DISCRETIONARY APPLICATION

For Public Display

Applicant:
J E Maronitis-Dalley, A R Dalley

Location:
937 Ellendale Road, Ellendale

Proposal:
Subdivision (8 Lots & Balance Lot)

DA Number:
DA 2023/50

Date Advertised:
13 November 2023

Date Representation Period Closes:
27 November 2023

Responsible Officer:
Louisa Brown (Planning Officer)

Viewing Documents:
The relevant documents may be viewed at Council's website www.centralhighlands.tas.gov.au or at Council's Office at 19 Alexander Street, Bothwell during normal office hours.

Representations to:

General Manager
19 Alexander Street
BOTHWELL TAS 7030

Email:
development@centralhighlands.tas.gov.au

Andrew and Joy Dalley

P.O. Box 84 Ellendale,

4170 Tasmania

28th August 2023

Central Highlands Council

19 Alexander Street, Bothwell

development@central highlands.tas.gov.au

Attention: Town Planner

Regarding: Subdivision 937 Ellendale Rd, Ellendale

Dear Sir/Madam,

Please find attached our application for planning approval – Subdivision and strata Division. Included is the supporting documentation for your consideration.

1. BAL report prepared by GES Geo-Environmental solutions.
2. Wastewater report prepared by GES Geo-Environmental solutions.
3. Copy of Title
4. Site plan

The proposal is for the subdivision of the existing land to 8 new lots and balance lot with existing dwelling. Access to the lots will be provided by existing public roadways. We are proposing 3 stages to the development.

Stage 1. Balance lot to be divided.

Stage 2. Divide lots 1 to 4 and 7

Stage 3. Divide lots 5,6 and 8

The Proposed land falls within the village zone as defined by the Tasmanian Planning Scheme. The lots will have a minimum of 1300 m2 the site is not serviced by mains sewer therefore onsite wastewater disposal is required. Please see wastewater report.

Please forward your invoice for application fees.

Should you require any additional information, please do not hesitate to contact me.

Yours Faithfully,

Andrew Dalley

central highlands COUNCIL

Development & Environmental Services
19 Alexander Street
BOTHWELL TAS 7030

Phone (03) 6259 5503
Fax (03) 6259 5722

www.centralhighlands.tas.gov.au

For office use only:

Date Received:	
DA Number:	
PID:	

Application for Planning Approval – Subdivision & Strata Division

Use this form to apply for subdivision approval in accordance with section 81 of the Local Government (Building & Miscellaneous Provisions) Act 1993 *and section 57 and 58 of the* Land Use Planning and Approvals Act 1993 *(the Act).*

Tick ✓ if there has been a pre-application meeting with a Council officer: Yes: ☑ No: ☐

Officer's name LOUISA BROWN *Date:* 28th Feb 2023

Applicant, Owner & Contact Details:

Provide details of the Applicant and Owner of the land. (Please print)

Applicant: ANDREW AND JOY DALLEY
Address: 959 ELLENDALE RD ELLENDALE
Phone No: 0425200 999
Fax No:
Email: andrewdalley@iinet.net.au
Mobile No: 0418 221728

Owner: ANDREW AND JOY DALLEY
Address: 959 ELLENDALE RD ELLENDALE TAS 7140
Phone No: 0425200 999
Fax No:

Land Details:

Provide details of the land, including street address, title details and the existing use.

Address: 937 ELLENDALE RD ELLENDALE TAS. 7140
Volume: 170358
Folio: 1

Existing Use RESIDENTIAL *Please use definitions in planning scheme*

Proposed Development Details:

Provide details of the proposed subdivision development.

Development: 8 LOT SUBDIVISION AND 1 BALANCE LOT.

Tick ✓ if proposed developed is to be staged: Yes ☑ No ☐

Tick ✓ Is the proposed development located on land previously used as a tip site? Yes ☐ No ☑

Provide an estimate of the completed value of the proposed development works, including the value of all site works and any labour contributions by the Applicant or the Owner.

Est. value: $ 60 K. *Write 'Nil' if no works are proposed, e.g. boundary adjustment*

Declaration:

I/we hereby apply for planning approval to carry out the subdivision development described in this application and the accompanying documents and declare that: -

- **The information in this application is true and correct.**
- **In relation to this application, I/we agree to allow Council employees or consultants to enter the site in order to assess the application.**
- **I/we authorise Council to provide a copy of any documents relating to this application to any person for the purpose of assessment or public consultation and agree to arrange for the permission of the copyright owner of any part of this application to be obtained.**
  Council will only use the information provided to consider and determine the application for planning approval. Information provided may be made available for public inspection in accordance with section 57 of the Act.
- **I/We declare that the Owner has been notified of the intention to make this application in accordance with section 52(1) of the *Land Use Planning and Approvals Act 1993*.**
  Applies where the applicant is not the Owner and the land is not Crown land or owned by a council, and is not land administered by the Crown or a council.

Signature: *The Applicant must sign and date this form.* *Date:* 28/8/23

Refer to application checklist over page for additional information requirements

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
170358	1
EDITION	DATE OF ISSUE
2	22-Nov-2021

SEARCH DATE : 26-May-2023
SEARCH TIME : 10.30 AM

DESCRIPTION OF LAND

Parish of ARGYLE Land District of BUCKINGHAM
Lot 1 on Plan 170358
Derivation : Part of Lot 6656 Gtd. to J.F. Walker & Others
Prior CT 160954/1

SCHEDULE 1

M919878 TRANSFER to JOY ELIZABETH MARONITIS-DALLEY and ANDREW ROBERT DALLEY Registered 22-Nov-2021 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
M516069 BURDENING EASEMENT: a wastewater treatment system easement (appurtenant to Lot 2 on Plan 170358) over the land marked Wastewater Treatment System Easement 5.00 Wide on Plan 170358 Registered 19-Oct-2015 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

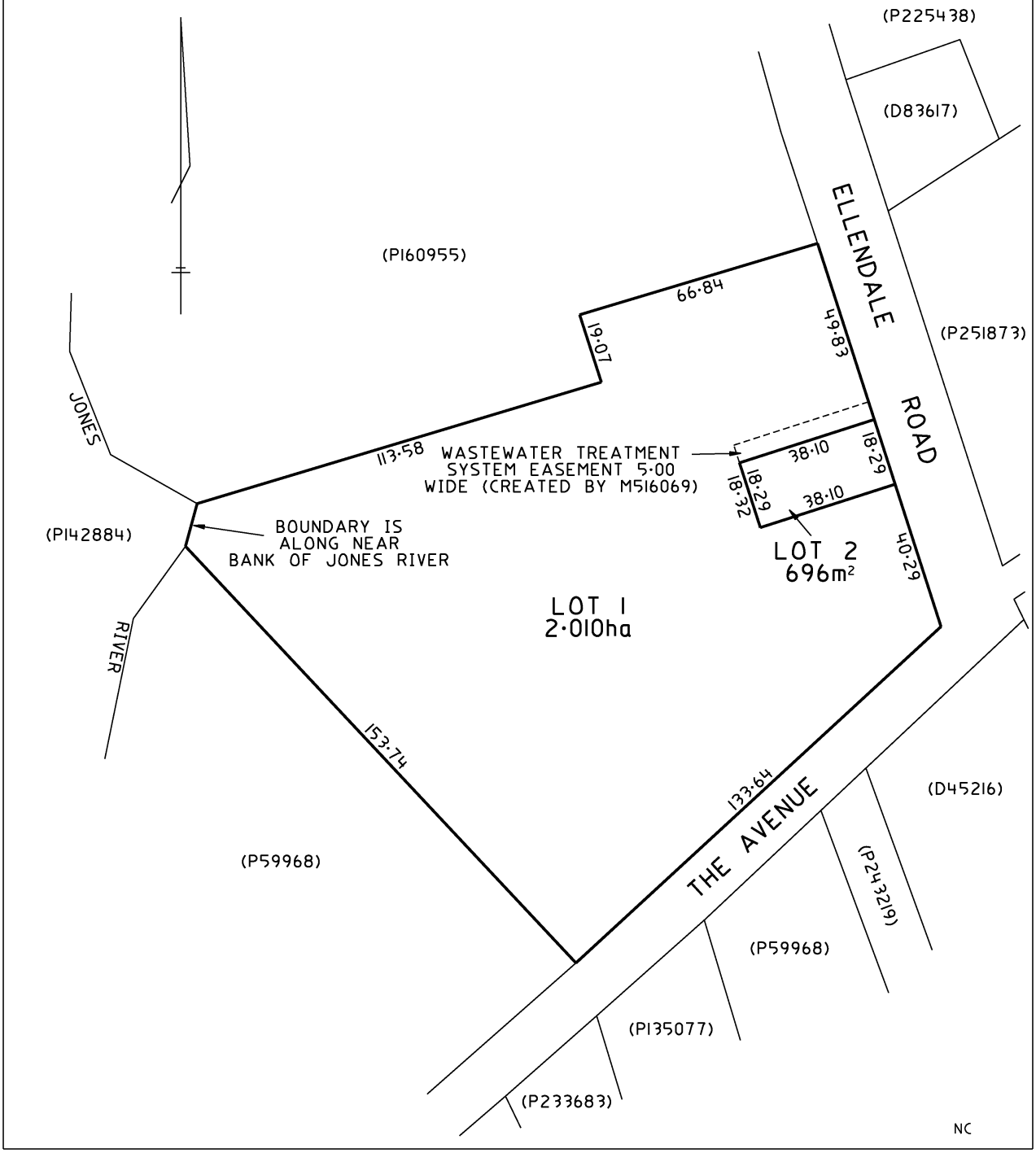
FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

OWNER FOLIO REFERENCE CT.160954/1 CT.227404/1 GRANTEE PART OF LOT 6656 (488 ACRES) GTD TO JOHN FLETCHER WALKER, ALEXANDER RIDDOCH & MORTON ALLPORT	PLAN OF TITLE LOCATION BUCKINGHAM - ARGYLE FIRST SURVEY PLAN No. BUC 15/1 LO COMPILED BY LDRB SCALE 1: 1000 LENGTHS IN METRES	Registered Number P.170358 APPROVED 9 OCT 2015 Alice Kava Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 105 (4628)	LAST UPI No	LAST PLAN No. SP160954, P227404	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



DRIVEWAY PLAN

SCALE 1:500

1. SURVEY DRAWING BY "SURVEY PLUS" DATED 05-10-2022
2. LEVEL DATUM IS AHD (SEE LAND SURVEY DRAWING)
3. EXISTING SURFACE CONTOUR INTERVAL IS 0.2 METRES
4. REFER TO LAND SURVEY DRAWINGS FOR EXTRA NOTES
5. LAND SURVEYOR SHALL BE ENGAGED TO SETOUT PROJECT FROM THE CAD FILE OF THIS DESIGN.

CLIENT: ANDREW AND JOY DALLEY

0 10 20 30 40 50mm
PRINT REDUCTION BAR | A1 SHEET

No.	AMENDMENT DESCRIPTION	DATE
A	CONCEPT ISSUE FOR COMMENT AND REVIEW	20-01-2023
B	UPDATED AND ISSUED FOR APPROVALS	26-05-2023
C	LOT ADDED. STORMWATER LINE REDIRECTED	28-07-2023

PROPOSED SUBDIVISION OF LAND
937 ELLENDALE ROAD, ELLENDALE 7140, TASMANIA
OVERALL SITE CONCEPT PLAN

SCALE ALLAN WISE
DRAWN 1:500
DATE JAN 2023

DRAWING No. 21031-C01
REVISION C

GEO-ENVIRONMENTAL SOLUTIONS

ON-SITE WASTEWATER ASSESSMENT

937 Ellendale Road, Ellendale

July 2023

Updated August 2023

Geo-Environmental Solutions P/L 29 Kirksway Place, Battery Point.

T | 6223 1839 E | office@geosolutions.net.au

Contents

1. Introduction

The proposed subdivision site is located at 937 Ellendale Road in the locality of Ellendale, Tasmania. The total current land area of existing lot (CT: 170358/1) is approximately 2.011ha, of which it is proposed to create eight (8) residential lots excluding the balance lot, which contains an existing dwelling. The proposed new lots will each have a minimum area of approximately 1,400m^2 while the balance lot has an area of approximately 1,732m^2 (see Appendix 2 – development plans). The site is not serviced with mains sewer, therefore onsite wastewater disposal would be required on the lots (see Figure 1 for study area).

The land area in question is nearly level to gently sloping with an average slope of 4% to the Northeast.

It is the scope of this report to consider the capability of said land to support sustainable residential use including on site wastewater disposal without sustaining environmental harm.

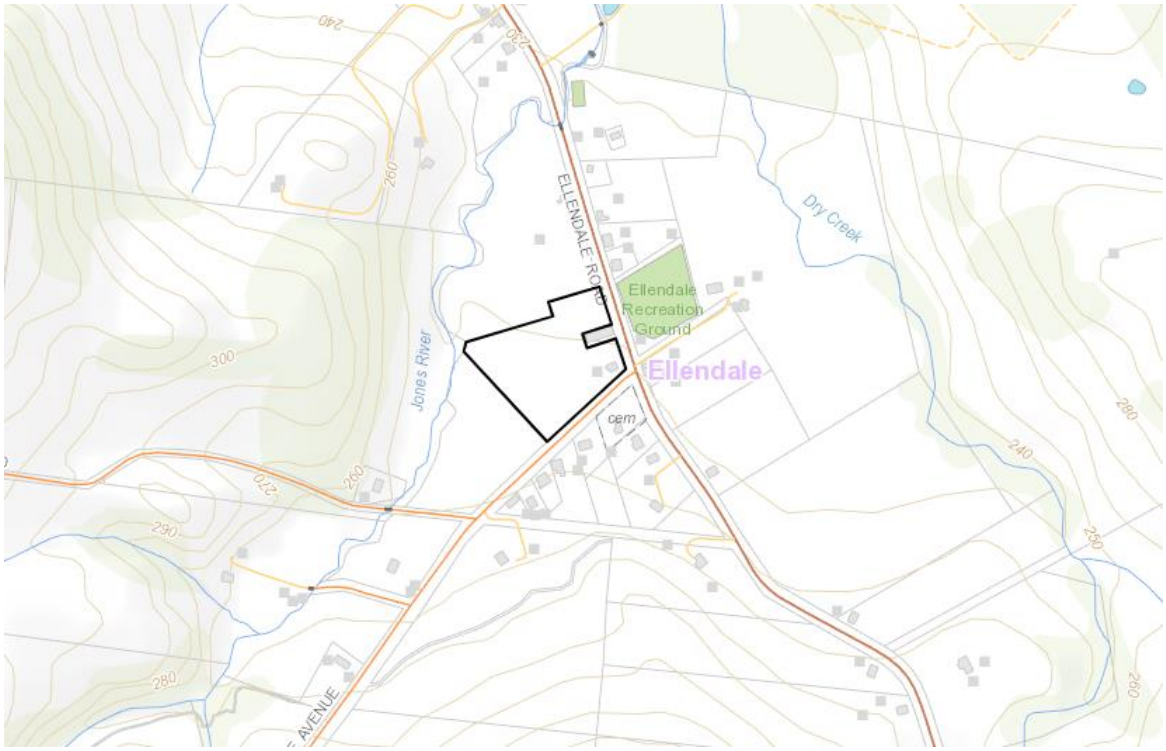


Figure 1 – Whole Site Location (subdivision site outlined black)

Figure 2 – Subdivision proposal

2. Planning Context

The land area proposed for subdivision falls within the Village Zone as defined by the Tasmanian Planning Scheme (see Figure 3). Therefore, the subdivision must comply with the requirements for the Village zoning as set out in Section 12.0 of the Tasmanian Planning Scheme – State Planning Provisions. Section 12.5.1 Lot Design stipulates a minimum lot size of 600m^2 (Acceptable Solutions). It is prudent to assess the proposal under the acceptable solutions to ensure that each lot can demonstrate capability of accommodating an on-site wastewater treatment system adequate for the future use and development of the land. As there is no instrument within the Scheme this is best demonstrated by examination against the Guidelines for on-site wastewater within the Building Act framework. Provided that the requirements are met regarding the provision of infrastructure, and the land is suitable for residential construction/on-site wastewater management the application to develop the land should proceed.

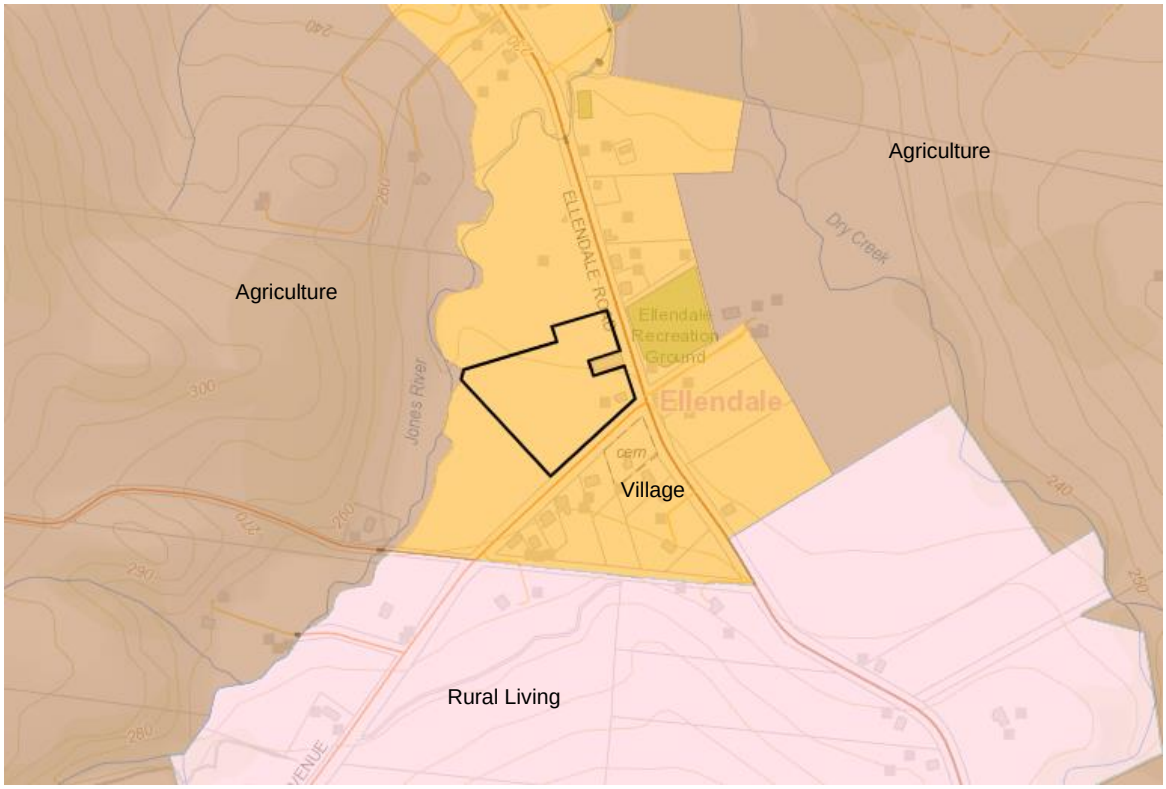


Figure 3 – Planning Zones – Tasmanian Planning Scheme (subdivision site outlined black)

3. Site Information

Site information pertaining to the capability of the land to sustain residential development without causing environmental harm was collected from desktop and field survey. Field survey was undertaken utilising an AMS PowerProbe auger system, with soil samples assessed according to AS1547-2012 for suitability for on-site wastewater management.

3.1 Geology

The study area falls within the Mineral Resources Tasmania, 1:250 000 Sheet which indicates the area is formed by a cover sequence of Quaternary aged sediments with Jurassic dolerite forming the perimeter of the bason. Site inspection confirmed aeolian sediments is the predominant parent material with dolerite remnants forming the imperfectly drained texture-contrast soils across the site, with a possible underlying basement of gravels and/or dolerite bedrock as mapped at higher elevations. These areas were examined as deep uniform clay soils to depths of generally over 2.00m with some variation in soil depth and horizon development expected across the site.

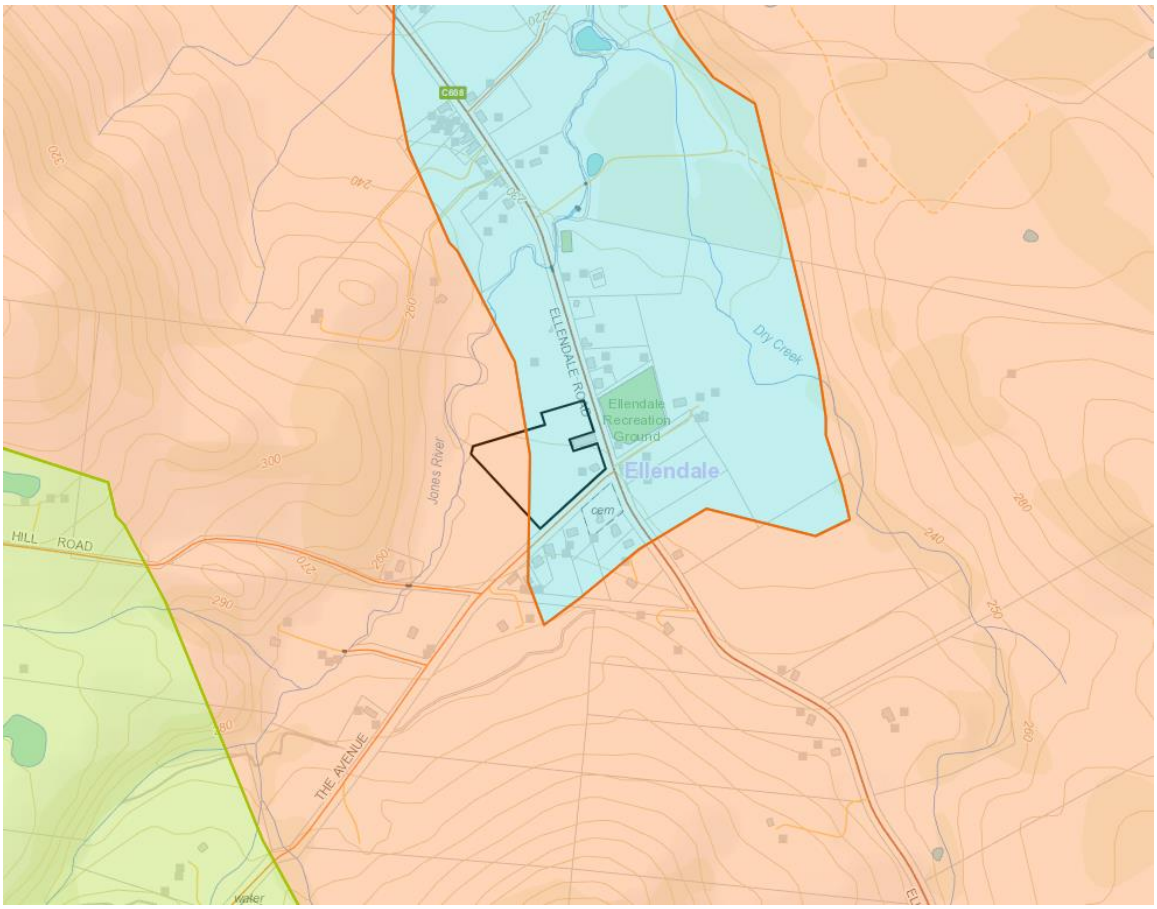


Figure 5 - MRT 1:250 000 Sheet Geological Survey (subdivision site outlined black)

3.1 Soil Distribution

The soil found on the property shows a close correlation with the weathered dolerite deposits typical of the area, with deep clays encountered to suggest derivation from the dolerite formation that comprises the moderately steep hills to the northwest and southwest of the site. Soil distribution within the proposed subdivision area was relatively uniform.

Soils on these deposits are characterised by moderately deep imperfectly drained texture-contrast profiles. The anticipated subsoil permeability under saturated conditions from samples across the site is expected to be in the order of 0.12 – 0.50m/day.

Soils of this type are generally reactive (AS2870-2011 **Class M to H-1**). These soils may also be prone to surface erosion when denuded of cover, and or subject to abnormal drainage conditions. Soils with high dispersion potential (e.g., Class 2.3) would be assessed as **Class P** according to AS2870-2011.

4. Site Suitability for Onsite Wastewater Disposal

The soils across the subdivision site were compared and classified according to AS/NZS1547-2012 (on-site wastewater management). Bore logs for each profile based upon onsite geotechnical drilling is presented in Appendix 2 whilst site and soil factors pertinent to wastewater disposal under AS1547-2012 are presented in Table 1 overleaf.

The soils across the site area classified according to AS1547-2012 as **Category 5 (Light CLAY)** with lower Long Term Acceptance Rates (LTAR's). Due to the duplex soils on site, it is recommended that appropriate application rates be assigned (refer to Table 1).

Modelling utilising a typical four-bedroom house on mains water with standard plumbing fixtures indicates that a disposal area of up to 600m^2 (300m^2 installed and 300m^2 reserve) should be set aside wastewater disposal on each lot (see Trench summary report attached). Based upon allowances for adequate down slope boundary setbacks and sufficient construction, access, and recreational space, then I recommend that a minimum area available for wastewater disposal of flow from any future dwelling to be 1200m^2 would be adequate for subdivision design. It should be noted that this area is based upon the installation of an Aerated Wastewater Treatment System (AWTS) or similar packaged system on each lot, with irrigation over a total area of 600m^2 (using a Design Irrigation Rate DIR of 3mm/day).

Alternatively, secondary treated wastewater may be managed with absorption with a total area of 180m^2 (using a Design Loading Rate of 10L/m^2/day). However, some lots examined may also be suitable for traditional septic tank and absorption trench systems, with a typical total disposal area of up to 288m^2 required on each lot for a typical four-bedroom home (based upon a Design Loading Rate DLR of 7L/m^2/day).

The total disposal areas outlined above include a 100% reserve area, whereby half of each total area is installed and half is reserve (e.g., 144m^2 installed and 144m^2 reserve for a septic). On each lot, the suitability of the wastewater systems outlined above will depend on the relative position of the dwelling, driveway, and other infrastructure to an area viable for wastewater disposal.

Soil depth does vary across the lots ranging from approximately 1.20m to over 2.00m, however given the relatively gentle slope across the site most of the lots would be suitable for in-ground absorption provided that soil depths in the proposed location is no less than 1.20m.

The existing dwelling on the balance lot appears to have a functioning wastewater system. A concrete septic tank is located to the Northwest of the dwelling. The exact location of the disposal area could not be verified; however, it is presumed to be located within the proposed lot boundary given that the site slopes in favour of a gravity system being located to the North of the existing dwelling.

Nutrient balance and sustainable wastewater application

The soils examined are moderately- to well-structured and have a moderate to high estimated Cation Exchange Capacity (CEC) at depth. Therefore, the soils have a good ability to retain applied nutrients in wastewater and the risk of nutrient attenuation associated with wastewater application is low.

Soil Dispersion

Soils derived from Jurassic dolerite are known to exhibit dispersive behaviour. Under some circumstances the presence of dispersive soils can also lead to significant erosion, and in particular tunnel erosion. Samples were taken at the site for assessment of dispersion. An Emerson (1968) Dispersion Test was conducted to determine if these samples were dispersive. Soil dispersive behaviour varied across the site, with some soil samples taken from site exhibiting no dispersion (Class 8) while others returned moderate to high results (Class 2:2 to 2:3). Modelling in the Trench program was therefore run using a value of “2”.

Given that dispersive behaviour varied across the site and may be localised to particular lots, it is recommended that adequate dispersion testing and soil classification is undertaken in proposed development areas on each lot to ensure the predicted soil behaviour and effluent disposal standards are met. On lots that exhibit soil dispersion an AWTS with irrigation is the recommended disposal method.

Lot number	Texture	Emerson Class	Description
1	Clay	2.3	Complete dispersion >50% affected
2	Clay	8	No dispersion
3	Clay	8	No dispersion
4	Clay	2.2	Some dispersion <50% affected

Sample Tested by: L. Ravanat
05/07/2023

Table 1.0 Summary of Site Factors Affecting Onsite Wastewater Disposal

Lot number	***Soil Depth to Auger Refusal (m)***	***Slope Type, Magnitude and Aspect (%)***	***Soil Classification according to AS1547-2012***	***Potential Dispersion Risk***	***Sensitive Environmental Receptors***	***Suitability for AWTS/septic***
Lot 1	2.00+	Simple 5% NE	Category 5 – Light CLAY	High	Watercourse 318m	AWTS/septic with suitable setbacks
Lot 2	1.20	Simple 5% NE	Category 5 – Light CLAY	Low	Watercourse 326m	AWTS with suitable setbacks
Lot 3	2.00+	Simple 4% NE	Category 5 – Light CLAY	Low	Watercourse 345m	AWTS with suitable setbacks
Lot 4	2.00+	Simple 3% NE	Category 5 – Light CLAY	Moderate	Watercourse 362m	AWTS with suitable setbacks
Lot 5	1.20	Simple 3% NE	Category 5 – Light CLAY	Moderate	Watercourse 128m	AWTS/septic with suitable setbacks
Lot 6	1.30	Simple 4% NE	Category 5 – Light CLAY	Moderate	Watercourse 200m	AWTS/septic with suitable setbacks
Lot 7	1.30	Simple 3% NE	Category 5 – Light CLAY	Moderate	Watercourse 200m	AWTS with suitable setbacks
Lot 8	1.40	Simple 6% NE	Category 5 – Light CLAY	Moderate	Watercourse 263m	AWTS/septic with suitable setbacks

Hydrological balance and wastewater disposal

Modelling of wastewater application on each lot was undertaken utilising the Trench program, long term weather average for Ellendale, and estimated flows from an average four-bedroom home on a mains water supply. This yielded a minimum application area of approximately 300m^2 for a secondary treatment system, which is further amended to 600m^2 to fulfil the requirements for a 100% reserve area. Based upon the modelling undertaken in Trench, the required areas are more than adequate to sustain long term wastewater application on each lot. It should however be noted that the modelling is based upon the installation of packaged treatment systems (e.g., AWTS) with irrigation for a single dwelling on each lot. Recommendations can be made about the suitability and design requirements of the system and the final decision of wastewater system approval rests with the permit authority at the time of site specific design to ensure the most compatible environmental and economic outcomes.

Setbacks distances to boundaries and sensitive features

The proposed lots have gentle slopes and the average slope of approximately 4% or 2° has been utilised to represent the indicative required setbacks. The minimum acceptable boundary setbacks modelled according to the acceptable solutions stipulated in Building Act 2016 for on-site wastewater management for the development are:

Table 2.0 – Building Act 2016 setback requirements

	4% (2 degrees)	
	Primary	**Secondary**
Upslope or level boundary	1.5m	1.5m
Downslope boundary	4m	3.5m
Upslope or level building	3m	3m
Downslope building	10m	2.5m
Downslope surface water	29m	19m
Groundwater	1.5m	0.6m
Limiting layer	1.5m	0.5m

**Note: See Appendix 4 for Building Act compliance.*

A subdivision proposal with lots of a minimum area of approximately 1200m^2 should allow for significant space on each lot for wastewater disposal with adequate setbacks in regards boundaries and sensitive features. Therefore, it is concluded that current subdivision plan results in lots compliant with the onsite wastewater guidelines and the Tasmanian Planning Scheme.

Site specific setbacks applied to each lot will require fine tuning at the special plumbing permit stage as access, parking, and building footprints are finalised in conjunction with wastewater disposal areas. Modelling at this planning stage does however suggest that sufficient room would be available on each lot to accommodate the required setbacks.

The subdivision area has no dams/drainage lines or permanent creeks; however, Jones River runs to the Northwest of the site >100m from any of the proposed lots. Therefore, there is little risk involved with onsite wastewater and downslope surface water.

5. Conclusions

In conclusion, I feel that the land area examined is capable of supporting residential development provided that the identified landscape constraints are addressed with appropriate site specific management strategies.

- The land surveyed is suitable for on site wastewater disposal utilising a packaged treatment plant with irrigation. Some lots may be suitable to a primary treatment system with absorption. Application area design will vary for each site depending upon the soil characteristics, final lot layout and construction type.
- Based upon the modelling undertaken a minimum lot size of 1200m^2 would be adequate to accommodate residential development and on site wastewater disposal.
- Appropriate setbacks from wastewater application areas must be assessed in the site specific building and wastewater design phase.
- The variation in soil depth and dispersive tendency across lots must be considered in system design.
- All earthworks on site must comply with AS3798-2007 and consideration should be given to drainage and sediment control on site during and after construction.
- The final approval for construction and wastewater disposal rests with the permit authority at the building approvals stage, and the recommendations in this report should not be viewed as blanket approval for any scale or type of residential development on each lot. Sites must be revisited for individual onsite wastewater assessments.
- The scale and type of residential development on each lot should therefore be appropriate to the environmental constraints of each Lot – therefore I recommend that geotechnical information be provided to prospective purchasers to allow informed decisions.

It is my professional opinion that the land surveyed is suitable to support residential development and on-site wastewater without sustaining environmental harm.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD
Environmental and Engineering Soil Scientist

Appendix 1 –Trench Summary Reports

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Assessment Report

Site assessment for on-site waste water disposal

Assessment for	Andrew Dalley	Assess. Date	10-Jul-23
		Ref. No.	
Assessed site(s)	937 Ellendale Road, Ellendale	Site(s) inspected	27-Jun-23
Local authority	Central Highlands Council	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and sustem sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been entered into TRENCH.

Wastewater Characteristics

Wastewater volume (L/day) used for this assessment = 900 (using a method independent of the no. of bedrooms)
Septic tank wastewater volume (L/day) = 300
Sullage volume (L/day) = 600
Total nitrogen (kg/year) generated by wastewater = 3.3
Total phosphorus (kg/year) generated by wastewater = 1.6

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	54	46	57	70	74	76	80	86	90	91	68	66
Adopted rainfall (R, mm)	54	46	57	70	74	76	80	86	90	91	68	66
Retained rain (Rr, mm)	49	42	51	63	67	69	72	77	81	82	61	59
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	**82**	**68**	**40**	**0**	**-25**	**-39**	**-40**	**-35**	**-18**	**2**	**44**	**67**

Annual evapotranspiration less retained rain (mm) = 146

Soil characterisitics

Texture = Light CLAY Category = 5 Thick. (m) = 1.5
Adopted permeability (m/day) = 0.12 Adopted LTAR (L/sq m/day) = 3 Min depth (m) to water = 10

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	All wastewater will be disposed of on the site
The preferred method of on-site primary treatment:	In a package treatment plant
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	None
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Not needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	30
Width (m) =	10
Depth (m) =	0.5
Total disposal area (sq m) required =	600
comprising a Primary Area (sq m) of:	300
and a Secondary (backup) Area (sq m) of:	300

Sufficient area is available on site

Comments

The calculated DIR for the Category 5 soils on site is 3mm/day, with a minimum irrigation area of 300m^2 required for a four-bedroom dwelling on mains water. Using a primary treatment system with a DLR of 7L/m^2/day, a minimum absorption area of 144m^2 would be required.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Site assessment for on-site waste water disposal

Assessment for	Andrew Dalley	Assess. Date	10-Jul-23
		Ref. No.	
Assessed site(s)	937 Ellendale Road, Ellendale	Site(s) inspected	27-Jun-23
Local authority	Central Highlands Council	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation		Remarks
					Trench	Amended	
	Expected design area	sq m	1,200	V. high	Low		
	Density of disposal systems	/sq km	10	Mod.	Very low		
	Slope angle	degrees	2	High	Very low		
	Slope form	Convex spreading		High	Very low		
	Surface drainage	Imperfect		High	Moderate		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces NE or NW		V. high	Low		
	Frequency of strong winds	Common		High	Low		
A	Wastewater volume	L/day	900	High	High		
	SAR of septic tank effluent		1.0	High	Low		
	SAR of sullage		1.6	High	Low		
	Soil thickness	m	1.5	V. high	Very low		
	Depth to bedrock	m	1.5	V. high	Moderate		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
AA	Soil dispersion	Emerson No.	2	V. high	Very high		
	Adopted permeability	m/day	0.12	Mod.	Very low		
A	Long Term Accept. Rate	L/day/sq m	3	High	High		

Comments

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Site assessment for on-site waste water disposal

Assessment for	Andrew Dalley	Assess. Date	10-Jul-23
		Ref. No.	
Assessed site(s)	937 Ellendale Road, Ellendale	Site(s) inspected	27-Jun-23
Local authority	Central Highlands Council	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physical capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Cation exchange capacity	mmol/100g	100	High	Low		
	Phos. adsorp. capacity	kg/cub m	0.7	High	Moderate		
	Annual rainfall excess	mm	-146	High	Very low		
	Min. depth to water table	m	10	High	Very low		
	Annual nutrient load	kg	4.9	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	3	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
A	Dist. to nearest surface water	m	120	V. high	High		
	Dist. to nearest other feature	m	50	V. high	Moderate		
	Risk of slope instability	Very low		V. high	Very low		
	Distance to landslip	m	1000	V. high	Very low		

Comments

Appendix 2 – Bore Logs

TH 1 Depth (m)	USCS	Description
0.00 – 0.30	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.30 – 1.00	CH	Brown Grey Yellow **CLAY**: high plasticity, slightly moist soft to firm consistency, gradual boundary to
1.00 – 2.00+	CH	Brown Grey Yellow **CLAY**: high plasticity, slightly moist firm to stiff consistency, lower boundary undefined.

TH 2 Depth (m)	USCS	Description
0.00 – 0.20	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.20 – 0.80	CH	Brown Grey Yellow **CLAY**: high plasticity, slightly moist firm consistency, gradual boundary to
0.80 – 1.00	CL	Brown Grey Yellow **CLAY with GRAVELS**: low plasticity, slightly moist soft consistency, gradual boundary to
1.00 – 1.20	GW	Yellow **Sandy GRAVEL**: slightly moist very dense consistency, auger refusal.

TH 3 Depth (m)	USCS	Description
0.00 – 0.50	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.50 – 1.00	CH	Brown Grey Yellow **CLAY**: high plasticity, slightly moist firm to stiff consistency, gradual boundary to
1.00 – 2.00+	CI	Brown Grey Yellow **CLAY**: medium plasticity, slightly moist soft consistency, lower boundary undefined.

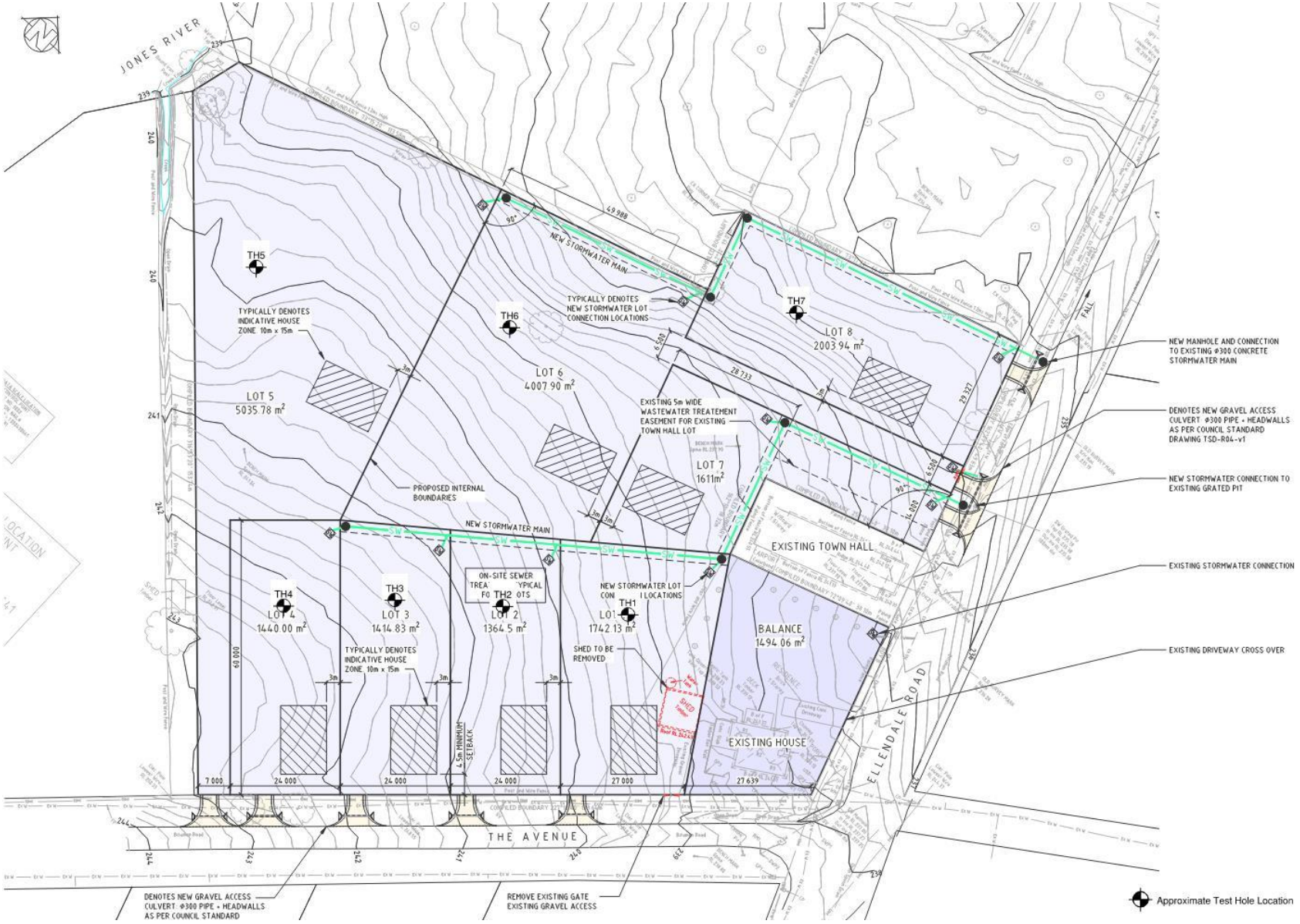
TH 4 Depth (m)	USCS	Description
0.00 – 0.50	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.50 – 2.00+	CH	Brown Grey Yellow **CLAY**: medium to high plasticity, slightly moist stiff consistency, lower boundary undefined.

TH 5 Depth (m)	USCS	Description
0.00 – 0.30	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.30 – 1.20	CI	Brown Orange Grey **Sandy CLAY**: low to medium plasticity, slightly moist soft consistency, lower boundary undefined.

TH 6 Depth (m)	USCS	Description
0.00 – 0.40	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.40 – 1.00	CI	Brown Orange Grey **Sandy CLAY**: low to medium plasticity, slightly moist soft consistency, gradual boundary to
1.00 – 1.30	SC	Yellow **Clayey SAND**: slightly moist dense consistency, auger refusal.

TH 7 Depth (m)	USCS	Description
0.00 – 0.40	SM	Dark Brown Grey **Sandy SILT**: slightly moist loose consistency, visible boundary to
0.40 – 1.10	CI	Brown Orange Grey **Sandy CLAY**: low to medium plasticity, slightly moist soft consistency, gradual boundary to
1.10 – 1.40	SC	Yellow **Clayey SAND**: slightly moist dense consistency, auger refusal.

Appendix 3 – Test Hole Locations



Appendix 4 – Building Act 2016 Compliance

Acceptable Solutions	Performance Criteria	Compliance
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: a) be no less than 6m; or b) be no less than: (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation	Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building. Complies with A1 (b) (ii) Land application area will be located with a minimum separation distance of 6m of downslope building. Complies with A1 (b) (iii) Land application area will be located with a minimum separation distance of 2.5m of downslope building.
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b) (a) be no less than 100m; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.	P2 Horizontal separation distance from downslope surface water to a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A2 (a) Land application area located > 100m from downslope surface water.

A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following: (a) be no less than 40m from a property boundary; or (b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary. Complies with A3 (b) (ii) Land application area will be located with a minimum separation distance of 4m of downslope property boundary. Complies with A3 (b) (iii) Land application area will be located with a minimum separation distance of 3.5m of downslope property boundary.
A4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.	P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable	Complies with A4 No bore or well identified within 50m

A5 Vertical separation distance between groundwater and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.6m if secondary treated effluent	P5 Vertical separation distance between groundwater and a land application area must comply with the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable	1.5m separation is required to comply with A5 (a) 0.6m separation is required to comply with A5 (b)
A6 Vertical separation distance between a limiting layer and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.5m if secondary treated effluent	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.	1.5m separation is required to comply with A5 (a) 0.5m separation is required to comply with A5 (a)
A7 nil	P7 A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties	Complies

Indicative wastewater application areas

Based on an AWTS with irrigation (300m²)
Plus 100% reserve area

Min 3m from upslope or level buildings
Min 2.5m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 3.5m from downslope boundary
Min 19m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

14/08/2023

GES GEO-ENVIRONMENTAL SOLUTIONS
29 Kirksway Place Battery Point
T| 62231839 E| office@gessolutions.net.au

INDICATIVE APPLICATION AREA (300m²)

100% RESERVE AREA (300m²)

*LOTS 2 & 7 SHOWN WITH 180m² TOTAL WASTEWATER AREA (AWTS + BED) INSUFFICIENT AREA TO ACCOMODATE IRRIGATION WITH RESERVE

DRIVEWAY PLAN

SCALE 1:500

1. SURVEY DRAWING BY "SURVEY PLUS" DATED 05-10-2022
2. LEVEL DATUM IS AHD (SEE LAND SURVEY DRAWING)
3. EXISTING SURFACE CONTOUR INTERVAL IS 0.2 METRES
4. REFER TO LAND SURVEY DRAWINGS FOR EXTRA NOTES
5. LAND SURVEYOR SHALL BE ENGAGED TO SETOUT PROJECT FROM THE CAD FILE OF THIS DESIGN.

CLIENT: ANDREW AND JOY DALLEY

0 10 20 30 40 50mm
PRINT REDUCTION BAR | A1 SHEET

No.	AMENDMENT DESCRIPTION	DATE
A	CONCEPT ISSUE FOR COMMENT AND REVIEW	20-01-2023
B	UPDATED AND ISSUED FOR APPROVALS	26-05-2023
C	LOT ADDED. STORMWATER LINE REDIRECTED	28-07-2023

PROPOSED SUBDIVISION OF LAND
937 ELLENDALE ROAD, ELLENDALE 7140, TASMANIA
OVERALL SITE CONCEPT PLAN

SCALE ALLAN WISE
DRAWN 1:500
DATE JAN 2023

DRAWING No. 21031-C01
REVISION C

GES

GEO-ENVIRONMENTAL

SOLUTIONS

Proposed Subdivision

937 Ellendale Road, Ellendale

Bushfire Hazard Report

Applicant: J & A Dalley

October 2023, J9025v2

Geo-Environmental Solutions - 29 Kirksway Place, Battery point, Tasmania, 7004.
Phone: 036223 1839 Email: Web: www.geosolutions.net.au

Contents

1.0 Introduction

This Bushfire Hazard Report has been completed to form part of supporting documentation for a planning permit application for a eight lot plus balance subdivision. The proposed subdivision occurs in a Bushfire-prone Area defined by the Tasmanian Planning Scheme – Central Highlands (the Scheme). This report has been prepared by Mark Van den Berg a qualified person under Part 4a of the *Fire Service Act 1979* of Geo Environmental Solutions Pty Ltd for J & A Dalley

The report considers all the relevant standards of Code C13 of the planning scheme, specifically;

- The requirements for appropriate Hazard Management Areas (HMA's) in relation to building areas;
- The requirements for Public and Private access;
- The provision of water supplies for firefighting purposes;
- Compliance with the planning scheme, and
- The provision of a Bushfire Hazard Management Plan to facilitate appropriate compliant future development.

2.0 Proposal

The proposal is for the subdivision of land resulting in eight new lots and balance as described by the proposed plan of subdivision in appendix A. Public access to new lots will be provided by existing public roadways. The development is proposed to occur in 3 stages. Lots 1 to 7 are undeveloped; the balance lot contains an existing dwelling.

3.0 Site Description

The subject site comprises private land on one title at 937 Ellendale Road, Ellendale, FR: 170358/1 (figure 1). The site occurs in the municipality of the Central Highlands, this application is administered through the Tasmanian Planning Scheme – Central Highlands which makes provision for subdivision. The proposed development occurs within the Village zone. The site is located within the Ellendale settled area, approximately 0.85 km north of Slashers Sugarloaf (figure 1). The surrounding landscape is characterised by grasslands with scattered native vegetation remnants extending into landscape scale forests. Land use adjacent to the proposal comprises residential development on lots of various sizes and grassland vegetation (figure 2).

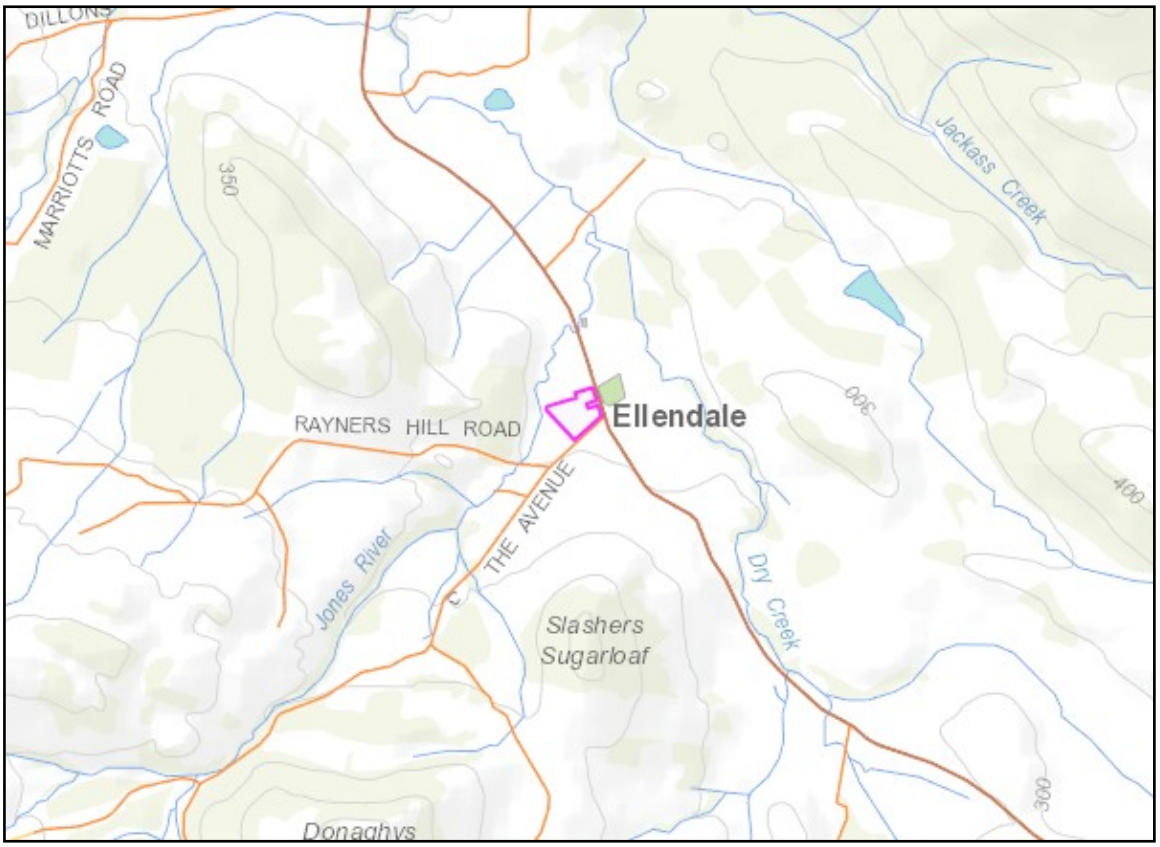


Figure 1. The site in a topographical context, pink line defines the parent lot (approximate).

Figure 2. Aerial photo of the site, pink line denotes the parent lot (approximate).

4.0 Bushfire Hazard Assessment

4.1 Vegetation

The site and adjacent lands within 100 metres of the proposed building areas carry Grassland vegetation (figures 3 to 5). The highest risk vegetation occurs to the north-west of the sites.

4.2 slopes

The effective slopes in relation to the proposed building areas are gentle (<5 degrees) and are unlikely to have a significant on the influence on the bushfire attack at the sites.

Figure 3. Grassland vegetation within and adjacent to lot 7 looking north from the building area within lot 7.

Figure 4. Existing dwelling within the balance lot looking west from Ellendale Road, existing Taswater hydrant located in middle of frame in front of fence.

Figure 5. Grassland vegetation within lots 5, 6 & 7 looking west from the building area within lot 7.


Figure 6. Grassland vegetation within lots 1, 2, 3 and 4 looking north-east from The Avenue.

4.3 Bushfire Attack Level

An assessment of vegetation and topography was undertaken within and adjacent to the proposed building areas for each lot. A bushfire attack level assessment in accordance with *AS3959-2018* was completed which has determined the bushfire attack level for each building area (appendix B). The building areas and bushfire attack levels are identified on the BHMP.

5.0 Bushfire Prone Areas Code

Code C13 of the planning scheme articulates requirements for the provision of hazard management areas, standards for access and firefighting water supplies and requirements for hazard management for staged subdivisions.

5.1 Hazard Management Areas

Hazard management areas are required to be established and/or maintained for all lots, they provide an area around the building within which fuels are managed to reduce the impacts of direct flame contact, radiant heat and ember attack on the building. The balance lot will require the HMA to be established prior to sealing of titles.

The Bushfire Hazard Management Plan (BHMP) shows building areas (for habitable buildings) and associated Hazard Management Areas for each lot, guidance for establishment and maintenance of HMA's is provided below.

This subdivision will take place in three stages. Stage 1 involves dividing the balance lot, while stage 2 includes dividing of lots 1 to 4 with stage 3 dividing lots 5 to 8. The BHMP (Bushfire Hazard Management Plan) specifies hazard management areas for stage 1 and stage 2 to benefit the existing development on the balance lot and future development on lots 1 to 4. Each lot within this subdivision is reliant on hazard management on adjacent lots. A suitable instrument to ensure the maintenance of each lot in a minimum fuel condition should be included as part of the sealing of titles for each stage. Management of bushfire fuels on balance stages is the responsibility of the developer and should form a permit condition.

5.1.1 Building areas

Building areas for habitable buildings are shown on the BHMP. Each lot has been assessed and a Bushfire Attack Level (BAL) assigned to it. If future buildings are located within the building area and comply with the minimum setbacks for the lot, the buildings may be constructed to the bushfire attack level assigned to that lot. If associated structures like sheds or other non-habitable buildings exist or are proposed, they do not need to conform to a BAL unless they are within 6 metres of the habitable building.

5.1.2 Hazard Management Area requirements

A hazard management area is the area, between a habitable building or building area and the bushfire prone vegetation which provides access to a fire front for firefighting, is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire. This can be achieved through, but is not limited to the following strategies;

- Remove fallen limbs, sticks, leaf and bark litter;

- Maintain grass at less than a 100mm height;
- Avoid or minimise the use of flammable mulches (especially against buildings);
- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide vertical separation between fuel layers;
- Remove or prune larger trees to establish and maintain horizontal separation between tree canopies;
- Minimise the storage of flammable materials such as firewood;
- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability plant species for landscaping purposes where possible;
- Clear out any accumulated leaf and other debris from roof gutters and other debris accumulation points.

It is not necessary to remove all vegetation from the hazard management area, trees and shrubs may provide protection from wind borne embers and radiant heat under some circumstances if other fuels are appropriately managed.

5.2 Public and firefighting Access

5.2.1 Public Roads

There is no proposal for the construction of new public roadways, in this circumstance there are no applicable standards for the construction of new public roads.

5.2.2 Property access (for building compliance)

5.2.2.1 requirements for Lots 5 and 6.

Property access will be required to be used to access static firefighting water connection points on lots 5 and 6, property access for lots 5 and 6 is required to comply with the following standards:

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.

5.2.2.2 requirements for Lots 1 to 4, lot 7, lot 8 and Balance Lot

Property access length is less than 30 metres or property access is not required to access a firefighting water supply connection point, in this circumstance there are no minimum design or construction standards applicable to property access.

5.3 Water supplies for firefighting

5.3.1 Requirements for lots 5 and 6.

The building areas are serviced by a reticulated water supply system with fire hydrants. However, due to the proximity of the existing fire hydrants to the building areas, dedicated, static, firefighting water supplies will be provided in accordance with table 1 below.

Table 1. Requirements for Static Water Supplies dedicated for Firefighting.

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 firefighting water 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 65 mm 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 220 mm length); (h) Ensure underground tanks have either an opening at the top of not less

		than 250 mm 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 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 firefighting water 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.

5.3.2 Requirements for lots 1 to 4, lots 7, 8 and Balance lot.

Dedicated water supplies for firefighting will be provided by existing fire hydrants connected to a reticulated water supply system managed by TasWater. The existing hydrants will be required to conform with the following specifications;

- The building area to be protected must be located within 120 metres of a fire hydrant; and
- The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.

If the requirements of the above (s5.3.2) cannot be achieved for lot 2, the requirements of s5.3.1 will apply.

6.0 Compliance

6.1 Planning Compliance

Table 2 summarises the compliance requirements for subdivisions in bushfire prone areas against Code C13 as they apply to this proposal. A planning certificate has been issued for the associated BHMP as being compliant with the relevant standards as outlined below and is located in appendix D.

Table 2. Compliance with Code C13 of the Tasmanian Planning Scheme – Clarence

Clause	Compliance
C13.4 Use or development exempt from this code	Not applicable.
C13.5 1 Vulnerable Uses	Not applicable.
E13.5.2 Hazardous Uses	Not applicable
C13.6.1 Subdivision: Provision of hazard management areas	The Bushfire Hazard Management Plan is certified by an accredited person. Each lot within the subdivision has a building area and associated

	hazard management area shown which is suitable for BAL-12.5 and BAL-19 construction standards. Hazard management areas are able to be contained within each individual lot, therefore there is no requirement for part 5 agreements or easements to facilitate hazard management off site. The proposal is compliant with the acceptable solution at A1(b).
C13.6.2 Subdivision: Public and firefighting access	There is no proposal for the construction of new public roadways or fire trails as part of this development. Minimum standards for property access have been specified for all lots consistent with table C13.2. The Bushfire Hazard Management Plan is certified by an accredited person. The proposal is compliant with the acceptable solution at A1(b).
C13.6.3 Subdivision: Provision of water supply for firefighting purposes	The building areas for lots 1 to 4 and lots 7,8 and balance lot are serviced by an existing reticulated water supply system with fire hydrants and meet the specifications of s5.3.2 of this report. Lots 5 and 6 will be provided with static firefighting water supplies in accordance table C13.5 The proposal is compliant with the acceptable solution at A2(b)

6.2 Building Compliance (for future development)

Future residential development may not require assessment for bushfire management requirements at the planning application stage. Subsequent building applications will require demonstrated compliance with the Directors Determination. If future development is undertaken in compliance with the Bushfire Hazard Management Plan associated with this report, a building surveyor may rely upon it for building compliance purposes if it is not more than 6 years old.

7.0 Summary

The proposed development occurs within a bushfire-prone area. The vegetation is classified as Grassland, with the highest risk presented by vegetation to the north and north-west of the building areas.

A bushfire hazard management plan has been developed and shows building areas with hazard management areas and construction standards, the location of proposed property access and requirements for the provision of firefighting water supplies. It provides requirements for management of the bushfire risk for each stage to ensure future compliant development.

8.0 Limitations Statement

This Bushfire Hazard Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the applicant. To the best of GES's knowledge, the information presented herein represents the Client's requirements at the time of printing of the report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that described in this report. In preparing this report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible bushfire hazard condition and does not provide a guarantee that no loss of property or life will occur as a result of bushfire. As stated in AS3959-2018 “It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions”. In addition, no responsibility is taken for any loss which is a result of actions contrary to AS3959-2018 or the Tasmanian Planning Commission Bushfire code.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required. No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third party

9.0 References

Building Regulations 2016 (Tas.) Division 6.

Determination, Director of Building Control – Bushfire-Hazard Areas. Version 1.1, April 2021. Consumer, Building and Occupational Services, Department of Justice, Tasmania

Standards Australia 2018, *Construction of buildings in bushfire prone areas,* Standards Australia, Sydney.

Tasmanian Planning Scheme – State Planning Provisions. C13 Bushfire-prone Areas Code. Tasmanian Planning Commission, Hobart. 2022.

Appendix A - Site Plan

Appendix B – BAL Assessment tables

Table 1. Bushfire Attack Level (BAL) Assessment - Balance Lot

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 30 metres	36 metres	**BAL-12.5**
	Exclusion 2.2.3.2 (e, f)^^	flat 0º	30 to 48 metres		
	Grassland^	flat 0º	48 to 100 metres		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 45 metres	Title boundary	**BAL-12.5**
	Grassland^	flat 0º	45 to 100 metres		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to >100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 2. Bushfire Attack Level (BAL) Assessment for Lot 1

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	upslope	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 80 metres	Title boundary	**BAL-LOW**
	Grassland^	flat 0º	80 to 100 metres		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 3. Bushfire Attack Level (BAL) Assessment for Lot 2

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 53 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	upslope	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 55 metres	Title boundary	**BAL-LOW**
	Grassland^	flat 0º	55 to 100 metres		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 4. Bushfire Attack Level (BAL) Assessment for Lot 3

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	upslope	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 32 metres	Title boundary	**BAL-12.5**
	Grassland^	flat 0º	32 to 100 metres		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 5. Bushfire Attack Level (BAL) Assessment for Lot 4

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	upslope	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 10 metres	3 metres	**BAL-19**
	Grassland^	flat 0º	10 to 100 metres		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 6. Bushfire Attack Level (BAL) Assessment for Lot 5

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 7. Bushfire Attack Level (BAL) Assessment for Lot 6

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	14 metres	**BAL-12.5**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Grassland^	flat 0º	0 to >100 metres	14 metres	**BAL-19**
	--	--	--		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 8. Bushfire Attack Level (BAL) Assessment for Lot 7

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 100 metres	10 metres	**BAL-19**
	--	--	--		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 53 metres	Title boundary	**BAL-LOW**
	Grassland^	flat 0º	53 to 100 metres		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Table 9. Bushfire Attack Level (BAL) Assessment for Lot 8

Azimuth	Vegetation Classification	Effective Slope	Distance to Bushfire-prone vegetation	Hazard management area width	Bushfire Attack Level
North	Grassland^	flat 0º	0 to 56 metres	10 metres	**BAL-19**
	Exclusion 2.2.3.2 (e, f)^^	flat 0º	56 to 100 metres		
	--	--	--		
	--	--	--		
East	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
South	Exclusion 2.2.3.2 (e, f)^^	flat 0º	0 to 100 metres	Title boundary	**BAL-LOW**
	--	--	--		
	--	--	--		
	--	--	--		
West	Grassland^	flat 0º	0 to 100 metres	10 metres	**BAL-19**
	--	--	--		
	--	--	--		
	--	--	--		

^ Vegetation classification as per AS3959-2018 and Figures 2.4 (A) to 2.4 (H).
* Low threat vegetation as per Bushfire Prone Areas Advisory Note (BHAN) No.1-2014, version 3, 8/11/2017.
^^ Exclusions as per AS3959-2018, section 2.2.3.2, (a) to (f).

Appendix C

Bushfire Hazard Management Plan

BUSHFIRE HAZARD MANAGEMENT PLAN

Bushfire Hazard Management Plan,937 Ellendale Road,
Ellendale. October 2023. J9025v2
Tasmanian Planning Scheme - Central Highlands

GEO-ENVIRONMENTAL SOLUTIONS
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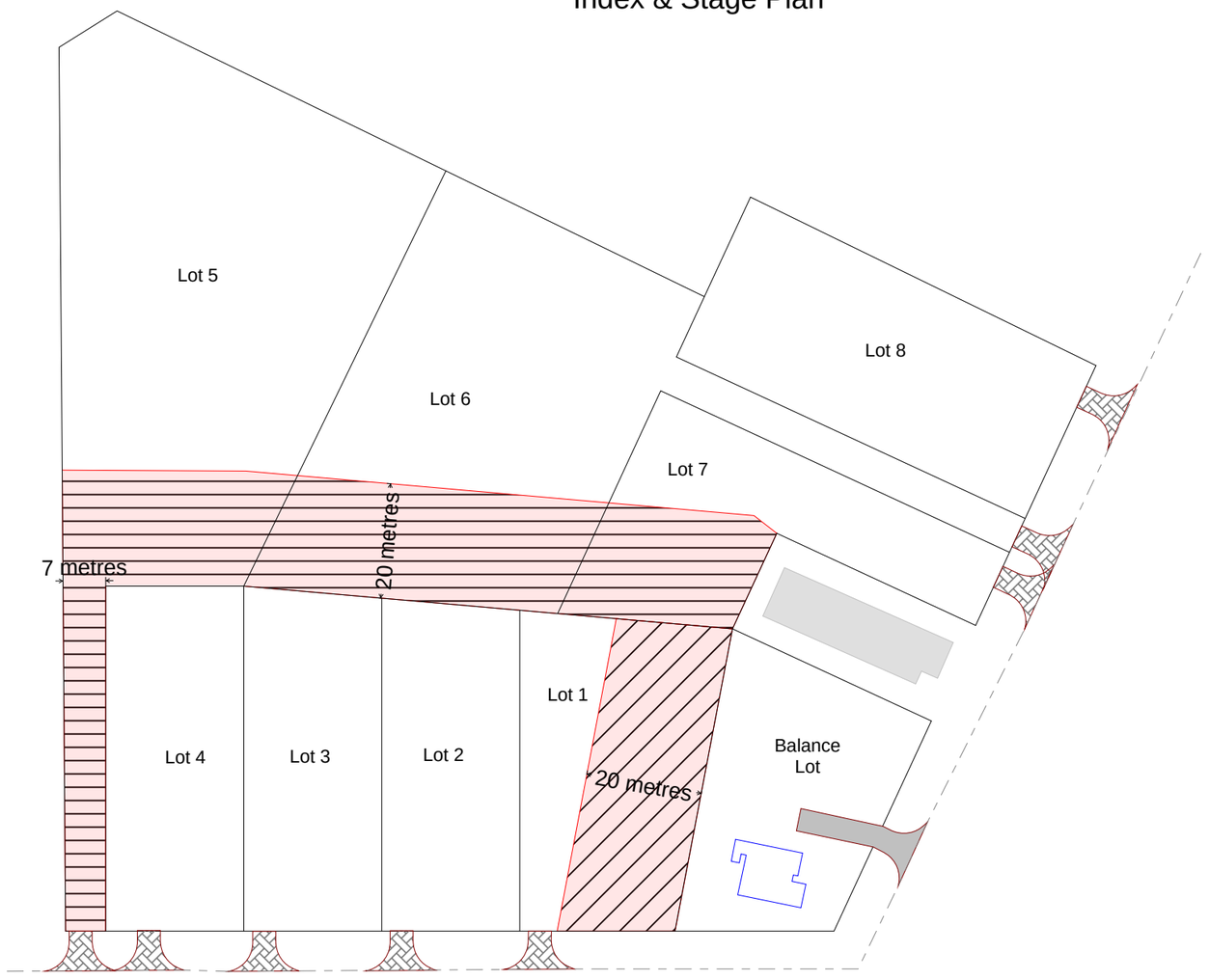
Index & Stage Plan



Staging

Stage 1 - Balance Lot
Stage 2 - Lots 1 to 4
Stage 3 - Lots 5 to 8

Note:
Each Lot to be maintained in a minimum fuel condition

Stage 1 Hazard Management Area

Stage 2 Hazard Management Area

Hazard Management Area

A hazard management area is the area, between a habitable building or building area and the bushfire prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire. This can be achieved through, but is not limited to the following actions;

- Remove fallen limbs, sticks, leaf and bark litter;
- Maintain grass at less than a 100mm height;
- Remove pine bark and other flammable mulch (especially from against buildings);
- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide (vertical separation between fuel layers;
- Prune larger trees to maintain horizontal separation between canopies;
- Minimise the storage of flammable materials such as firewood;
- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability species for landscaping purposes where appropriate;
- Clear out any accumulated leaf and other debris from roof gutters and other accumulation points.

It is not necessary to remove all vegetation from the hazard management area, trees may provide protection from wind borne embers and radiant heat under some circumstances.

Certification No. J9025

Mark Van den Berg
Acc. No. BFP-108
Scope 1, 2, 3A, 3B, 3C.

Do not scale from these drawings. Dimensions to take precedence over scale. Written specifications to take precedence over diagrammatic representations.	J & M Dalley 959 Ellendale Road, Ellendale, Tas., 7140	C.T.: 170358/1 PID: 3122492	Date: 06/10/2023	Bushfire Hazard Management Plan 937 Ellendale Road, Ellendale. October 2023. J9025v2 Bushfire Management Report 937 Ellendale Road, Ellendale. October 2023. J9025v2	Drawing Number: A01	Sheet 1 of 4 Prepared by: MvdB

BUSHFIRE HAZARD MANAGEMENT PLAN

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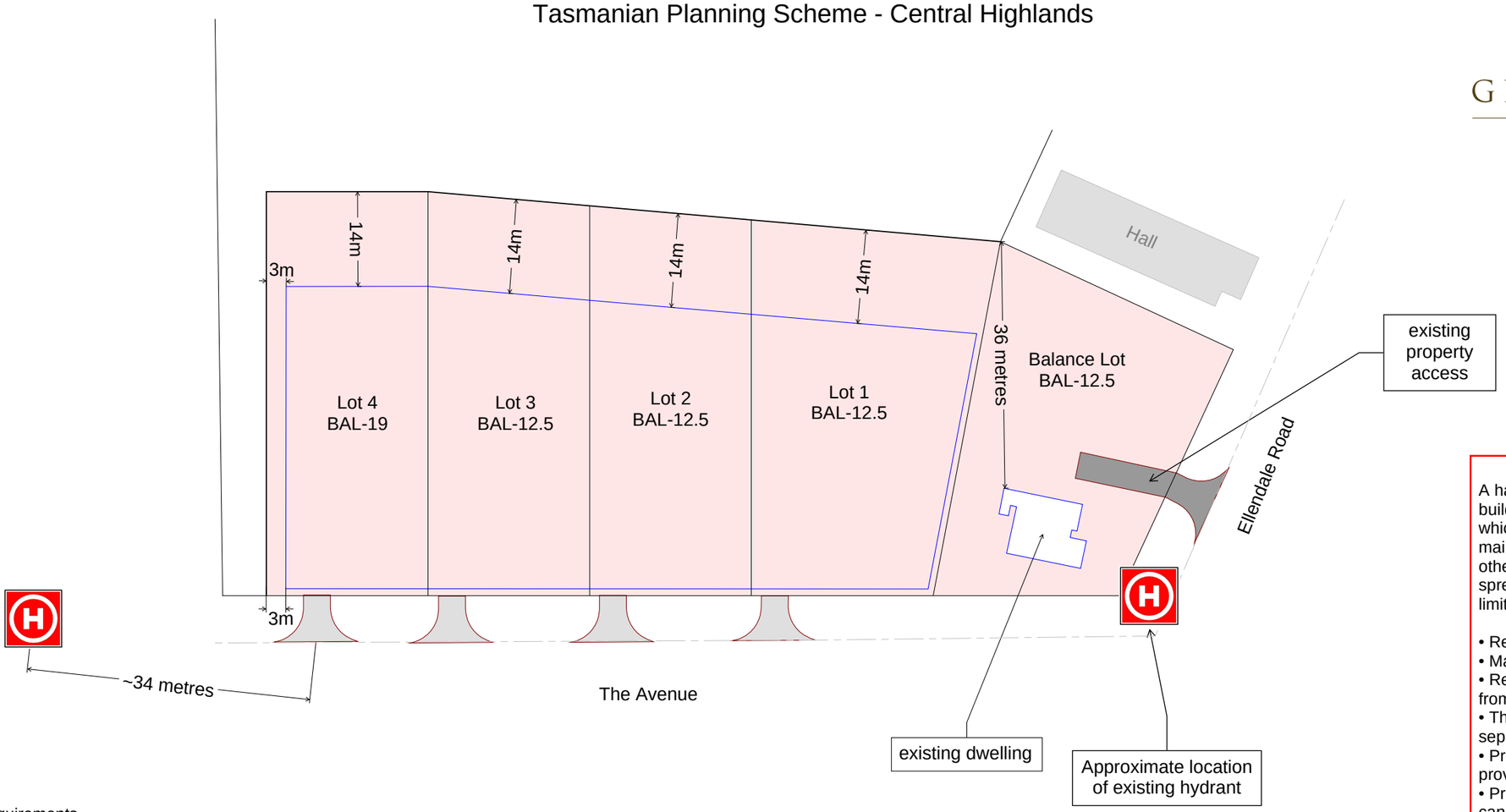

Compliance Requirements

Standards for Property Access

Property access is not required for a fire appliance to access a firefighting water point. In this circumstance there are no specific design or construction requirements for property access.

Water Supplies for Firefighting

Dedicated water supplies for firefighting will be provided by an existing fire hydrant connected to a reticulated water supply system managed by Tas Water. The existing hydrant will be required to conform with the following specifications;
•The building area to be protected must be located within 120 metres of a fire hydrant; and
•The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.

If the requirements of the above cannot be achieved for lot 2, the requirements for static water supplies will apply as per s5.3.1 of the Bushfire Hazard Report.

Hazard Management Areas

A hazard management area is required to be established and maintained for the life of the building and is shown on this BHMP. Guidance for the establishment and maintenance of the hazard management area is also provided.

Note:
Each Lot to be maintained in a minimum fuel condition

Building Area

Static Water Supply Point

Hazard Management Area

Hazard Management Area

A hazard management area is the area, between a habitable building or building area and the bushfire prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire. This can be achieved through, but is not limited to the following actions;

- Remove fallen limbs, sticks, leaf and bark litter;
- Maintain grass at less than a 100mm height;
- Remove pine bark and other flammable mulch (especially from against buildings);
- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide (vertical separation between fuel layers;
- Prune larger trees to maintain horizontal separation between canopies;
- Minimise the storage of flammable materials such as firewood;
- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability species for landscaping purposes where appropriate;
- Clear out any accumulated leaf and other debris from roof gutters and other accumulation points.

It is not necessary to remove all vegetation from the hazard management area, trees may provide protection from wind borne embers and radiant heat under some circumstances.

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Mark Van den Berg
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Scope 1, 2, 3A, 3B, 3C.

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BUSHFIRE HAZARD MANAGEMENT PLAN

Bushfire Hazard Management Plan, 937 Ellendale Road,
Ellendale. October 2023. J9025v2
Tasmanian Planning Scheme - Central Highlands

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Compliance Requirements

Property Access

Property access length is 30 metres or greater; and access is required for a fire appliance to connect 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 outer 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

Water Supplies for Firefighting

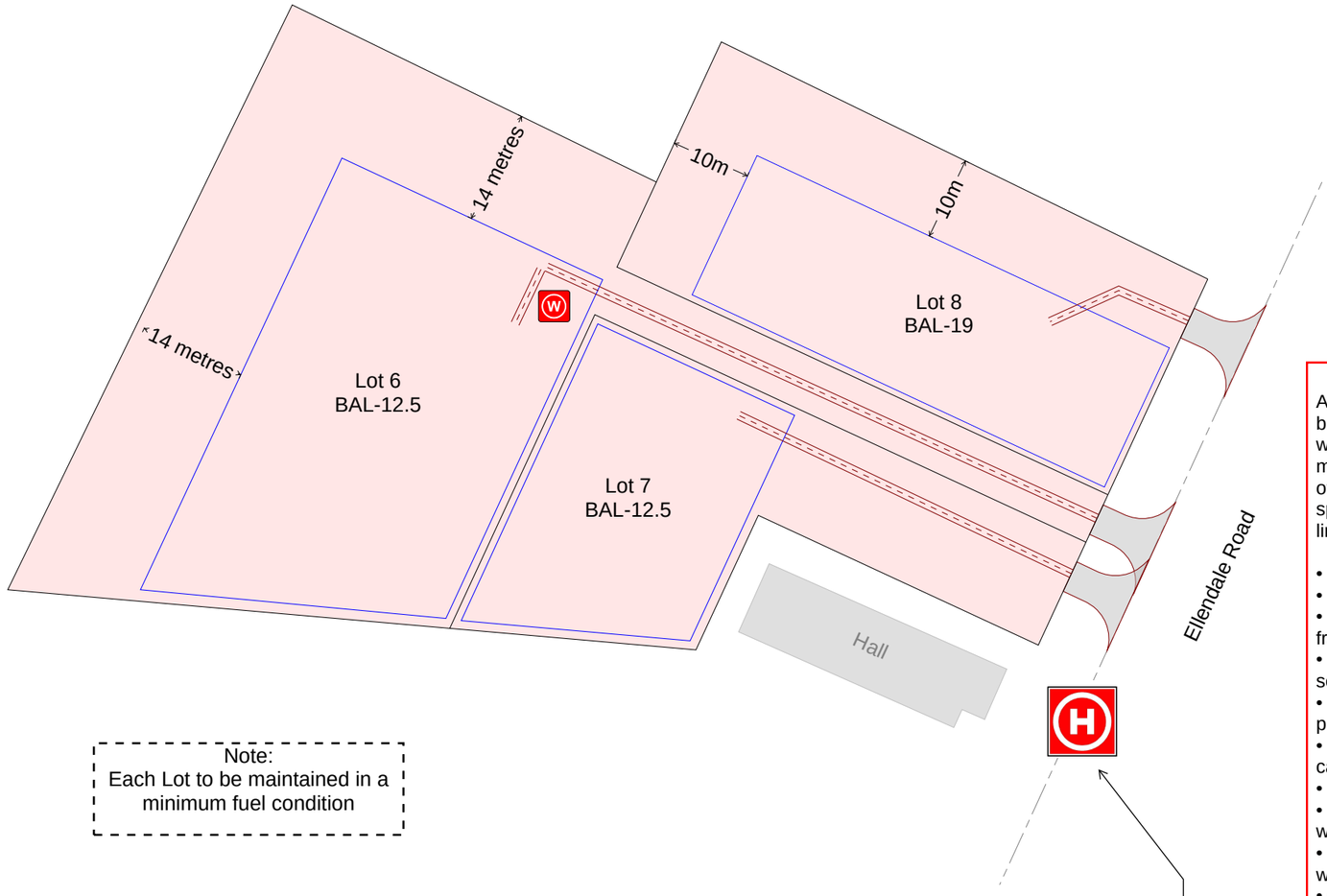
The site is not serviced by a reticulated water supply, therefore a dedicated, static firefighting water supply will be provided in accordance with the following;

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 fire fighting water point of a static water supply; 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) 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 (fire fighting and other uses) but the specified minimum quantity of fire fighting 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 fire fighting 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 3959-2009, 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 and pipework associated with a fire fighting water point for a static water supply must:
(a) Have a minimum nominal internal diameter of 50mm; (2) Be fitted with a valve with 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 (compliant with AS/NZS 3500.1-2003 Clause 5.23);
(e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to fire fighting 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 220 mm length);
(h) Ensure underground tanks have either an opening at the top of not less than 250 mm 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 fire fighting 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 fire fighting 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 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 fire fighting water 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.

Hazard Management Areas

A hazard management area is required to be established and maintained for the life of the building and is shown on this BHMP. Guidance for the establishment and maintenance of the hazard management area is also provided.

Building Area

Static Water Supply Point

Hazard Management Area

Hazard Management Area

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- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide (vertical separation between fuel layers;
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- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability species for landscaping purposes where appropriate;
- Clear out any accumulated leaf and other debris from roof gutters and other accumulation points.

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BUSHFIRE HAZARD MANAGEMENT PLAN

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Water Supplies for Firefighting

The site is not serviced by a reticulated water supply, therefore a dedicated, static firefighting water supply will be provided in accordance with the following;

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 fire fighting water point of a static water supply; 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) 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 (fire fighting and other uses) but the specified minimum quantity of fire fighting 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 fire fighting 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 3959-2009, 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 and pipework associated with a fire fighting water point for a static water supply must:
(a) Have a minimum nominal internal diameter of 50mm; (2) Be fitted with a valve with 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 (compliant with AS/NZS 3500.1-2003 Clause 5.23);
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(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 220 mm length);
(h) Ensure underground tanks have either an opening at the top of not less than 250 mm 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 fire fighting equipment,
(iii) At a working height of 450 – 600mm above ground level; and
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D) Signage for static water connections
The fire fighting 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 comply with the Tasmania Fire Service Water Supply Signage Guideline published by the Tasmania Fire Service

Building Area

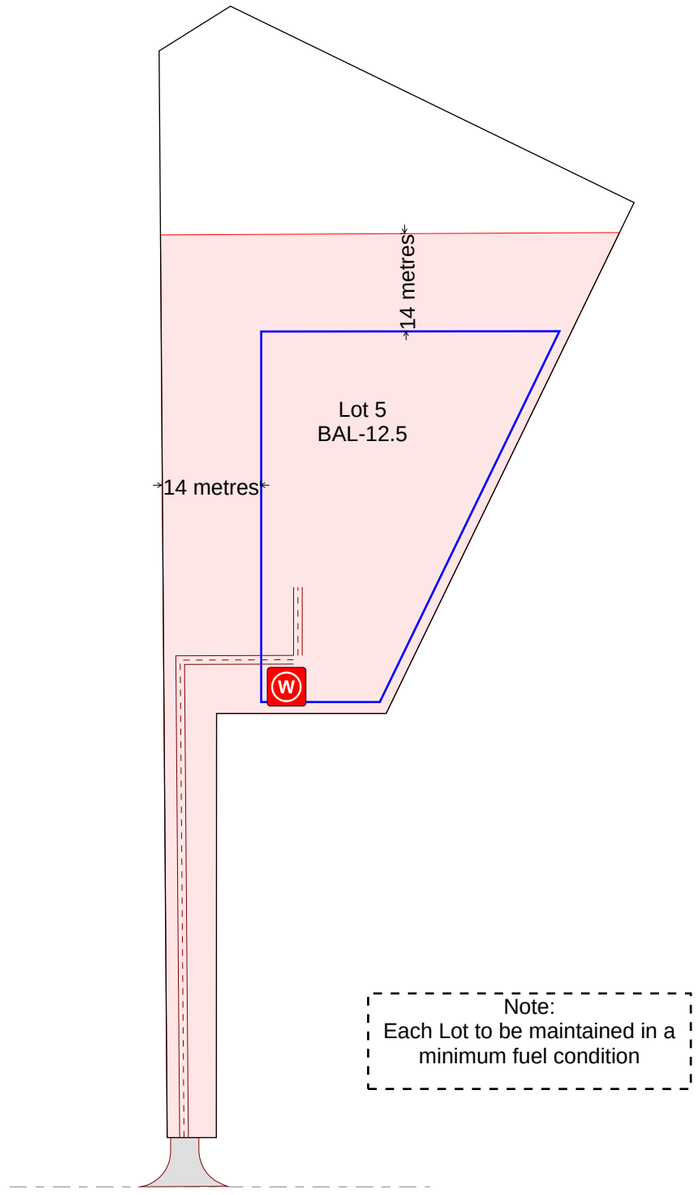
Static Water Supply Point

Hazard Management Area

E) Hardstand
A hardstand area for fire appliances must be provided:
(a) No more than three metres from the fire fighting water 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.

Hazard Management Areas

A hazard management area is required to be established and maintained for the life of the building and is shown on this BHMP. Guidance for the establishment and maintenance of the hazard management area is also provided.



Hazard Management Area

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- Remove fallen limbs, sticks, leaf and bark litter;
- Maintain grass at less than a 100mm height;
- Remove pine bark and other flammable mulch (especially from against buildings);
- Thin out under-story vegetation to provide horizontal separation between fuels;
- Prune low-hanging tree branches (<2m from the ground) to provide (vertical separation between fuel layers;
- Prune larger trees to maintain horizontal separation between canopies;
- Minimise the storage of flammable materials such as firewood;
- Maintain vegetation clearance around vehicular access and water supply points;
- Use low-flammability species for landscaping purposes where appropriate;
- Clear out any accumulated leaf and other debris from roof gutters and other accumulation points.

It is not necessary to remove all vegetation from the hazard management area, trees may provide protection from wind borne embers and radiant heat under some circumstances.

Certification No. J9025

Mark Van den Berg
Acc. No. BFP-108
Scope 1, 2, 3A, 3B, 3C.

Do not scale from these drawings. Dimensions to take precedence over scale. Written specifications to take precedence over diagrammatic representations.	J & M Dalley 959 Ellendale Road, Ellendale, Tas., 7140	C.T.: 170358/1 PID: 3122492	Date: 06/10/2023	Bushfire Hazard Management Plan 937 Ellendale Road, Ellendale. October 2023. J9025v2 Bushfire Management Report 937 Ellendale Road, Ellendale. October 2023. J9025v2	Drawing Number: A01	Sheet 4 of 4 Prepared by: MvdB

Appendix D

Planning Certificate

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE[1] UNDER S51(2)(d) *LAND USE PLANNING AND APPROVALS ACT 1993*

1. Land to which certificate applies

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

Street address:	937 Ellendale Road, Ellendale
Certificate of Title / PID:	FR: 170358/1PID: 3122492

2. Proposed Use or Development

Description of proposed Use and Development:	Eight lot plus Balance subdivision
Applicable Planning Scheme:	Tasmanian Planning Scheme – Central Highlands

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Plan of Subdivision	Allan Wise	28/07/2023	21031-C01
Bushfire Hazard Report 937 Ellendale Road, Ellendale. October 2023. J9025v2	Mark Van den Berg	06/10/2023/	2
Bushfire Hazard Management Plan 937 Ellendale Road, Ellendale. October 2023. J9025v2	Mark Van den Berg	06/10/2023	2

[1] This document is the approved form of certification for this purpose and must not be altered from its original form.

4. Nature of Certificate

The following requirements are applicable to the proposed use and development:

☐	**E1.4 / C13.4 – Use or development exempt from this Code**	
	Compliance test	**Compliance Requirement**
☐	E1.4(a) / C13.4.1(a)	Insufficient increase in risk

☐	**E1.5.1 / C13.5.1 – Vulnerable Uses**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.5.1 P1 / C13.5.1 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.5.1 A2 / C13.5.1 A2	Emergency management strategy
☐	E1.5.1 A3 / C13.5.1 A2	Bushfire hazard management plan

☐	**E1.5.2 / C13.5.2 – Hazardous Uses**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.5.2 P1 / C13.5.2 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.5.2 A2 / C13.5.2 A2	Emergency management strategy
☐	E1.5.2 A3 / C13.5.2 A3	Bushfire hazard management plan

☒	**E1.6.1 / C13.6.1 Subdivision: Provision of hazard management areas**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.6.1 P1 / C13.6.1 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.6.1 A1 (a) / C13.6.1 A1(a)	Insufficient increase in risk
☒	E1.6.1 A1 (b) / C13.6.1 A1(b)	Provides BAL-19 for all lots (including any lot designated as 'balance').
☐	E1.6.1 A1(c) / C13.6.1 A1(c)	Consent for Part 5 Agreement

☒	**E1.6.2 / C13.6.2 Subdivision: Public and fire fighting access**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.6.2 P1 / C13.6.2 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.6.2 A1 (a) / C13.6.2 A1 (a)	Insufficient increase in risk
☒	E1.6.2 A1 (b) / C13.6.2 A1 (b)	Access complies with relevant Tables

☒	**E1.6.3 / C13.1.6.3 Subdivision: Provision of water supply for fire fighting purposes**	
	Acceptable Solution	**Compliance Requirement**
☒	E1.6.3 A1 (a) / C13.6.3 A1 (a)	Insufficient increase in risk (lots 1 to 4 and 7 and 8 and balance lot)
☐	E1.6.3 A1 (b) / C13.6.3 A1 (b)	Reticulated water supply complies with relevant table.
☐	E1.6.3 A1 (c) / C13.6.3 A1 (c)	Water supply consistent with the objective
☐	E1.6.3 A2 (a) / C13.6.3 A2 (a)	Insufficient increase in risk
☒	E1.6.3 A2 (b) / C13.6.3 A2 (b)	Static water supply complies with relevant Table (lots 5 and 6)
☐	E1.6.3 A2 (c) / C13.6.3 A2 (c)	Static water supply consistent with the objective

5. Bushfire Hazard Practitioner

Name:	Mark Van den Berg	**Phone No:**	03 62231839
Postal Address:	29 Kirksway Place Battery Point Tas. 7004	**Email Address:**	mvandenberg@geosolutions.net.au
Accreditation No:	BFP – 108	**Scope:**	1, 2, 3a, 3b & 3c

6. Certification

I certify that in accordance with the authority given under Part 4A of the *Fire Service Act 1979* that the proposed use and development:

☐ Is exempt from the requirement Bushfire-Prone Areas Code because, having regard to the objective of all applicable standards in the Code, there is considered to be an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measures, or

☒ The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and compliant with the relevant **Acceptable Solutions** identified in Section 4 of this Certificate.

Signed:
certifier

Name: Mark Van den Berg 06/10/2023

Certificate Number: J9025

(for Practitioner Use only)