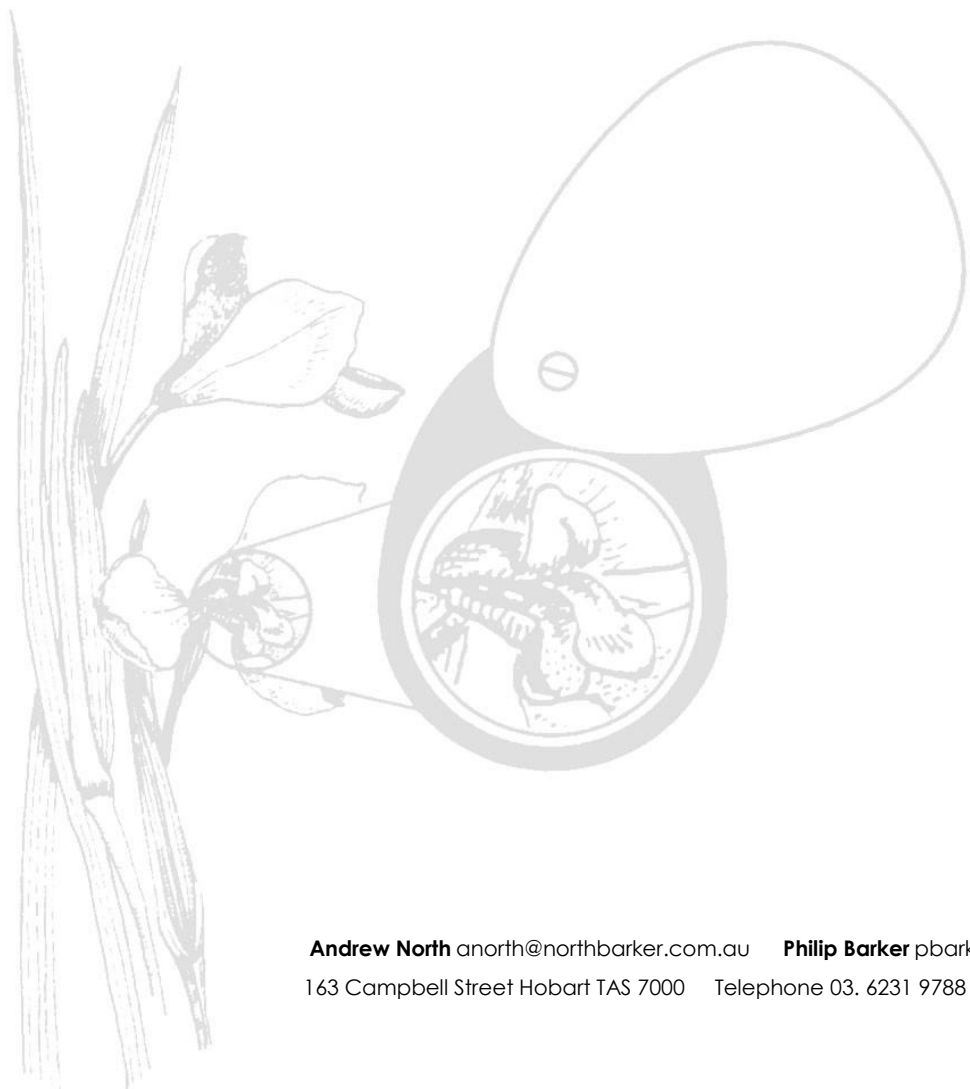




**Thirty-eight lot subdivision
Ecclestone Road, Riverside**
Bushfire Report and Hazard Management Plan

26 February 2021

For 6ty° (SIX001)



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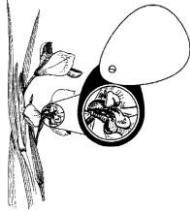
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ACKNOWLEDGMENTS

Client: 6ty°

Assessment: Philip Barker

Mapping: Linda Drummond



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1. INTRODUCTION

The following proposal is for the development of a 38 lot subdivision at Ecclestone Road, Riverside. The subdivision development will have 6 stages. The stages will start at Ecclestone Road and move progressively along the proposed public access road toward the north east.

The land is within the municipality of West Tamar. The West Tamar Interim Planning Scheme (2013) identifies the land as within the Bushfire Prone Areas overlay and as such a Bush Fire Hazard Management Plan (BHMP) is required. The BHMP must demonstrate compliance with Planning Directive No. 5.1 – Bushfire Prone Areas Code with reference to the setbacks to achieve the required Bushfire Attack Level (BAL) for the proposal and the proposed mitigation in compliance with the AS3959:2018 Construction of Buildings in Bushfire Prone Areas.

The BHMP is required to address the requirements for all lots in the subdivision (Lots 1 – 37 plus balance). No development is planned for the balance lot but a compliant building envelope and hazard management area is proven.

2. SITE DESCRIPTION

The development site is on a title of approx. 37 ha. The land and the site generally slope moderately up to the west and the elevation ranges from about 140 to 195 m ASL. The site is accessed from Ecclestone Road, there is a proposed 5 m wide foot access track that will link to Valley View Drive.

The land to the west, north and east zoned is general residential and the land to the south is zoned Rural Resource. The site itself is forested (a mixture of *Eucalyptus amygdalina* forest and woodland; *Eucalyptus ovata* forest and woodland; *Eucalyptus viminalis* grassy forest and woodland and *Bursaria - Acacia* woodland and scrub. The intention is to clear the extent of Lots 1-37 and to leave the balance lot forested. The surrounding vegetation to 100 m includes forest, woodland, grassland and low threat vegetation.

The predominant wind direction during summer in fire weather is from the north west¹.

See Figure 1 for the context and locality of the proposal.

Limitations:

This report is based on site measurements at the time of inspection and from information provided by the proponent. The report is limited in scope to bushfire hazard assessment only. The assessment is based on this subdivision proposal and its findings are for this site.

¹ Monthly windrose data accessed from the Launceston Ti Tree Bend weather station 16/11/2020

only. Future changes to the subdivision proposal or changes in the vegetation that affect bushfire hazard have not been considered.



Figure 1. The location and context of the site.

3. PROPOSED USE

The proposal is to subdivide the parcel into 37 low residential lots plus the Balance lot, an additional lot 101 is being created for stormwater and drainage. This lot will not be developed for residential use. The primary access and egress is off Ecclestone Road, with a foot access from Valley View Road. It is located within a water serviced area and it is intended that lots 6- 34 and balance will be reliant upon reticulated water for firefighting purposes. Due to potential water pressure issues above 185 m asl lots 1 – 5 and 35 – 37 will be reliant upon static water for fire fighting purposes.

4. BUSHFIRE SITE ASSESSMENT

4.1 Vegetation: The proposed building lots (1 – 37) are located on land that is currently forested. The intention is that each of these lots will be cleared and treated and maintained in a low fuel environment, as such the focus is on the vegetation that is within 100 m of the rear perimeter boundary of each of these lots and the resultant area that is required to achieve a BAL-19 for each building area. This will be depicted as a bushfire setback area.

To the west of the proposed subdivision is forest and grassland; to the north and east woodland and some existing residential dwellings; to the south-east forest and woodland; and to the south grassland and low threat vegetation.

The existing vegetation is depicted in Figure 2 and tabulated in Table 1.

4.2 Slope and fire paths: On the lot the slopes are moderate to high. Off the lot the ground falls steeply to the east. The slopes are also tabulated in Table 1.

Only the slopes that affect the BAL rating at the building areas are reported in Table 1, although there are changes in slope within the 100m zone but beyond the distance that affects the BAL rating.

Depending on ignition points the most likely fire paths are from the south east to the north west. There are no fires mapped on the LIST for this site (accessed 12/11/2020).

4.3 Distance:

Table 1 and Figure 2 indicate the site characteristics for a 100 m radius that have been assessed to determine the bushfire attack level of the building and provide the dimensions for the BHMA for a BAL 19 solution as per Section 2 of AS 3959. All aspects have been resolved to BAL 19 by the bushfire hazard management plan (Appendix 1). As the subdivision is proposed to be staged, interim hazard management areas are required for each of these stages. The staging plan illustrates 6 stages and the HMP illustrates the relevant HMAs. Multiple stages may be undertaken at the same time and the relevant HMA will be applied. Table 2 provides the distances required for the interim staged hazard management areas.

NOTE: All distances are based on the notional building area illustrated in Figure 2.

Table 1. Slope and vegetation characteristics and AS3959 solution for BAL 19

Lot	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
Lot 1	North west	Flat / upslope	Grass	0 -100 m	10	
Lot 1	South west	Flat / upslope	Low threat vegetation	0 – 28 m	n/a	Yes
			Woodland	28 – 63 m	15	n/a
			Grassland	63 – 100 m	10	n/a
Lot 2	South west	Flat / upslope	Grass	0 -100 m	10	n/a
			Woodland	28 – 63 m	15	n/a
			Grassland	63 – 100 m	10	n/a

Lot 3	North west	Flat / upslope	Forest	0 - 43 m	23	n/a
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Lot	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
	North west	Flat / upslope	Low threat vegetation	43 -100 m	n/a	Yes
Lots 4 – 13 (south western 20 m)	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lots 1314	North west	Flat / upslope	Grass	0 -100 m	10	n/a
Lot 15	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lot 17	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lot 17	North east	10 - 15°	Grass	0 -100 m	15	n/a
Lot 18	North	Flat / upslope	Low threat vegetation	0 -100 m	n/a	Yes
Lot 18	East	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 19	East	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 20	East	15 - 20°	Woodland	0 -100 m	36	n/a
Lot 21	East	15 - 20°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 22	East	5 - 10°	Woodland	0 – 44 m (maximum)	23	n/a
			Low threat vegetation	44 – 100 m (minimum)	n/a	Yes
Lot 22	South	Flat / upslope	Woodland	0 -100 m	15	n/a
Lot 23	South west	0- 5°	Woodland	0 -100 m	18	n/a
Lot 28	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 29	South east	5 - 10°	Forest	0 -100 m	34	n/a
Lot 30	South east	5 - 10°	Forest	0 -100 m	34	n/a
Lot 31	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 32	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 33	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 34	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 35	South east	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 36	South east	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes

Lot 37	South east	5 - 10°	Low threat vegetation	0 - 100 m	n/a	Yes
Lot 37	South west	Flat / upslope	Grass	0 - 100 m	10	n/a
Balance	North east	5 - 10°	Woodland	0 - 100 m	23	n/a
	South east	0- 5°	Woodland	0 - 100 m	18	n/a

Lot	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
	South west	Flat / upslope	Woodland	-100 m	15	n/a
	North west	Flat / upslope	Woodland	-100 m	15	n/a

Table 2. Slope and vegetation characteristics and AS3959 solution for each stage of the subdivision

Stage	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
Stage 1	North east	0 - 5°	Forest	0 -100 m	27 m	n/a
Stage 2	North east	5 - 10°	Forest	0 -100 m	34 m	n/a
Stage 3	North east	0 - 5°	Forest	0 -100 m	27 m	n/a
Stage 4	North east	5 - 10°	Forest	0 -100 m	34 m	n/a
	South east	0 - 5°	Forest	0 -100 m	27 m	n/a
Stage 5	South east	5 - 10°	Forest	0 -100 m	34 m	n/a

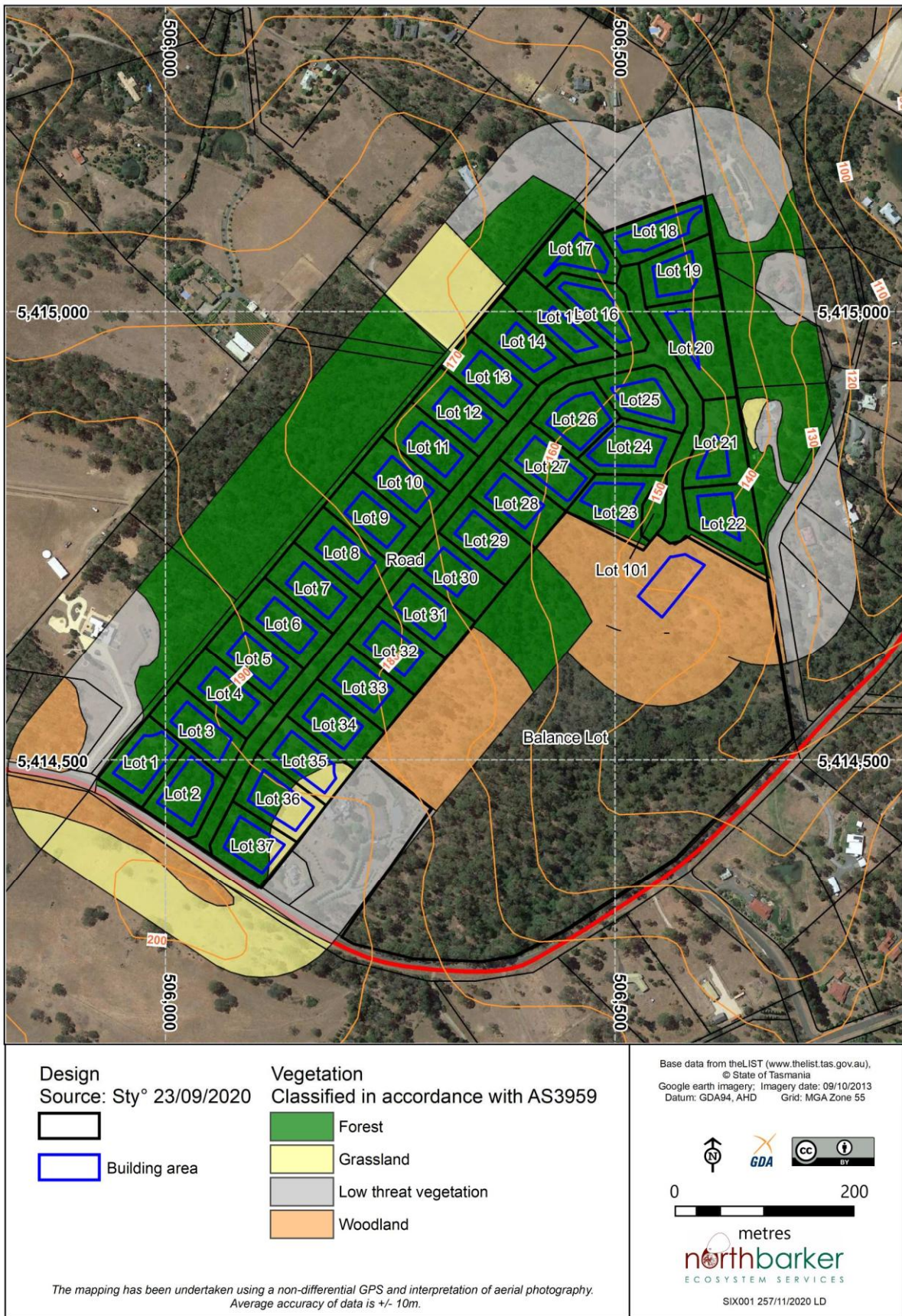


Figure 2. Vegetation and contours in relation to the site



Plate 1 – Bracken and forest in west



Plate 2 – Forest in west



Plate 3 – Northern area of subdivision



Plate 4 - Forest in south west



Plate 5 - Woodland

BUSHFIRE PRONE AREAS MANAGEMENT OBJECTIVES

The Bushfire-Prone Areas Code (issued as Planning Directive No. 5.1) applies within all interim planning schemes and applies to the subdivision of land that is located within, or partially within, a bushfire prone area. This code has been developed to ensure that use and development is designed, located, serviced and constructed to reduce the risk to human life and property, and the cost to the community, caused by bushfires.

Appendix 2 of this report tabulates the specifications for standards set out in PD5.1 for subdivisions. This proposal must comply with this directive as set out in Table 3 below.

Table 3. Compliance of the accommodation building proposal Planning Directive No.5.1 Bushfire Prone Areas Code.

	Deemed to satisfy requirements (Elements)	Requirement (Appendix 2)	Compliance
	Construction requirements	AS 3959 - 2018	To be assessed by building surveyor.

E1.6.1	Hazard management area	A1 (a)	<p>Subject to implementing the proposed BHMP, a BAL 19 area with appropriate hazard management areas as determined by using Table 2.4.4 of AS3959-2018 will be provided. For lots 1-37 the entirety of each parcel will be managed in a low fuel environment. No dwellings are to be built in the "bushfire setback" as this set back is required to meet the minimum BAL-19 hazard management areas.</p> <p>The ultimate design stipulates that all lots are reliant upon one another for mutual protection, so the timing of hazard management area implementation needs to be considered.</p> <p>The subdivision development will have 6 stages. The stages will start at Ecclestone Road and move progressively through to Lots 21 – 24 in the south east.</p> <p>For each stage of the subdivision the bushfire setbacks for all relevant lots must be implemented by the developer prior to sealing titles and maintained by the respective owners. The interim staged hazard management area must also be implemented and maintained until the development of the subsequent stage. Multiple stages may be undertaken at the same time and the relevant HMA will be applied.</p>
E1.6.2	Firefighting access	A1 (b) Private	<p>Yes. Proposed public access road width is greater than 7 m wide.</p> <p>Lots 16, 20, and 24-26 and Balance will have private access less than 30 m long.</p> <p>For all other lots (1 – 15, 17-19, 21-23, 27 – 37 & balance access will be greater than 30</p>

APPENDIX 1. BUSHFIRE HAZARD MANAGEMENT PLAN

Assessment date: 25 February 2021

Assessor: Philip Barker BFP- 147 (1,2,3A,3B,3C)

BUSHFIRE ATTACK LEVEL ASSESSMENT REPORT

Bushfire Attack Level (BAL) assessment conducted in accordance with Clause 2.2 Simplified Procedure (Method 1) of AS 3959 – 2018.

This BAL Assessment Report has been provided to determine the BAL (in accordance with AS3959-2018) for the site and where necessary provide recommendations for BAL reduction methods to comply Directors Determination 2.1. Requirements for water supply for fire fighting and vehicle access and egress for fire fighting have been included; and should part of the Building Surveyors Certificate of Likely Compliance assessment.

Limitations

All measurements have been made using standard practices and may contain small errors of precision.

Compliance with the AS3959 building standards referred to in this assessment does not mean that there is no risk to life or property as a result of bushfire.

A primary limitation is that the BAL value is determined under an FDI of 50. The FDI can be higher under certain weather and fuel conditions and consequently the BAL may also be higher than determined here.

Property Details

Applicants Name: 6ty*

Municipality: West Tamar

PID: 7655464

Certificate of title / number: CT 43468/1

Address: Eccleston Road, Riverside 7250 Proposal:

Thirty-eight lot subdivision

Bush Fire Attack Level (BAL) 19 Relevant fire danger index: (see clause 2.2.2) FDI 50

Summary of Compliance Requirements (see Figure 1):

1. Building materials and design must comply with BCA for BAL 19. Once the western aspect is converted to HMA the aspect is affectively shielded from the eastern fire path. Building construction requirements for this aspect are a min of BAL 19.
2. Property access requires a turning area for fire vehicles at the end and a hard stand within 3 m of the water static water source for lots 1 – 15, 17 – 19, 21 – 23, 27 – 37 and Balance
3. A compliant water supply for fire fighting is to be installed and maintained. A compliant water hydrant should be installed within 120 m hose lay of the building at its furthest point.
4. Building area set back to be formalise on title
5. Hazard management area to be maintained in a low fuel state.

Determination of vegetation and slope within 100m in all directions.

Lot	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
Lot 1	North west	Flat / upslope	Grass	0 -100 m	10	
Lot 1	South west	Flat / upslope	Low threat vegetation	0 – 28 m	n/a	Yes
			Woodland	28 – 63 m	15	n/a
			Grassland	63 – 100 m	10	n/a
Lot 2	South west	Flat / upslope	Grass	0 -28 m	10	n/a
			Woodland	28 – 63 m	15	n/a
			Grassland	63 – 100 m	10	n/a
Lot 3	North west	Flat / upslope	Forest	0 - 43 m	23	n/a
	North west	Flat / upslope	Low threat vegetation	43 -100 m	n/a	Yes
Lots 4 – 13 (south western 20 m)	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lots 1314	North west	Flat / upslope	Grass	0 -100 m	10	n/a
Lot 15	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lot 17	North west	Flat / upslope	Forest	0 -100 m	23	n/a
Lot 17	North east	10 - 15°	Grass	0 -100 m	15	n/a
Lot 18	North	Flat / upslope	Low threat vegetation	0 -100 m	n/a	Yes
Lot 18	East	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 19	East	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 20	East	15 - 20°	Woodland	0 -100 m	36	n/a
Lot 21	East	15 - 20°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 22	East	5 - 10°	Woodland	0 – 44 m (maximum)	23	n/a
			Low threat vegetation	44 – 100 m (minimum)	n/a	Yes
Lot 22	South	Flat / upslope	Woodland	0 -100 m	15	n/a

Lot 23	South west	0- 5°	Woodland	0 -100 m	18	n/a
Lot 28	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 29	South east	5 - 10°	Forest	0 -100 m	34	n/a
Lot 30	South east	5 - 10°	Forest	0 -100 m	34	n/a
Lot 31	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 32	South east	5 - 10°	Woodland	0 -100 m	23	n/a

Lot	Aspect	Slope	Vegetation	Distance under effective slope	Minimum Defendable Space Required for BAL-19 (m)	Exclusions of low threat vegetation under 2.2.3.2 AS3959
Lot 33	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 34	South east	5 - 10°	Woodland	0 -100 m	23	n/a
Lot 35	South east	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 36	South east	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 37	South east	5 - 10°	Low threat vegetation	0 -100 m	n/a	Yes
Lot 37	South west	Flat / upslope	Grass	0 -100 m	10	n/a
Balance	North east	5 - 10°	Woodland	0 – 100 m	23	n/a
Balance	South east	0- 5°	Woodland	0 -100 m	18	n/a
Balance	South west	Flat / upslope	Woodland	0 -100 m	15	n/a
Balance	North west	Flat / upslope	Woodland	0 -100 m	15	n/a

Determination of Bushfire Attack Level (BAL 19) Requirements and recommendations for hazard management during development

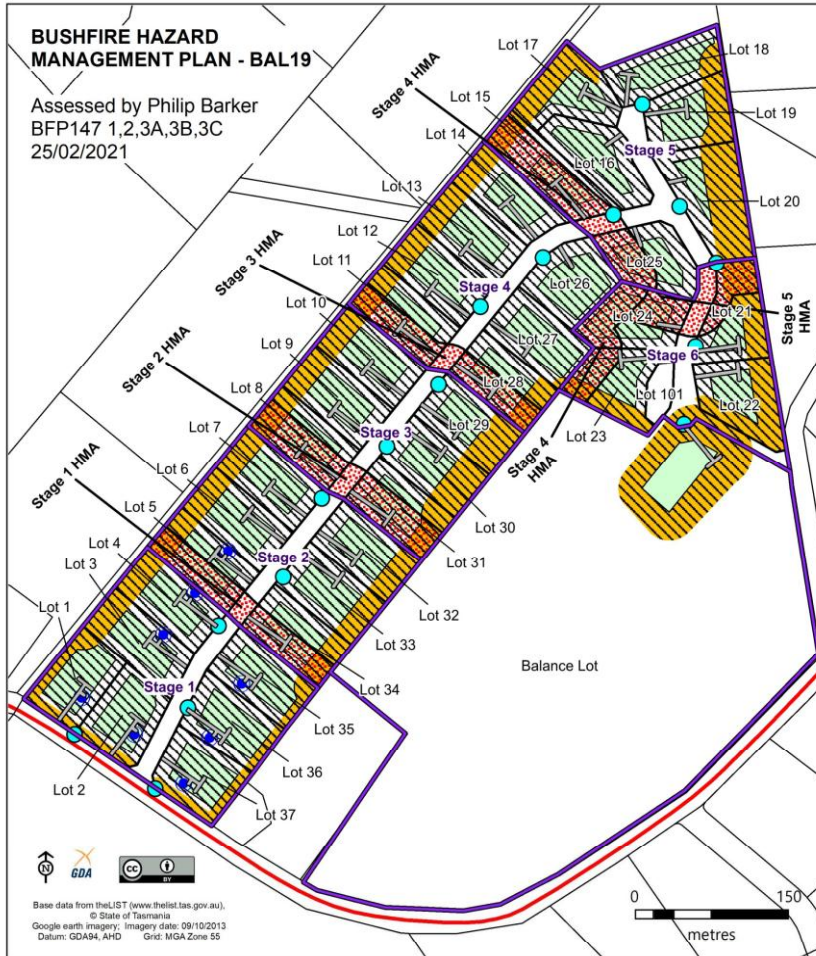
The bushfire hazard management plan (Appendix 1) has resolved all aspects to BAL 19 as per Table 2. All vegetation within the HMA of the site will be managed in a low fuel state and the following recommendations are made.

1. Requirement: Maintain HMA in a low fuel state. Ground cover vegetation less than 100 mm tall – this can be achieved by mowing and raking; larger trees pruned to at least 2m; and if necessary, remove sufficient trees to maintain a 3 m canopy separation; selectively removing small trees and shrubs to create clumps.
2. Requirement: Each lot is reliant upon its neighbour for mutual protection, so the timing of the establishment of hazard management areas must reflect this by establishing the hazard management area on each lot of each stage simultaneously.
3. Requirement: The subdivision development will have 6 stages. The stages will start at Ecclestone Road and move progressively through to Lots 21 – 24 in the south east. The staging plan illustrates 6 stages and the HMP illustrates the relevant HMAs. Each stage relies on the establishment of an HMA being established at the boundary between stages within the subsequent stage. Multiple stages may be undertaken at the same time and the relevant HMA will be applied.
4. Recommended: Gardens exclude shrubs from within 5 m of the building.
5. Recommended: All aspects should provide a mineral/earth surface to a minimum of 0.5 m from the building.

6. Recommended: No trees or shrubs within 10 m to exceed the height of the gutters unless leaf shedding guards are fitted.

BUSHFIRE HAZARD MANAGEMENT PLAN - BAL19

Assessed by Philip Barker
BFP147 1,2,3A,3B,3C
25/02/2021



Design
Source: Sty^o 15/09/2020

Proposed infrastructure

- TasWater hydrant location
- Static water supply
- Access, turning area (and hardstand for static water)

The mapping has been undertaken using a non-differential GPS and interpretation of aerial photography.

Building area

Bush Fire Hazard Management Plan

- Bushfire hazard management area
- Bushfire setback - no build area
- Hazard management areas for stages 1 -6

Property Details

Applicants Name: 6ty^o
Municipality: West Tamar
PID: 7655464
Certificate of title / number: CT 43468/1
Address: Ecclestone Road, Riverside 7250
Proposal: Thirty-eight lot subdivision

SIK001 01/12/2020 LD

Hazard management areas - Individual lots

Lot	Aspect	Slope	Vegetation	Defendable Space Required for BAL-19 (m)	Minimum bushfire setback line (m)
Lot 1	North west	Flat / upslope	Grass	Entire parcel	10
Lot 1	South west	Flat / upslope	Low threat vegetation	Entire parcel	15
Lot 2	South west	Flat / upslope	Grass	Entire parcel	10
Lot 3	North west	Flat / upslope	Forest	Entire parcel	23
Lot 4 - 15	North west	Flat / upslope	Forest	Entire parcel	23
Lot 16	n/a	n/a	Forest	Entire parcel	n/a
Lot 17	North west	Flat / upslope	Forest	Entire parcel	23
Lot 17	North east	10 - 15°	Grass	Entire parcel	15
Lot 18	North	Flat / upslope	Low threat vegetation	Entire parcel	n/a
Lot 18	East	5 - 10°	Low threat vegetation	Entire parcel	23
Lot 19	East	5 - 10°	Woodland	Entire parcel	23
Lot 20	East	15 - 20°	Woodland	Entire parcel	36
Lot 21	East	15 - 20°	Low threat vegetation	Entire parcel	23
Lot 22	East	5 - 10°	Woodland	Entire parcel	23
Lot 22	South	Flat / upslope	Woodland	Entire parcel	15

Lot	Aspect	Slope	Vegetation	Defendable Space Required for BAL-19 (m)	Minimum bushfire setback line (m)
Lot 23	South west	0 - 5°	Woodland	Entire parcel	18
Lot 28	South east	5 - 10°	Woodland	Entire parcel	23
Lot 29	South east	5 - 10°	Forest	Entire parcel	34
Lot 30	South east	5 - 10°	Forest	Entire parcel	34
Lot 31	South east	5 - 10°	Woodland	Entire parcel	23
Lot 32	South east	5 - 10°	Woodland	Entire parcel	23
Lot 33	South east	5 - 10°	Woodland	Entire parcel	23
Lot 34	South east	5 - 10°	Woodland	Entire parcel	23
Lot 35	South east	5 - 10°	Low threat vegetation	Entire parcel	10
Lot 36	South east	5 - 10°	Low threat vegetation	Entire parcel	10
Lot 37	South east	5 - 10°	Low threat vegetation	Entire parcel	10
Lot 37	South west	Flat / upslope	Grass	Entire parcel	10
Balance	North east	5 - 10°	Woodland	23	23
Balance	South east	0 - 5°	Woodland	18	18
Balance	South west	Flat / upslope	Woodland	15	15
Balance	North west	Flat / upslope	Woodland	15	15

Hazard management areas - Stages 1 - 6

Stage	Aspect	Slope	Vegetation	Defendable Space Required for BAL-19 (m)
Stage 1	North east	0 - 5°	Forest	27 m
Stage 2	North east	5 - 10°	Forest	34 m
Stage 3	North east	0 - 5°	Forest	27 m
Stage 4	North east	5 - 10°	Forest	34 m
Stage 4	South east	0 - 5°	Forest	27 m
Stage 5	South east	5 - 10°	Forest	34 m

COMPLIANCE REQUIREMENTS

HAZARD MANAGEMENT AREA (entire parcel)
Maintain HMA in a low fuel state. Ground cover vegetation less than 100 mm tall, trees pruned to > 2m.
No dwellings are to be built in the "bushfire setback" as this set back is required to meet the minimum BAL-19 hazard management areas.
The bushfire setbacks for all lots must be implemented by the developer prior to sealing titles and maintained by the respective owners.
The subdivision development will have 6 stages. The stages will start at Ecclestone Road and move progressively through to Lots 21 - 24 in the south east. The staging plan illustrates 6 stages and the HMP illustrates the relevant HMAs. Multiple stages may be undertaken at the same time and the relevant HMA will be applied.

ACCESS ROAD

Driveway encircling building or a hammerhead T or Y turning head 4m wide and 8m long, or a trafficable circular turning area of 10m radius.
Proposed roads carriageway to be greater than 7 m wide

FIRE FIGHTING WATER SUPPLY

Lots 1-5 and Lots 35 - 37 to be reliant upon static water supply of 10,000 litres per habitable building within 3m of hardstand area. Lots 6 - 34 and Balance to be reliant upon reticulated water.

This plan is to be read in conjunction with Thirty-eight lot subdivision - Ecclestone Road, Riverside, Bushfire Report and Hazard Management Plan 25th February 2021



FIGURE 1. BUSHFIRE HAZARD MANAGMENT PLAN

North Barker Ecosystem Services SIX001

APPENDIX 2. SPECIFICATIONS FOR ACCESS, WATER SUPPLY AND HAZARD MANAGEMENT AREAS.

Table E1: Standards for Roads

Element		Requirement
A	Roads	<p>Unless the development standards in the zone require a higher standard, the following apply:</p> <ul style="list-style-type: none"> (a) two-wheel drive, all-weather construction; (b) load capacity of at least 20t, including for bridges and culverts; (c) minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac road; (d) minimum vertical clearance of 4m; (e) minimum horizontal clearance of 2m from the edge of the carriageway; (f) cross falls of less than 3 degrees (1:20 or 5%); (g) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; (h) curves have a minimum inner radius of 10m; (i) dead-end or cul-de-sac roads are not more than 200m in length unless the carriageway is 7 metres in width; (j) dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius; and (k) carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with Australian Standard AS17432001 Road signs-Specifications.

Table E2 Standards for property access

Element		Requirement
A	Property access length is less than 30m; or access is not required for a fire appliance to access a fire fighting water point.	There are no specified design and construction requirements.
B	Property access length is 30m or greater; or access is required for a fire appliance to a fire fighting water point.	<p>The following design and construction requirements apply to property access:</p> <ul style="list-style-type: none"> (a) all-weather construction; (b) load capacity of at least 20t, including for bridges and culverts; (c) minimum carriageway width of 4m; (d) minimum vertical clearance of 4m; (e) minimum horizontal clearance of 0.5m from the edge of the carriageway; (f) cross falls of less than 3 degrees (1:20 or 5%); (g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle; (h) curves with a minimum inner radius of 10m; (i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and (j) terminate with a turning area for fire appliances provided by one of the following:

North Barker Ecosystem Services SIX001

		<ul style="list-style-type: none"> (i) a turning circle with a minimum outer radius of 10m; or (ii) a property access encircling the building; or (iii) a hammerhead "T" or "Y" turning head 4m wide and 8m long.
C	Property access length is 200m or greater.	<p>The following design and construction requirements apply to property access:</p> <ul style="list-style-type: none"> (a) the requirements for B above; and (b) passing bays of 2m additional carriageway width and 20m length provided every 200m.
D	Property access length is greater than 30m, and access is provided to 3 or more properties.	<p>The following design and construction requirements apply to property access:</p> <ul style="list-style-type: none"> (a) complies with requirements for B above; and (b) passing bays of 2m additional carriageway width and 20m length must be provided every 100m.

Table E3 Standards for fire trails

Element	Requirement

North Barker Ecosystem Services SIX001

A.	All fire trails	<p>The following design and construction requirements apply:</p> <p>(a) all-weather, 4-wheel drive construction;</p> <p>(b) load capacity of at least 20t, including for bridges and culverts;</p> <p>(c) minimum carriageway width of 4m;</p> <p>(d) minimum vertical clearance of 4m;</p> <p>(e) minimum horizontal clearance of 2m from the edge of the carriageway;</p> <p>(f) cross falls of less than 3 degrees (1:20 or 5%);</p> <p>(g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;</p> <p>(h) curves with a minimum inner radius of 10m;</p> <p>(i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed fire trails, and 10 degrees (1:5.5 or 18%) for unsealed fire trails;</p> <p>(j) gates if installed at fire trail entry, have a minimum width of 3.6m, and if locked, keys are provided to TFS; and</p> <p>(k) terminate with a turning area for fire appliances provided by one of the following:</p> <p style="padding-left: 40px;">(i) a turning circle with a minimum outer radius of 10m; or (ii) a hammerhead "T" or "Y" turning head 4m wide and 8m long.</p>
B	Fire trail length is 200m or greater.	<p>The following design and construction requirements apply:</p> <p>(a) the requirements for A above; and</p> <p>(b) passing bays of 2m additional carriageway width and 20m length provided every 200m.</p>

Table E4 Reticulated water supply for firefighting

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

Table E5 Static water supply for firefighting

Element		Requirement
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A.	Distance between building area to be protected and water supply.	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) the building area to be protected must be located within 90 m of 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	<p>A static water supply:</p> <ul style="list-style-type: none"> (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 10,000l 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 <i>Australian Standard AS 3959-2009 Construction of buildings in bushfire-prone areas</i>, the tank may be constructed of any material provided that the lowest 400mm of the tank exterior is protected by: <ul style="list-style-type: none"> (i) metal; (ii) non-combustible material; or (iii) fibre cement a minimum of 6mm thickness.
C.	Fittings, pipework and accessories (including stands and tank supports)	<p>Fittings and pipework associated with a fire fighting water point for a static water supply must:</p> <ul style="list-style-type: none"> (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) if buried, have a minimum depth of 300mm²; (e) provide a DIN or NEN standard forged Storz 65mm 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 220mm length); (h) ensure underground tanks have either an opening at the top of not less than 250mm diameter or a coupling compliant with this Table; and (i) if a remote offtake is installed, ensure the offtake is in a position that is: <ul style="list-style-type: none"> (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	<p>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:</p> <ul style="list-style-type: none"> (a) comply with water tank signage requirements within <i>Australian Standard AS 2304-2011 Water storage tanks for fire protection systems</i>; or (b) comply with the Tasmania Fire Service Water Supply Guideline published by the Tasmania Fire Service.
E.	Hardstand	<p>A hardstand area for fire appliances must be:</p> <ul style="list-style-type: none"> (a) no more than 3m from the hydrant, measured as a hose lay; (b) no closer than 6m from the building area to be protected; (c) a minimum width of 3m constructed to the same standard as the carriageway; and (d) connected to the property access by a carriageway equivalent to the standard of the property access.

E1.6.1 Subdivision: Provision of Hazard management areas

<p>Objective: Subdivision provides for hazard management areas that:</p> <p>(a) facilitate an integrated approach between subdivision and subsequent building on a lot;</p> <p>(b) provide for sufficient separation of building areas from bushfire-prone vegetation to reduce the radiant heat levels, direct flame attack and ember attack at the building area; and</p> <p>(c) provide protection for lots at any stage of a staged subdivision.</p>	
Acceptable Solution	Performance Criteria
<p>A1</p> <p>(a) TFS or an accredited person certifies that there is an insufficient increase in risk from bushfire to warrant the provision of hazard management areas as part of a subdivision; or</p> <p>(b) The proposed plan of subdivision:</p> <p>(i) shows all lots that are within or partly within a bushfire-prone area, including those developed at each stage of a staged subdivision;</p> <p>(ii) shows the building area for each lot;</p> <p>(iii) shows hazard management areas between bushfire-prone vegetation and each building area that have dimensions equal to, or greater than, the separation distances required for BAL 19 in Table 2.4.4 of <i>Australian Standard AS 3959 – 2009 Construction of buildings in bushfire-prone areas</i>; and</p> <p>(iv) is accompanied by a bushfire hazard management plan that addresses all the individual lots and that is certified by the TFS or accredited person, showing hazard management areas equal to, or greater than, the separation distances required for BAL 19 in Table 2.4.4 of <i>Australian Standard AS 3959 – 2009 Construction of buildings in bushfire-prone areas</i>; and</p> <p>(c) If hazard management areas are to be located on land external to the proposed subdivision the application is accompanied by the written consent of the owner of that land to enter into an agreement under section 71 of the Act that will be registered on the title of the neighbouring property providing for the affected land to be managed in accordance with the bushfire hazard management plan.</p>	<p>P1</p> <p>A proposed plan of subdivision shows adequate hazard management areas in relation to the building areas shown on lots within a bushfire-prone area, having regard to:</p> <p>(a) the dimensions of hazard management areas;</p> <p>(b) a bushfire risk assessment of each lot at any stage of staged subdivision;</p> <p>(c) the nature of the bushfire-prone vegetation including the type, fuel load, structure and flammability;</p> <p>(d) the topography, including site slope;</p> <p>(e) any other potential forms of fuel and ignition sources;</p> <p>(f) separation distances from the bushfire-prone vegetation not unreasonably restricting subsequent development;</p> <p>(g) an instrument that will facilitate management of fuels located on land external to the subdivision; and</p> <p>(h) any advice from the TFS.</p>

APPENDIX 3. PLANNING CERTIFICATE

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE² UNDER S51(2)(d) LAND USE PLANNING AND APPROVALS ACT 1993

1. Land to which certificate applies³

Land that is the Use or Development Site that is relied upon for bushfire hazard management or protection.

Name of planning scheme or instrument:

West Tamar Interim Planning Scheme 2013

Street address:

Ecclestone Road, Riverside

Certificate of Title / PID:

PID: 7655464

Certificate of title / number: CT 43468/1

Land that is not the Use or Development Site that is relied upon for bushfire hazard management or protection.

Street address:

[Empty text box for street address]

Certificate of Title / PID:

[Empty text box for Certificate of Title / PID]

2. Proposed Use or Development

Description of Use or Development:

3 lot and balance subdivision

Code Clauses:

E1.4 Exempt Development

E1.5.1 Vulnerable Use

E1.6.1 Subdivision

E1.5.2 Hazardous Use

² This document is the approved form of certification for this purpose and must not be altered from its original form.

³ If the certificate relates to bushfire management or protection measures that rely on land that is not in the same lot as the site for the use or development described, the details of all of the applicable land must be provided.

3. Documents relied upon

Documents, Plans and/or Specifications

Title: 38 Lot Subdivision

Author: 6ty° George Walker 20201123 18.116-Updated Layout.dwg

Date: 23/11/2020

Version: 18.116

Bushfire Hazard Report

Title: Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan

Author: North Barker Ecosystem Services

Date: February 2021

Version: 1

Bushfire Hazard Management Plan

Title: Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan

Author: North Barker Ecosystem Services

Date: **Version:** February 2021

1

Other Documents

Title:

Author:

Date: **Version:**

4. Nature of Certificate

<input type="checkbox"/> E1.4 – Use or development exempt from this code			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.4 (a)	Insufficient increase in risk	

<input type="checkbox"/> E1.5.1 – Vulnerable Uses			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.5.1 P1	Residual risk is tolerable	
<input type="checkbox"/>	E1.5.1 A2	Emergency management strategy	
<input type="checkbox"/>	E1.5.1 A3	Bushfire hazard management plan	

<input type="checkbox"/> E1.5.2 – Hazardous Uses			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.5.2 P1	Residual risk is tolerable	
<input type="checkbox"/>	E1.5.2 A2	Emergency management strategy	

<input type="checkbox"/>	E1.5.2 A3	Bushfire hazard management plan	
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<input type="checkbox"/>	E1.6 – Development standards for subdivision		
	E1.6.1 Subdivision: Provision of hazard management areas		
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.1 P1	Hazard Management Areas are sufficient to achieve tolerable risk	
<input type="checkbox"/>	E1.6.1 A1 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.1 A1 (b)	Provides BAL 19 for all lots	Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan

<input type="checkbox"/>	E1.6.1 A1 (c)	Consent for Part 5 Agreement	
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E1.6.2 Subdivision: Public and fire fighting access			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.2 P1	Access is sufficient to mitigate risk	
<input type="checkbox"/>	E1.6.2 A1 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.2 A1 (b)	Access complies with Tables E2	Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan

E1.6.3 Subdivision: Provision of water supply for fire fighting purposes			
	Assessment Criteria	Compliance Requirement	Reference to Applicable Document(s)
<input type="checkbox"/>	E1.6.3 A1 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.3 A1 (b)	Reticulated water supply complies with Table E4	Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan (Lots 6 – 34 and Balance)
<input type="checkbox"/>	E1.6.3 A1 (c)	Water supply consistent with the objective	
<input type="checkbox"/>	E1.6.3 A2 (a)	Insufficient increase in risk	
<input checked="" type="checkbox"/>	E1.6.3 A2 (b)	Static water supply complies with Table E5	Thirty-eight lot subdivision, Ecclestone Road, Riverside Bushfire Report and Hazard Management Plan (Lots 1 – 5 and 35 – 37)
<input type="checkbox"/>	E1.6.3 A2 (c)	Static water supply is consistent with the objective	

5. Bushfire Hazard Practitioner²

Name:	Philip Barker	Phone No:	03 6231 9788				
Address:	163 Campbell Street	Fax No:					
	Hobart	Email Address:	pbarker@northbarker.com.au				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%; text-align: center;">7000</td> </tr> <tr> <td colspan="2" style="padding: 2px;">BFP – 147</td> </tr> </table>		7000	BFP – 147		Scope:	1,2,3A,3B,3C
	7000						
BFP – 147							
Accreditation No:							

6. Certification

I, certify that in accordance with the authority given under Part 4A of the Fire Service Act 1979 –

<p><i>The use or development described in this certificate is exempt from application of Code E1 – Bushfire Prone Areas in accordance with Clause E1.4 (a) because there is an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measure in order to be consistent with the objectives for all the applicable standards identified in Section 4 of this Certificate.</i></p>	<input type="checkbox"/>
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or

<p><i>There is an insufficient increase in risk from bushfire to warrant the provision of specific measures for bushfire hazard management and/or bushfire protection in order for the use or development described to be consistent with the objective for each of the applicable standards identified in Section 4 of this Certificate.</i></p>	<input type="checkbox"/>
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and/or

<p><i>The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer’s requirements and can deliver an outcome for the use or development described that is consistent with the objective and the relevant compliance test for each of the applicable standards identified in Section 4 of this Certificate.</i></p>	<input checked="" type="checkbox"/>
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² A Bushfire Hazard Practitioner is a person accredited by the Chief Officer of the Tasmania Fire Service under Part IVA of Fire Service Act 1979. The list of practitioners and scope of work is found at www.fire.tas.gov.au.

Signed:

certifier

Date 26th February 2021 **Certificate No:** SIX001