

BUSHFIRE HAZARD REPORT
CONSTRUCTION OF A NEW CLASS 1A BUILDING AND
ANCILLARY CLASS 1A BUILDING
629 NICHOLLS RIVULET ROAD, OYSTER COVE
FOR
N.L. COOMBE & I.M. COOMBE



Prepared by L BRIGHTMAN

Certified by N M CREESE

2nd September 2024

1

LARK & CREESE

62 Channel Highway, Kingston 7050 Ph 6229 6563 info@larkandcreese.com.au

V2.8.2 23/03/2022

CONTENTS

1. SUMMARY: 3

2. LOCATION: 4

3. SITE DESCRIPTION: 5

4. PROPOSED DEVELOPMENT: 7

5. BUSHFIRE ATTACK LEVEL: 8

6. COMPLIANCE: 15

7. CONCLUSIONS & RECOMMENDATIONS: 27

8. REFERENCES: 29

9. GLOSSARY 30

ATTACHMENT 1 - Bushfire Hazard Management Plan

ATTACHMENT 2 – Form 55 Certificate

Disclaimer:

AS 3959:2018 cannot guarantee that a habitable building will survive a bushfire attack, however the implementation of the measures contained within AS 3959:2018, this report and accompanying plan will improve the likelihood of survival of the structure. This report and accompanying plan are based on the conditions prevailing at the time of assessment. No responsibility can be accepted to actions by the landowner, governmental or other agencies or other persons that compromise the effectiveness of this plan. The contents of this plan are based on the requirements of the legislation prevailing at the time of report.

1. SUMMARY:

This Bushfire Hazard Report has been prepared to support the design, application for a building permit, and construction of a new Class 1a building and Ancillary Class 1a building at 629 Nicholls Rivulet Road, Oyster Cover. The site is subject to a bushfire prone area overlay under the relevant planning scheme and has been deemed to have the potential to be bushfire prone due to its proximity to the areas of bushfire prone vegetation surrounding the site.

This report identifies the protective features and controls that must be incorporated into the design and construction works to ensure compliance with the standards. Fire management solutions are defined in *AS 3959:2018 Construction of Buildings in Bushfire-Prone Areas, Building Amendments (Bushfire-Prone Areas) Regulations 2014 (18th June 2014)*, *National Construction Code 2019 Building Code Australia (Volume 2, Amendment 1) (NCC)*, *Director's Determination, Requirements for Building in Bushfire-Prone Areas (transitional) (Version 2.2 6th February 2020) (Determination)*.

The proposed Class 1a building has been assessed as **BAL-19** under *Section 6* of *AS 3959:2018* and provided the appropriate construction standards are incorporated into the design, the new building works are capable of compliance with the provisions of *AS 3959:2018*. See Attachment 1 for construction summary.

Compliance with the following provisions of the *Director's Determination - Requirements for Building in Bushfire-Prone Areas* will be required:

- *Part 4.1 Construction Requirements*
- *Part 4.2 Property Access*
- *Part 4.3 Water Supply for Firefighting*
- *Part 4.4 Hazard Management Areas*

The effectiveness of the measures and recommendations detailed in this report and *AS 3959:2018* is dependent on their implementation and maintenance for the life of the development or until the site characteristics that this assessment has been measured from alter from those identified. No Liability can be accepted for actions by lot owner, Council or Government agencies which compromise the effectiveness of this report.

This report has been prepared by Liam Brightman and certified by Nick Creese, principal of Lark & Creese Surveyors. Liam is accredited by the Tasmania Fire Service to prepare Bushfire Hazard Management Plans. Nick is a registered surveyor in Tasmania and is accredited by the Tasmanian Fire Service to prepare Bushfire Hazard Management Plans.

Site survey carried out on the 1st November 2022. Recent inspections confirm the status of the vegetation on the property remains the same.

2. LOCATION:

Property address: 629 Nicholls Rivulet Road, Oyster Cove
Title owner: N.L. Coombe & I.M. Coombe
Title reference: C.T. 103923/1
PID N°: 1542573
Title area: Approximately 1.4 ha
Municipal area: Kingborough
Zoning: Rural Resource

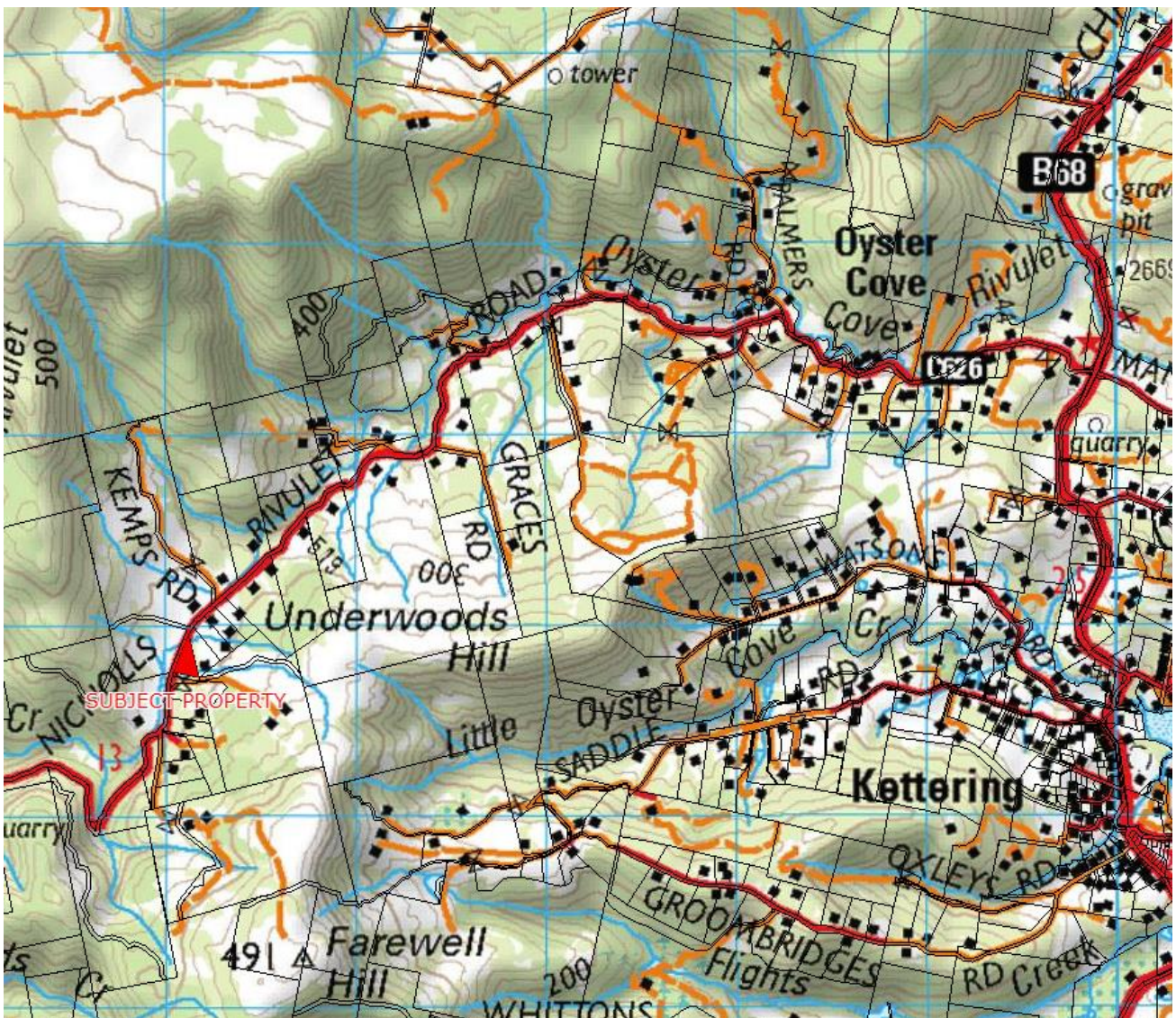


Image 1: Site location (Source *The LIST*)

3. SITE DESCRIPTION:

The site is located within an existing rural area on Nicholls Rivulet, approximately 350 metres north of the intersection of Nicholls Rivulet Road and Ananda Road, Nicholls Rivulet. The site is located at an elevation of approximately 290 metres with grades being level near level.

At the time of assessment, the property contained several structures, several vehicles, a gravel access, and several water courses. The site was vegetated predominantly by native trees and scrub with an area of grass along the western boundary.

Adjacent to the northern and western boundaries was Nicholls Rivulet Road beyond which were rural allotments. The rural allotments appeared to be utilized for farming purposes.

The allotment immediately to the east appeared to have been developed for residential purposes. This allotment included a dwelling, sheds, garden, access, and areas of grass and native trees and shrubs.

Immediately to the south was a road reserve that was vegetated by native trees and shrubs. Beyond the road reserve was an access for a rural allotment to the southeast.

Reticulated water supply is unavailable to the site with domestic water supply requirements reliant on on-site static water storage.

Planning controls are administered by the Kingborough Council under the *Kingborough Interim Planning Scheme 2015*. The site is zoned Rural Resource.



Image 2: Looking east towards development site



Image 3: Looking south towards development site

5. BUSHFIRE ATTACK LEVEL:

Fire Danger Index (FDI): The Fire Risk Rating for Tasmania is adopted as 50.

Vegetation Classification:

Vegetation Assessment:

Following assessment of the characteristics of the site, the vegetation types, separation distances from development site and slope under the vegetation have been identified as shown in Table 1 below:

Direction:	Description:	Distance:	Slope:
North:	Site:	0-55	Level
	<ul style="list-style-type: none"> • grass • native trees & shrubs 	0-100	
	Nicholls Rivulet Road:	55-100	
East:	Site:	0-48	0-5° up
	<ul style="list-style-type: none"> • native trees & shrubs 	48-100	
	Neighbouring allotment:	48-100	
South:	Site:	0-50	Level
	<ul style="list-style-type: none"> • native trees, shrubs, access & sheds 	50-70	
	Road Reserve:	70-84	
	<ul style="list-style-type: none"> • native trees & shrubs 	84-90	
	Neighbouring allotment:	90-100	
	<ul style="list-style-type: none"> • native trees & shrubs • grass • dirt access 		
West:	Site:	0-20	0-5° down
	<ul style="list-style-type: none"> • grass 	20-42	
	Nicholls Rivulet Road:	42-100	
	<ul style="list-style-type: none"> • grassed nature strips, bitumen carriageway 		Level
	Neighbouring allotment:		0-5° down
	<ul style="list-style-type: none"> • grass 		

Table 1: Site Assessment

NOTE: The vegetation identified in Table 1 has been assessed in consideration of *Table 2.3 and figures 2.4(A)-(H) AS 3959:2018* as follows.

At the time of assessment, the site included a gravel access, several sheds, and numerous vehicles scattered across the site. The vegetation along the western boundary included tussocks of grass and reeds. The grass appeared to be short due to grazing by native animals and the reeds were along the wet areas and water courses. The vegetation within this area has been assessed in accordance with *Figure 2.4(H)* as *Open Tussock G-23* resulting in a vegetation classification of **G: Grassland**. The vegetation within the remainder of the allotment included a diverse mix of native trees and shrubs ranging in height from 10-20 metres with a dense understory of smaller trees and shrubs leading to an assessed foliage coverage of >30%. This area of vegetation has been assessed in accordance with *Figure 2.4(B)* as *Low Open Forest A-04* resulting in a vegetation classification of **A: Forest**.

The allotment to the east appeared to have been developed for residential purposes and included a dwelling, sheds, gravel access, garden area, and grassed areas with areas of eucalypts and native shrubs. The area of this allotment that is within the assessable area included the dwelling, sheds, access, and garden, with an area vegetated by grass with scattered eucalypts. The developed portion of the allotment has been classified as **Low Threat Vegetation** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. The grass was predominately greater than 100 mm in height which has been assessed in accordance with *Figure 2.4(H)* as *Closed Tussock Grassland G-21* resulting in a vegetation classification of **G: Grassland**.

The Road Reserve to the south was undeveloped and vegetated by eucalypts, 10-20 metres in height, with a dense understory of smaller trees and shrubs leading to an assessed foliage coverage of >30%. Beyond the Road Reserve was entrance to a larger rural allotment to the southeast. This area included an area of eucalypts, 10-20 metres in height, with an understory of smaller trees and shrubs leading to an assessed foliage coverage of >30%. These areas of vegetation have been assessed in accordance with *Figure 2.4(B)* as *Low Open Forest A-04* resulting in a vegetation classification of **A: Forest**. Beyond this area of vegetation was an area of grass that was bisected by a gravel access. The appeared to be short due to periodic slashing and grazing by native animals. It has been presumed that the grass has the potential to exceed 100 mm in height in the future and as such has been assessed in accordance with *Figure 2.4(H)* as *Dense Sown Pasture G-25* resulting in a vegetation classification of **G: Grassland**. The gravel track has been classified as **Non-vegetated Area (NVA)** in accordance with *Part 2.2.3.2 (e), AS 3959:2018*.

Adjacent to the western boundary was Nicholls Rivulet Road which included grassed nature strips and a bitumen carriageway which has been classified as **Low Threat Vegetation (LTV)** in accordance with *Part 2.2.3.2 (e) & (f), AS 3959:2018*. Beyond Nicholls Rivulet Road was a relatively large rural allotment that appeared to be utilized for farming purposes. The area of this allotment that was within the assessable area was vegetated by grass which were predominantly greater than 100 mm in height.

This vegetation has been assessed in accordance with *Figure 2.4(H)* as *Closed Tussock Grassland G-21* resulting in a vegetation classification of **G: Grassland**.

Vegetation Classification:

In consideration of vegetation classifications under *Table 2.3* and *Figure 2.4, AS 3959:2018* and as detailed above, the predominant vegetation, separation distances from development site and slope under the classified vegetation is assessed as shown in *Table 2* below:

Direction:	Vegetation Type:	Distance (m):	Effective slope:	Exclusions:
North:	G: Grassland A: Forest LTV	0-55 0-100 55-100	Level	No No 2.2.3.2 (e) & (f)
*East:	A: Forest G: Grassland LTV	0-48 48-100 48-100	0-5° up	No No
South:	A: Forest G: Grassland NVA	0-84 84-90 90-100	Level	No No 2.2.3.2 (e)
West:	G: Grassland LTV G: Grassland	0-20 20-42 42-100	0-5° down Level 0-5° down	No 2.2.3.2 (e) & (f) No

Table 2: Assessed vegetation

NOTE: *the distances for the vegetation classification of G: Grassland and LTV overlap due to a slight angular difference between the site and the classified vegetation.

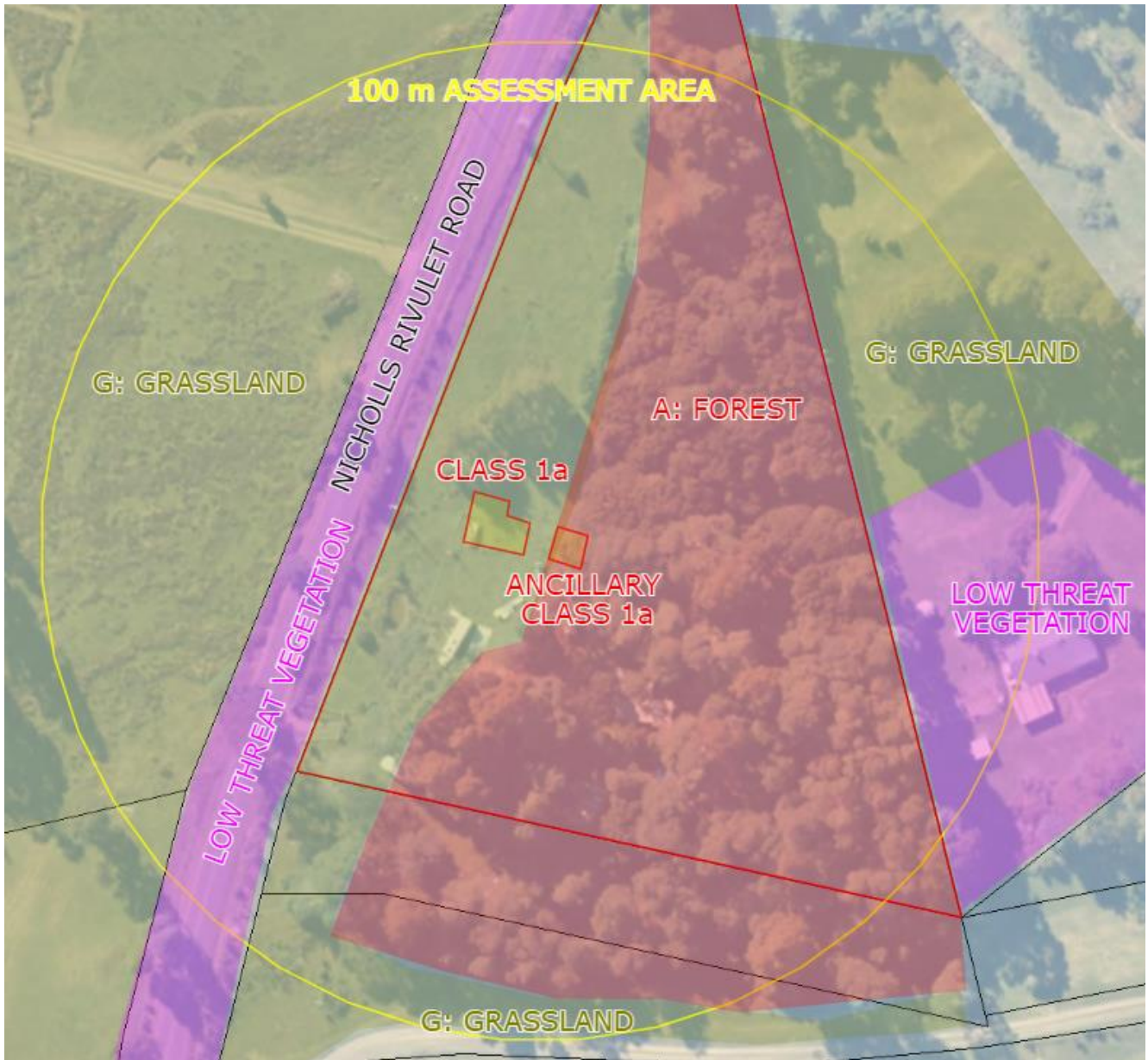


Image 5: Aerial image of predominate vegetation (Source *The LIST*)



Image 6: Predominate vegetation to the north of site – **A: Forest**
(Vegetation classified as G: Grassland in left of image)



Image 7: Predominate vegetation to the east of site – **A: Forest**



Image 8: Predominate vegetation to the south of site – **A: Forest**



Image 9: Predominate vegetation to the west of site – **G: Grassland**

Bushfire Attack Level Assessment:

Based on the predominate vegetation detailed above, and the separation distances provided between the predominate vegetation and the development site, the BAL for each elevation of the proposed dwelling has been determined from *Table 2.6, AS 3959:2018* as follows:

North elevation: BAL-FZ
 East elevation: BAL-FZ
 South elevation: BAL-FZ
 West elevation: BAL-FZ

With the establishment of an appropriate Hazard Management Area, the increased risk associated with the exposure of the structure to the bushfire threat can be reduced. The resulting bushfire attack level for each elevation can then be assessed as:

North elevation:	BAL-19
East elevation:	BAL-19
South elevation:	BAL-19
West elevation:	BAL-19

Table 3 details the hazard management areas (HMA) required to comply with that BAL, and the area available for compliance.

Direction	North	East	South	West
BAL	BAL-19			
Vegetation	G: Grassland A: Forest LTV	A: Forest G: Grassland LTV	A: Forest G: Grassland NVA	G: Grassland LTV G: Grassland
Effective slope	Level	0-5° up	Level	0-5° down
HMA specified <i>Table 2.6</i>	10-<14 m 23-<32 m N/A	23-<32 m 10-<14 m N/A	23-<32 m 10-<14 m N/A	11-<16 m N/A 11-<16 m
HMA required	23 m	23 m	23 m	11 m
HMA available	More than 23 metres.	More than 23 metres.	More than 23 metres.	More than 11 metres.

Table 3: BAL assessment and Hazard Management area requirements.

6. COMPLIANCE:

Building Regulations 2014:

Compliance with *Part 1A – Bushfire-prone Areas* the *Building Regulations 2014* is achieved through the implementation of *Director's Determination - Requirements for Building in Bushfire-Prone Areas* (transitional) as follows:

Part 2 Application:

The Determination applies to a building located in a bushfire-prone area of the following Class:

- (a) Class 1;*
- (b) Class 2;*
- (c) Class 3;*
- (d) Class 8;*
- (e) Class 9; and*
- (f) Class 10a that is closer than 6 metres to a habitable building.*

The proposed building is a Class 1a building and as such the requirements of *the Determination* apply.

Part 3 Performance Requirements:

- (1) A building to which this Determination applies must, to the degree necessary, be:
- a. Designed and constructed to reduce the ignition from bushfire, appropriate to the:
 - i. Potential for ignition caused by burning embers, radiant heat or flame generated by bushfire; and
 - ii. Intensity of the bushfire attack on the building;
 - b. Provided with vehicular access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants;
 - c. Provided with access at all times to a sufficient supply of water for firefighting purposes on the site; and
 - d. Provided with appropriate separation of the building from the bushfire hazard.
- (2) The performance requirement specified in Sub clause (1)(a) is applicable to the following:
- a. a Class 1, 2 or 3 building; or
 - b. a Class 10a building or deck associated with a Class 1, 2 or 3 building.

The requirements of *Part 3 Performance Requirements* have been satisfied by assessing the proposed development against the requirements of *Part 4 Deemed to Satisfy Requirements*.

Part 4 Deemed to Satisfy Requirements:

Part 4.1. Construction Requirements

- (1) *Building work (including additions or alterations to an existing building) in a bushfire-prone area must be designed and constructed in accordance with an Acceptable Construction Manual determined by the BCA, being either: -*
 - a. *AS 3959:2018; or*
 - b. *NASH Standard – Steel Framed Construction in Bushfire Areas**as appropriate for a BAL determined for the site.*
- (2) *Sub clause (1)(a) is applicable to the following:*
 - a. *a Class 1, 2 or 3 building; or*
 - b. *a Class 10a building or deck associated with a Class 1, 2 or 3 building.*
- (3) *Sub clause (1)(b) is applicable to the following:*
 - a. *a Class 1 building; or*
 - b. *a class 10a building or deck associated with a Class 1 building.*
- (4) *Despite subsection (1) above, variations from requirements specified in 1(a) and 1(b) are as specified in Table 4.1 below.*
- (5) *Despite subsections (1) and (4) above, performance requirements for buildings subject to BAL 40 or BAL Flame Zone (BAL-FZ) are not satisfied by compliance with subsections (1) or (4) above.*

Table 4.1 Construction Requirements and Construction Variations		
Element		Requirements
A.	Straw Bale Construction	May be used in exposures up to and including BAL 19.
B.	Shielding provisions under Section 3.5 of AS 3959:2018	To reduce construction requirements, due to shielding, building plans must include suitable detailed elevations or plans that demonstrate that the requirements of Section 3.5 of the Standard can be met. Comment: Application of Section 3.5 of the Standard cannot result in an assessment of BAL-LOW.
C.	Construction standard for vulnerable use	Building work for a building classified as a Vulnerable use must be constructed to a BAL that is determined in a BHMP certified by an accredited person.

APPLICATION:

- (1) The building has been assessed against the requirements of *AS 3959:2018*.
- (2) The proposal is for a new Class 1a building and an Ancillary Class 1a building and is therefore subject to this subsection.
- (3) The proposed development has not been assessed against the NASH Standards and as such this subsection is not applicable.
- (4) The proposed development is not to be constructed with straw bales, does not the shielding provisions under *Part 3.5* or assessed as Vulnerable Use and as such this subsection is not applicable.
- (5) The proposed development has not been assessed as BAL-40 or BAL-FZ and therefore this subsection is not applicable.

The proposed building is a Class 1a building and as such the requirements of Part 4.1 apply.

All building works shall comply with the specification for **BAL-19** of *Section 3* and *Section 6* of *AS 3959:2018*. This includes the general provisions contained within *AS3959:2018* and the following sub-sections:

- 6.1 General provisions
- 6.2 Sub-floor supports
- 6.3 Floors
- 6.4 Walls
- 6.5 External glazed elements and assemblies and external doors
- 6.6 Roofs (including penetrations, eaves, fascias and gables, and gutters and downpipes)
- 6.7 Verandas, decks, steps and landings
- 6.8 Water and gas supply pipes

Part 4.2 Property Access:

- (1) *A new building constructed in a bushfire-prone area must be provided with property access to the building and the firefighting water point, accessible by a carriageway, designed and constructed as specified in subsection (4) below.*
- (2) *For addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(C) of the Building Regulations 2014, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.*
- (3) *For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation and there is no property access available, property access must be provided to the building area and the firefighting water point accessible by a carriageway designed and constructed as specified in subsection (4) below.*
- (4) *Vehicular access from a public road to a building must:*
 - a. *Meet the property access requirements described in Table 4.2;*
 - b. *Include access from a public road to within 90 metres of the furthest part of the building measured as a hose lay; and*
 - c. *Include access to the hardstand area for the firefighting water point.*

APPLICATION:

- (1) An access is required to be constructed to provide access to the building site and the firefighting water point.
- (2) This bushfire hazard report refers to the construction of a new Class 1a building and Ancillary Class 1a building and as such this subsection is not applicable.
- (3) This bushfire hazard report refers to the construction of a new Class 1a building and Ancillary Class 1a building and as such this subsection is not applicable.
- (4) The constructed access is to be located to provide access to the site, turning area and the firefighting water point within 90 m of the furthest point of the building to be protected in compliance with *Table 4.2, the Determination.*

The proposed access to the site has been assessed as being ≈65 metres in length and is required for access to a firefighting water point and as such the requirements of *Element B, Table 4.2, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional)* below apply.

Table 4.2 Standards for Property Access

<p>B</p>	<p><i>Property access length is 30 metres or greater; or access for fire appliance to a water connection point.</i></p>	<p><i>The following design and construction requirements apply to property access:</i></p> <ul style="list-style-type: none"> <i>(a) All-weather construction;</i> <i>(b) Load capacity of at least 20 tonnes, including for bridges and culverts;</i> <i>(c) Minimum carriageway width of 4 metres;</i> <i>(d) Minimum vertical clearance of 4 metres;</i> <i>(e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway;</i> <i>(f) Cross falls of less than 3° (1:20 or 5%);</i> <i>(g) Dips less the 7° (1:8 or 12.5%)</i> <i>(h) Curves with a minimum inner radius of 10 metres;</i> <i>(i) Maximum gradient of 15° (1:3.5 or 28%), for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and</i> <i>(j) Terminating with a turning area for fire appliances provided by one of the following:</i> <ul style="list-style-type: none"> <i>(i) A turning circle with a minimum inner radius of 10 metres;</i> <i>(ii) A property access encircling the building; or</i> <i>(iii) A hammerhead "T" or "Y" turning head 4 metres wide and 8 metres long.</i>
-----------------	---	--

Part 4.3 Water Supply for firefighting:

- (1) A new building constructed in a bushfire-prone area must be provided with a water supply dedicated for firefighting purposes as specified in subsections (4) and (5) below.
- (2) For an addition or alteration to an existing building in a bushfire-prone area referred to in regulation 11E(2)(b)(ii)(B) of the Building Regulations 2014, a water supply for firefighting must be provided as specified in subsections (4) and (5) below.
- (3) For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation and there is no water supply for firefighting available, a water supply for firefighting must be provided as specified in subsection (4) and (5) below.
- (4) Water supplies for firefighting must meet the requirements described in Tables 4.3A or 4.3B.
- (5) The water supply must be:
 - a. Provided from a fire hydrant or static water supply;
 - b. Located within the specified distance from the building to be protected; and
 - c. Provided with a hardstand and suitable connections

APPLICATION:

- (1) The proposed development is to be provided with a static water supply for firefighting purposes in accordance with (4) and (5) below.
- (2) This bushfire hazard assessment refers to the construction of a new Class 1a building and Ancillary Class 1a building as such this subsection is not applicable.
- (3) This bushfire hazard assessment refers to the construction of a new Class 1a building and Ancillary Class 1a building as such this subsection is not applicable.
- (4) A minimum of 10,000 litre static water supply, with associated fitting and hardstand area are to be installed to comply with *Table 4.3B*.
- (5) The provision of a minimum static water supply of 10,000 litres will be required to comply with this subsection and *Table 4.3B*.

As there is no reticulated water supply available to the site a static water supply of minimum capacity 10,000 litres is to be installed on the site and is to be always accessible by fire service vehicles in compliance with *Table 4.3B, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) below.*

Table 4.3B Static Water Supply for Fire fighting

A	<i>Distance between building area to be protected and water supply</i>	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) <i>The building area to be protected must be located within 90 metres of the firefighting water point of a static water supply; and</i> (b) <i>The distance must be measured as a hose lay, between the firefighting water point and the furthest part of the building area.</i>
B	<i>Static Water Supplies</i>	<p>A static water supply:</p> <ul style="list-style-type: none"> (a) <i>May have a remotely located offtake connected to the static water supply;</i> (b) <i>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;</i> (c) <i>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 spay systems;</i> (d) <i>Must be metal, concrete or lagged by non-combustible materials if above ground; and</i> (e) <i>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> <ul style="list-style-type: none"> (i) <i>Metal;</i> (ii) <i>Non-combustible material; or</i> (iii) <i>Fibre-cement a minimum of 6 mm thickness.</i>
C	<i>Fittings, pipework and accessories (including stands and tank supports)</i>	<p><i>Fittings and pipework associated with a water connection point for a static water supply must:</i></p> <ul style="list-style-type: none"> (a) <i>Have a minimum nominal diameter of 50 mm;</i> (b) <i>Be fitted with a valve with a minimum nominal internal diameter of 50 mm;</i> (c) <i>Be metal or lagged by non-combustible materials if above ground;</i> (d) <i>Where buried, have a minimum depth of 300 mm (compliant with AS/NZ 3500.1-2003 Clause 5.23);</i> (e) <i>Provided a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment;</i>

		<p>(f) Ensure the coupling is accessible and available for connection at all times;</p> <p>(g) Ensure the coupling is fitted with a blank cap and securing chain (minimum of 220 mm length);</p> <p>(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</p> <p>(i) Where remote offtake is installed, ensure the offtake is in a position that is:</p> <ul style="list-style-type: none"> (i) Visible; (ii) Accessible to allow connection by firefighting equipment; (iii) At a working height of 450 -600 mm above ground level; and (iv) Protected from possible damage, including damage by vehicles.
D	Signage for static water connections	<p>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:</p> <ul style="list-style-type: none"> (a) Comply with water tank signage requirements within Australian Standard AS 2304-2001 Water storage tanks for fire protection systems; or (b) Comply with the Tasmania Fire Service Water Supply Signage Guidelines published by the Tasmania Fire Service.
E	Hardstand	<p>A hardstand area for fire appliances must be provided:</p> <ul style="list-style-type: none"> (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.

Part 4.4 Hazard Management Areas:

- (1) *A new building constructed in a bushfire-prone area must be provided with a HMA of sufficient dimensions and which provides an area around the building which separated the building from the bushfire hazard and complies with subsection (4), (5) and (6) below.*
- (2) *For an addition or alteration to an existing building in a bushfire-prone referred to in regulation 11E(b)(ii)(A) of the Building Regulations 2014, the building must be provided with a HMA of sufficient dimensions and which provided an area around the building which separated the building from the bushfire hazard and complies with subsections (4), (5) and (6) below.*
- (3) *For an addition or alteration to an existing building in a bushfire-prone area which is 20 metres squared gross floor area or less which does result in the building being closer to bushfire-prone vegetation it must be provided with a HMA of sufficient dimensions and which provides an area around the building which separated the building from the bushfire hazard and complies with subsection (4), (5) and (6) below.*
- (4) *The HMA must comply with Table 4.4; and*
- (5) *The HMA for a particular BAL must have the minimum dimensions required for the separation distances specified for that BAL in Table 2.6 of AS 3959:2018; and*
- (6) *The HMA must be established such that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to the bushfire attack.*

APPLICATION:

- (1) The HMA prescribed for the proposed Class 1a building and Ancillary Class 1a building has been assessed against the provisions of *Table 4.4*, the *Determination* and *Table 2.6*, AS 3959:2018 and has been assessed to significantly reduce the threat of bushfire risk to the site.
- (2) This bushfire hazard assessment refers to the construction of a new Class 1a building and Ancillary Class 1a building as such this subsection is not applicable.
- (3) This bushfire hazard assessment refers to the construction of a new Class 1a building and Ancillary Class 1a building as such this subsection is not applicable.
- (4) The HMA for the proposed Class 1a building and Ancillary Class 1a building has been designed to satisfy the requirements of *Table 4.4*.
- (5) The distances for the HMA, for the proposed Class 1a building and Ancillary Class 1a building, have been calculated using the distances specified within *Table 2.6*.

(6) The HMA has been calculated to reduce the potential risk of bushfire from the proposed Class 1a building and Ancillary Class 1a building.

This assessment and accompanying Bushfire Hazard Management Plan details the extent of the Hazard Management Area (HMA) which are of sufficient dimensions to accord with *Element B, Table 4.4, Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional)* below. The dimensions of the HMA are to be in accordance with *Table 2.6, AS 3959:2018* and is to be maintained in a reduced fuel condition into perpetuity.

Table 4.4 Requirements for Hazard Management Areas

B	<i>Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision</i>	<i>A new building must: (a) Be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and (b) Have an HMA established in accordance with a certified bushfire hazard management plan.</i>
----------	---	---

The hazard management area assessed for this site is to comply with the separation distances as determined for **BAL-19** in *Table 2.6, AS3959:2018*, and is to be always established and maintained in a reduced fuel condition to the minimum distance as specified in Table 4 below:

Maintenance Requirements of the Hazard Management Area				
Direction	North	East	South	West
HMA required	23 metres	23 metres	23 metres	11 metres
HMA establishment recommendations	<ul style="list-style-type: none"> Establishing non-flammable areas around the dwelling such as paths, patios, driveway, lawns etc. Locating dams, orchards, vegetable garden, effluent disposal areas etc on the bushfire prone side of the building. Providing heat shields and ember trap on the bushfire prone side of the dwelling such as non-flammable fencing, hedges, separated garden shrubs and small trees, Store flammable materials such as wood piles, fuels and rubbish heaps are stored away from the dwelling. Replace highly flammable vegetation with low flammability species. See Tasmanian Fire Service web site (www.fire.tas.gov.au) publications - Fire resisting garden plants. Provided separation between significant trees such that groups are no greater than 20 metres in width, and more than 20 metres of the other groups of significant trees. Note that the retention of some trees can screen a dwelling from windborne embers. 			

	<ul style="list-style-type: none"> • Trim lower branches of retained trees to a minimum of 2 metres above ground level. • Avoid trees overhang the dwelling so that vegetation falls onto the roof. • Strips of vegetation less than 20 metres in width and not within 20 metres of the site or other areas of bushfire-prone vegetation may be beneficial as an ember trap, wind breaks etc. • Removal of ground fuels such as leaves, bark, fallen branches etc.
Ongoing Management practices	<ul style="list-style-type: none"> • Slash or mow grasses to less than 100 mm. • Remove dead and fallen vegetation including branches, bark and leaves regularly. • Trim any regrowth branches of retained trees within HMA that overhang building or are less than 2m above ground level.

Table 4: Maintenance requirements for Hazard Management Areas.

7. CONCLUSIONS & RECOMMENDATIONS:

This Bushfire Hazard Report and Bushfire Hazard Management Plan have been prepared to support the design, application for a building permit, and construction of a new Class 1a building and Ancillary Class 1a building. The report has reviewed the bushfire risks associated with the site and determined the fire management strategies that must be carried out to ensure the development on the site is at a reduced risk from bushfire attack. Provided the elements detailed in this report are implemented, the development on the site is capable of compliance with *AS 3959:2018* and any potential bushfire risk to the site is reduced.

The new building works must comply with the requirements for **BAL-19** of *AS 3959:2018* as specified in Table 3 and Part 6 of this report. The Council approval issued for the building works should contain conditions requiring that the protective elements defined in this report and *AS 3959:2018* are implemented during the construction phase and maintained by the lot owner for the life of the structure.

- Property access must comply with *Part 4.2* and *Element B, Table 4.2*, the *Determination*.
- The water supply for firefighting purposes is comply with *Part 4.3* and *Table 4.3B*, the *Determination*.
- The Hazard Management Area is to comply with *Part 4.4* and *Element B, Table 4.4*, the *Determination*.


See section 6 of this report for further details.

Any works required by this report must be completed prior to the issuing of the Certificate of Occupancy.

Although not mandatory, any increase in the construction standards above the assessed Bushfire Attack Level will afford improved protection from bushfire and this should be considered by the owner, designer and/or the builder prior to construction commencing. Hazard Management Areas must be established and maintained in a minimal fuel condition in accordance with this plan and the TFS guidelines. It is the owner's responsibility to ensure the long-term maintenance of the Hazard Management Areas in accordance with the requirements of this report.

This Report does not recommend or endorse the removal of any vegetation within or adjoining the site for the purposes of bushfire protection without the explicit approval of the local authority.

L Brightman
Bushfire Hazard Practitioner BFP-164
Scope 1, 2, 3a, 3b & Provisional 3c



N M Creese
Bushfire Hazard Practitioner BFP-118
Scope 1, 2, 3a, 3b, & 3c



8. REFERENCES:

- *AS 3959:2018 - Construction of Building in Bushfire-Prone Areas.*
- *Building Amendments (Bushfire-Prone Areas) Regulations 2014 (18th June 2014).*
- *National Construction Code 2016 Building Code of Australia (Volume 2).*
- *Director's Determination - Requirements for Building in Bushfire-Prone Areas (transitional) (Version 2.2, 6th February 2020).*
- *The LIST - Department of Primary Industry Parks Water & Environment.*

9. GLOSSARY

AS 3959:2018	Australian Standards AS 3959:2018 <i>Construction of buildings in bushfire-prone areas.</i>
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. The following BAL levels, based on heat flux exposure threshold are used within AS3959:2018; BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40, BAL-FZ.
Bushfire	An unplanned fire burning vegetation.
Bushfire Hazard Management Plan	A plan showing means of protection from bushfire in a form approved in writing by the Chief Officer.
Bushfire-Prone Area	An area that is subject to, or likely to be subject to, bushfire attack. Land that has been designated under legislation; or Has been identified under environmental planning instrument, development control plan or while processing and determining a development application.
Carriageway (also vehicular access)	The section of the road formation, which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulder.
Class 1a, 1b, 2, 3, 4, 5, 6, 7, 8, 9a, 9b, 9c, 10a, 10b & 10c buildings	A system of classifying buildings of similar uses and functions to facilitate a referencing system within the National Construction Code.
Classified vegetation	Vegetation that has been classified in accordance with Clause 2.2.3 of AS3959:2018.
Distance to	The distance between the building or building area to the classified vegetation.
FDI (Fire Danger Index)	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 long- and short-term drought effects.
Firefighting water point	The point where a fire appliance can connect to a water supply for firefighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake, or pool).
Hazard Management Area	The area between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for fire fighting, 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.
Hose lay	The distance between two points established by a fire hose laid out on the ground, inclusive of obstructions.
Predominate vegetation	The vegetation that poses the greatest bushfire threat to the development site.
Slope Effective slope	The slope of the ground under the classified vegetation. The calculated slope under the classified vegetation considering variations in the topography.
Water supply - Reticulated (Fire hydrant)	An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for fire fighting.
Water supply - Static	Water stored on a tank, swimming pool, dam, or lake, that is always available for firefighting purposes.

ATTACHMENT 1 - BUSHFIRE HAZARD MANAGEMENT PLAN

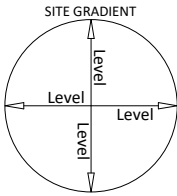


NICHOLLS RIVULET ROAD

AREA OF A: FOREST TO BE MODIFIED
1613 m²

Existing buildings

Prepared by L Brightman
Accredited Bushfire Hazard Practitioner BFP-164
Scope 1, 2, 3a, 3b, & Provisional 3c
Certified by N M Creese
Accredited Bushfire Hazard Practitioner BFP-118
Scope 1, 2, 3a, 3b, & 3c
2nd September 2024



BUILDING REGULATIONS COMPLIANCE Directors Determination - Requirements for Building in Bushfire Prone Areas

PART 4.1 Construction Requirements

- The proposed building works must comply with the construction requirements for **BAL-19**, AS 3959:2018

PART 4.2 Property Access

- Access is to comply with the requirements of *Table 4.2, Director's Determination*

PART 4.3 Water Supply for Firefighting

- Water supply for fire fighting must comply with the requirements of *Table 4.3B, Director's Determination*.

PART 4.4 Hazard Management Areas

- Hazard Management Areas are to be established and maintained in a low fuel condition in the following manner:
 - Slash/mow grasses to less than 100 mm in height.
 - Remove dead/fallen vegetation.
 - Trim any regrowth branches of retained trees within HMA that are less than 2m above ground.

LEGEND

BUILDING LOCATION	
HAZARD MANAGEMENT AREA	
WATER CONNECTION POINT	
HOSELAY	
LOW THREAT VEGETATION	
A: FOREST	
G: GRASSLAND	
INDICATIVE TURNING AREAS	

LARK & CREESE Pty Ltd
Land & Engineering Surveyors

62 Channel Highway, Kingston
+61 (03) 6229 6563
info@larkandcreese.com.au
www.larkandcreese.com.au

BUSHFIRE HAZARD MANAGEMENT PLAN

629 NICHOLLS RIVULET ROAD OYSTER COVE	TITLE	103923/1	PROJECT	30043	DATE	02/09/2024
	PID	15542573	DRAWING	50182-02	DRAWN	LB
N.L. COOMBE & I.M COOMBE	CONTOUR	N/A	SCALE	1:1500@A4	CHECKED	NC



CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Owner /Agent
 Address
 Suburb/postcode

Qualified person details:

Qualified person:
Address: Phone No:
 Fax No:
Licence No: Email address:

Qualifications and Insurance details: (description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Speciality area of expertise: (description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address: Lot No:
 Certificate of title No:
The assessable item related to this certificate: (description of the assessable item being certified)
Assessable item includes –
- a material;
- a design
- a form of construction
- a document
- testing of a component, building system or plumbing system
- an inspection, or assessment, performed

Certificate details:

Certificate type: (description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - (tick one)

building work, plumbing work or plumbing installation or demolition work:

or

a building, temporary structure or plumbing installation:

In issuing this certificate the following matters are relevant –

Documents:

- Bushfire Hazard Report 50182-02 dated 2nd September 2024.
- Bushfire Hazard Management Plan 50182-02 dated 2nd September 2024.

Relevant calculations:

AS 3959:2018 – Method 1 BAL assessment.

References:

- *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas*
- *Building Regulations 2014*
- *National Construction Code 2019 Building Code Australia (Volume 2)*
- *Director of Building Control Determination, Requirements for Building in Bushfire-Prone Areas (Version 2.2, 6th February 2020)*

Substance of Certificate: (what it is that is being certified)

1. The proposed building work – if designed and constructed in accordance with the bushfire hazard management plan referred to in this certificate – will comply with the applicable Deemed-to-Satisfy requirements of the Director’s Determination – Requirements for Building in Bushfire-Prone Areas (transitional).
2. The applicable Bushfire Attack Level (BAL) determined using AS 3959:2018 for design and construction is **BAL-19**.

Scope and/or Limitations

Scope

This report was commissioned to identify the bushfire risk and subsequent Bushfire Attack Level (BAL) associated with the proposed buildings on the site. All advice, construction standards and measures are in compliance with *AS 3959:2018, Construction of buildings in bushfire-prone areas, Building Regulations 2014 & National Construction Code 2019*.

Limitations

The inspection has been undertaken and report provided on the understanding that;-

1. The report only deals with the potential bushfire risk. All other statutory assessments are outside the scope of this report.
2. This assessment is based on the site conditions present at the time of assessment only. No responsibility can be accepted for actions by the land owners, Council, governmental agencies, or any other persons that may compromise the effectiveness of this report.
3. Impacts of future development and vegetation growth have not been considered for the purpose of this assessment.
4. This report and AS 3959:2018 cannot guarantee that a dwelling will survive a bushfire, however the implementation of the measures contained within AS 3959:2018 and this report will improve the likelihood of survival of the structure in the event of bushfire attack.

I certify the matters described in this certificate.

Qualified person:

Signed:



Certificate No:

50182-02

Date:

2/09/2024