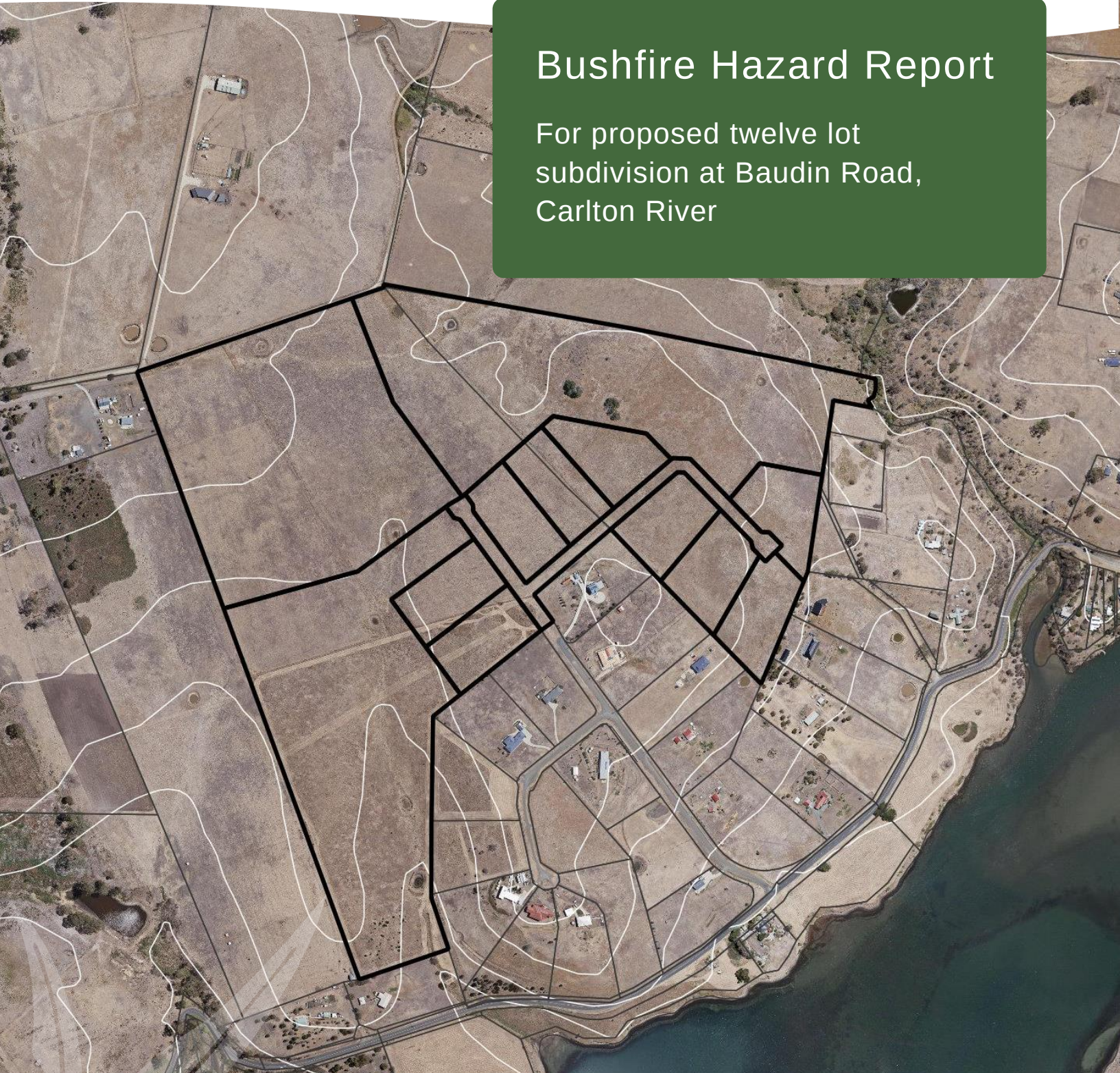




Bushfire Hazard Report

For proposed twelve lot
subdivision at Baudin Road,
Carlton River

Client: Quentin Newitt

Prepared by: Jim Mulcahy

November 2021

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Executive Summary

This bushfire hazard report for a proposed twelve-lot subdivision (not including roads) at Baudin Road, Carlton River, McGinness Road, Carlton River and Waterson Lane, Carlton meets the requirement of a subdivision application within a bushfire prone area under the Sorell Interim Planning Scheme 2015, E1.0 Bushfire Prone Areas Code (the Code).

The Code requires a new subdivision to achieve a minimum BAL-19 rating for all future habitable buildings on the newly formed lots. To illustrate the bushfire hazard management and protection measures needed to achieve the rating, a Bushfire Hazard Management Plan (BHMP) is also required by the Code.

The proposed subdivision has been assessed against the requirements of E1.0 Bushfire Prone Areas Code (the Code) and AS 3959-2009 Construction of Buildings in Bushfire Prone Areas (AS 3959). A Bushfire Hazard Management Plan (BHMP) has been prepared, showing potential building areas and indicative hazard management areas (HMAs) which demonstrate the potential for future habitable buildings on all lots to achieve a Bushfire Attack Level (BAL) rating of **BAL-19** under Table 2.4.4 of AS 3959.

The BHMP demonstrates compliance with the acceptable solutions for subdivision under the Code and has been certified. It will accompany the final version of this report and will be provided to Sorell Council as part of a development application for the proposed subdivision.

Andrew Welling – ENVIRO-DYNAMICS PTY LTD

ACCREDITED BUSHFIRE ASSESSOR (BFP-135)

CERTIFICATE No: ED0417 DATE: 3/11/2021

Signed



Disclaimers

Bushfire hazard management

All reasonable steps have been taken to ensure that the information and advice contained in this report is an accurate reflection of the fire hazard affecting the proposed development at the time of the assessment and the hazard management measures necessary to meet the standards prescribed in E1.0 Bushfire Prone Areas Code (the Code) of the Sorell Interim Planning Scheme 2015 (the Scheme) and Australian Standard AS 3959-2009 (AS3959).

The prescribed hazard management measures are designed to reduce bushfire risk to future habitable buildings on the site. The effectiveness of these measures relies on their implementation in full and their maintenance for the life of the development. No liability can be accepted for actions by landowners or third parties that undermine or compromise the integrity of prescriptions and recommendations contained in this report.

Due to the unpredictable nature of bushfires, particularly under extreme weather conditions, landowners should be aware that implementation and maintenance of the hazard management measures outlined in this report cannot guarantee that a building will survive a bushfire event.

Planning Scheme provisions

This report and the attached Bushfire Hazard Management Plan (BHMP) address the requirements of the Code. In so doing, they define 'indicative building areas' which demonstrate the capacity of the proposed subdivision to support habitable buildings which can meet the requirements of BAL-19. It is the owners' responsibility to address any other planning requirements relating to use and development of the subject land. Nothing in this report or the attached BHMP should be taken to suggest or imply that the indicative building areas will:

- satisfy all relevant provisions of the Scheme in respect of the current application for rezoning and subdivision, or
- at the time of any future applications to build on lots arising from the subdivision, satisfy any relevant provisions of the planning scheme in force at that time.

Australian Standards

AS3959 – 2009 Construction of Buildings in Bushfire-Prone Areas has recently been superseded by AS3959:2018. AS3959 2009 remains relevant for this report and will remain relevant until the Code has been updated to reference the new standard.

In respect of Bushfire Attack Level (BAL) determinations based on vegetation type and slope, the content of Table 2.4.4 in AS3959-2009 is the same as Table 2.6 in AS3959:2018. The new standard does include some changes to the description of 'Low threat vegetation' and the Classification of Vegetation, but these changes do not materially affect the analysis contained in this report. As a result, to the best of the author's knowledge and understanding, the conclusions and prescribed separation distances contained in this report and the attached Bushfire Hazard Management Plan are consistent with the provisions of both AS3959-2009 and AS3959:2018.

1. Introduction

The following Bushfire Hazard Report has been developed for a proposed twelve-lot subdivision of land at Baudin Road, Carlton River, McGinness Road, Carlton River and Waterson Lane, Carlton. The site is located within a bushfire prone area as defined under the Sorell Interim Planning Scheme 2015 (the Scheme). E1.0 Bushfire Prone Areas Code of the Scheme (the Code) requires that a new subdivision can achieve a minimum Bushfire Attack Level (BAL) rating of BAL-19 for any future habitable buildings on newly formed lots. Under the Code, development standards must be certified by the Tasmania Fire Service (TFS) or an accredited person.

This report outlines protective features and controls that must be incorporated into the design and layout of the subdivision to ensure compliance with Australian Standard AS3959-2009 Construction of buildings in bushfire-prone areas (AS3959) and the Code.

1.1 Site Details

<u>Landowners:</u>	Quentin Newitt
<u>Location:</u>	Baudin Road, Carlton River, McGinness Road, Carlton River and Waterson Lane, Carlton
<u>Title references:</u>	CT 169070/1 and CT 119311/1 (PIDs 2294356 and 2294292)
<u>Municipality:</u>	Sorell Council
<u>Current Zoning:</u>	Rural Resource
<u>Proposed Zoning:</u>	Rural Living and Rural Living – Area B
<u>Scheme Overlays:</u>	Bushfire Prone Areas (whole site), Landslide Hazard Area-Low (north-east corner), and Waterway and Coastal Protection Area (drainage lines)
<u>Type of development:</u>	Twelve (12) lot subdivision
<u>Date of Assessment:</u>	26 October 2021
<u>Assessment Number:</u>	ED0417

1.2 Site Description

The subject land is a rural property +/- 40.4ha in size located at Carlton River, approximately 3.6km east of Dodges Ferry (see Figure 1). The land is bound to the north by Waterson Lane, but also has frontage to Baudin Road, in the central south and McGinness Road, Carlton River in the east. An extension to Baudin Road is proposed to service the subdivision.

The land has a predominantly south-easterly aspect, descending from approximately 53m above sea level (asl) in the north-western corner to about 10m asl along the eastern boundary. It is

bisected by several minor drainage lines, with the largest gully running from the centre of the site to the south-western corner of the property. Slopes across the site are generally moderate with the steepest areas in the south-west and far-east of the property (9-10°).

The site is occupied by pasture, as are surrounding properties. It is serviced with power but not reticulated water.

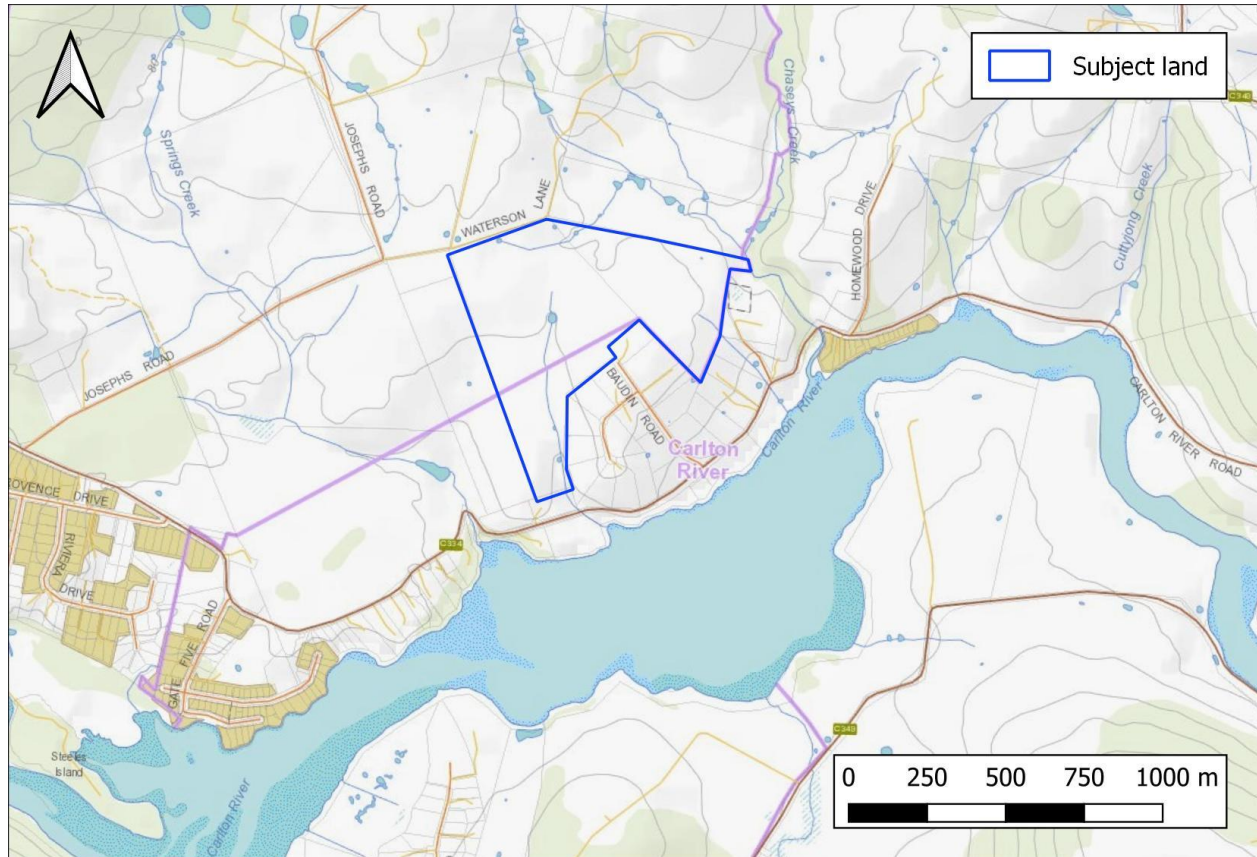


Figure 1 – Site Location Plan (Image source: LISTmap 2021)

The property is currently zoned Rural Resource but is subject to a combined application for re-zoning and subdivision under S43A of the *Land Use Planning and Approvals Act 1993*. The proposed re-zoning under this application is to Rural Living in the central south (minimum lot size 1ha) and to Rural Living – Area B in the north (minimum lot size 10ha).

Surrounding properties to the north, east and west are Rural Resource properties occupied by pasture. Surrounding properties to the south are Rural Living properties that have mostly been developed for residential purposes but are typically occupied by pasture with only small areas of managed gardens. A context map is provided at Figure 2.

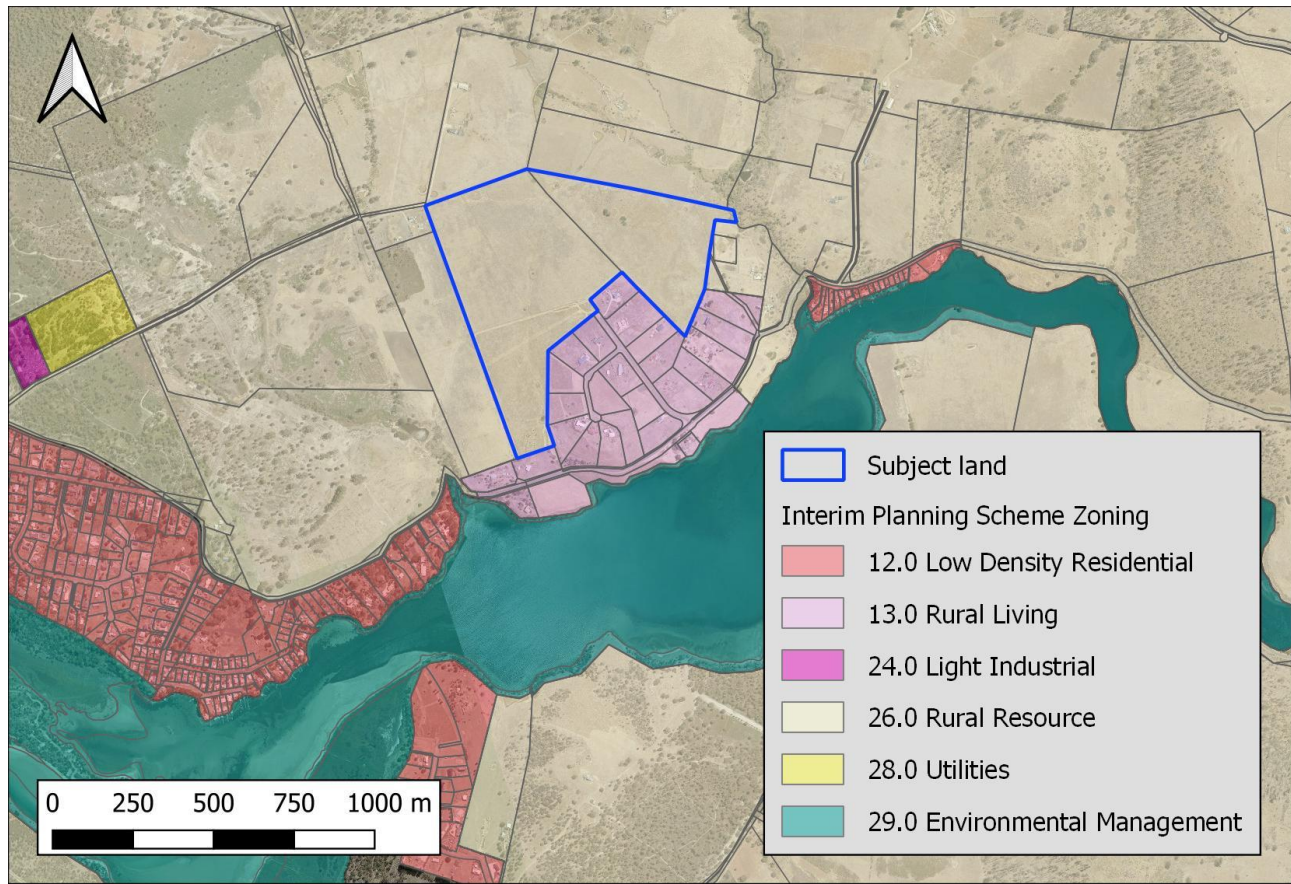


Figure 2 – Site Context and Zoning Map (current zoning) (Image source: LISTmap 2021)

1.3 Subdivision Proposal

A twelve-lot subdivision is proposed (not including roads), creating nine Rural Living lots in the central south of the site and three Rural Living Area - B lots in the north and west of the site (see proposal plan at Figure 3).

The subdivision will be staged as follows.

- Stage 1: Lot 1, Lot 2, Lot 3, Lot 1 RLZ-B, Lot 2 RLZ-B, and the proposed extension of Baudin Road to the north, including the cul-de-sac turning head.
- Stage 2: Lot 4, Lot 5, Lot 6, Lot 3 RLZ-B, and the proposed new road running east of Baudin Road, including the cul-de-sac turning head.
- Stage 3: Lot 7, Lot 8 and Lot 9.

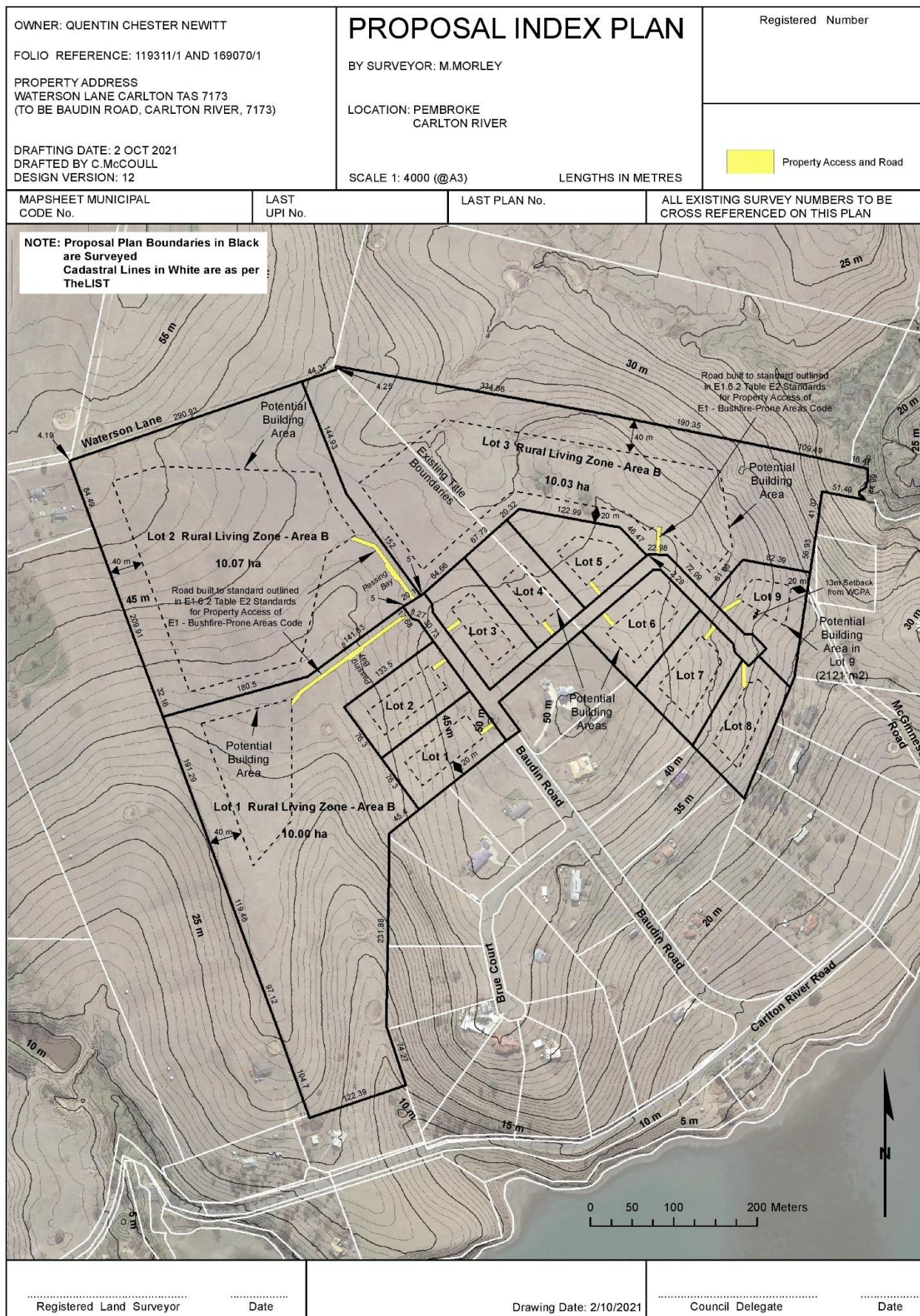


Figure 3 – Subdivision proposal plan (Morley Surveyors, October 2021)

2. Bushfire Attack Level Assessment

The following is a summary of the bushfire risk at the property.

Bushfire Hazard: Potential grassland vegetation, slopes and fuel loads.

Bushfire Attack Mechanisms: Radiant heat, ember attack, wind, direct flame and smoke.

Bushfire Threat

In terms of the probability of extreme fire weather conditions, the main threat is from the north. In terms of vegetation, the main threat is from the extensive areas of forest in the broader landscape to the north, north-east and north-west of the property. Large fires in these areas have the potential to ignite spot fires in any unmanaged grassland on and around the site, particularly under extreme fire weather conditions.

Fire History: the fire history layer on TheList indicates that pasture on and to the north-east of the site was impacted by a bushfire in 2013.

Fire Danger Index: FDI 50.

Vegetation & Slope

Vegetation on and around the subject land is predominantly pasture, which has the potential to become bushfire-prone if left unmanaged. For the purposes of this report all pasture has been classified as G(i) Grassland (potential) as per Clause 2.2.3.2, Table 2.3 and Figure 2.3 of AS3959.

Illustrative photos of vegetation on and around the subject land can be found at Appendix A.

Significant Natural Values:

There are no significant natural values that would limit hazard management works. The subdivision has been designed to avoid impacting land within the Waterway and Coastal Protection Area overlay, which is associated with ephemeral drainage lines running through the property.

Refer to Tables 1-8 and Figure 4 for the bushfire hazard assessment of the proposed subdivision.

Table 1 - Separation distance calculations for Lot 1 and Lot 2

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from Lot (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
Northwest	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
Northeast	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
Southeast	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
Southwest	G(i) Grassland potential	Downslope 5-8°	0-100	BAL-FZ	13-<19m	13m

Table 2 - Separation distance calculations for Lot 3

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from Lot (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
Northwest	G(i) Grassland potential	+/- flat	0-100	BAL-FZ	10-<14m	12m (for consistency)
Northeast	G(i) Grassland potential	Downslope 1°	0-100	BAL-FZ	11-<16m	12m
Southeast	G(i) Grassland potential	Upslope	0-100	BAL-FZ	10-<14m	12m (for consistency)
Southwest	G(i) Grassland potential	Downslope 4-5°	0-100	BAL-FZ	11-<16m	12m

Table 3 - Separation distance calculations for Lot 4 and Lot 5

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from Lot (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
Northwest	G(i) Grassland potential	Downslope 3° to +/- flat	0-100	BAL-FZ	11-<16m	12m
Northeast	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	12m (for consistency)
Southeast	G(i) Grassland potential	+/- flat to downslope	0-100	BAL-FZ	10-<14m	12m (for consistency)
Southwest	G(i) Grassland potential	Upslope	0-100	BAL-FZ	10-<14m	12m (for consistency)

Table 4 - Separation distance calculations for Lot 6, Lot 7 and Lot 8

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from Lot (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
Northwest	G(i) Grassland potential	Downslope 1° to upslope	0-100	BAL-FZ	11-<16m	13m (for consistency)
Northeast	G(i) Grassland potential	Downslope 1° to +/- flat	0-100	BAL-FZ	11-<16m	13m (for consistency)
Southeast	G(i) Grassland potential	Downslope 6-8°	0-100	BAL-FZ	13-<19m	13m
Southwest	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)

Table 5 - Separation distance calculations for Lot 9

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from Lot (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
Northwest	G(i) Grassland potential	Upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
Northeast	G(i) Grassland potential	Downslope 9°	0-100	BAL-FZ	13-<19m	13m
Southeast	G(i) Grassland potential	Downslope 4°	0-100	BAL-FZ	11-<16m	13m (for consistency)
Southwest	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)

Table 6 - Separation distance calculations for Lot 1, Rural Living Zone -Area B

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from potential building area (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
North	G(i) Grassland potential	Upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
East	G(i) Grassland potential	Downslope 4° to upslope	0-100	BAL-FZ	11-<16m	13m (for consistency)
South	G(i) Grassland potential	Downslope 1-5°	0-100	BAL-FZ	11-<16m	13m (for consistency)
West	G(i) Grassland potential	Downslope 6°	0-100	BAL-FZ	13-<19m	13m

Table 7 - Separation distance calculations for Lot 2, Rural Living Zone -Area B

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from potential building area (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
North	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	12m (for consistency)
East	G(i) Grassland potential	Downslope 3°	0-100	BAL-FZ	11-<16m	12m (for consistency)
South	G(i) Grassland potential	Downslope 4°	0-100	BAL-FZ	11-<16m	12m
West	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	11-<16m	12m (for consistency)

Table 8 - Separation distance calculations for Lot 3, Rural Living Zone -Area B

Direction	Vegetation Classification [#]	Effective Slope under vegetation	Distance from potential building area (m)	Current BAL rating	Separation for BAL-19	Prescribed minimum HMA
North	G(i) Grassland potential	Downslope 7°	0-100	BAL-FZ	13-<19m	13m
East	G(i) Grassland potential	Downslope 8-9°	0-100	BAL-FZ	13-<19m	13m
South	G(i) Grassland potential	+/- flat to upslope	0-100	BAL-FZ	10-<14m	13m (for consistency)
West	G(i) Grassland potential	Downslope 1° to upslope	0-100	BAL-FZ	11-<16m	13m (for consistency)

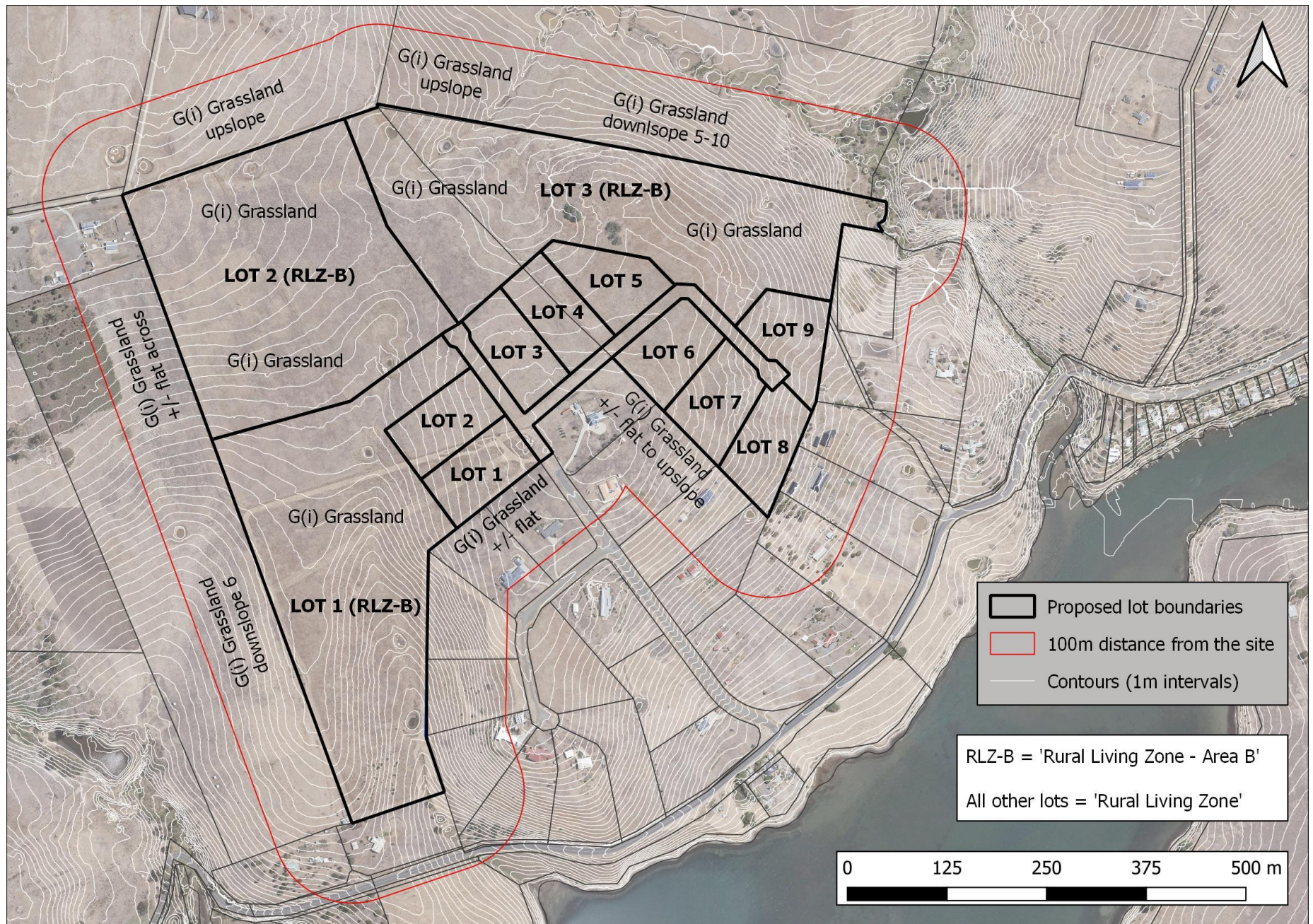


Figure 4 – Bushfire hazard assessment (Image source: LISTmap 2021)

3. Bushfire Protection Measures

The site is within a Bushfire Prone Area as defined by the Sorell Interim Planning Scheme 2015 (the Scheme). Areas of pasture on the property require ongoing management as they have the potential to develop into grassland and become an elevated bushfire risk.

As such, a subdivision development at the site must meet minimum development standards. These development standards are set out under E1.0 Bushfire Prone Areas Code of the Scheme (the Code). They include Provision of hazard management areas (E1.6.1), Public access (E1.6.2) and Provision of water supply for fire-fighting purposes (E1.6.3). The subdivision development must comply with the following clauses of the Code (shaded clauses in Table 2).

Table 2 – Compliance with E1.0

CLAUSE	ISSUE
E1.2	Application of Code
E1.3	Definition of terms in this Code
E1.4	Use or development exempt from this Code
E1.5	Use Standards
E1.5.1	Vulnerable Uses
E1.5.2	Hazardous Uses
E1.6	Developments Standards
E1.6.1	Subdivision: Provision of hazard management areas (HMA) for habitable buildings
E1.6.2	Subdivision: Public and fire-fighting access
E1.6.3	Subdivision: Provision of water supply for fire-fighting purposes

3.1 Hazard Management Areas (HMAs)

Bushfire HMAs provide a cleared space between buildings and the bushfire hazard. Any vegetation in this area needs to be strategically modified and then maintained in a low fuel state to protect buildings from direct flame contact and intense radiant heat thereby allowing them to be defended from lower intensity bushfires. Fine fuel loads must be minimal to reduce the quantity of windborne sparks and embers reaching buildings, to reduce the radiant heat at the building, and to halt or check direct flame attack.

Further information on the maintenance of the equivalent 'defendable space' are provided on the Tasmania Fire Service website: <http://www.fire.tas.gov.au/Show?pagelId=colPrepare>

The Code requires HMAs to be contained within the lot or a formal agreement entered into with the owner of any adjoining lot that needs to be managed as part of the HMA. This subdivision does not require any formal agreement to secure HMAs across lot boundaries.

Requirements

To comply with Acceptable solutions under E1.6.1 – A1 the plan of subdivision must:

- show building areas for each lot, and
- indicate HMAs which separate building areas from bushfire prone vegetation with separation distances required for BAL-19 as a minimum as per Table 2.4.4 of AS 3959-2009 Construction of Buildings in Bushfire Prone Areas.

Current conditions

Vegetation on and around the subject land is predominantly pasture, which has the potential to become bushfire-prone if left unmanaged. For the purposes of this report all pasture has been classified as G(i) Grassland (potential) as per Clause 2.2.3.2, Table 2.3 and Figure 2.3 of AS3959.

Compliance

The BHMP at Attachment 1 shows indicative building areas and hazard management areas (HMAs) which demonstrate the potential for future habitable buildings on all lots to achieve a Bushfire Attack Level (BAL) rating of **BAL-19** under Table 2.4.4 of AS 3959.

Maintenance of Hazard Management Areas

The HMAs around building areas must be maintained in a minimal fuel condition always to ensure bushfire protection mechanisms are effective. An annual inspection and maintenance of the HMA

should be conducted prior to the bushfire season and any flammable material such as leaves, litter and wood piles removed.

3.2 Construction Standards

To utilise the certification provided under this report, any future habitable buildings (Class 1a structures) on lots arising from this subdivision must comply with construction standards for **BAL-19** as a minimum, as per AS3959-2009 (Sections 3 and 6).

3.3 Public and Firefighting Access

New public roads are proposed to service the subdivision. The scale of the lots arising from the subdivision is such that property access may be required to access firefighting water points on every lot and may exceed 30m in length on every lot.

Requirements

The requirements for roads and property access within a subdivision are detailed in E1.6.2 of the Code. In summary, the acceptable solutions are that:

- (b) A proposed plan of subdivision showing the layout of roads 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 E1 and proposed private accesses will comply with Table E2; and
 - (ii) is certified by the TFS or an accredited person.

Roads must be designed and constructed in compliance with Table E1, unless the development standards in the zone require a higher standard:

- two-wheel drive, all-weather construction,
- load capacity of at least 20 t, including for bridges and culverts,
- minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac road,
- minimum vertical clearance of 4m,
- minimum horizontal clearance of 2m from the edge of the carriageway,
- cross falls of less than 3 degrees (1:20 or 5%),
- maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads,

- curves have a minimum inner radius of 10m,
- dead-end or cul-de-sac roads are not more than 200m in length unless the carriageway is 7m in width,
- dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius, and
- carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with AS1743 – 2001 Road Signs – Specifications.

Property access required to access a firefighting water point and greater than 30m in length must be designed and constructed in compliance with Table E1:

- all- weather construction,
- load capacity of at least 20 t, including for bridges and culverts,
- minimum carriageway width of 4 m,
- minimum vertical clearance of 4 m,
- minimum horizontal clearance of 0.5 m from the edge of the carriageway,
- cross falls of less than 3 degrees (1:20 or 5%),
- dips less than 7 degrees (1:8 or 12.5%) entry and exit angle,
- curves with a minimum inner radius of 10 m,
- 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
- terminate with a turning area for fire appliances provided by one of the following:
 - a turning circle with a minimum outer radius of 10m, or
 - a property access encircling the building, or
 - a hammerhead "T" or "Y" turning head 4 m wide and 8 m long.
- where property access is greater than 200m in length, the following design and construction requirements apply to property access:
 - (a) the requirements outlined above; and
 - (b) passing bays of 2m additional carriageway width and 20m length provided every 200m.

Current conditions

Baudin Road is a sealed, Council-maintained road with a formation +/- 6m wide where it fronts the subject land. It provides adequate road access for firefighting purposes.

Compliance

Roads

- The alignment and dimensions of the proposed road reservations under the plan of subdivision from Morley Surveyors (25 October 2020) and illustrated on the BHMP at Attachment 1 demonstrate the capacity for new roading to be constructed compliant with the Code.
- Stage 1 will include the complete northern extension of Baudin Road, including provision of a compliant cul-de-sac turning head. The northern extension of Baudin Road must be constructed to a compliant standard prior to sealing of the final plans for lots arising from Stage 1 (Lot 1, Lot 2, Lot 3, Lot 1 RLZ-B and Lot 2 RLZ-B).
- Stage 2 will include all remaining road construction to the east, including provision of a compliant cul-de-sac turning head. As a result, there will be no need for any temporary turning areas to be provided between Stage 2 and Stage 3. All new roads must be constructed to a compliant standard prior to sealing of the final plans for lots arising from Stage 2 (Lot 4, Lot 5, Lot 6 and Lot 3 RLZ-B).
- At the time of construction, developers and consultants must ensure that new roads are constructed compliant with E1.6.2 and Table E1 of the Code, as outlined above.

Property access

- The BHMP at Attachment 1 demonstrates the capacity of all lots to support property access compliant with the Code.
- Property access must be constructed at the time of building on the lots and must be completed to a compliant standard prior to occupancy of any habitable buildings.
- At the time of construction, the owners/developers must ensure that property access complies in all respects with the provisions of Table E2, as outlined above.

3.4 Static Firefighting Water Supply

An adequate, accessible, and reliable water supply for firefighting purposes must be supplied to allow for the protection of life and property from the risks associated with bushfire.

Requirements

The requirements for provision of static water supplies for firefighting purposes are detailed in E1.6.3 A1. In summary, the acceptable solutions are that:

- (b) The TFS or an accredited person certifies that a proposed plan of subdivision demonstrates that a static water supply, dedicated to firefighting, will be provided and located compliant with Table E5.

Static Firefighting Water Supply must meet the requirements of Table E5, as summarised below.

Distance between building area to be protected and water supply:

- The building area to be protected must be located within 90m of the firefighting water point of a static water supply, and
- The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.

Static water supply requirements:

- May have a remotely located off-take connected to the static water supply,
- 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,
- 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,
- Must be metal, concrete or lagged by non-combustible materials if above ground, and
- If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS3959-2009, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by: metal, non-combustible material, or fibre-cement a minimum of 6 mm thickness.

Fittings and pipework and accessories requirements

Fittings and pipework associated with a water connection point for a static water supply must:

- Have a minimum nominal internal diameter of 50 mm,
- Be fitted with a valve with a minimum nominal internal diameter of 50 mm,
- Be metal or lagged by non-combustible materials if above ground,
- If buried, have a minimum depth of 300 mm (compliant with AS/NZS 3500.1-2003 Clause 5.23),
- Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment,
- Ensure the coupling is accessible and available for connection at all times,

- Ensure the coupling is fitted with a blank cap and securing chain (minimum 220mm length),
- Ensure underground tanks have either an opening at the top of not less than 250 mm dia. or coupling compliant with Table 4.3B, and
- If a remote offtake is installed, ensure the offtake is in a position that is visible; accessible to allow connection by firefighting equipment; at working height of 450–600mm above ground level; and protected from possible damage, including damage by vehicles.

Signage for static water connections requirements:

- 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 comply with:
 - Water tank signage requirements within AS 2304-2011 *Water storage tanks for fire protection systems*, or
 - the Tasmania Fire Service Guideline – be marked with the letter “W” contained within a circle with the letter in upper case of not less than 100 mm in height; marked in fade-resistant material with white reflective lettering and circle on a red background; be located within one metre of the water connection point in a situation which will not impede access or operation; and be no less than 400 mm above the ground.

Hardstand area for fire appliances requirements:

- No more than 3m from the firefighting water point, measured as a hose-lay (including the minimum water level in dams, swimming pools and the like),
- No closer than 6m from the building area to be protected,
- A minimum width of 3m constructed to the same standard as the carriageway, and
- Connected to the property access by a carriageway equivalent to the standard of the property access.

Current conditions

The subdivision is not in an area serviced with a reticulated water supply and all lots will require static water supplies for firefighting purposes.

Compliance

- The BHMP at Attachment 1 demonstrates the capacity of all lots to support static water supplies for firefighting compliant with the Code.

- Static water supplies for firefighting must be provided at the time of building on the lots and must be completed to a compliant standard prior to occupancy of any habitable buildings.
- At the time of installation/construction, the owners/developers must ensure that static water supplies for firefighting comply in all respects with the provisions of Table E5, as outlined above.

4. Conclusion

The proposed subdivision has been assessed against the requirements of E1.0 Bushfire Prone Areas Code (the Code) and AS 3959-2009 Construction of Buildings in Bushfire Prone Areas (AS 3959). A Bushfire Hazard Management Plan (BHMP) has been prepared, showing potential building areas and indicative hazard management areas (HMAs) which demonstrate the potential for future habitable buildings on all lots to achieve a Bushfire Attack Level (BAL) rating of BAL-19 under Table 2.4.4 of AS 3959.

The BHMP demonstrates compliance with the acceptable solutions for subdivision under the Code and has been certified. It will accompany the final version of this report and will be provided to Sorell Council as part of a development application for the proposed subdivision.

5. Recommendations

The recommendation is to adopt the BHMP as per Attachment 1.

5.1 Limitations of Plan

The bushfire protection measures outlined in the BHMP (Attachment 1) are based on a Fire Danger Index of 50 (FDI 50) which relates to a fire danger rating of 'very high'. Defending the property or sheltering within a structure constructed to AS3959-2009 on days when the fire danger rating is greater than 50 (ie 'severe' or higher) is not recommended.

Due to the unpredictable nature of bushfire behaviour and the impacts of extreme weather no structure built in a bushfire-prone area can be guaranteed to survive a bushfire. The safest option in the event of a bushfire is to leave the area early and seek shelter in a safe location.

6. Glossary and Abbreviations

AS – Australian Standard

BAL – Bushfire Attack Level – a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire (AS3959-2009).

BFP – Bush Fire Practitioner – An accredited practitioner recognised by Tasmania Fire Service.

BHMP – Bushfire Hazard Management Plan – plan for individual habitable buildings or subdivision identifying separation distances required between a habitable building(s) and bushfire prone vegetation based on the BAL for the site. The BHMP also indicates requirements for construction, property access and firefighting water.

Class 1a building – is a single habitable building being a detached house; or one of a group of attached habitable buildings being a town house, row house or the like (NCC 2016).

FDI – fire danger index – relates to the chance of a fire starting, its rate of spread, its intensity and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long- and short-term drought effects (AS3959-2009).

HMA – Hazard Management Area – 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.

m – meters

ha – hectares

NASH – National Association of Steel Framed Housing

7. References

AS3959-2009. *Australian Standard for Construction of buildings in bushfire-prone areas*. SAI Global Limited Sydney, NSW Australia.

Building Act 2016. The State of Tasmania Department of Premier and Cabinet.
<https://www.legislation.tas.gov.au/view/html/inforce/current/act-2016-025>

Building Act 2016. Director's Determination – Requirements for Building in a Bushfire-Prone Area (v2.1) DOC/17/62962. Director of Building Control
https://www.cbos.tas.gov.au/__data/assets/pdf_file/0011/405011/Directors-Determination-Requirements-building-bushfire-prone-areas.pdf

Building Regulations 2016. The State of Tasmania Department of Premier and Cabinet.
<https://www.legislation.tas.gov.au/view/html/inforce/current/sr-2016-110>

LISTmap 2021. Land Information System Tasmania, Tasmania Government.
<https://maps.thelist.tas.gov.au/listmap/app/list/map>

NASH 2014. *NASH Standard for Steel Framed Construction in Bush Fire Areas*. National Association of Steel Framed Housing Inc.

NCC 2016. *National Construction Code 2016 Vol Two, Building Code of Australia Class 1 and Class 10 Buildings*. Australian Building Codes Board, Australia.

KIPS 2015. *Sorell Interim Planning Scheme 2015*.
<https://iplan.tas.gov.au/pages/plan/book.aspx?exhibit=sorips>

APPENDIX 1 – Photos of site, surrounds and vegetation



Photo 1 – Pasture on and to the north of the site



Photo 2 – Pasture on and to the north-east of the site



Photo 3 – Pasture on the east of the site and riparian scrub to the east of the site



Photo 4 – Pasture on the south-east of the site and adjoining rural living blocks



Photo 5 – Pasture on the south of the site and adjoining rural living blocks



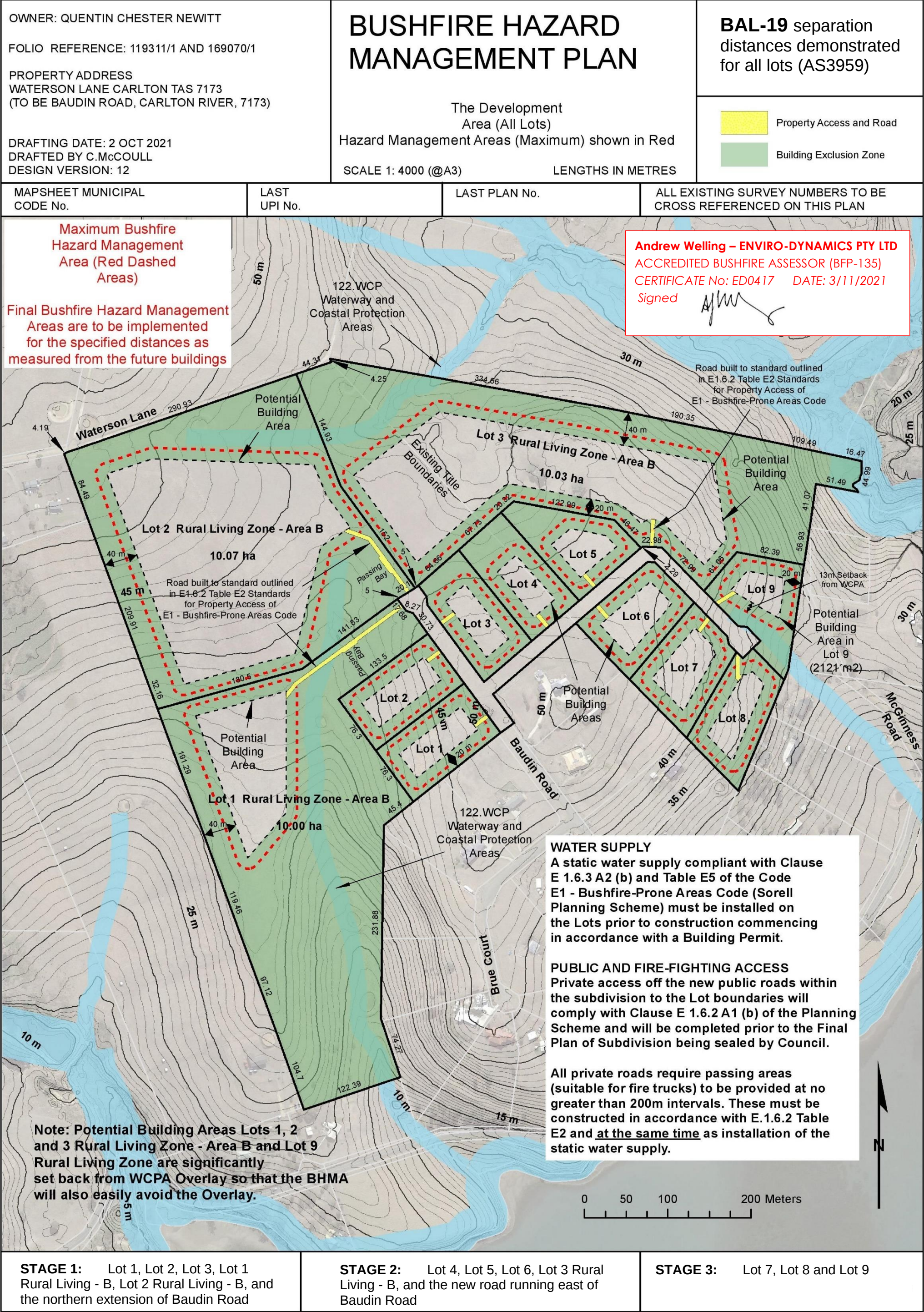
Photo 6 – Pasture on and to the south-west of the site

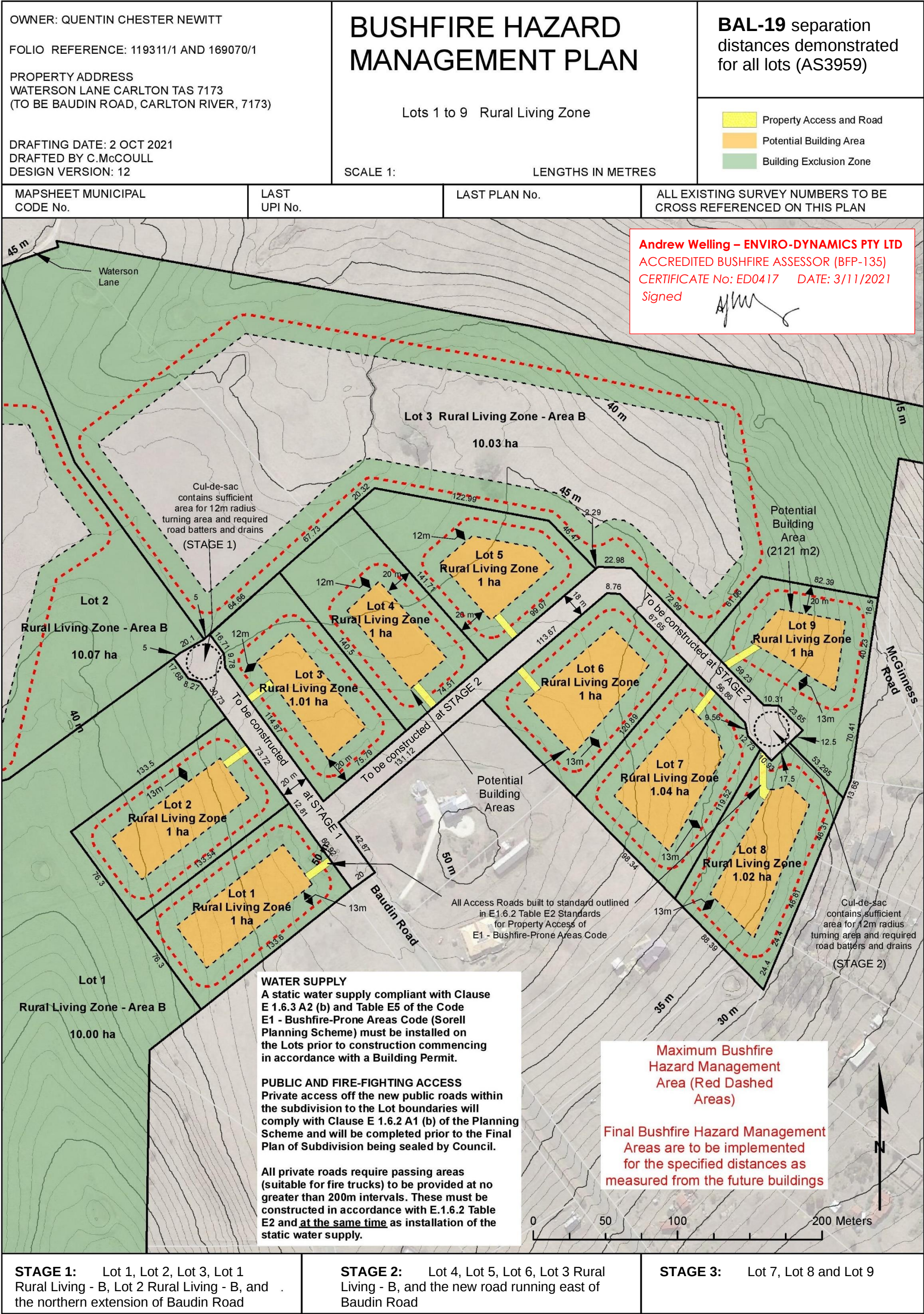


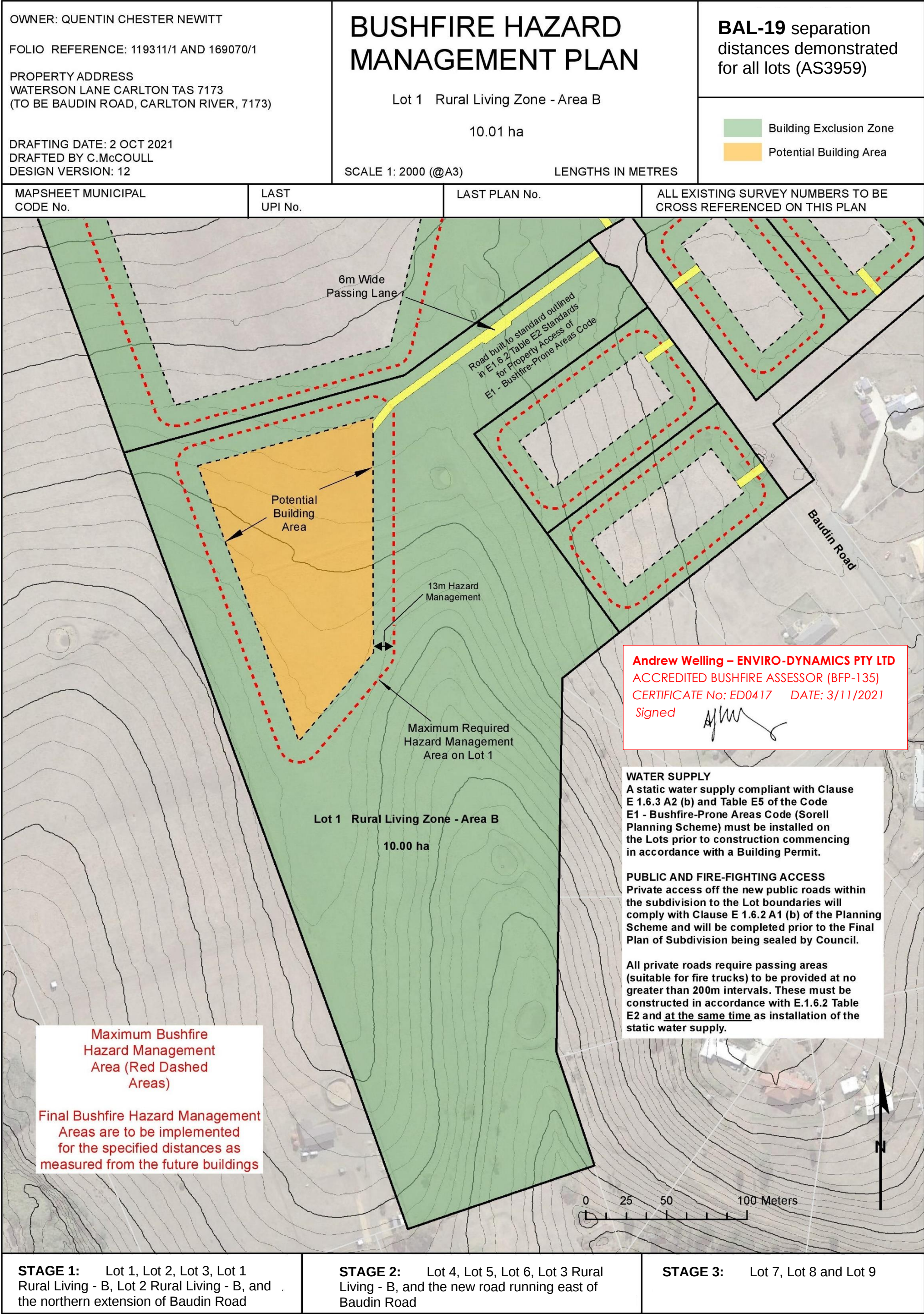
Photo 7 – Pasture on and to the west of the site

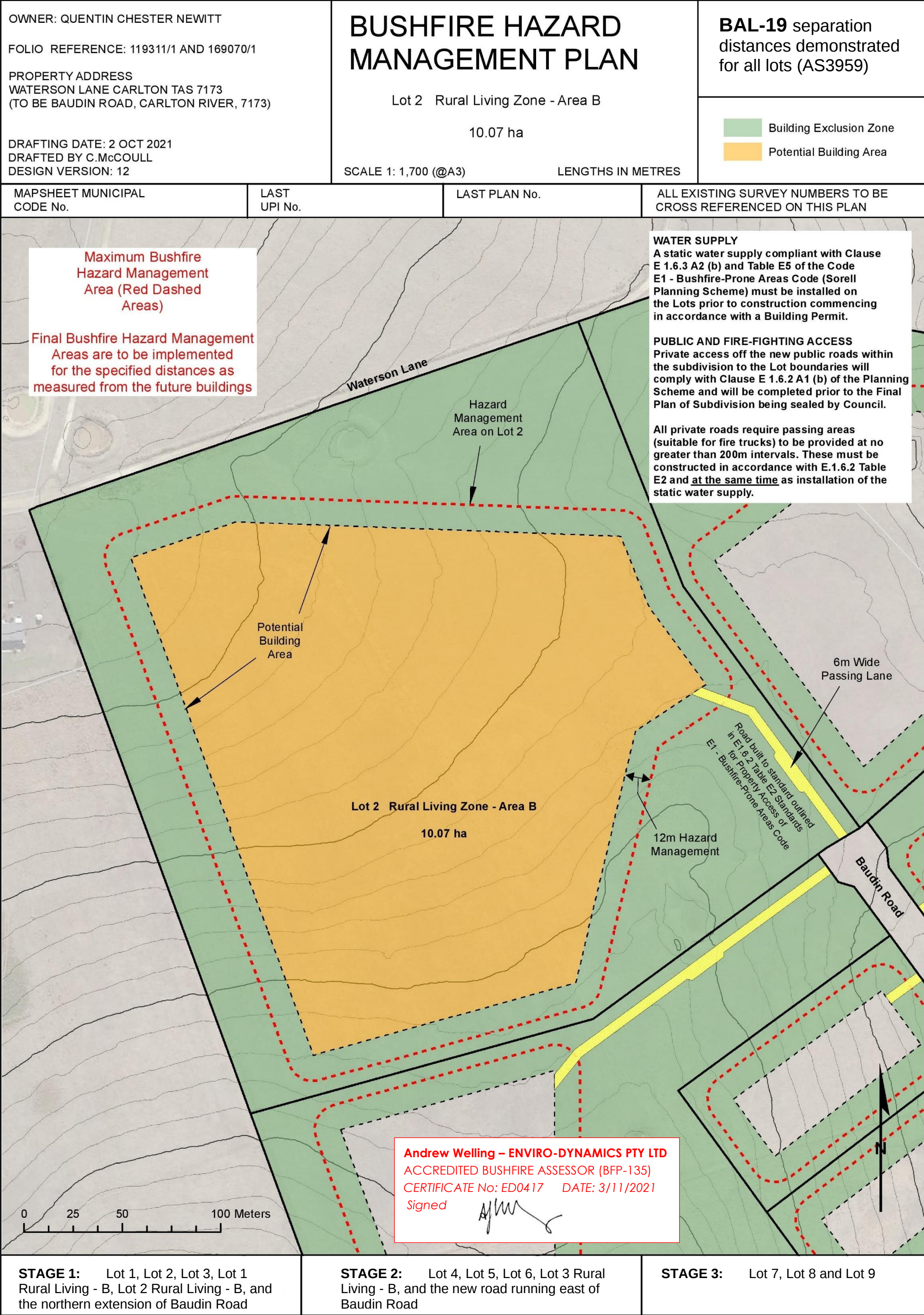


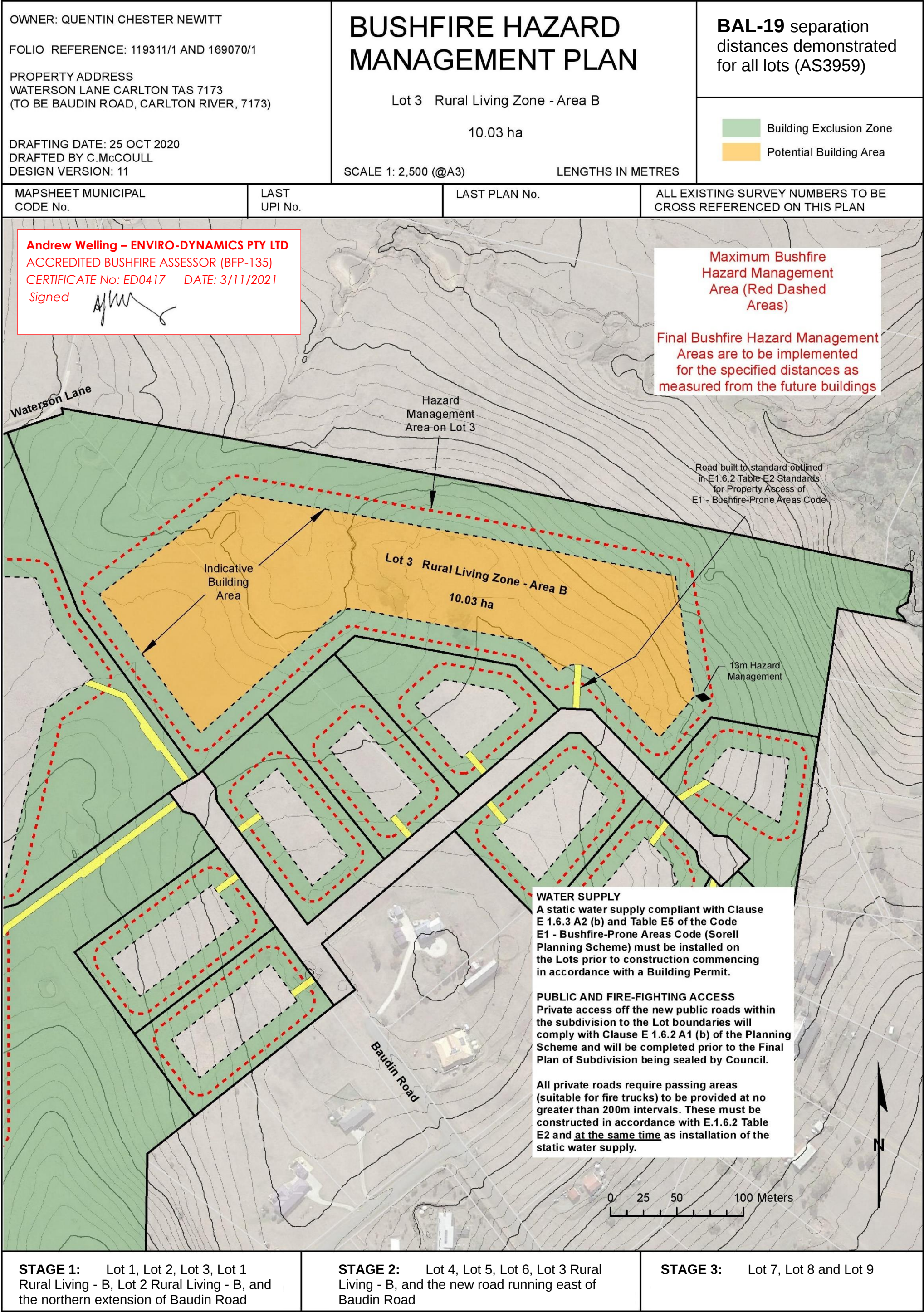
Photo 8 – Pasture on and to the north-west of the site

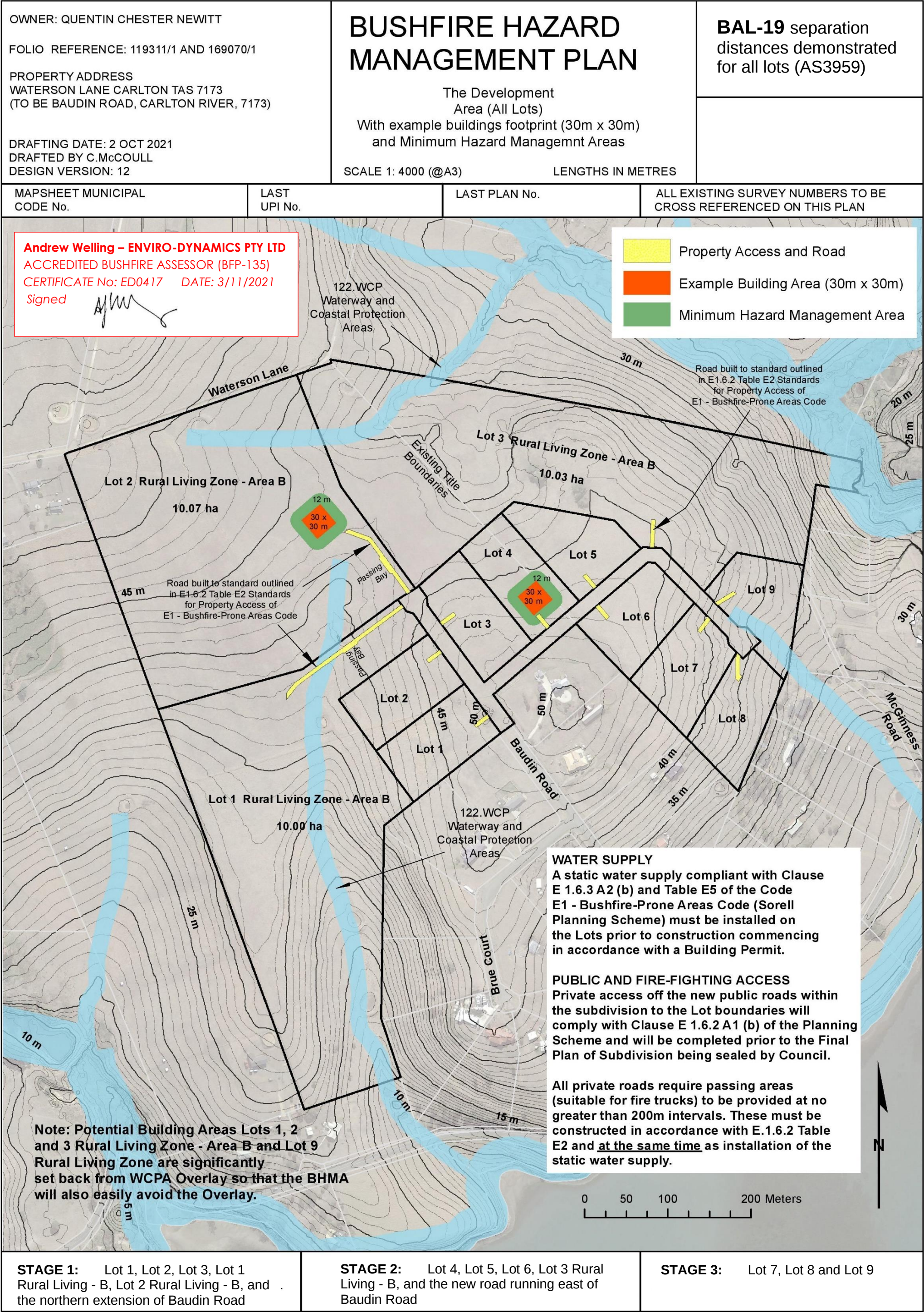












BUSHFIRE-PRONE AREAS CODE

CERTIFICATE¹ 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:

Baudin Road, Carlton River, McGinness Road, Carlton River
and Waterson Lane, Carlton 7173

Certificate of Title / PID:

CT 169070/1 & CT 119311/1 (PIDs 2294356 & 2294292)

2. Proposed Use or Development

Description of proposed Use
and Development:

Twelve (12) lot subdivision

Applicable Planning Scheme:

Sorell Interim Planning Scheme 2015

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Proposal Index Plan, Morley Surveyors	Colin McCoull	2 October 2021	12
Bushfire Hazard Report for proposed 12 lot subdivision at Baudin Road, Carlton River	Enviro-dynamics	November 2021	1.0
Bushfire Hazard Management Plan (BHMP) – Twelve lot subdivision, Baudin Road, Carlton River	Enviro-dynamics	3 November 2021	1.0

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	
☐	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	
☐	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	
☐	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 or lower for all lots

☐	E1.6.1 A1(c) / C13.6.1 A1(c)	Consent for Part 5 Agreement
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☒	E1.6.2 / C13.6.2 Subdivision: Public and firefighting access	
	Acceptable Solution	Compliance Requirement
☐	E1.6.2 P1 / C13.6.2 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 Table

☒	E1.6.3 / C13.1.6.3 Subdivision: Provision of water supply for firefighting purposes	
	Acceptable Solution	Compliance Requirement
☐	E1.6.3 A1 (a) / C13.6.3 A1 (a)	Insufficient increase in risk
☐	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
☐	E1.6.3 A2 (c) / C13.6.3 A2 (c)	Static water supplies consistent with the objective

5. Bushfire Hazard Practitioner

Name:	Andrew Welling	Phone No:	0400 151 205
Postal Address:	16 Collins Street Hobart 7001	Email Address:	andy.welling@enviro-dynamics.com.au
Accreditation No:	BFP – 135	Scope:	1, 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:

Andrew Welling

Date:

3/11/2021

Certificate
Number:

BP0417

(For Practitioner Use only)