



Reference number 4562

#### Member of the Fire Protection Association of Australia

# Lot 301, DP 514985, 41 Robertson Road, Scotland Island, NSW 2105.

#### Friday, 15 December 2023

Prepared and certified by:	Matthew Willis BPAD – Level3 Certified Practitioner Certification No: BPD-PA 09337	Mathink-	15/12/2023
Can this proposal comply with AS3959-2018 (inc section 7.5, 7.5.1,7.5.2, 7.5.3, 7.5.4 (where applicable) of the Rural Fire Services document Planning for Bushfire Protection 2019)?		Yes	
What is the recommended AS 3959-2018 level of compliance?		BAL-LOW	
Is referral to the RFS required?		No	
Can this development comply with the requirements of PBP?		Yes	
Plans by "James De Soyres and Associates" (Appendix 1) dated.		12/12/23	

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#### **Bushfire Planning Services**

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# **Bushfire Risk Assessment**

Friday, 15 December 2023

#### Contact

James de Soyres James De Soyres and Associates PO Box 657 Newport NSW 2106 9979 1823

#### Subject Property

Lot 301, DP 514985 41 Robertson Road Scotland Island NSW 2105





#### **BUSHFIRE RISK ASSESSMENT CERTIFICATE**

#### THIS FORM IS TO BE COMPLETED BY A RECOGNISED CONSULTANT IN BUSHFIRE RISK ASSESSMENT IN ACCORDANCE WITH SECTION 4.14 1(b) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 NO 203

Property Address	Lot 301, DP 514985, number 41 Robertson Road Scotland Island
Description of the Proposal	Alterations and additions to an existing building
Plan Reference	12/12/23
BAL Rating	BAL-LOW
Does the Proposal Rely on Alternate Solutions?	Νο

**I**, **Matthew Willis of Bushfire Planning Services Pty Ltd** have carried out a bushfire risk assessment on the above-mentioned proposal and property. A detailed Bushfire Assessment Report is attached which includes the submission requirements set out in Bushfire Protection 2019 together with recommendations as to how the relevant Specifications and requirements are to be achieved.

I hereby certify, in accordance with Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203:

1. That I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and

2. That subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements\*

\*The relevant specifications and requirements being specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by Section 4.14 of the Environmental Planning and Assessment Act 1979 No 203.

I am aware that the Bushfire Assessment Report, prepared for the above-mentioned site is to be submitted in support of a development application for this site and will be relied upon by Northern Beaches Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection 2019.

REPORT REFERENCE	Friday, 15 December 2023	
REPORT DATE	Friday, 15 December 2023	
CERTIFICATION NO/ACCREDITED SCHEME	FPAA BPAD A BPD-PA 09337	

Attachments:

- Bushfire Risk Assessment Report
- Recommendations

SIGNATURE: ---

Mathin ----- DATE: -----Friday, 15 December 2023





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### 1 Executive Summary.

Bushfire Planning Services has been requested by James de Soyres of James De Soyres and Associates to supply a bushfire compliance report on lot 301, DP 514985, 41 Robertson Road, Scotland Island.

The subject lot is marked as bushfire prone land in the council's bushfire prone land map (see page 7 of this assessment) however the map is considered to be incorrect in this instance.

All the vegetation within the study area for this proposal is contained within the boundaries of established residential allotments and is considered to be managed land and of low threat to this proposal.

The calculations and assumptions outlined in this report show that the development, when assessed using the methodology of Planning for Bushfire Protection, is considered to be at an AS 3959-2018 BAL-LOW threat level and is therefore considered to be at a 'very low' risk of bush fire attack.

All vegetation within a 100m study area is contained within the boundaries of established residential allotments and is managed land and of low threat to this proposal.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land	Managed land
Slope	N/A	N/A	N/A	N/A
Setback within lot 301	N/A	N/A	N/A	N/A
Setback outside lot 301	>100m	>100m	>100m	>100m
Total setback	>100m	>100m	>100m	>100m
Bal level	BAL-LOW	BAL-LOW	BAL-LOW	BAL-LOW

Table 1 is a summary of the relevant findings of this assessment.

Note: The above table is a summary of the significant variables used to determine the highest BAL for this proposal. THIS TABLE IS NOT INTENDED FOR CONSTRUCTION! Only the highest BAL level is shown, aspects marked as N/A will still have a BAL. Refer to section 11 for construction requirements for these other aspects.

 

 Table 1 - Only the aspect/aspects considered to be at the greatest threat from bushfire are shown in the above table. <u>THIS TABLE IS NOT CONSTRUCTION ADVICE</u>. For specific building construction advice see section 11.





## 2 General.

This proposal relates to the alterations and additions to an existing building on the subject lot and its ability to comply with the rules and regulations for building in a bushfire prone area.

The methodology used on this report is based on Planning for Bushfire Protection 2019 (PBP) as published by the New South Wales Rural Fire Service.

Any wording that appears in *blue italics* is quotes from Planning for Bushfire Protection 2019. Some of the measurements used in this report have been taken from aerial photographs and as such are approximate only.

# 3 Block Description.

The subject block is situated on the northern side of Robertson Road in an established area of Scotland Island.

The lot is currently developed.

The lands surrounding the proposed site on the subject lot to a distance of at least 100m contain existing residential development and associated gardens or land that is otherwise not considered to be a significant bushfire hazard.

- Lot; 301
- DP; 514985.
- LGA; Northern Beaches.
- Lot size; 1228.34m2
- Address; 41 Robertson Road, Scotland Island.

This section has been left blank.







Map 2 is an extract from the councils' bushfire prone land map. The map shows lot 301 to be partially within the buffer zone of category 1 bushfire vegetation.

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# 4 Vegetation.

The study area for the vegetation is 140m surrounding the subject block.

The vegetation within the study area for this development is considered to be managed land.

There is no significant bushfire hazard within 100m of the proposed building site.



Photo 1 - An overview of the vegetation within the general area.

This area has been left intentionally blank.







Photo 2 is a closer view of the vegetation in the area. The white circle is the 100m study area for the proposal.

Aspect	North	East	South	West
Vegetation type	Managed land	Managed land	Managed land	Managed land
Setback within lot 301	N/A	N/A	N/A	N/A
Off-site setback	>100m	>100m	>100m	>100m
Total setback	>100m	>100m	>100m	>100m

Table 2 - Any aspect marked with "N/A" in the table above indicates that it is considered there is none or only a secondary hazard in that direction.

This area has been left intentionally blank.





# 5 Known constraints on subject block.

I have not been informed or know of any places of cultural or environmental significance within the boundaries of the subject block. Given the nature of the surrounding land it is considered highly unlikely that anything of significance will be affected by this development.

#### 6 Slope.

In this particular instance the slope beneath the hazard is irrelevant to the outcome of this assessment as any remaining hazard is at a distance of greater than 100m from the area on the lot where the work is to be undertaken. The topographical map below is included for information and audit purposes only.

An extract of the topographical map for the area is shown below and the relevant slope analysis is shown in Table 3.



Table 3 shows the slope beneath the hazard.

Aspect	North	East	South	West
Slope	N/A	N/A	N/A	N/A

Table 3 - Any aspect marked with "N/A" in the table above indicates that it is considered there is no hazard in that direction.





# 7 Utilities.

#### 7.1 Water.

The subject block will not be serviced by a reticulated water supply suitable for firefighting.

# 7.2 Electricity

Mains electricity is available to the block.

### 7.3 Gas

It is unknown if gas is to be altered or installed in this proposal.

# 8 Access/Egress.

Access to the development site will be via a short private driveway from Robertson Road and via water from Pittwater.

This section has been left blank.





# Analysis of development and recommendation.

# 9 Compliance with Planning for Bushfire Protection setbacks.

Based on the development design, vegetation classification, effective slope estimate and setback distance already outlined in this report the subject development has been assessed as AS 3959-2018 BAL-LOW

The following picture is a section of the assessment flowchart from AS 3959 that covers the requirements for an assessment of BAL-LOW.



Section 4 of AS 3959 2018 states "The bushfire attack level Bal low is based on insufficient risk to warrant specific bushfire construction requirements. It is predicated on low threat vegetation and non-vegetated areas."

# 10 Siting.

The current site provides adequate separation between the proposed building and surrounding vegetation for a compliant structure to be built.

#### Recommendation;

Nil





## 11 Construction and design.

Although the construction requirements of AS 3959 are not considered to apply to this proposal the proposal is still required to comply with the "measures in combination" of the RFS document Planning for Bushfire Protection.

Note; Although AS3959 considers that no specific construction requirements need to be applied to this proposal some risk from bushfire still exists. The subject lot is in an area that may be affected by a fire in the larger, surrounding area which could be expected to cause smoke and burning embers to affect this new building.

It would be prudent to consider constructing the building to at least an AS3959 2018 BAL-12.5 construction standard which will give an enhanced level of protection from Ember attack. The additional cost of BAL-12.5 construction is not significantly onerous and is recommended however not strictly required. If not BAL-12.5 then at least basic ember protection.

The application of this additional construction level should be at the discretion of the owner.

### 12 Utilities.

#### 12.1 Water.

The subject lot will be connected to a reticulated water supply however the nearest hydrant point is beyond the maximum allowable distance for the furthest part of the proposal. As a result, a Static Water Supply (SWS) is required to be established and maintained on site to the following specifications.

1. A 10,000 L water supply is to be made available for firefighting purposes and be constructed in accordance with the following features.

- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet;
- Ball valve and pipes are adequate for water flow and are metal;
- Supply pipes from SWS to ball valve have the same bore size to ensure flow volume;
- Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank;
- Above-ground tanks are manufactured from concrete or metal;
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959);
- Unobstructed access can be provided at all times;
- Underground tanks are clearly marked;
- Tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters;
- All exposed water pipes external to the building are metal, including any fittings;





- A pump is to be provided with a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and
- If fitted, fire hose reels are constructed in accordance with AS/NZS 1221:1997 and installed in accordance with the relevant clauses of AS 2441:2005.
- A 'SWS' marker shall be obtained from the local NSW Rural Fire Service and positioned for ease of identification by brigade personnel and other users of the SWS. In this regard:
  - o a) Markers must be fixed in a suitable location so as to be highly visible; and
  - b) Markers should be positioned adjacent to the most appropriate access for the static water supply.

### 12.2 Electricity and Gas.

#### Recommendation;

2. Any new electricity or gas connections are to comply with the requirements of section 6.8.3 of Planning for Bushfire Protection.

#### 13 Asset Protection Zone (APZ).

The Asset Protection Zone is "An area surrounding a development managed to reduce the bushfire hazard to an acceptable level. The width of an APZ will vary with slope, vegetation and construction level".

#### Recommendation;

- 3. At the commencement of building works and in perpetuity the entire property shall be managed in a fuel reduced state.
- 4. Defendable space is to be provided around the building.

#### 14 Landscaping.

No specific landscaping plan has been provided as part of this assessment.

#### Recommendation;

- 5. Any new fencing is to be constructed in accordance with section 7.6 of Planning for Bushfire Protection 2019.
- 6. Any new landscaping to the site is to comply with the principles of Appendix 4 and section 3.7 of Planning for Bush Fire Protection 2019. In this regard the following landscaping principles are, where applicable, to be incorporated into the development<sup>1</sup>:

<sup>&</sup>lt;sup>1</sup>*Refer to referenced documents for a complete description.* 





- Suitable impervious areas being provided immediately surrounding the building such as courtyards, paths and driveways;
- Grassed areas/mowed lawns/ or ground cover plantings being provided in close proximity to the building;
- Restrict planting in the immediate vicinity of the building which may over time and if not properly maintained come in contact with the building;
- Trees are to be trimmed so they do not overhang the building.
- Planting should not provide a continuous canopy to the building (i.e. trees or shrubs should be isolated or located in small clusters);
- When considering landscape species consideration needs to be given to estimated size of the plant at maturity;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such timber garden furniture way from the building; and
- Use of low flammability vegetation species.

#### 15 Constraints on the subject block.

#### None known.

#### Recommendation;

Nil

#### 16 Access/Egress.

Vehicle access on and around the island is problematic due to the lack of road infrastructure. Access via water is readily acailable.

#### Recommendation

Nil





# 17 Compliance or non compliance with the specifications and requirements for bushfire protection measures.

APZ A defendable space is provided onsite. An APZ is provided and maintained for the life of the development.	Achievable with the implementation of the recommendations in section 13
SITING AND DESIGN: Buildings are sited and designed to minimise the risk of bush fire attack.	Achievable with the implementation of the recommendations in section 10
CONSTRUCTION STANDARDS: It is demonstrated that the proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.	Achievable with the implementation of the recommendations in section 11
ACCESS Safe, operational access is provided (and maintained) for emergency services personnel in suppressing a bush fire while residents are seeking to relocate, in advance of a bush fire, (satisfying the intent and performance criteria for access roads in sections 4.1.3 and 4.2.7).	Achievable with the implementation of the recommendations in section 16
VATER AND UTILITY SERVICES: adequate water and electricity services are provided for irefighting operations Gas and electricity services are located so as not to contribute o the risk of fire to a building.	
LANDSCAPING: • it is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause Ignitions.	Achievable with the implementation of the recommendations in section 14

# 18 Conclusions.

Based on the above report and with the implementation of the recommendation contained within this report the consent authority should determine that this development can comply with the requirements of AS 3959-2018 and 'Planning for Bushfire Protection' guidelines.

The recommendations contained within this report are to be implemented in their entirety. Changing one aspect may have an adverse effect on the rest of the recommendations.

Bushfires are affected by many external influences such as climactic conditions, vegetation type, moisture content of the fuel, slope of the land and human intervention to name a few and are difficult to predict.





This report does not intend to provide a guarantee that the subject property will survive if a bushfire should impact the surrounding area. The purpose of this report is to show the developments level of compliance or in some cases non-compliance with the New South Wales legislation regarding building in bushfire prone areas.

Where non-compliance is found measures will be suggested that should make the building less susceptible to the various attack mechanisms of a bushfire and comply with the performance requirements of the Building Code of Australia.

The opinions expressed in this report are based on the writers' experience and interpretation of the relevant guidelines and standards. Notwithstanding the above, these guidelines and standards are open to interpretation. All care has been taken to ensure that the opinions expressed in this report are consistent with past successful outcomes.

Some of the information used in the compilation of this assessment has been provided by the proponent or the proponent's representatives. While we believe this information to be true and have accepted the information in good faith however this company or its representatives will not accept any responsibility if the provided information is determined to be incorrect.

This document is to assist the consenting authorities with their assessment of this proposal. The recommendations contained in this assessment reflect the normal conditions that are typically applied by the consent authority for a proposal such as this however the conditions of consent for the proposal will be supplied by the certifying authority on approval of the development and may not necessarily be the same as the recommendations of this assessment.

The recommendations in this assessment are for planning guidance only, construction details and compliance with all building requirements are the responsibility of the Architect/Designer, Builder and Certifier.

To avoid confusion, unless specifically referenced by the consenting authority, it is strongly recommended that once this proposal has been approved that this document is no longer referenced and that only the official conditions of consent as reflected in documentation by the certifying body are used for construction guidance.

If any further clarification is required for this report, please do not hesitate to contact me using the details above.

Yours Sincerely

Mathin

*Matthew Willis* Grad Dip Planning for Bushfire Prone Areas Bushfire Planning Services Pty Limited





#### 19 References.

- Australian Building Codes Board (2019). National Construction Code Volume One -Building Code of Australia. ABCB
- Australian Building Codes Board (2019). National Construction Code Volume two -Building Code of Australia. ABCB.
- *Keith, D.A. (2004).* Ocean Shores to Desert Dunes: The Native Vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation.
- National Association of Steel Framed Housing (2014). "Steel Framed Construction in Bush Fire Areas. NASH
- Ramsay, C and Rudolph, L (2003) "Landscape and Building Design for Bush fire Areas". CSIRO Publishing, Collingwood.
- Resources and Energy NSW (2016). ISSC 3 Guide for the Managing Vegetation in the Vicinity of Electrical Assets. NSW Government
- Rural Fire Service NSW (2005) "Standards for Asset Protection Zones"
- Standards Australia (2018). "AS 3959, Construction of buildings in bush fire prone areas".
- Standards Australia (2018). "AS/NZS 1530.8.1 Methods for fire tests on building materials, components and structures Tests on elements of construction for buildings exposed to simulated bush fire attack Radiant heat and small flaming sources".
- Standards Australia (2018). "AS/NZS 1530.8.2 Methods for fire tests on building materials, components and structures Tests on elements of construction for buildings exposed to simulated bush fire attack Large flaming sources".
- Standards Australia (2014). "AS/NZS 1596 The storage and handling of LP Gas".



# 20 Appendix 1 - Plans .





















