRAWING	PRINTED DATE	SHEET No.
4090	3100B-2-3-S3013	14-Nov-25, 3:35 PM	3013

REGISTRATION NUMBER
A1468.005

REVISION A

Department of State Growth
TRANSPORT DELIVERY AND ASSETS

Salamanca Building, Parliament Square
4 Salamanca Place, Hobart TAS 7000
GPO Box 536, Hobart TAS 7001 Australia
Email info@stategrowth.tas.gov.au Web www.stategrowth.tas.gov.au
Your Ref 13/004/001/001 - EM / D25/359186/1

Tasmanian Government

Maree Bricknell
Acting General Manager
Northern Midlands Council
PO Box 156
Longford TASMANIA 7301

Dear Maree

Significant Tree Register

Thank you for your letter of 18 December 2025 about several trees located within the state road reserve the Northern Midlands Council has identified for inclusion on the Significant Tree Register of the Northern Midlands Local Provisions Schedule that forms part of the Tasmanian Planning Scheme.

The Department of State Growth does not object to the three oak trees in front of 147 High Street, Campbell Town, the oak tree at Eskleigh Entrance Road, Perth and the oak tree at the rear of 12 Old Bridge Road, Perth being considered for inclusion on the Significant Tree Register.

The Department of State Growth does object to the 16 nominated Lombardy Poplar trees along Illawarra Road, Longford. Please note that correspondence from the department regarding the 16 Lombardy Poplar trees on Illawarra Road, Longford was sent separately to the Northern Midlands Council on 10 December 2025 and more recently on 29 January 2026.

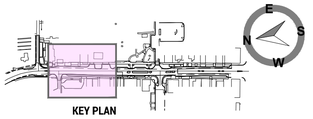
Please contact Liza Fallon by email at Liza.Fallon@stategrowth.tas.gov.au or telephone on 6165 6676 if you require any additional information.

Yours sincerely

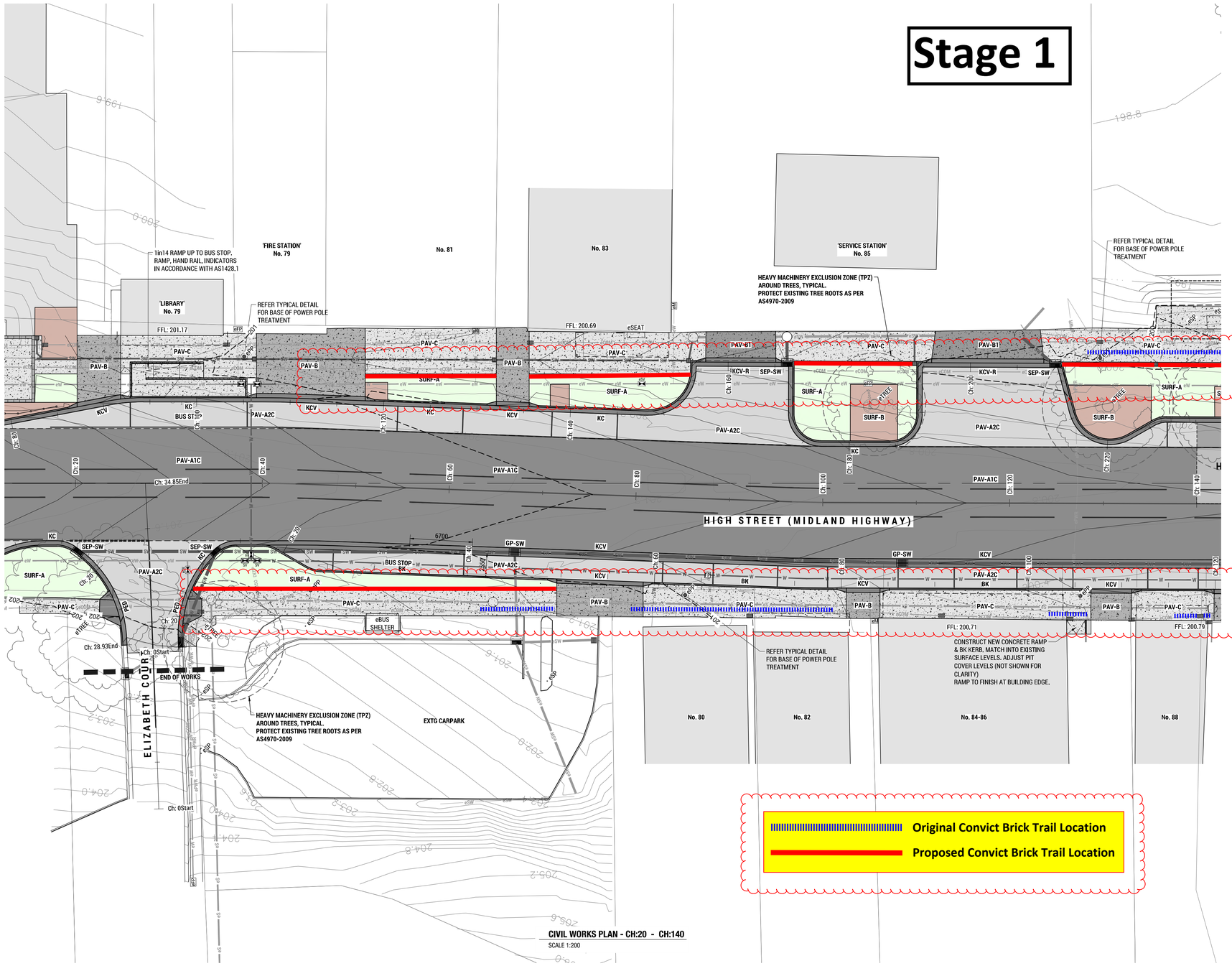
Sven Meyer
Director Development and Delivery

29 January 2026

Stage 1



KEY PLAN



CIVIL WORKS PLAN - CH:20 - CH:140
SCALE 1:200

Original Convict Brick Trail Location

Proposed Convict Brick Trail Location

LEGEND

PAV-A1C	HOTMIX - FULL DEPTH - SILT/CLAY SUBGRADE - DSG TRAFFICABLE REFER DETAILS
PAV-A1R	HOTMIX - FULL DEPTH - HW ROCK SUBGRADE - DSG TRAFFICABLE REFER DETAILS
PAV-A2C	HOTMIX - FULL DEPTH - CLAY SUBGRADE - LGAT TRAFFICABLE REFER DETAILS
PAV-A2R	HOTMIX - FULL DEPTH - HW ROCK SUBGRADE - LGAT TRAFFICABLE REFER DETAILS
PAV-B	CONCRETE - TRAFFICABLE REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
PAV-B1	CONCRETE - HEAVY VEHICLE TRAFFICABLE REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
PAV-C	CONCRETE - PEDESTRIAN REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
	PAVER BANDING / TRIM (300 WIDE) - PEDESTRIAN REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
SURF-A	GRASSED / TURFED AREA REFER LANDSCAPE ARCH. SPEC. 200mm MIN GOOD QUALITY SCREENED TOP SOIL LANDSCAPED AREA REFER LANDSCAPE ARCH. SPEC. 200mm MIN GOOD QUALITY SCREENED TOP SOIL
SURF-B	
BK	BARRIER KERB
KC	KERB & CHANNEL
KCV	KERB & CHANNEL - VEHICLE CROSSING
KCV-R	KERB & CHANNEL REINFORCED - HEAVY VEHICLE CROSSING
KCM2	KERB & CHANNEL MOUNTABLE - VEHICLE CROSSING (MODIFIED)
FK	FLUSH KERB
M3	MOUNTABLE KERB (DSG SPEC)
PED	PEDESTRIAN RAMP - TYPE A
Bol	BOLLARD - REFER DETAIL
MH	MANHOLE
SEP	SIDE ENTRY PIT
GP	GRATED PIT
ME	MATCH EXISTING
SAW	SAW CUT
SP	SIGN POST
FENCE-1	FENCE / BARRIER - REFER LANDSCAPE ARCH.
WS-1	WHEEL STOP

NORTHERN MIDLANDS COUNCIL

REV.	DESCRIPTION:	BY:	DATE:
0	APPROVAL / TENDER	PVD	07-11-24

STATUS: **CONTROLLED DOCUMENT**

DO NOT SCALE - IF IN DOUBT, ASK

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APPROVED: R. JESSON | ACRED. No: CC5848I

DESIGN BY:	RJ
DESIGN CHK:	JS
DRAWN BY:	PVD
DRAFT CHK:	JS
DATE:	07-11-24

LANGE design landscape architecture

rare. Level 1a, 10-14 Paterson Street Launceston TAS 7250 rarein.com.au P. 03 6388 9200

CLIENT: NORTHERN MIDLANDS COUNCIL

PROJECT: URBAN DESIGN & TRAFFIC MANAGEMENT STRATEGY

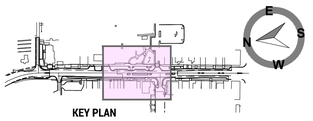
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TITLE: CIVIL WORKS PLAN CH:20 - CH:140

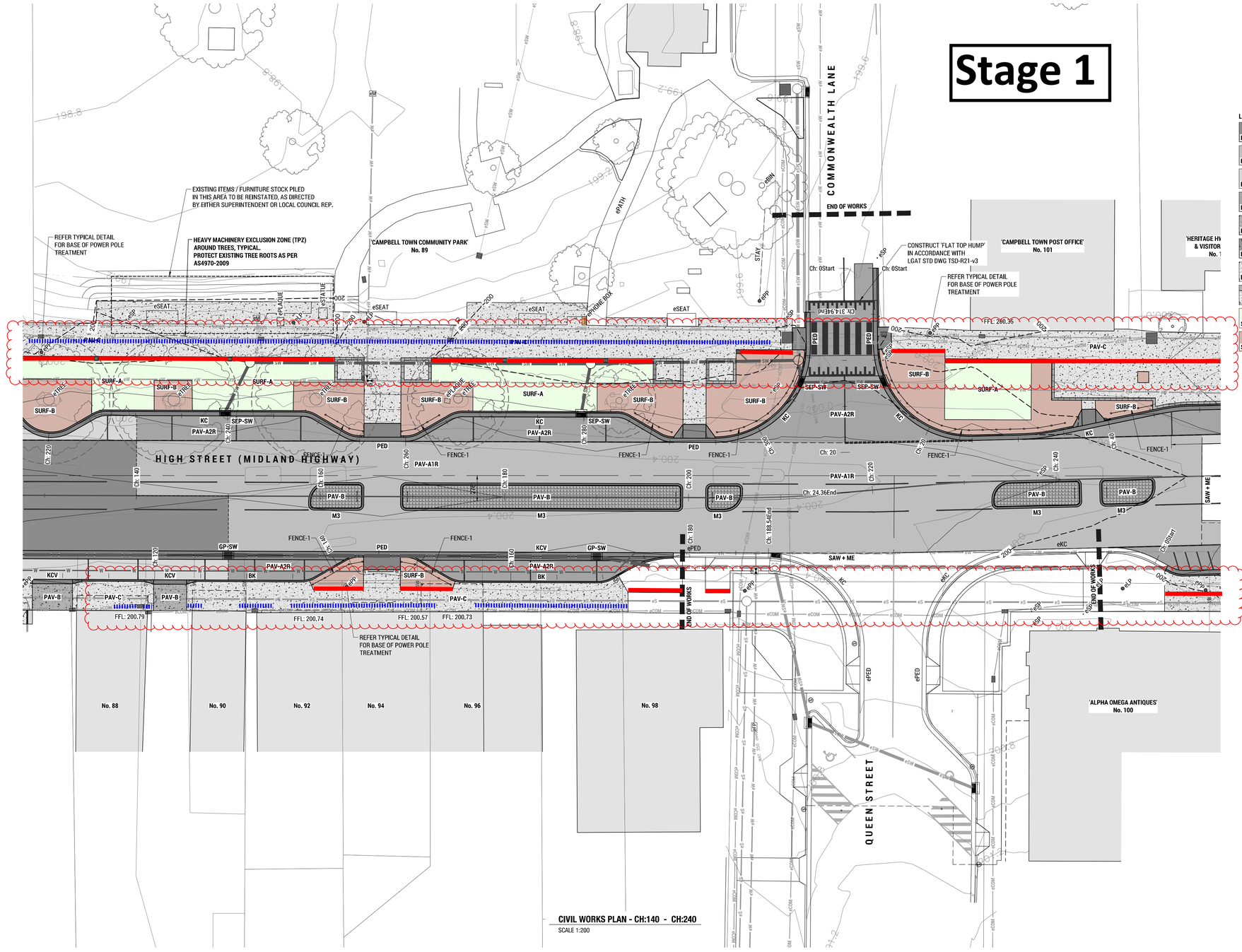
SCALE: 1:200 SHEET SIZE: A1 DWGs IN SET: -

PROJECT No: 17.340 DWG No: C402 REV: 0

Stage 1



KEY PLAN



CIVIL WORKS PLAN - CH:140 - CH:240

SCALE 1:200

LEGEND	
PAV-A1C	HOTMIX - FULL DEPTH - SILT/CLAY SUBGRADE - DSG TRAFFICABLE REFER DETAILS
PAV-A1R	HOTMIX - FULL DEPTH - HW ROCK SUBGRADE - DSG TRAFFICABLE REFER DETAILS
PAV-A2C	HOTMIX - FULL DEPTH - CLAY SUBGRADE - LGAT TRAFFICABLE REFER DETAILS
PAV-A2R	HOTMIX - FULL DEPTH - HW ROCK SUBGRADE - LGAT TRAFFICABLE REFER DETAILS
PAV-B	CONCRETE - TRAFFICABLE REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
PAV-B1	CONCRETE - HEAVY VEHICLE TRAFFICABLE REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
PAV-C	CONCRETE - PEDESTRIAN REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
	PAVER BANDING / TRIM (300 WIDE) - PEDESTRIAN REFER DETAILS + LANDSCAPE ARCHITECT FOR DETAILS
SURF-A	GRASSED / TURFED AREA REFER LANDSCAPE ARCH. SPEC. 200mm MIN GOOD QUALITY SCREENED TOP SOIL
SURF-B	LANDSCAPED AREA REFER LANDSCAPE ARCH. SPEC. 200mm MIN GOOD QUALITY SCREENED TOP SOIL
BK	BARRIER KERB
KC	KERB & CHANNEL
KCV	KERB & CHANNEL - VEHICLE CROSSING
KCV-R	KERB & CHANNEL REINFORCED - HEAVY VEHICLE CROSSING
KCM2	KERB & CHANNEL MOUNTABLE - VEHICLE CROSSING (MODIFIED)
FK	FLUSH KERB
M3	MOUNTABLE KERB (DSG SPEC)
PED	PEDESTRIAN RAMP - TYPE A
Bol	BOLLARD - REFER DETAIL
MH	MANHOLE
SEP	SIDE ENTRY PIT
GP	GRATED PIT
ME	MATCH EXISTING
SAW	SAW CUT
SP	SIGN POST
FENCE-1	FENCE / BARRIER - REFER LANDSCAPE ARCH.
WS-1	WHEEL STOP

NORTHERN MIDLANDS COUNCIL

REV:	DESCRIPTION:	BY:	DATE:
0	APPROVAL / TENDER	PVD	07-11-24

STATUS: CONTROLLED DOCUMENT

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DESIGN BY:	RJ	APPROVED:	R. JESSON
DESIGN CHK:	JS	ACRED. No:	CC5848I
DRAWN BY:	PVD	DATE:	07-11-24
DRAFT CHK:	JS		

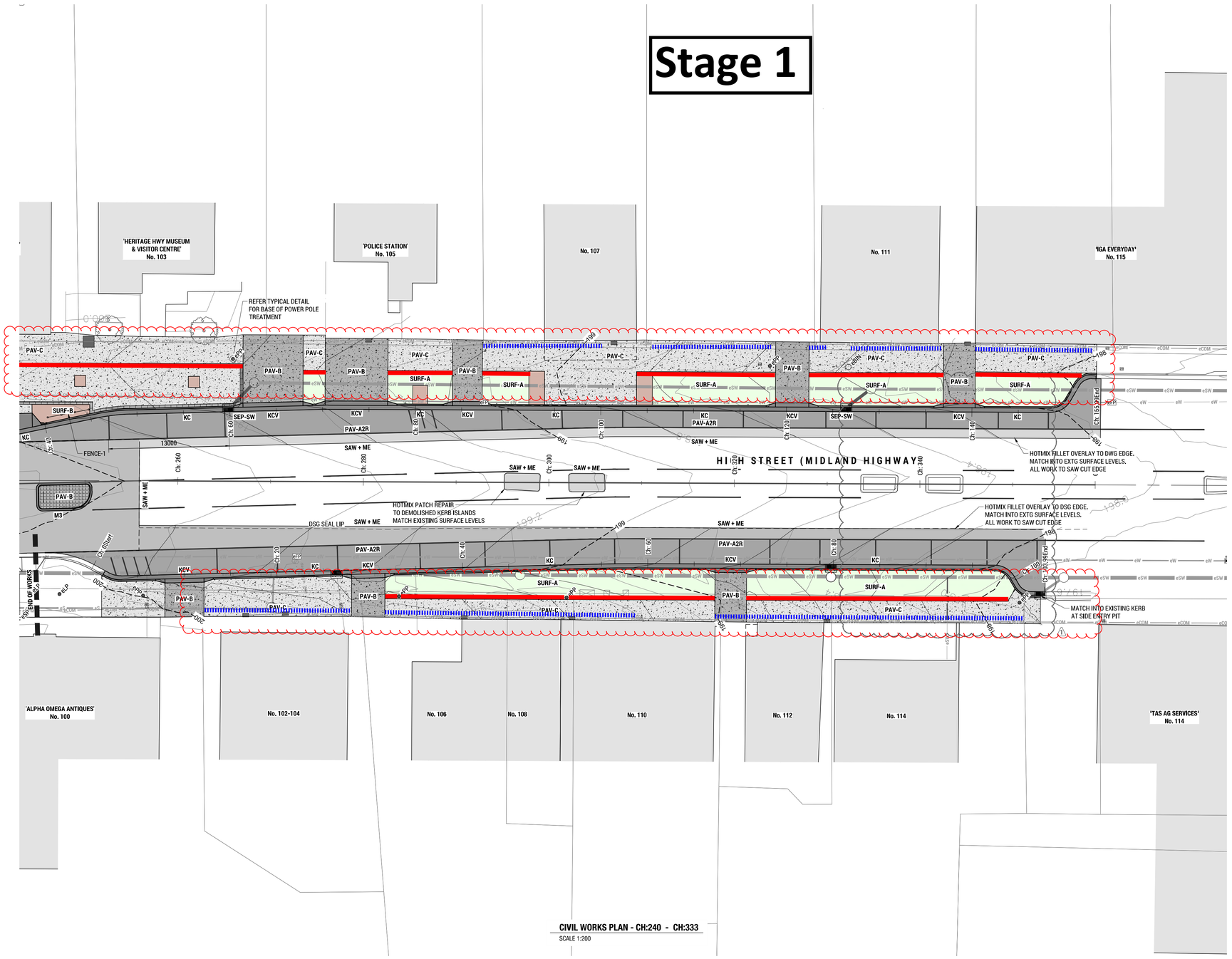
LANGE design landscape architecture

rare. Level 1a, 10-14 Paterson Street Launceston TAS 7250 rarein.com.au P. 03 6388 9200

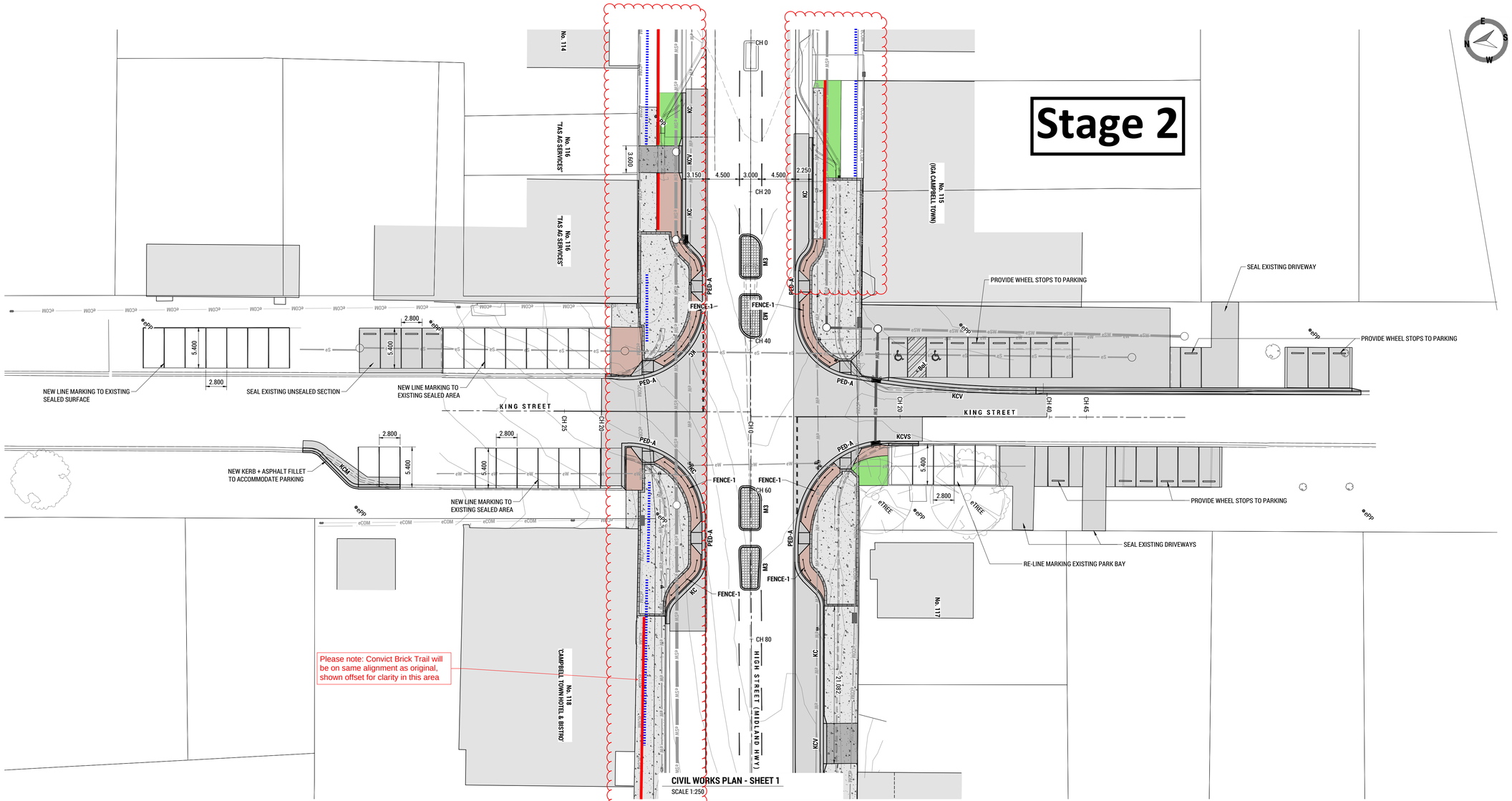
CLIENT:	NORTHERN MIDLANDS COUNCIL
PROJECT:	URBAN DESIGN & TRAFFIC MANAGEMENT STRATEGY
ADDRESS:	MIDLANDS HIGHWAY CAMPBELL TOWN

TITLE:	CIVIL WORKS PLAN CH:140 - CH:240
SCALE: 1:200	SHEET SIZE: A1 DWGs IN SET: -
PROJECT No: 17.340	DWG No: C403 REV: 0

Stage 1


'HERITAGE HWY MUSEUM & VISITOR CENTRE' No. 103
'POLICE STATION' No. 105
No. 107
No. 111
'IGA EVERYDAY' No. 115
REFER TYPICAL DETAIL FOR BASE OF POWER POLE TREATMENT
HIGH STREET (MIDLAND HIGHWAY)
HOTMIX PATCH REPAIR TO DEMOLISHED KERB ISLANDS MATCH EXISTING SURFACE LEVELS
HOTMIX FILLET OVERLAY TO DWG EDGE. MATCH INTO EXTG SURFACE LEVELS. ALL WORK TO SAW CUT EDGE
HOTMIX FILLET OVERLAY TO DSG EDGE. MATCH INTO EXTG SURFACE LEVELS. ALL WORK TO SAW CUT EDGE
MATCH INTO EXISTING KERB AT SIDE ENTRY PIT
'ALPHA OMEGA ANTIQUES' No. 100
No. 102-104
No. 106
No. 108
No. 110
No. 112
No. 114
'TAS AG SERVICES' No. 114
PAV-A2R
SAW + ME
DSG SEAL LIP
FENCE-1
M3
PAV-B
SURF-A
SURF-B
PAV-C
KC
KCV
SEP-SW
END OF WORKS
Ch: START
Ch: 20
Ch: 40
Ch: 60
Ch: 80
Ch: 100
Ch: 120
Ch: 140
Ch: 160
Ch: 180
Ch: 200
Ch: 220
Ch: 240
Ch: 260
Ch: 280
Ch: 300
Ch: 320
Ch: 340
Ch: 360
Ch: 380
Ch: 400
Ch:

Stage 2



CIVIL WORKS PLAN - SHEET 1

SCALE 1:250

LEGEND

	HOTMIX - TRAFFICABLE
	CONCRETE - TRAFFICABLE
	CONCRETE - PEDESTRIAN
	PAVER BANDING / TRIM (300 WIDE) - PEDESTRIAN
	GRASSED AREA
	MULCHED LANDSCAPED AREA
	EXISTING KERB TO BE DEMOLISHED

KC	KERB & CHANNEL
KCV	KERB & CHANNEL VEHICULAR
KCM	KERB & CHANNEL MOUNTABLE
VEE	0.6m WIDE VEE CHANNEL
M3	DSG MOUNTABLE KERB
PED	PEDESTRIAN ACCESS RAMP
Bol	BOLLARD
FENCE-1	PEDESTRIAN FENCE
SAW	SAW CUT
ME	MATCH EXISTING
ePP	EXISTING POWER POLE

Original Convict Brick Trail Location

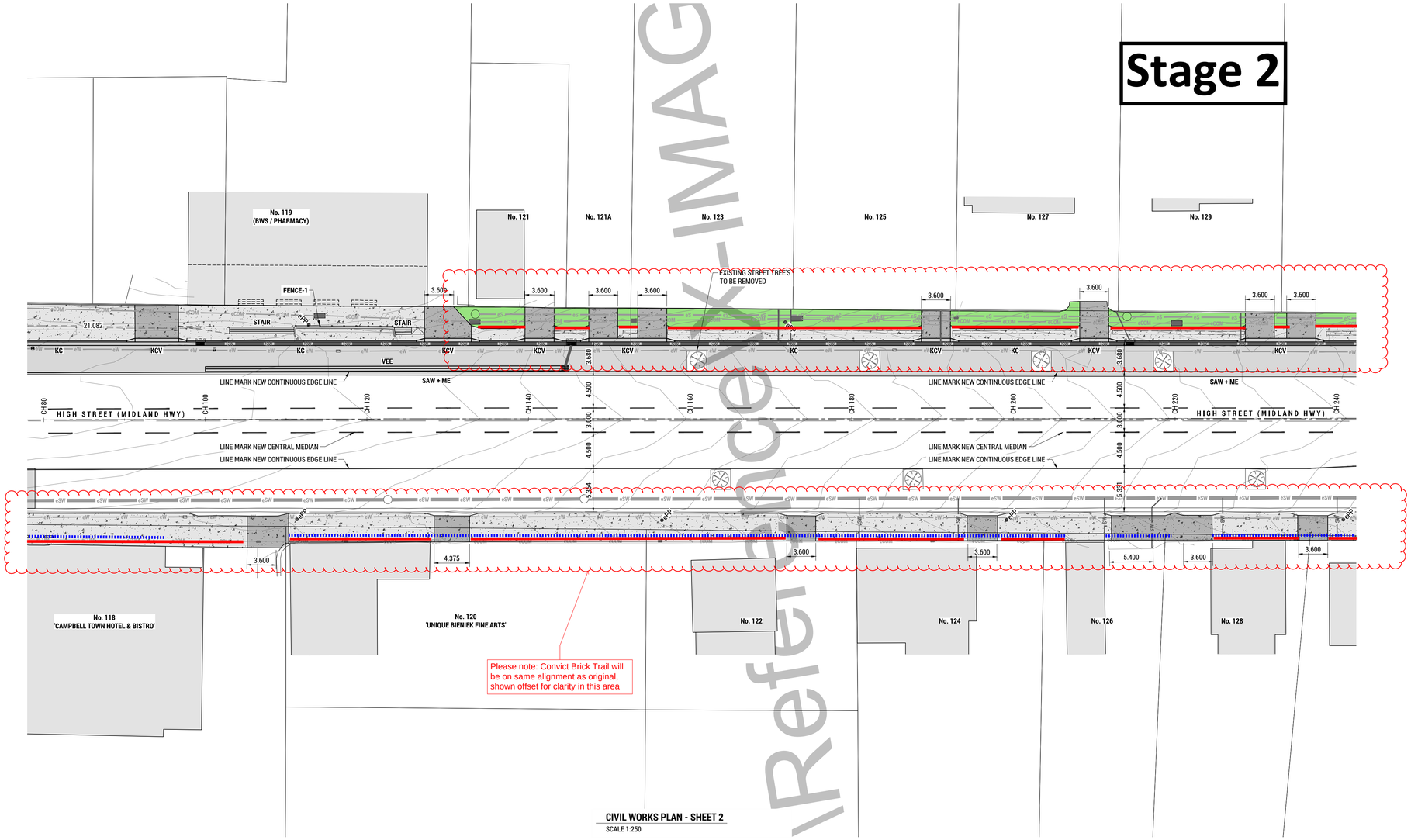
Proposed Convict Brick Trail Location

NORTHERN MIDLANDS COUNCIL

rare.
22–24 Paterson Street
Launceston TAS 7250
rarein.com.au
P. 03 6388 9200

CLIENT:	NORTHERN MIDLANDS COUNCIL	TITLE:	PROPOSED WORKS PLAN - SHEET 1
PROJECT:	STREETSCAPE		
ADDRESS:	HIGH ST (QUEEN ST - RED BRIDGE) CAMPBELL TOWN	SCALE: 1:250	SHEET SIZE: A1 DWGs IN SET: -
		PROJECT No: 251023	DWG No: CDA01 REV: A

Stage 2



CIVIL WORKS PLAN - SHEET 2
SCALE 1:250

Issued - IMAG
Referenced

LEGEND

	HOTMIX - TRAFFICABLE
	CONCRETE - TRAFFICABLE
	CONCRETE - PEDESTRIAN
	PAVER BANDING / TRIM (300 WIDE) - PEDESTRIAN
	GRASSED AREA
	MULCHED LANDSCAPED AREA
	EXISTING KERB TO BE DEMOLISHED

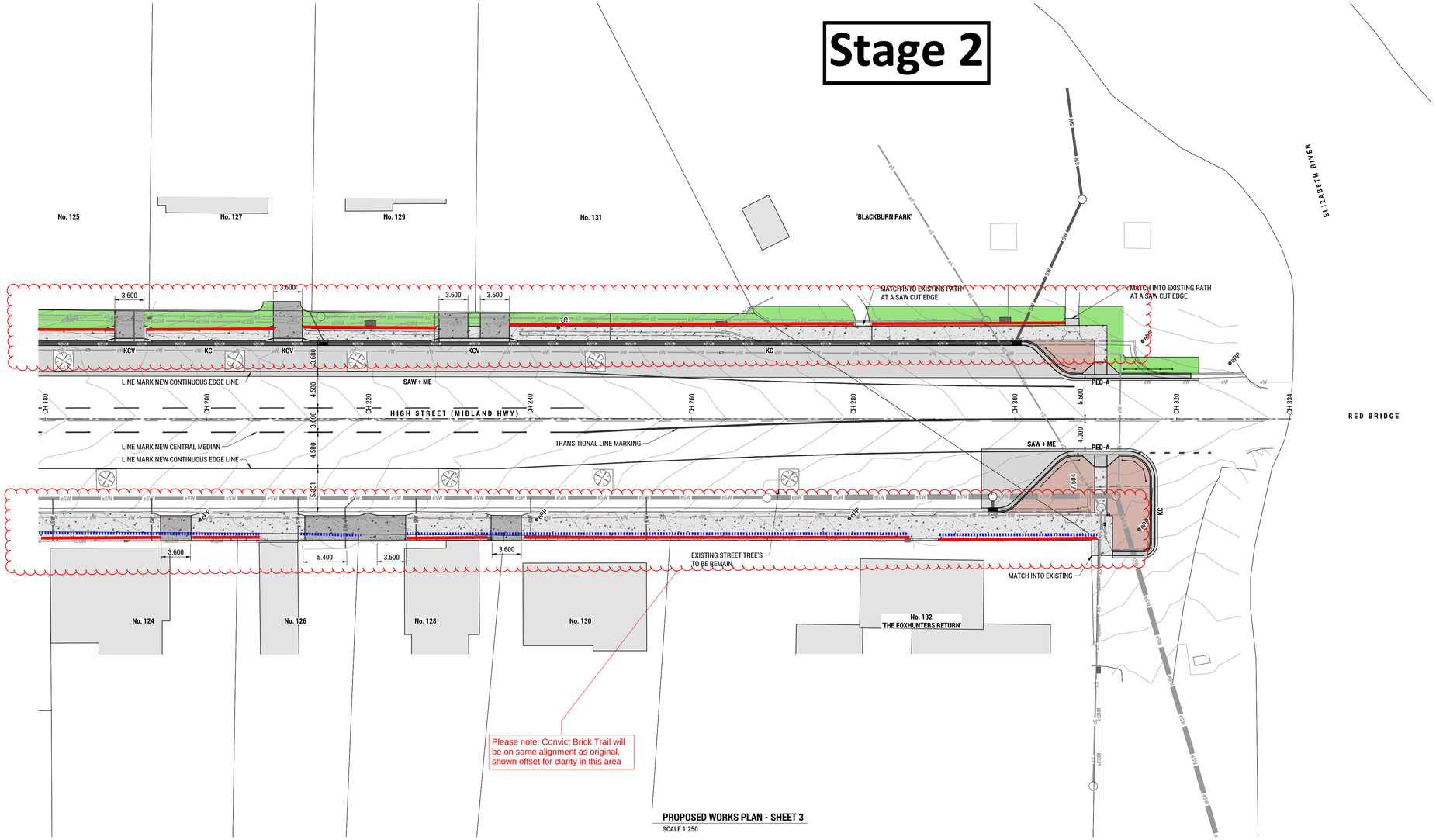
KC	KERB & CHANNEL
KCV	KERB & CHANNEL VEHICULAR
KCM	KERB & CHANNEL MOUNTABLE
VEE	0.6m WIDE VEE CHANNEL
M3	DSG MOUNTABLE KERB
PED	PEDESTRIAN ACCESS RAMP
Bol	BOLLARD
FENCE-1	PEDESTRIAN FENCE
SAW	SAW CUT
ME	MATCH EXISTING
ePP	EXISTING POWER POLE

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CLIENT:	**NORTHERN MIDLANDS COUNCIL**	TITLE:	**PROPOSED WORKS PLAN - SHEET 2**
PROJECT:	**STREETSCAPE**	SCALE:	**1:250** SHEET SIZE: **A1** DWGs IN SET: **-**
ADDRESS:	**HIGH ST (QUEEN ST - RED BRIDGE) CAMPBELL TOWN**	PROJECT No:	**251023** DWG No: **CDA02** REV: **A**

Stage 2



PROPOSED WORKS PLAN - SHEET 3
SCALE 1:250

LEGEND

	HOTMIX - TRAFFICABLE
	CONCRETE - TRAFFICABLE
	CONCRETE - PEDESTRIAN
	PAVER BANDING / TRIM (300 WIDE) - PEDESTRIAN
	GRASSED AREA
	MULCHED LANDSCAPED AREA
	EXISTING KERB TO BE DEMOLISHED

KC	KERB & CHANNEL
KCV	KERB & CHANNEL VEHICULAR
KCM	KERB & CHANNEL MOUNTABLE
VEE	0.6m WIDE VEE CHANNEL
M3	DSG MOUNTABLE KERB
PED	PEDESTRIAN ACCESS RAMP
Bol	BOLLARD
FENCE-1	PEDESTRIAN FENCE
SAW	SAW CUT
ME	MATCH EXISTING
ePP	EXISTING POWER POLE

NORTHERN MIDLANDS COUNCIL

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Launceston TAS 7250
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P. 03 6388 9200

CLIENT:	NORTHERN MIDLANDS COUNCIL	TITLE:	PROPOSED WORKS PLAN - SHEET 3
PROJECT:	STREETSCAPE		
ADDRESS:	HIGH ST (QUEEN ST - RED BRIDGE) CAMPBELL TOWN	SCALE: 1:250	SHEET SIZE: A1 DWGs IN SET: -
		PROJECT No: 251023	DWG No: CDA03 REV: A