

BUSHFIRE HAZARD REPORT



Proposed residential dwelling
4550 Bruny Island Main Road
Lunawanna, 7150

Dated 30th July 2024
Report by David Lyne BFP-144

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Appendix A – Topographic Map with Cadastral & Contour Overlay - indicates subject site

Appendix B – Designers site plan and site Images

Appendix C – Bushfire Hazard Management Plan, by David Lyne – certified date 30.07.2024; & Certificate of Others (Form 55) 1539/24

1. Introduction

I have been engaged by JJD Design to prepare a bushfire report and plan for a new residential dwelling in the suburb of Lunawanna on Bruny Island. The intent of this report is to confirm the suitability of the bushfire prone parcel of land to be successfully developed for the dwelling in accordance with the Directors Determination – requirements for building in bushfire prone areas v2.3 (the Code).

The assessment describes the site and surrounding area, classifying the vegetation, assessing the slope and environmental features. This report should be included with approval documentation forming part of the certified documentation intended to satisfy the Directors Determination. The body of the report describes the site and assesses the requirements to be implemented to satisfy the requirements of the Directors Determination.

2. Limitation of Report

This report has been prepared for the abovementioned clients for their use and distribution only. The intent of the report is for it to be used as supporting documentation for the Development Application (specifically vegetation clearance/maintenance distances) and the Building Application. Should submitted Application Plans differ from the Certified Plans supplied by the builder then an amended design review should be conducted to determine the suitability of any amendments in relation to the Bushfire Prone Area Requirements of AS3959-2018.

It is also to be noted that the assessment has been conducted according to the site inspection being conducted in July 2024 and does not take into account the possibility of altered site conditions either naturally occurring or where currently maintained or excluded vegetation conditions change due to a lack of ongoing maintenance.

It should be noted that compliance with the recommendations contained in this assessment does not mean that there is no residual risk to life safety or property as a result of bushfire. A residual level of risk remains which recognizes that removing the risk to life and property in absolute terms is not achievable while people continue to build in bushfire prone areas. This limitation is expressed in the following extract from AS 3959 (2018) which states (in the forward), *It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.*

This level of residual risk is inherent in all bushfire standards and also applies to this assessment.

3. Site Description and Background

650 Lachlan Road Lachlan is an existing land parcel, located in the municipality of the Derwent Valley Council. The property has an existing residential dwelling present with various outbuildings around the property, with majority of vegetation present being managed gardens. There are established residential dwellings to all directions of the property, with grassland vegetation to the east and west.

The site has access to a pre-approved road – Lachlan Road which connects to Humphrey Street, and eventually the Lyell Highway. The allotment is not provided with a reticulated water supply for firefighting.

3.1 Property Details

Address: 4550 Bruny Island Main Road, Lunawanna 7150

Municipality: Kingborough Council

Zoned: Low density residential

Lot Number: 145345/2

Type of Development: New residential dwelling

Classified BAL: **BAL-19**



Photo 1 – Aerial photo with Cadastral Overlay – Subject site highlighted blue.

3.2 Classification of Vegetation

The vegetation affecting the site has been classified in accordance with Clause 2.2.3 of AS 3959-2018. The dwelling site has unmanaged grassland vegetation to the Southern boundary. The Bushfire-Prone vegetation affecting the site is predominantly **Grassland – Group G and Forest – Group A** in accordance with AS3959-2018.

In this case, in accordance with Clause 2.2.2 of AS 3959-2018, the relevant Fire Danger Index for Tasmania of 50 (FDI 50).

When considering the definition of Bushfire Prone Area under the Code it is evident the proposed dwelling location is within 100 metres of greater than 1 hectare of vegetation classified in accordance with AS 3959-2018 and is therefore considered 'Bushfire Prone'.

From the proposed dwelling site a 360° survey has been conducted to determine the vegetation type, proximity and slope under the vegetation which is of the highest hazard rating. In this case the **Grassland and Forest** is the highest hazard vegetation surrounding the proposed dwelling.

Note: in a bushfire there is a possibility of fire attack from any direction, not just the direction of the highest hazard.

Photo 1, above indicates the Bushfire Prone Vegetation described. Refer to Appendix B for current conditions as at time of inspection.

3.3 Slope

The Effective slope of the land under the classified vegetation is determined in accordance with Clause 2.2.5 of AS 3959- 2018.

The *effective* slope under the bushfire prone vegetation is generally Upslope/Flatland 0° to the south, east and west; and downslope 0-5° to the north.

Refer to Appendix A Image for topographic contour information.

4. Bushfire Assessment

In accordance with Clause 2.2 of AS 3959-2018, the Simplified Procedure has been applied to determine the Bushfire Attack Level (BAL) for the proposed dwelling site. In accordance with the Code, fire-fighting water supply and vehicle access are also considered and discussed in relation to the proposed dwelling.

It should be noted that AS3959 Table 2.6 only provides BAL ratings for separation distance up to and including 50m from grassland. Therefore, grassland less than 100m but greater than 50m separation from the site has been excluded from assessment.

4.1 Bushfire Attack Level

Considering the current conditions, in accordance with AS3959-2018 the dwelling site is capable of achieving **BAL-19** (the minimum required standard required by the Code being BAL-29).

The desired BAL rating to be applied in this instance will be **BAL-19**. The vegetation within the Hazard Management Area (HMA) is to be continually managed to a low threat level - as per Clause 2.2.3.2 of AS3959-2018.

Table 1 – Bushfire Attack Level Assessment Summary and Notes

Property Details

Applicants Name	JJJD Design	Phone	0429 601 414
Municipality	Kingborough Council	Zoning	Low density residential
Certificate of Title/Lot No.	145345/2	Lot Size	2536m ²
Address	4550 Bruny Island Main Road, Lunawanna 7150		

Type of Building Work

- New Class 1a Building
- New Class 10a Building
- New Class 2 Building
- New Class 3 Building
- Alteration/Additions to an existing building

Description of building work: e.g. *single dwelling with attached garage*
New residential dwelling

Bush Fire Attack Level (BAL)

Relevant fire danger index: (see clause 2.2.2)

FDI 50

Assess the vegetation within 100m in all directions (tick relevant group)

Note 1: Refer to table 2.3 and figures 2.3 & 2.4 for description and classification of vegetation.

Note 2: If there is no classified vegetation within 100m of the site then the BAL is LOW for that part of the site.

Vegetation Classification (See Table 2.3)	North <input checked="" type="checkbox"/>	South <input checked="" type="checkbox"/>	East <input checked="" type="checkbox"/>	West <input checked="" type="checkbox"/>
	North East <input type="checkbox"/>	South-West <input type="checkbox"/>	South-East <input type="checkbox"/>	North-West <input type="checkbox"/>
Group -	G. Grassland	A. Forest	Low threat veg.	G. Grassland

Exclusions (where applicable)	Circle relevant paragraph descriptor from clause 2.2.3.2			
	(a) (b) (c) (d) (e) (f)	(a) (b) (c) (d) (e) (f)	(a) (b) (c) (d) (e) (f)	(a) (b) (c) (d) (e) (f)

Distance of the site from classified vegetation (see clause 2.2.4)

Distance to classified vegetation	Show distances in meters			
	45m	48m	N/A	40m

Effective Slope	Upslope			
Slope under the classified vegetation	Upslope/0°	Upslope/0° X	Upslope/0° X	Upslope/0° X
	Downslope			
	>0 to 5° X	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>	>0 to 5° <input type="checkbox"/>
	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>	>5 to 10° <input type="checkbox"/>
	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>	>10 to 15° <input type="checkbox"/>
	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>	>15 to 20° <input type="checkbox"/>

BAL value for each side of the site	BAL-19	BAL-12.5	BAL-LOW	BAL-12.5
Separation to achieve BAL-29	7-<11m	16-<23m	N/A	6-<10m
Separation to achieve BAL-19	11-<16m	23-<32m	N/A	10-<14m
Separation to achieve BAL-12.5	16-<50m	32-<100m	N/A	14-<50m

Construction Requirements

For this particular development a BAL-19 rating would suit all directions of this site, construction will be generally compliant with AS3959 -2018 Sections 3 and 6.

4.2 Road / Vehicle Access

The primary access to the lot is from a sealed public road – Bruny Island Main Road. There will be a requirement for the driveway and access to conform with Table 2 of the Directors Determination, see BHMP for details.

4.3 Water Supply

A static water supply of minimum 10,000L must be provided solely for firefighting for each dwelling on this particular site. The water supply must include a water connection point within 3.0m of a vehicle hardstand that is at least 6.0m from the building. The hardstand must be connected to the property access. The water supply must comply with Table 4.3B of the Director's Determination:

Table 4.3B Static Water Supply for Fire fighting
A. Distance between building area to be protected and water supply
The following requirements apply:
<ol style="list-style-type: none"> The building area to be protected must be located within 90 metres of the water connection point of a static water supply; and The distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.
B. Static Water Supplies
A static water supply:
<ol style="list-style-type: none"> May have a remotely located offtake 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;

3. 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;
4. Must be metal, concrete or lagged by non-combustible materials if above ground; and
5. If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS3959-2018, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by:
 - (a) metal;
 - (b) non-combustible material; or
 - (c) fibre-cement a minimum of 6 mm thickness.

C. Fittings, pipework and accessories (including stands and tank supports)

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

1. Have a minimum nominal internal diameter of 50mm;
2. Be fitted with a valve with a minimum nominal internal diameter of 50mm;
3. Be metal or lagged by non-combustible materials if above ground;
4. Where buried, have a minimum depth of 300mm (compliant with *AS/NZS 3500.1 Clause 5.23*);
5. Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to firefighting equipment;
6. Ensure the coupling is accessible and available for connection at all times;
7. Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length);
8. 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
9. Where a remote offtake is installed, ensure the offtake is in a position that is:
 - (a) Visible;
 - (b) Accessible to allow connection by firefighting equipment;
 - (c) At a working height of 450 – 600mm above ground level; and
 - (d) Protected from possible damage, including damage by vehicles.

D. Signage for static water connections

1. The water connection 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 2304-2019 Water storage tanks for fire protection systems; or*
2. The following requirements:
 - (a) Be marked with the letter "W" contained within a circle with the letter in upper case of not less than 100 mm in height;
 - (b) Be in fade-resistant material with white reflective lettering and circle on a red background;
 - (c) Be located within one metre of the water connection point in a situation which will not impede access or operation; and
 - (d) Be no less than 400 mm above the ground.

E. Hardstand

A hardstand area for fire appliances must be provided:

1. No more than three metres from the water connection point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like);
2. No closer than six metres from the building area to be protected;
3. With a minimum width of three metres constructed to the same standard as the carriageway; and
4. Connected to the property access by a carriageway equivalent to the standard of the property access.

5. Conclusion

The site has been classified as **BAL-19** as per the assessment processes outlined in AS3959-2018. The separation distances shown above are the areas to be maintained and kept in a way to reduce the fuel loads present in order to achieve lower BAL ratings. For this particular site and for where the proposed dwelling is to be constructed, a **BAL-19** rating would be achieved and would suit all directions of the site.

7. References

Directors Determination – requirements for building in bushfire prone areas v2.3


LIST map version. Aerial Photograph [online]. Available from:
<http://www.thelist.tas.gov.au/listmap/listmap>

Standards Australia 2018, *Construction of buildings in bushfire prone areas*, AS 3959-2018.

Statement

I have taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site and allotment on the date of this assessment.

It should be noted that this report does not take into account the possibility of altered site conditions either naturally occurring or where currently maintained or excluded vegetation conditions change due to lack of ongoing maintenance. Compliance with the recommendations contained in this assessment does not mean that there is no residual risk to safety of life or property as a result of bushfire.

Signed:.....

Date: 30/07/2024.....

Appendix B – Site Images and designers site plan





Looking North



Looking South



Looking East



Looking West

HAZARD MANAGEMENT AREAS - HMA

Hazard Management Area includes the area to protect the Building as well as the access and water supplies. The entirety of this allotment should be treated as HMA.

Vegetation in the Hazard Management area is to be managed and maintained in a minimum fuel condition.

The HMA is determined from the unmanaged vegetation on neighbouring allotments, and should the level of the unmanaged vegetation increase the BHMP and HMA should be reviewed to determine the ongoing suitability of the BHMP and HMA associated with the development.

MAINTENANCE SCHEDULE

- Removal of fallen limbs, leaf and bark litter;
- Cut lawns short (less than 100mm) and maintain;
- Remove pine bark and other garden mulch;
- Complete under-brushing and thin out the under storey;
- Prune low hanging trees to ensure separation from ground litter;
- Prune larger trees to establish and maintain horizontal and vertical canopy separation;
- Maintain storage of petroleum fuels;
- Maintain access to the dwelling and water storage area Remove fallen limbs, leaf and bark litter from roofs, gutters and around the building;
- Ensure that 10,000 litres of dedicated water supply for fire fighting purposes is available at all times.

BUSHFIRE PROTECTION MEASURES

To reduce the risk of bushfire attack, continual maintenance of bushfire protection measures including building maintenance, managed vegetation areas, water supply and road construction are to be undertaken by successive owners for perpetuity.

WATER SUPPLY

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

- Have a minimum nominal internal diameter of 50mm
- Be fitted with a valve with a minimum nominal internal diameter of 50mm
- Be metal or lagged by non-combustable materials if above ground
- Where buried, have a minimum depth of 300mm Provide a DIN or NEN standard forged Storz 65mm coupling fitted with a suction washer for connection to fire fighting 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 250mm diameter or a coupling compliant with this table; and
- Where a remote offtake is installed, ensure the offtake is in a position that is:
 - a. Visible
 - b. Accessible to allow connection to by fire fighting equipment
 - c. At a working height of 450-600mm above ground level; and
 - d. Protected from possible damage, including damage by vehicles

SIGNAGE FOR STATIC WATER CONNECTIONS

The water connection points 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 AS2304 Water storage tanks for fire protection systems; or
- The following requirements:
 - a. Be marked with the letter "W" contained within a circle with the letter in upper case of not less than 100mm in height;
 - b. Be in fade-resistant material with white reflective lettering and circle on a red background;
 - c. Be located within one metre of the water connection point in a situation which will not impede access or operation; and
 - d. Be no less than 400mm above ground.

PLAN TO BE READ IN CONJUNCTION WITH BUSHFIRE ATTACK LEVEL (BAL) REPORT

NOTIFY COUNCIL AND CERTIFYING BUSHFIRE PRACTITIONER IF ANY VARIATION IN BUILDING SETOUT OR VEGETATION HAZARDS OCCUR

ENSURE THIS PLAN AND ACCOMPANYING REPORT DO NOT CONFLICT WITH OTHER RELEVANT REPORTS AND ASSESSMENTS

Private access roads for vehicles - requirements for design and construction

Vehicle access roads of a length (or part thereof) as specified in Column A is satisfied by the design and construction requirements specified in Column B.

Column A	Column B
A. Property access length is less than 30 metres; or access is not required for a fire appliance to access a water connection point	There is no design and construction requirements if TFS access to the water supply is not required
B. Property access length is 30 metres or greater; or access for a fire appliance to a water connection point	The following design and construction requirements apply: <ul style="list-style-type: none"> • All-weather construction • a load limit of at least 20 tonnes, including for bridges and culverts • minimum carriageway width of 4 metres • minimum vertical clearance of 4 metres • minimum horizontal clearance of 0.5 metres from the edge of the carriageway • cross falls of less than 3° (1:20 or 5%) • dips less than 7° (1:8 or 12.5%) entry and exit angle • Curves with a minimum inner radius of 10 metres • maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads • terminate with a turning area for fire appliances provided by one of the following <ol style="list-style-type: none"> (a) a turning circle with a minimum inner radius of 10m (b) a property access encircling the building (c) a hammerhead "T" or "Y" turning head 4m wide and 8m long



HAZARD MANAGEMENT AREA
Low threat, maintained vegetation in accordance with AS 3959 - Clause 2.2.3.2 (e) & (f). Building is to be constructed to meet BAL-19 requirements

assumed position of firefighting tank

driveway shown is only indicative

BRUNY ISLAND MAIN RD

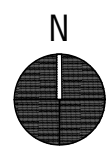


SCALE AS SHOWN

BHMP
SCALE 1:300

Prepared By David Lyne - BFP 144

JJD Design
4550 Bruny Island Main Road, Lunawanna
Tasmania 7150
Job No: 1539



11 GRANVILLE AVENUE
GUILSTON BAY, TASMANIA 7015
PH: 0421 852 987 EMAIL: dave_lyne@hotmail.com
Accredited Designer: David Lyne CC7063

PLEASE READ CAREFULLY

THIS PLAN CERTIFIED CORRECT IS THE ONE REFERRED TO IN THE BUILDING CONTRACT AND I UNDERSTAND CHANGES HEREAFTER MAY NOT BE POSSIBLE.

FINAL PLAN: ANY REQUESTED VARIATIONS TO YOUR HOUSE PLAN WILL INCUR AN AMENDMENT / ADMINISTRATION MINIMUM FEE

SIGNATURES

CLIENT:DATE:
CLIENT:DATE:
BUILDER:.....DATE:

DWG NO: 1539	SHEET: 01
SCALE AT A3: 1:300	DATE: 30.07.2024
DRAWN:DL	CHECK: DL
REV	0



CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

To: Owner /Agent
 Address
 Suburb/postcode

Form **55**

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 items, 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 – New residential dwelling
Bushfire Hazard Management Plan

Relevant

- In Accordance with AS3959-2018; and
- the Building Regulations (TAS).

calculations:

References:

- AS3959-2018;
- the Building Regulations (TAS); and
- Building Code of Australia (BCA).

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

The above mentioned report concludes that a BAL-19 rating is achievable and easily maintained for the dwelling on this site

Scope and/or Limitations

The assessment has been conducted according to information provided by the designer/client and freely available historical data and does not take into account the possibility of altered site conditions from the data relied upon.

It should be noted compliance with the recommendations contained in the certified documents does not mean that there is no residual risk to life safety and property as a result of bushfire. The limitation is expressed in the following extract from AS3959-2018, which states:

It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions.

The level of residual risk is inherent in all bushfire standards and also applies to this certification.

The assessment has been undertaken and certification provided on the understanding that; -


1. The certificate only deals with the potential bushfire risk all other statutory assessments are outside the scope of this report.

2. The report only identifies the size, volume and status of vegetation at the time the site inspection was undertaken and cannot be relied upon for any future development. Impacts of future development and vegetation growth have not been considered.

I certify the matters described in this certificate.

Qualified person:

Signed:



Certificate No:

1539/24

Date:

30/07/2024