

**Bushfire Assessment Report  
Proposed Building Development  
31 & 33 Sturdee Lane  
Elvina Bay NSW 2105  
Lots 1 & 2 DP 1180405**



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**Reviewed by:**

**Executive Summary – Achievable (Recommended) AS 3959:2018 Level of Compliance**

| Construction Standard | Building Elevation                           |
|-----------------------|----------------------------------------------|
| Flame Zone            |                                              |
| BAL 40                |                                              |
| <b>BAL 29</b>         | <b>New Decks, Steps Ramps &amp; Landings</b> |
| BAL 19                |                                              |
| <b>BAL 12.5</b>       | <b>New Inclined Passenger Lift</b>           |
| NCC Provisions Only   |                                              |

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## General Introduction

The following report outlines an assessment for the statutory compliance of the proposed residential building development to occur within 31 & 33 Sturdee Lane, Elvina Bay NSW 2105 – Lots 1 & 2 DP 1180405 (herewith ‘the subject property’), and at least 140m beyond (herewith ‘the study area’). Appendix 1 / Map 1 denote the subject property and study area.

Methodology for this site assessment for bushfire attack is based on the planning guideline ‘*Planning for Bush Fire Protection 2019 (PBP 2019)*’, produced by the NSW Rural Fire Service.

‘*Australian Standard 3959:2018 – Construction of buildings in bush fire prone areas*’, or alternately ‘*NASH Steel Framed Construction in Bush Fire Areas (NASH 2021)*’, pursuant to the ‘*National Construction Code/Building Code of Australia 2022 (NCC/BCA 2022)*’, are the primary building compliance documents considered for this assessment.

Terrain (slope) considered by this assessment is based on the Department of Lands Online Six Viewer contours and a site inspection (31/3/2025) of the subject property.

Vegetation extent within the subject area has been derived from available online public vegetation mapping studies, aerial photo interpretation and a site inspection (31/3/2025) conducted prior to finalising this report.

The extent and location of the proposed development are based on DA Plans prepared by Peter Downes Designs, Avalon Beach (Drawing Nos. 2417 00 – 2417 04, Dated 11/7/2024).

Photographic evidence of the subject property and surrounds is appended to this report (Appendix 2 – Site Photos, Dated 31/3/2025).

## 1.0 Property Details

**Applicants Name:** Henry Stenning & Jonathan Scales (herewith, 'the proponent')

**Council:** Northern Beaches Council (Northern Beaches LGA)

**Council Reference:** N/A

**Lots:** 1 & 2      **DP:** 1180405      **Area:** 2125m<sup>2</sup> (combined approximately)

**Address/Location:** 31 & 33 Sturdee Lane, Elvina Bay NSW 2105.

**Zoning:** 'C3 – Environmental Management'  
Pittwater LEP 2014

### **Bushfire Prone Land: YES**

The subject property is mapped as being bushfire prone as currently shown by the Northern Beaches Council LGA Bushfire Prone Land Map (*s10.3 EP&A Act 1979*). The site is constrained by vegetation classified as 'Category 1 Bushfire Vegetation'. In this regard, any new building development should conform to the specifications and requirements of the document '*Planning for Bush Fire Protection 2019*', produced by the NSW Rural Fire Service, that are relevant to the development; as otherwise required under *Section 4.14 Environmental Planning & Assessment Act 1979 (EP&A Act 1979)*.

### **Other Known Constraints:**

Some vegetation within the study area is considered to be '*Pittwater Spotted Gum Forest*'. This vegetation has been listed as an 'Endangered Ecological Community' under the *Biodiversity Conservation Act 2016*.

A desktop assessment of the publicly available council mapping and planning enquiry system has found no other constraints to be considered in regard to development upon the subject property.

No other known significant environmental features have been noted, recorded or advised of as part of this assessment.

It is not proposed, as part of the recommendations of this report, to remove any significant trees or vegetation from these areas, as part of the bushfire planning provisions.

Only the ongoing maintenance of shrubs and groundcovers, within the subject site, is recommended.



**Extract Northern Beaches Council LGA Bushfire Prone Land Map**

## **2.0 Description of Proposal**

- |                                            |                                                                  |                                         |
|--------------------------------------------|------------------------------------------------------------------|-----------------------------------------|
| <input type="checkbox"/> New Building      | <input checked="" type="checkbox"/> <b>Isolated Residential</b>  | <input type="checkbox"/> Dual Occupancy |
| <input type="checkbox"/> Rural Residential | <input checked="" type="checkbox"/> <b>Alterations/Additions</b> | <input type="checkbox"/> Isolated Rural |

### **Proposal Description**

The proposed building development is to construct minor 'Alterations & Additions' to an existing residential development. These works are limited in nature, and only include the installation of a new 'Inclinor' (i.e. from the water level to the residence within 31 Sturdee Lane) with some minor changes to existing decking elements, terraces and steps to support same. No works are proposed to either residence.

These works are located on the shared boundary between 31 & 33 Sturdee Lane and within a shared /reciprocal easement that extends either side of this boundary.

The extent and location of the proposed development are based on DA Plans prepared by Peter Downes Designs, Avalon Beach (Drawing Nos. 2417 00 – 2417 04, Dated 11/7/2024).

The approximate location/site of the proposed building (herewith 'the subject development') is as denoted in Appendix 1 – Map 1.

### 3.0 Bushfire Assessment

#### 3.1 Vegetation (bushfire hazard) within 100m of the proposed building

The vegetation within the study area is mapped as 'Bushfire Prone Vegetation Category 1' on Council Bushfire Prone Land Maps.

The main body of persistent vegetation is located within the Ku-ring-gai Chase National Park, remote from and to the West of these residential properties, with limited area also located to the East scattered throughout the adjacent residential development.

Some adjacent residential properties and some small reserves have varying levels of disturbed vegetation on site. Most are well-maintained with 'leafy canopies' over managed mid and under storeys, in most areas.

Based on a determination of vegetation formation using the Keith 2004 Identification Key, the primary bushfire vegetation having the potential to affect the subject development, based on a site visit, is most representative of 'Forest'. This includes a small remnant (pursuant to PBP 2019 A1.11.1) to the North, which will be assessed as equivalent to 'Rainforest'.

The subject development would potentially (currently) be prone to bushfire attack from the North, East & West. The extent of the current bushfire vegetation (hazard) is clearly denoted in Appendix 1 – Map 1.

*PBP 2019 (Appendix 1 Section A1.10) states, 'The following exclusions of AS3959 apply, and are not required to be considered for the purposes of PBP, as detailed below:*

- *Single areas of vegetation less than 1 hectare in area and greater than 100metres separation from other areas of Category 1 and 2 vegetation.*
- *Multiple areas of vegetation less than 0.25 hectares in area and not within 20m of the site, or each other or of other areas of vegetation being classified vegetation.*
- *Strips of vegetation less than 20m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20m of the site or other areas of vegetation being Category 1, 2 or 3 vegetation.*
- *Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load, including grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses such as playing areas and fairways, maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens and other non-curing crops, cultivated gardens, arboretums, commercial nurseries, nature strips and windbreaks.*
- *Existing areas of managed gardens and lawns within curtilage of buildings.*
- *Non-vegetated areas including waterways, roads, footpaths, buildings and rocky outcrops.*

The proposed development is located within a well-established, but isolated residential subdivision.

Most adjoining residential sites are subject to mixed management but are generally clear of most persistent vegetation. The local bushfire mapping overstates the extent and location of persistent vegetation within the study area.

The approximate / estimated extent of these managed lands is clearly denoted in Appendix 1 – Map 1. Relevant photos attached (Appendix 2 Site Photos).

### **3.2 Distance/Separation between building line and bushfire hazard**

For the purposes of bushfire safety compliance, this assessment notes that the subject property contains no persistent bushfire vegetation.

Considering the location of the proposed development and the extent of the bushfire vegetation, the recommended achievable separation distance has been assessed as:

| Direction | North | East | West |
|-----------|-------|------|------|
| Distance  | >46m  | >65m | >90m |

### **3.3 Effective slope that will influence bushfire behaviour**

The effective slope within approximately 100m of the subject development site, which would influence bushfire behaviour, has been assessed as predominately;

| Direction | North                         | East           | West           |
|-----------|-------------------------------|----------------|----------------|
| Slope     | >10 – 15 Degrees<br>Downslope | Flat / Upslope | Flat / Upslope |

### **3.4 Fire Danger Index (FDI) for Local Government Area (LGA)**

☒ 100                      ☐ 80                      ☐ 50

Northern Beaches Council – Greater Sydney Region

*(NSW Local Government Areas Community Resilience May 2017 – NSW RFS)*



### 3.5 Determination of Bushfire Attack Level (PBP 2019 – Table A1.12.5)

| Direction | Vegetation     | Slope                      | Minimum Distance | BAL Exposure Level |
|-----------|----------------|----------------------------|------------------|--------------------|
| North     | Remnant Forest | >10 – 15 Degrees Downslope | >46m             | BAL – 12.5         |
| East      | Forest         | Flat / Upslope             | >65m             | BAL – 12.5         |
| West      | Forest         | Flat / Upslope             | >90m             | BAL – 12.5         |

### 4.0 AS 3959:2018 Construction Standard for Bushfire Attack Level (NCC – BCA Dts)

| Building Elevations | Vegetation     | Slope                      | Minimum Distance | Construction Standard |
|---------------------|----------------|----------------------------|------------------|-----------------------|
| All New Works       | Remnant Forest | >10 – 15 Degrees Downslope | >46m             | BAL – 12.5            |

Considering the subject developments location and the calculated extent of the APZ area recommended by this report, the subject development is technically capable of complying with AS 3959:2018 / NASH 2021.

### 5.0 Bushfire Protection Measures

Pursuant to 'PBP 2019 – Section 7 Residential Infill Development', there is a requirement to address certain 'Bushfire Protection Measures' (BPM) under the Section 4.14 EP&A Act 1979 for new residential 'infill' development in bushfire prone areas.

The intent of the BPM's *'is to minimise the risk of bushfire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities'*.

It is also noted *'where a development expectation arises from the zoning of the land to build, rebuild, alter or add to a dwelling in pre-existing subdivisions, attempts should be made to find a solution taking into account the risk present. The expectation of building or altering a house is recognised even though the ability to provide for APZs or access requirements now required for residential development may not be possible'*.

Proposals for 'infill development' are to:

- Provide a defensible space to enable unimpeded access for firefighting around the building.
- Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate to the level of development.
- Provide access, services and landscaping to aid firefighting operations.
- Not impose an increased bushfire management and maintenance responsibility on adjoining land owners.

- Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk.

### 5.1 Asset Protection Zones

*PBP 2019* acceptable solutions for Asset Protection Zones (for this specific development location) state that;

- An APZ is provided in accordance with Table A1.12 in Appendix 1.
- APZs are managed in accordance with the requirements of Appendix 4 of PBP.
- APZs are wholly within the boundaries of the development site.
- APZs are located on lands with a slope less than 18 degrees.

The subject site will benefit from some managed lands within the site, and external to the site (being managed residential properties).

Asset Protection Zone recommendations are as listed in Section 6.1 (Bushfire Safety & Compliance Recommendations).

### 5.2 Access (Property Access)

The subject development is located within Elvina Bay. Elvina Bay is a small isolated community on Pittwater. Access to the community is generally by boat/ferry only.

The Elvina Bay Rural Fire Service is also located just South West of the subject development, which is supported by local RFS fire boats and some limited tanker access through the local fire trail system only.

The current access and egress arrangements, servicing the proposed development, are able to provide only limited operational access for emergency services and egress in varying directions for evacuating residents.

### 5.3 Water Supplies (Non Reticulated)

☒ Yes      ☐ No      ☒ Proposed

*PBP 2019* acceptable solutions for a reticulated water supply area (relevant to the subject development) state that:

- Reticulated water is to be provided to the development, where available.
- A static water supply is provided where no reticulated water is available.
- Fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005.
- Hydrants are not located within any road carriageways.

- Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
- All above-ground water service pipes external to the building are metal, including and up to any taps.
- Where no reticulated water supply is available, water for firefighting purposes is provided in accordance with **Table 5.3d**.
- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Stortz 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 tank to ball valve have the same bore size to ensure flow volume;
- A hardened ground surface for truck access is supplied within 4m.
- Above-ground tanks are manufactured from concrete or metal.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (Appendix F of AS 3959).
- Unobstructed access can be provided at all times.
- All exposed water pipes external to the building are metal, including any fittings.
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel powered pump, and are shielded against bushfire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.

**Table 5.3d**

Water supply requirements for non-reticulated developments or where reticulated water supply cannot be guaranteed.

| DEVELOPMENT TYPE                                     | WATER REQUIREMENTS |
|------------------------------------------------------|--------------------|
| Residential lots (<1,000m <sup>2</sup> )             | 5,000L/lot         |
| Rural-residential lots (1,000-10,000m <sup>2</sup> ) | 10,000L/lot        |
| Large rural/lifestyle lots (>10,000m <sup>2</sup> )  | 20,000L/lot        |
| Multi-dwelling housing (including dual occupancies)  | 5,000L/dwelling    |

The subject development/building is not currently connected to any reticulated water supply. As such, the development will be required to maintain a static water supply for firefighting operations, if required.

In this respect, PBP water supply requirements (acceptable solutions) for firefighting include;

- **10 000 L/lot for Rural Residential Lots (>1000m<sup>2</sup>)**

Firefighting water supply recommendations are as listed in Section 9.3 (Bushfire Safety & Compliance Recommendations).

## 5.4 Electricity Services

PBP 2019 acceptable solutions for electrical services (relevant to the subject development) state that:

- *Where practicable, electrical transmission lines are located underground; and*
- *Where overhead electrical transmission lines are proposed, as follows:*
  - *Lines are installed with short pole spacings (30m), unless crossing gullies, gorges or riparian areas; and*
  - *No part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'ISSC3 Guideline for Managing Vegetation Near Power Lines'.*

The subject development site is currently serviced by an aboveground electrical supply grid which services the residential subdivision within Elvina Bay. The connection to the existing residences has then been relocated underground.

Electrical service recommendations are as listed in Section 6.5 (Bushfire Safety & Compliance Recommendations).

## 5.5 Gas Services

Reticulated Gas: ☐ Yes ☒ **No**

Bottled Gas: ☒ **Yes** ☐ No

PBP 2019 acceptable solutions for gas services (relevant to the subject development) state that:

- Reticulated or bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.

Gas service recommendations are as listed in Section 6.6 (Bushfire Safety & Compliance Recommendations).

## 6.0 Bushfire Safety & Compliance Recommendations

### 6.1 Defendable Space / Asset Protection Zone (APZ) Recommendations

#### Recommendation 1.

##### **Modified Inner Protection Area**

As denoted in Appendix 1 – Map 1, these sites are to be managed as **‘Modified Inner Protection Areas’ (MIPA)** for the life of the development.

The ‘MIPA’ is the area closest to the building and creates a fuel managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space. Vegetation within the ‘MIPA’ should be kept to a minimum level. Litter fuels within the ‘MIPA’ should be kept below 1cm in height and be discontinuous.

In practical terms the ‘MIPA’ is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an MIPA the following requirements apply.

**Note:** The below description has been modified to ensure all existing canopy trees are retained within the subject site. The ‘MIPA’ will not reflect the descriptive requirements of an ‘Inner Protection Area’, pursuant to PBP 2019, which is not achievable within the site, due to significant ecological constraints.

##### **Shrubs**

- Create large discontinuities or gaps in the vegetation, to slow down or break the progress of fire towards buildings;
- Shrubs should not be located under trees
- Shrubs should not form more than 10% ground cover; and
- Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

##### **Grass**

- Grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- Leaves and vegetation debris should be removed.

## 6.2 Construction Standard Recommendations

Construction standards have been determined from the following sections of the planning guidelines and are based on the relevant bushfire assessment as discussed above.

*AS 3959:2018 Section 3 Construction General*

(See Recommendation 2)

*AS 3959:2018 Section 5 Construction for Bushfire Attack Level 12.5 (BAL – 12.5)*

(See Recommendation 3)

*AS 3959:2018 Section 7 Construction for Bushfire Attack Level 29 (BAL – 29)*

(See Recommendation 4)

*Steel Framed Construction in Bushfire Areas (NASH 2021)*

### **Recommendation 2.**

Where any part of a garage, carport, veranda or similar roofed structure is attached to, or shares a common roof space with, or is within 6m of, a building required to comply with the standard, the entire structure shall comply with the construction requirements of the standard (as per Recommendation 3), as applicable to the subject building.

Alternatively, the structure may be separated from the subject building by a wall complying with *AS 3959:2018 Section 3.2.1 a) or b)* i.e. fire rated construction as specified.

### **Recommendation 3.**

Predicated upon the maintenance of the APZ area as per Recommendation No. 1 of this report, it is recommended the proposed development incorporate, as a minimum, the following levels of construction as per *AS 3959:2018 Construction of buildings in bushfire prone areas*;

***All Elevations ('Alterations & Additions' Only)***

**Construction for Bushfire Attack Level 12.5 (BAL – 12.5) – Section 5 (AS 3959:2018)**

**Alternately, the relevant sections of '*NASH Standard – Steel Framed Construction in Bushfire Areas (NASH 2021)*' may be applied.**

#### **Recommendation 4.**

##### ***Sarking***

All sarking used shall be:

- Non-combustible, **or**
- Breather type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS 1530.2) and sarked on the outside of the frame, **or**
- An insulation material conforming to the appropriate Australian Standard for that material.

##### ***‘Alterations & Additions’ Only – New Verandas, Decks, Steps, Ramps and Landings***

The provisions of **AS 3959:2018 Clause 5.7** relating **only** to the construction of verandas, decks, steps, ramps and landings within Section 5 – BAL 12.5 **shall be replaced** with the provisions of **AS 3959:2018 Clause 7.7** (Section 7 – BAL 29).

##### ***Fences & Gates***

All new fences and gates should be constructed of a non-combustible material

##### ***Retaining Walls***

All new retaining walls should be constructed of a non-combustible material.

#### **6.3 Vehicle Access / Egress Recommendations**

##### **Recommendation 5.**

The proposed building development will continue to be assessed only overwater.

No additional vehicle access requirements are recommended.

#### **6.4 Water Supplies Recommendations**

##### **Recommendation 6.**

- A static water supply (SWS) is recommended.
- All above-ground water service pipes external to the building are metal, including and up to any taps.
- A static water supply for firefighting purposes is provided in accordance with Table 5.3d PBP 2019 (**i.e. 10,000 L per site in this instance**).

- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Stortz 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 tank to ball valve have the same bore size to ensure flow volume;
- A hardened ground surface for truck access is supplied within 4m.
- Above-ground tanks are manufactured from concrete or metal.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (Appendix F of AS 3959).
- Unobstructed access can be provided at all times.
- Tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters.
- All exposed water pipes external to the building are metal, including any fittings.
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel powered pump, and are shielded against bushfire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.

## **6.5 Electricity Services Recommendations**

### **Recommendation 7.**

In relation to any the part of the electricity supply that is located aboveground. No part of a tree is to be closer to a power line than the distance set out in accordance with the specifications in '*ISSC3 Guideline for Managing Vegetation Near Power Lines*'.

## **6.6 Gas Services Recommendations**

### **Recommendation 8.**

- Any future / new bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are metal.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.



## 6.7 Bush Fire Survival Plan Recommendations

### **Recommendation 9.**

Discuss and prepare a simple 'Bush Fire Survival Plan' pursuant to the NSW Rural Fire Service's advice (<https://www.rfs.nsw.gov.au/plan-and-prepare/bush-fire-survival-plan>).

## 7.0 Compliance or non-compliance with PBP 2019 Specific Objectives for Infill Development (as per *PBP 2019 Section 7.3*)

| Specific Objective                                                                                                                  | Comment                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Provide a defensible space to enable unimpeded access for firefighting around the building                                          | A complying APZ (defendable space) has been recommended. This space consists of an area maintained as an IPA.                                                                                                         |
| Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate with the scale of works proposed.      | Bushfire fuel management, and other bushfire protection measures, contained within the subject property will effectively reduce the risk to both the subject property and adjoining premises.                         |
| Design and construct buildings commensurate with the bushfire risk.                                                                 | Recommendations, relating to the construction of the development include BAL 12.5 building construction standards.                                                                                                    |
| Provide access, services and landscaping to aid firefighting operations.                                                            | The recommendations (above) relating to the design and construction of the development include a range of 'bushfire protection measures' that will enhance the chances of occupant and building survival.             |
| Not impose an increased bushfire management and maintenance responsibility on adjoining landowners.                                 | The subdivision is pre-existing. The construction of this development will not increase the bushfire risk to adjoining land, nor increase bushfire management and maintenance responsibility on adjoining landowners. |
| Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk. | The site is located within an existing residential subdivision. The recommended bushfire protection measures will increase the level of overall protection.                                                           |

## 8.0 Compliance or non-compliance with PBP 2019 Performance Criteria and intent for bushfire safety protection measures for infill development.

| Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                            | Comment                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>APZ</b></p> <p>APZs are provided commensurate with the construction of the building.</p> <p>A defensible space is provided.</p> <p>APZs are managed and maintained to prevent the spread of fire to the building.</p> <p>The APZ is provided into perpetuity.</p> <p>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</p>                                                                  | <p><b>Can Comply</b> – Recommendation No. 1</p> <p>A defensible space will be provided within the site boundaries with part of the site being maintained as an MIPA.</p> <p>This is complimented by some limited 'cleared and managed lands' on adjoining properties.</p> |
| <p><b>Access</b></p> <p>Firefighting vehicles are provided with safe all-weather access to structures and hazard vegetation.</p> <p>The capacity of access roads is adequate for firefighting vehicles.</p> <p>There is appropriate access to water supply.</p> <p>Firefighting vehicles can access the dwelling and exit the property safely.</p>                                                                                                              | <p><b>Can Comply</b> – Recommendation No. 5</p> <p>Access/Egress is provided overwater.</p> <p>The access arrangements are sufficient for operational firefighting and emergency egress.</p>                                                                              |
| <p><b>Water Supplies</b></p> <p>An adequate water supply is provided for firefighting purposes.</p> <p>Water supplies are located at regular intervals.</p> <p>The water supply is accessible and reliable for firefighting operations.</p> <p>Flows and pressures are appropriate.</p> <p>The integrity of the water supply is maintained.</p> <p>A static supply is provided for firefighting purposes in areas where reticulated water is not available.</p> | <p><b>Can Comply</b> – Recommendation No. 6</p>                                                                                                                                                                                                                           |

|                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Electrical Services</b><br><br>Location of the electrical services limits the possibility of ignition of surrounding bushland or the fabric of the buildings.                                                                                                                                                       | <b>Can Comply</b> – Recommendation No. 7                                                                                                                                                                                               |
| <b>Gas Services</b><br><br>Location and design of the gas services will not lead to of ignition of surrounding bushland or the fabric of the buildings.                                                                                                                                                                | <b>Can Comply</b> – Recommendation No. 8                                                                                                                                                                                               |
| <b>Construction Standards</b><br><br>The proposed building can withstand bushfire attack in the form of embers, radiant heat and flame contact.<br><br>Proposed fences and gates are designed to minimise the spread of bushfire.<br><br>Proposed Class 10a buildings are designed to minimise the spread of bushfire. | <b>Can Comply</b> – Recommendation Nos. 2 – 4<br><br>Predicated upon the recommended APZ areas and siting requirements, BAL 12.5 building construction standards can achieve the performance requirements of the planning legislation. |
| <b>Landscaping</b><br><br>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions.                                                                                                                                    | <b>Can Comply</b> – Recommendation No. 1                                                                                                                                                                                               |

## 9.0 Statement assessing the environmental impact of any proposed bushfire protection measures.

| Bushfire Protection Measure                           | Likely Environmental Impact | Comment                                                                                                     |
|-------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>APZ</b><br>(Rec. No. 1)                            | Minor                       | Ongoing maintenance of ground fuels and shrub layers within proposed MIPA only.                             |
| <b>Construction Standard</b><br>(Rec. Nos. 2 - 4)     | Insignificant               | Works to be constructed within an approved building envelope.                                               |
| <b>Water Supply for fire fighting</b><br>(Rec. No. 6) | Insignificant               | A non-reticulated water supply will service the development, which will be located within the proposed APZ. |

|                                                        |               |                                                                                                       |
|--------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------|
| <b>Utility service protection</b><br>(Rec. Nos. 6 - 8) | Insignificant | Utilities are currently located within the APZ, or underground.                                       |
| <b>Vehicle Access</b><br>(Rec. No. 5)                  | Insignificant | Direct access to public road system will be by way of short, cleared pathway, located within the APZ. |

## 10.0 Conclusion/Summary

Based on the above assessment and the 9 recommendations to protect persons and property from danger that may arise from a bushfire, the Consent Authority should determine that this development proposal can comply with *Planning for Bush Fire Protection 2019* as required under *Section 4.14 of the Environmental Planning and Assessment Act 1979*.

As a considered opinion, the recommended mitigation measures and construction requirements as stated in this report would reasonably address the aims and objectives of *PBP 2019*, consistent within the relative and current bushfire risk to the subject development site.

As infill development, the residence will be able to fully comply with the Acceptable Solutions provided within *PBP 2019*.

In this regard, the subject development can reasonably facilitate *PBP 2019* objectives in as far as;

- Afford buildings and their occupants protection from exposure to a bushfire;
- Provide for a defensible space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely spread to buildings;
- Ensure the appropriate operational access and egress for emergency service personnel and residents is available;
- Provide for ongoing management and maintenance of bushfire protection measures; and
- Ensure that utility services are adequate to meet the needs of firefighters.

Should any of the above information require clarification or further discussion, please contact the author.



**Scott Jarvis**

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**(Note: Scott Jarvis is a recognised / suitably qualified consultant pursuant to Rural Fire Service of NSW requirements - Community Resilience Fact Sheet - Requirements for Suitably Qualified Consultants 8/15, Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)**

## References/Further Reading

*Australian Standard 3959:2018, Construction of buildings in bushfire prone areas* – Standards Australia.

*Building Best Practice Guide – Upgrading of Existing Buildings* (Development Assessment & Planning, NSW Rural Fire Service, Reference 0914).

*NASH Standard – Steel Framed Construction in Bushfire Areas (2021)* – National Association of Steel-Framed Housing Inc.

*National Construction Code/Building Code of Australia (2022)* – Australian Building Codes Board, Canprint.

*Environmental Planning and Assessment Act (1979)* – NSW Government Printer.

- Section 4.14 Consultation and Development Consent Certain Bushfire Prone Land
- Section 10.3 Bushfire Prone Land

*Rural Fires Act (1997)* – NSW Government Printer

*Landscape and building design for bushfire areas (2003)* – Ramsay G C & Rudolf L, CSIRO Publishing, Collingwood Victoria.

*Ocean shores to desert dunes: the native vegetation of NSW and the ACT (2004)* – Keith D, NSW Dept of Environment and Conservation, Hurstville NSW.

*Planning for Bush Fire Protection. A guide for councils, planners, fire authorities and developers (November 2019)* – NSW Rural Fire Service.

## Appendix 1

Map 1 – Study Area / Subject Lot / Slopes / APZ extent



-  Subject development (approximate)
-  Subject Property Lots 1 & 2 DP 1180405

-  Study Area
-  Inner Protection Area



## Appendix 2 – Site Photos (31/3/2025)



**31 Sturdee Lane, looking North from foreshore**



**Elvina Bay, looking South from foreshore**



**33 Sturdee Lane, looking North West**



**31 Sturdee Lane, looking East**



**Managed lands to rear of 31 Sturdee Lane**



**33 Sturdee Lane, looking South West**





**Existing electrical supply**



**Adjacent residential, looking West**



**Adjacent residential, looking East**



**Sturdee Lane, looking West**