
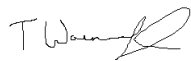



BUSHFIRE HAZARD ASSESSMENT REPORT

Bushfire Hazard Assessment Report

Property Details and Description of Works						
Address Details	Unit no	Street no	Street name / Plan Reference		Lot no	DP
		240	Powderworks Road		10	11594
Local government area	Suburb				State	Postcode
	INGLESIDE				NSW	2101
Main BCA class of the building	Northern Beaches					
Description of the building or works	Class 1a	Use(s) of the building	Residence			
	Demolition of existing attached garage and construction of new attached garage					

Report Details			
Report / Job Number	Report Version	Assessment Date	Report Date
BFAR150222/01	V1.1	15 February 2022	15 February 2022

Bushfire Practitioner Details	
Name Timothy Wainwright	Qualifications FPAA BPAD Accredited Bushfire Practitioner – BPAD46875 Diploma in Firefighting Management Diploma in Emergency Management
Company Details Fire Support 0413 229 347 info@firesupport.com.au www.firesupport.com.au www.facebook.com/firesupportNSW 	<div>I hereby declare that I am a BPAD accredited bushfire practitioner.</div> <div>Accreditation No. BPAD46875</div> <div>Signature </div> <div>Date 15/02/2022</div> 

Reliance on the assessment and determination of the Bushfire Attack Level contained in this report should not extend beyond a period of 12 months from the date of issue of the report. If this report was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Bushfire Practitioner and where required an updated report issued.

Bushfire Risk Assessment Certificate

Property Address:	240 Powderworks Road INGLESIDE NSW 2101
Description of Proposal:	Demolition Works and Construction of an attached garage
Plan Reference: (Relied upon in report preparation)	Site Plan - 240 Powderworks Road INGLESIDE NSW 2101
BAL Rating	BAL – 19 (If the BAL rating is 40 or FZ the application is to be referred to NSW RFS for assessment)
Planning for Bushfire Protection 2019 Threat Level	BAL – 19
Compliance with State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 Clause 1.19A	BAL is Lower than BAL-40/BAL-FZ: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Proposed Demolition and Building Works are in compliance with clause 1.19a of the SEPP Code 2008.	BAL is Lower than BAL-40/BAL-FZ: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Does the proposed development conform to the relevant specifications and requirements of Planning for Bush Fire Protection 2019?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Does the Proposal Rely on Alternate Solutions:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Does this proposal require referral to the NSW Rural Fire Service?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

I, Timothy Donald Wainwright of Fire Support NSW, 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 *Appendix 4 of Planning for Bushfire Protection 2019* together with recommendations as to how the relevant specifications and requirements are to be achieved.

Report Reference:	BFAR150222/01
Report Date:	15-02-2022
Qualification:	BPAD Accredited Bushfire Practitioner – BPAD46875 Diploma in Firefighting Management

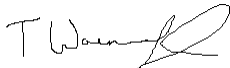
Note: This certificate must be completed and signed by a person who is a suitably qualified consultant in bushfire risk assessment.

I hereby certify,

1. That I am a person who is a suitably 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 Bushfire Protection prepared by the NSW Rural Fire Service in cooperation with the Department of Planning and any other document as prescribed by Section 79BA(1)(a) 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 on by 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.

Signature:	
Position/Title:	Director – Fire Safety & Training
Qualification:	BPAD Accredited Bushfire Practitioner - BPAD46875 Diploma in Firefighting Management
Date:	15/02/2022

Details of Person/s making Statement

Name: Timothy Donald Wainwright
Company: Fire Support NSW
Address: 8 Lolita Lane Ermington NSW 2115
Phone: 0413 229 347

CONTROLLED DOCUMENT DISTRIBUTION AND REVISION REGISTER

ISSUED TO	DATE	REVISION	ISSUED BY
Zac Kovacevic	15/02/2022	Revision A	Timothy Wainwright

Note: This register identifies the current custodians of controlled copies of the subject document.

DISCLAIMER

"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 survivability of buildings is also dependent on a combination of measures such as landscaping, water supplies, access, building design and maintenance. Care should also be exercised when siting and designing for these measures when constructing a building under this Standard." (AS3959, 2018).

Fire Support cannot be held liable for any loss of life or property in the event of a bushfire. This report has been based on all relevant bushfire codes and regulations regarding the construction of a building in a bushfire prone area. Buildings degrade over time and vegetation if left unmanaged will regrow. In addition, construction standards are subject to change. This report has been prepared specifically to confirm that the materials used to construct the building are to comply with AS3959 for the level of construction for which Development Consent is given.

Site Assessment & Site Plans

The assessment of this site / development was undertaken on 15 February 2022 for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).

Locality Map - 240 Powderworks Road INGLESIDE NSW 2101



LEGEND



Photo Points



Photo Direction



100m Buffer Zone



Proposed Development



140m Zone

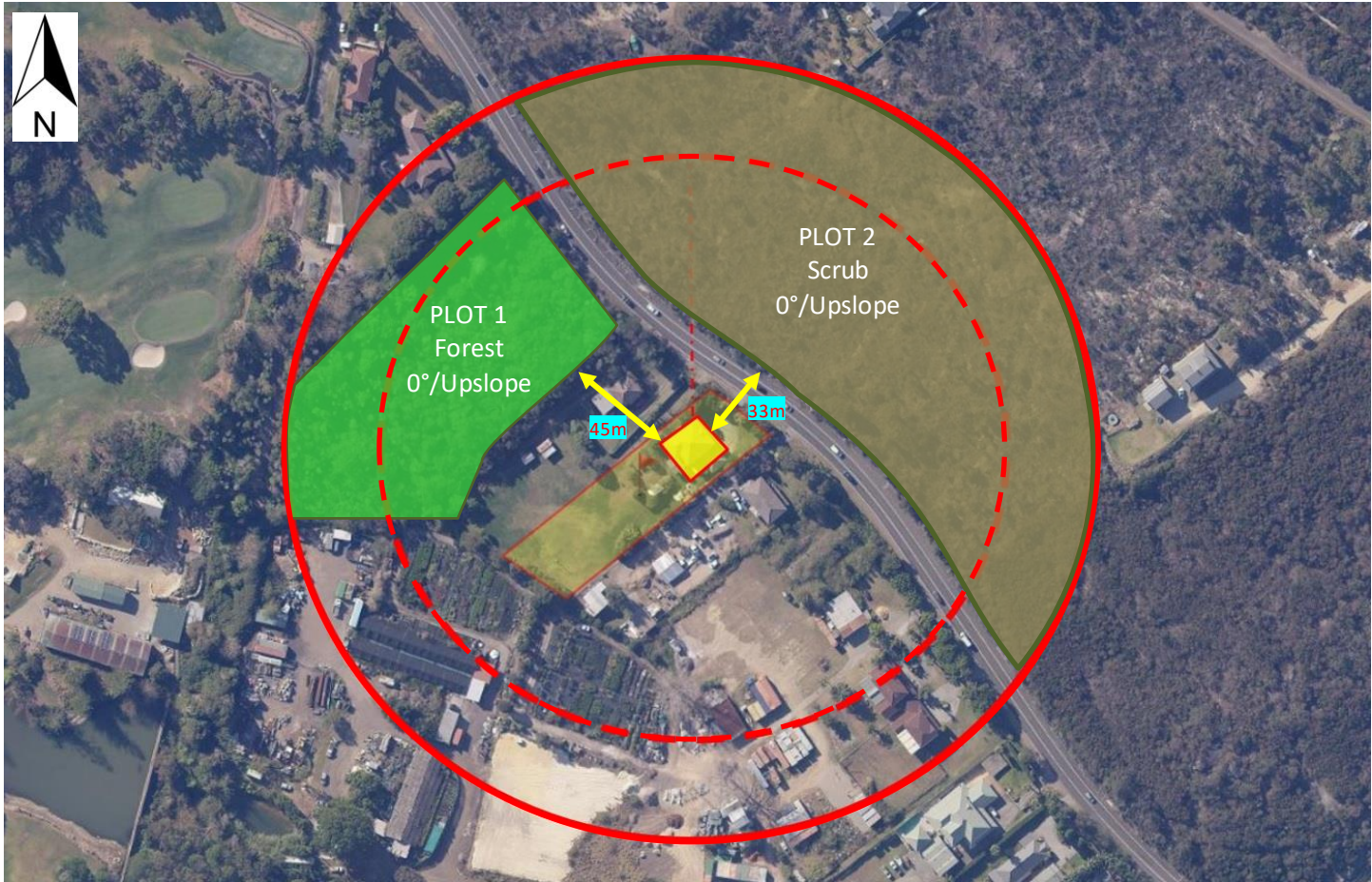
BAL Vegetation Classification








Class A Forest - Open forest A-03



Class D Scrub - Open scrub D-14



LEGEND

- 
Photo Points
- 
Photo Direction
- 
100m Buffer Zone
- 
Proposed Development
- 
140m Zone



- BAL Vegetation Classification**
- 
Class A Forest - Open forest A-03
- 
Class D Scrub - Open scrub D-14

Photo Location Map - 240 Powderworks Road INGLESIDE NSW 2101



LEGEND

- Photo Points
- Photo Direction
- 100m Buffer Zone
- Proposed Development
- 140m Zone

BAL Vegetation Classification

- Class A Forest - Open forest A-03
- Class D Scrub - Open scrub D-14




Bushfire Hazard Assessment Report

Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Photo ID:	F01	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class A Forest - Open forest A-03				
Description / Justification for Classification				
Looking North. Trees up to 30 m high; 30%–70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris.				
Photo ID:	F02	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class A Forest - Open forest A-03				
Description / Justification for Classification				
Looking West. Trees up to 30 m high; 30%–70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris.				
Photo ID:	F03	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class A Forest - Open forest A-03				
Description / Justification for Classification				
Looking North West next to road. Trees up to 30 m high; 30%–70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris.				

Bushfire Hazard Assessment Report

Photo ID: F04 Plot: 2	
Vegetation Classification or Exclusion Clause	
Class D Scrub - Closed scrub (Tall heaths) D-13	
Description / Justification for Classification	
Looking South. Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 metres in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres.	
	
Photo ID: F05 Plot: 2	
Vegetation Classification or Exclusion Clause	
Class D Scrub - Closed scrub (Tall heaths) D-13	
Description / Justification for Classification	
Looking South East. Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 metres in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres.	
	
Photo ID: F06 Plot: 2	
Vegetation Classification or Exclusion Clause	
Class D Scrub - Closed scrub (Tall heaths) D-13	
Description / Justification for Classification	
Looking East. Found in wet areas and/or areas affected by poor soil fertility or shallow soils; >30% foliage cover. Dry heaths occur in rocky or sandy areas. Shrubs >2 m high. Typical of coastal areas and tall heaths up to 6 metres in height. May be dominated by Banksia, Melaleuca or Leptospermum with heights of up to 6 metres.	
	

Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index

FDI 40 ☐

Table 2.7

FDI 50 ☐

Table 2.6

FDI 80 ☐

Table 2.5

FDI 100 ☒

Table 2.4

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Flat/Up°	45m	BAL – 19
2	Class D Scrub	Flat/Up°	33m	BAL – 12.5

Table 1: BAL Analysis

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level

BAL – 19

Bushfire Hazard Assessment Report

Bushfire Hazard Assessment Report – Site Observations

Bushfire Hazard Assessment Report - Site Observations			
Factor	Observations		
1. Bushfire Prone Land	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	2. Fire Danger Index	FDI: 100
2. Main Vegetation Classification Type	Vegetation Classification: Class A - Forest	Vegetation Type: Class A Forest - Open forest A-03	Description: Dry Sclerophyll forest
3. Distance of Site from Classified Vegetation	Cardinal Points: North: 33m South: N/A East: N/A West: 45m	Distance: 33m N/A N/A 45m	Type of Vegetation Scrub N/A N/A Forest
4. Effective Slope of Land under the Classified Vegetation	Cardinal Points: North: N/A South: N/A East: N/A West: Flat-Up°	Degrees: N/A N/A N/A Flat-Up°	Down/Up Slope N/A N/A N/A Flat-Up°
5. Fuel Loading	Offsite: NSW Rural Fire Service document: "Planning for Bushfire Protection" indicates: 36.1 tons per hectare – Hazardous Vegetation to: West. <i>PBP 2019: Table A1.12.8 - Vegetation formation details.</i>	Onsite: NA – Gardens/Managed curtilage	
6. BAL Rating	<input type="checkbox"/> Flame Zone <input type="checkbox"/> BAL- 40 <input type="checkbox"/> BAL 29 <input checked="" type="checkbox"/> BAL – 19 <input type="checkbox"/> BAL - 12.5 <input type="checkbox"/> LOW/No Requirement		
(Flame Zone)	Is development in Flame Zone?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If Flame Zone	Is there a minimum 10m set-back from vegetation?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A	
7. Water	Offsite: Reticulated water mains/fire hydrants Onsite: Domestic supply Is water supply adequate? (if "NO", then specific water requirements will apply. See Appendix B)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Nearest hydrant located: 5m West of entrance	
8. Gas Supplies	Are gas bottles planned to be installed for this development? If yes, the plans submitted with your application need to show the location and type of bottled gas services within the property.	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

Bushfire Hazard Assessment Report

9. Access	Development within 70m from public access road? (If "NO", then specific access requirements will apply. See Appendix D)		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Offsite:	Good via 2 lane sealed road		
	Onsite:	Good via driveway		
10. Exposures	Wildfire approach is:	North West		
	Buildings/managed curtilage to:	West, East and South		
11. Wind	Bushfire winds from:	North West		
12. Environmental Sensitivity	This development will have NO impact on environmental sustainability or sensitivity of known threatened species, population, or ecological community.			
	This development will have NO impact on any known Aboriginal site or relic.			
13. Asset Protection Zones (APZ)			PBP Compliance	
	North	33m	Yes	
	South	N/A	Yes	
	East	N/A	Yes	
	West	45m	Yes	
In NSW the BCA bush fire protection provisions are applied to (via a State variation to the BCA for NSW) Class 1, 2, 3 buildings, Class 4 parts of buildings and Class 9 buildings that are Special Fire Protection Purposes (SFPPs).				
14. Other/Mitigating Factors	N/A			
15. Planning for Bush Fire Protection 2019	Does the proposed development conform to the relevant specifications and requirements of Planning for Bush Fire Protection? (BAL 40 or Flame Zone is outside the scope of PBP2019)		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
16. Alternate Solution	Does this proposal rely on an "Alternate Solution"?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
If yes, describe:	N/A			
17. Referral to NSW Rural Fire Service	Does this proposal require referral to the NSW Rural Fire Service?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
18. SEPP Clause 1.19A Compliance	Does this proposal comply with the requirements of SEPP Clause 1.19A? i.e. Lower than a BAL-40 and BAL-FZ?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
19. BAL RATING	The BAL Rating for the proposed development is:		BAL – 19	

Recommendations for Building & Maintenance & Bushfire Safety Measures

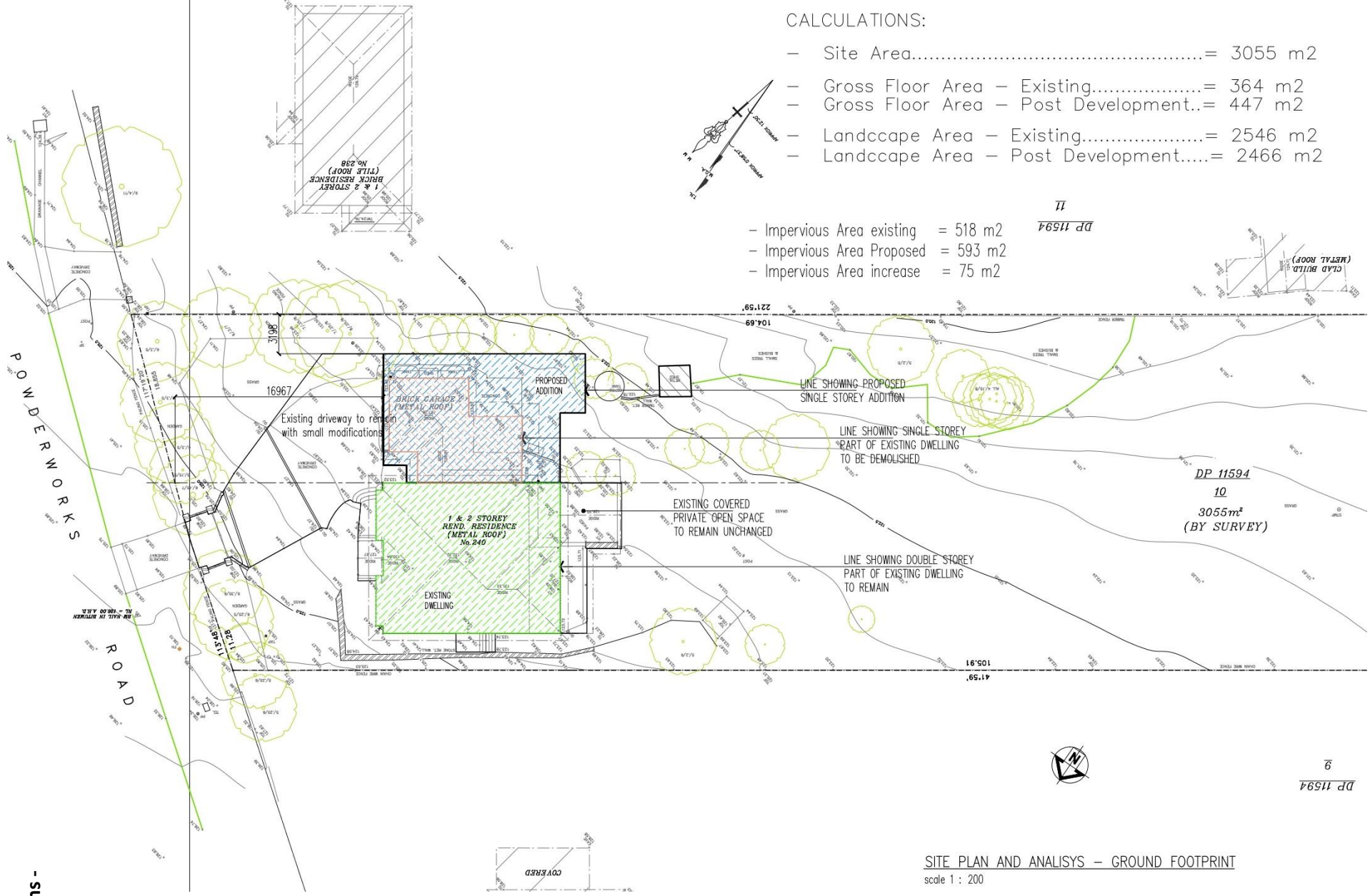
ADVICE ONLY

3.2 Asset Protection Zones (APZ)
This development complies with PBP 2019
3.3 Building construction, siting and design
This development complies with PBP 2019
3.4 Access arrangements
This development complies with PBP 2019
3.5 Water supply and utilities
This development complies with PBP 2019
3.6 Emergency management arrangements
<i>Emergency planning arrangements are not required for residential developments. However, anyone living in a bush fire prone area should prepare a Bush Fire Survival Plan, which is available on the NSW RFS website: www.rfs.nsw.gov.au</i>
This development complies with PBP 2019
3.7 Landscaping
This development complies with PBP 2019
Additional Proposed Bushfire Protection Measures
a) No specific additional measures are proposed.

APZ and Landscape Plan

Additional/Proposed APZ and Landscape Plan Details (if applicable)
a) Existing onsite managed lawns and gardens are to be maintained in perpetuity. b) No specific additional measures are proposed.

Site Plans -

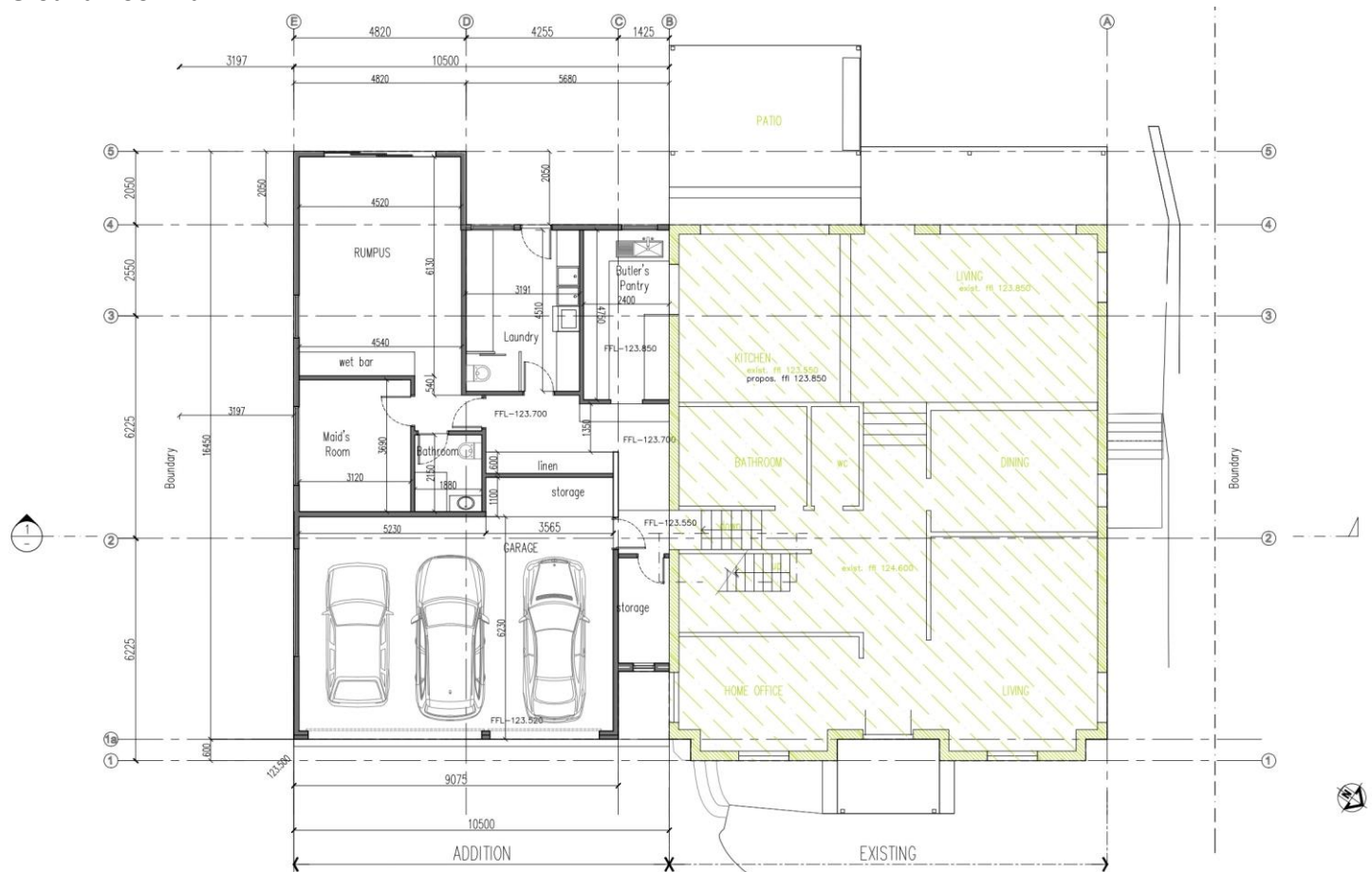


CALCULATIONS:

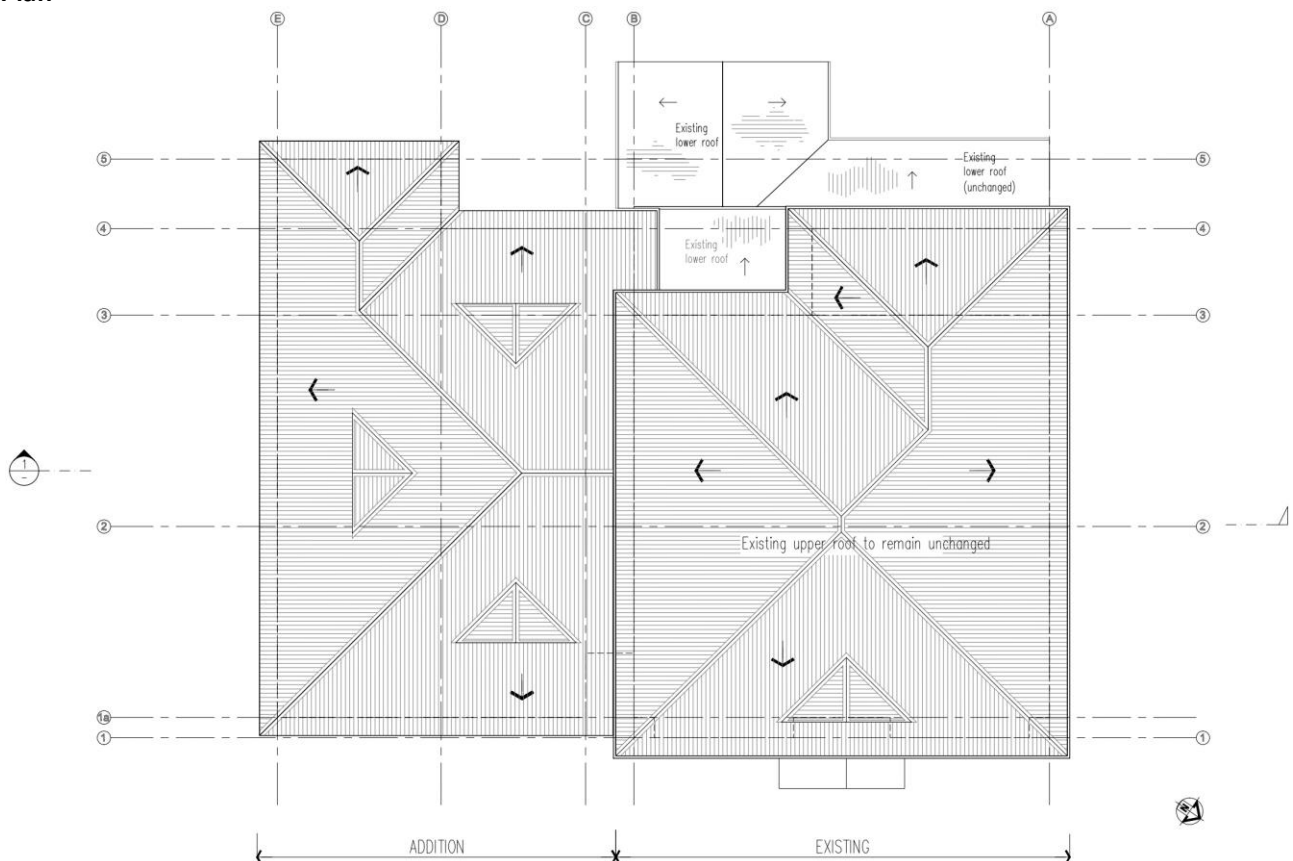
- Site Area.....= 3055 m²
- Gross Floor Area – Existing.....= 364 m²
- Gross Floor Area – Post Development..= 447 m²
- Landccape Area – Existing.....= 2546 m²
- Landccape Area – Post Development.....= 2466 m²

- Impervious Area existing = 518 m²
- Impervious Area Proposed = 593 m²
- Impervious Area increase = 75 m²

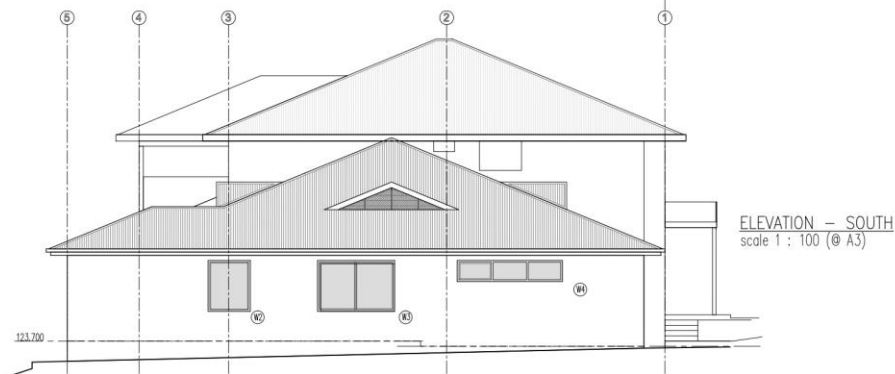
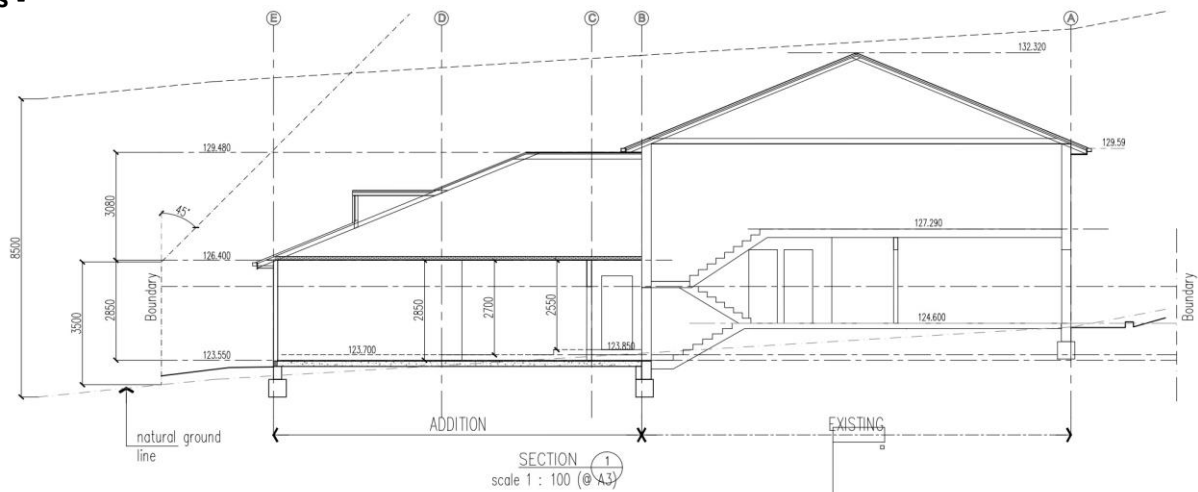
Ground Floor Plan -



Roof Plan -



Elevations -



BAL ASSESSMENT

A measurement of the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact using increments of radiant heat expressed in kW/m².

BAL Ratings Explained

BAL LOW - BAL LOW is based on insufficient risk to warrant specific bushfire construction.

(No Requirements) requirements. It is predicated on low threat vegetation and non-vegetated areas. (Ref: Section 4. AS3959-2018)

BAL 12.5 - BAL 12.5 is primarily concerned with protection from ember attack and radiant heat up to and including 12.5kW/m² where the site is less than 100m from the source of bushfire attack. (Ref: Section 5.1. AS3959-2018)

BAL 19 - BAL 19 is primarily concerned with protection from ember attack and radiant heat greater than 12.5kW/m² up to and including 19kW/m². (Ref: Section 6.1. AS3959-2018)

BAL 29 - BAL 29 is primarily concerned with protection from ember attack and radiant heat greater than 19kW/m² up to and including 29kW/m². (Ref: Section 7.1. AS3959-2018)

BAL 40 - BAL 40 is primarily concerned with protection from ember attack, increased likelihood of flame contact and radiant heat greater than 29kW/m² and up to and including 40kW/m². (Ref: Section 8.1. AS3959-2018)

BAL FZ 1. BAL FZ (Flame Zone) is primarily concerned with protection from flame contact together with ember attack and radiant heat of more than 40kW/m².

2. Construction in BAL-FZ may require reliance on measures other than construction. The requirements for construction of a building BAL-FZ may be regulated by the building authorities having jurisdiction of the States and Territories of Australia. (Ref: Section 9.1. AS3959-2018)

BAL Ratings in Context

