

Date: 06/11/2023

Our Ref: BR-701423-A

BUSHFIRE PLANNING & DESIGN

BUSH FIRE ASSESSMENT

12 Shearman Street Caerleon 2850

Assessed as: Infill Development

Prepared by: Matthew Noone | BPAD Accreditation Number: BPAD-PD 25584

Site Address: 12 Shearman Street Caerleon 2850

Lot / DP: (Lot 906/-/DP1274170)

Project Description: Sole Occupancy Dwelling and Granny Flat



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REPORT NUMBER
BR-701423-A

Date: 06/11/2023

Our Ref: BR-701423-A

BAL ASSESSMENT CERTIFICATION

Provided to support the Development Application

12 Shearman Street Caerleon 2850

Prepared by: Matthew Noone | BPAD Accreditation Number: BPAD-PD 25584




Site Address: 12 Shearman Street Caerleon 2850 | Lot / DP: (Lot 906/-/DP1274170)

Project Description: Sole Occupancy Dwelling and Granny Flat

PBP Development Type: Infill Development

I hereby certify that:

1	I (Matthew Noone) am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment holding accreditation with the Fire Protection Association (BPAD-PD 25584).
2	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 s.4.14 of the Environmental Planning and Assessment Act 1979.
*	The development complies with the relevant specifications and requirements. RFS referral is not required.
3	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 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).

CERTIFICATE NUMBER BR-701423-A			FPAA Accreditation Number BPAD-PD 2558 
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DOCUMENT TRACKING

Issue Date	Issued to	Description	Version
06/11/2023	Lynch Building Group	Issued for DA.	A

DISCLAIMER and TERMS OF USE

"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 of behaviour of fire, and extreme weather conditions." (AS3959 2018).

Bushfire Planning & Design cannot be held liable for the loss of life or property caused by a bushfire event. This report has considered the relevant planning instruments, bushfire constructions codes and practices applicable at the time of writing. Should additional information be provided after this report has been issued, we reserve the right to review and if necessary modify our report. Bushfire Planning and Design has no control over workmanship, buildings degrade over time and vegetation if not managed will regrow. In addition legislation and construction standards are subject to change. Due to significant variance of bushfire behaviour, we do not guarantee that the dwelling will withstand the passage of bushfire even if this development is constructed to the prescribed standards.

This report has been based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment. As a consultant, our view can be subjective. Our opinions may differ from the opinions provided by you the Client (or Client Representative), the Council, the RFS or another bushfire consultant. The Rural Fire Service (RFS) has a higher authority and can upon their review, increase a nominated BAL-rating or entirely reject a development proposal. Any such recommendations made by the RFS take precedence. Our role is intermediary between our Client (or Client Representative) and the consenting authority. We apply our knowledge of the relevant bushfire protection standards to provide the best possible outcome for our Client (or Client Representative), both from a bushfire safety and financial perspective. Should the RFS modify our recommendations or reject the proposal to which this report relates to we will not be held liable for any financial losses as a result. By using this document, you the Client (or Client Representative) agree to and acknowledge the above statements

Bushfire Planning and Design accepts no liability or responsibility for any use or reliance upon this report and its supporting material by any unauthorized third party. The validity of this report is nullified if used for any other purpose than for which it was commissioned. Unauthorized use of this report in any form is deemed an infringement of our intellectual property. By using this document to support your development you the Client (or Client representative) agree to these terms.

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GLOSSARY

The abbreviations that are commonly used are explained below. Not all are present in this report.

APZ	Asset Protection Zone
AS3959	Australian Standard for the Construction of a Building in a Bushfire Prone Area
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BFPL	Bush Fire Prone Land
BFPLM	Map Bush Fire Prone Land Map
BFDB	Bush Fire Design Brief
BPM	Bush Fire Protection Measure
DA	Development Application
DCP	Development Control Plan
DPIE	Department Of Planning, Industry And Environment
DTS	Deemed to Satisfy
EPA ACT	Environmental Planning And Assessment Act 1979
FDI	Fire Danger Index
FFDI	Forest Fire Danger Index
GFDI	Grassland Fire Danger Index
IPA	Inner Protection Area
LEP	Local Environmental Plan
NASH	National Association of Steel Framed Housing
NCC	National Construction Code
OPA	Outer Protection Area
PBP	Planning for Bush Fire Protection
RF ACT	Rural Fires Act
RF REG	Rural Fires Regulation
NSW RFS	New South Wales Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SFR	Short Fire Run
SSD	State Significant Development

PART A - BACKGROUND AND BRIEFING NOTES

Prior to establishing the Bushfire Attack Level and compliance with Planning for Bushfire Protection and AS3959, it is necessary to discuss the following items.

A.01 BUSHFIRE PRONE LAND

A.02 DEVELOPMENT PROPOSAL

A.03 REGULATORY FRAME WORK

A.04 SITE LOCATION, DESCRIPTION AND POTENTIAL BUSHFIRE THREATS

A.05 LAND USE, ZONING AND PERMISSIBILITY

A.06 SIGNIFICANT ENVIRONMENTAL FEATURES

A.07 DETAILS OF ABORIGINAL HERITAGE

A.08 THREATENED SPECIES, COMMUNITIES AND CRITICAL HABITATS

A.09 BIODIVERSITY VALUES

A.10 REPORT LIMITATIONS

A.01 BUSHFIRE PRONE LAND

The subject site whether in whole or part is recorded as bushfire affected on a relevant map certified under Section 10.3 (2) of the Environmental Planning and Assessment Act 1979 (Refer figure A.01). All developments on certified bushfire prone are required to address bushfire as per 4.14 Environmental Planning and Assessment Act 1979.



FIGURE A.01 BUSHFIRE PRONE LAND MAP		Plot date:06/11/2023	Project CRS: EPSG:28356	A.01
<div><div><div></div><div></div><div></div></div><div><div>Buffer</div><div>Category 1</div><div>Category 2</div></div><div><div></div><div></div><div></div></div><div><div>Category 3</div><div>Subject Site</div></div></div>	<div><div><div>0</div><div>40</div><div>80</div><div>120</div><div>160 m</div></div><div>Meters</div></div>			
	<div><div><div>BUSHFIRE PLANNING & DESIGN</div><div>bpad.matthew.noone@gmail.com / 0406077222</div></div></div>			

A.02 DEVELOPMENT PROPOSAL

The development relates to the construction of a sole occupancy dwelling and attached granny flat on a vacant allotment.

CONSTRUCTION SITE

DETAIL PLAN: CONSTRUCTION ENTRY / EXIT
NOT TO SCALE

DETAIL PLAN: SEDIMENT FENCE
NOT TO SCALE

EROSION & SEDIMENT CONTROL NOTES:

- ALL EROSION & SEDIMENT CONTROL STRUCTURES ARE TO BE INSTALLED PRIOR TO SITE DISTURBANCE.
- ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED & MAINTAINED BY THE BUILDER AT LEAST WEEKLY. IF STRUCTURES ARE TO BE REMOVED, THEY ARE TO BE REINSTALLED & INSPECTED BY THE BUILDER.
- ALL SEDIMENT RETAINING STRUCTURES TO BE CLEANED ON REACHING 50% STORAGE CAPACITY & SPREAD ON DISTURBED AREA.
- ACCESS TO SITE IS TO BE THROUGH USE OF THE ENTRY/EXIT SHOWN
- ALL VEGETATION OUTSIDE OF THE CONSTRUCTION AREA IS TO BE RETAINED WHERE POSSIBLE (VEGETATION BUFFER)
- STOCKPILES OF ERODIBLE BUILDING MATERIALS INCLUDING SAND & SOIL MUST BE LOCATED WITHIN THE DESIGNATED MATERIAL STOCKPILE AREA (MSA) & PROTECTED WITH SEDIMENT FENCE OR STRAW BALE SEDIMENT FILTER. THE BUILDER MAY NOMINATE FURTHER STORAGE AREAS WITHIN THE SITE.
- NO STORAGE OF MATERIALS OR VEHICLE MOVEMENTS ARE TO OCCUR OUTSIDE OF THE SITE BOUNDARIES.

SITework NOTES:

- CONFIRM ALL DIMENSIONS ON SITE TO EXISTING RESIDENCE PRIOR TO COMMENCEMENT OF ANY WORK
- THIS PLAN DOES NOT PROVIDE SPECIFIC LANDSCAPE PLANTING LOCATIONS
- THE EXACT LOCATION OF UNDERGROUND AND ABOVEGROUND SERVICES SHALL BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
- THIS DRAWING SET TO BE READ IN CONJUNCTION WITH THE SPECIFICATION PROVIDED.
- BEWARE OF EXISTING SERVICES. CONFIRM LOCATIONS PRIOR TO EXCAVATION. TAKE EXTREME CARE.

01 | LOCALITY PLAN
NOT TO SCALE

LEGEND:

- TEMPORARY SITE MATERIAL DISPOSAL AREA DURING CONSTRUCTION. TO BE PROTECTED BY A SEDIMENT FENCE OR STRAW BALE FILTER.
- SITE ACCESS DURING CONSTRUCTION

02 | SITE PLAN
SCALE: 1 : 200 (A3)

<p>Rev Date Description</p> <p>A 4/09/23 ISSUED FOR REV EW</p> <p>B 11/09/23 ISSUED FOR REV EW</p> <p>C 26/09/23 DA/CC SUBMISSION</p>	<p>NOTE:</p> <p>ALL DRAWINGS TO BE READ IN CONJUNCTION WITH:</p> <ul style="list-style-type: none"> - ALL SHEETS TO THIS SET OF PLANS - SEPARATE SPECIFICATION DOCUMENTS - STRUCTURAL ENGINEERS DOCUMENTATION - PCA DOCUMENTS (WHERE APPLICABLE) - BASIX CERTIFICATE - ALL RELEVANT CODES, STANDARDS & APPROVALS 	<p>LYNCH BUILDING GROUP</p> <p>Client AMATO PTY LTD</p> <p>Project HOUSE & ATTACHED GRANNY FLAT AT 12 SHEARMAN STREET, CAERLEON (LOT 906)</p>	<p>LYNCH BUILDING GROUP</p> <p>DA/CC - 02/05/2023 - 06/10/23</p>	<p>POSTAL:</p> <p>PO BOX 1238</p> <p>Mudgee NSW 2850</p> <p>CONTACT US:</p> <p>I 02 6372 6054</p> <p>e projects@lynchbuildinggroup.com.au</p> <p>w www.lynchbuildinggroup.com.au</p>	<p>Drawing Title SITE & LOCATION PLAN</p> <p>Design LBG</p> <p>Drawn G.HACKETT</p> <p>Check J.LYNCH</p> <p>Sheet 02 of 08</p> <p>Drawing Number 0506 - A02</p> <p>Revision C</p>
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The development includes but is not limited to the following;

- | | |
|---|-------------------------|
| • | Infill Development |
| • | Sole Occupancy Dwelling |
| • | Granny Flat |

A.03 REGULATORY FRAME WORK

The Environmental Planning and Assessment Act 1979 (EP&A Act)

4.14 Consultation and development consent--certain bush fire prone land

- (1) Development consent cannot be granted for the carrying out of development for any purpose (other than a subdivision of land that could lawfully be used for residential or rural residential purposes or development for a special fire protection purpose) on bush fire prone land (being land for the time being recorded as bush fire prone land on a relevant map certified under section 10.3(2)) unless the consent authority--

(a)	is satisfied that the development conforms to the specifications and requirements of the version (as prescribed by the regulations) of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department (or, if another document is prescribed by the regulations for the purposes of this paragraph, that document) that are relevant to the development “the relevant specifications and requirements”), or
(b)	has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bush fire risk assessment stating that the development conforms to the relevant specifications and requirements.

- (1A) If the consent authority is satisfied that the development does not conform to the relevant specifications and requirements, the consent authority may, despite subsection (1), grant consent to the carrying out of the development but only if it has consulted with the Commissioner of the NSW Rural Fire Service concerning measures to be taken with respect to the development to protect persons, property and the environment from danger that may arise from a bush fire.

- (1B) This section does not apply to State significant development.

- (1C) The regulations may exclude development from the application of this section subject to compliance with any requirements of the regulations. The regulations may (without limiting the requirements that may be made)--

(a)	require the issue of a certificate by the Commissioner of the NSW Rural Fire Service or other qualified person in relation to the bush fire risk of the land concerned, and
(b)	authorise the payment of a fee for the issue of any such certificate.

NATIONAL CONSTRUCTION CODE (NCC)

FUNCTIONAL STATEMENTS

F2.7.4 Bushfire prone areas

A Class 1 building or a Class 10a building or deck associated with a Class 1 building constructed in a designated bushfire prone area is to provide resistance to bushfires in order to reduce the danger to life and reduce the risk of the loss of the building.

PERFORMANCE REQUIREMENT

P2.7.5 Performance Requirement means a requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet.

Where an alternate bushfire protection design is proposed as a Performance Solution to that described in Part 3.10.5, that proposal must comply with—

(a) Performance Requirement P2.7.5; and

(b) The relevant Performance Requirements determined in accordance with A2.2(3) and A2.4(3) as applicable.

CONSTRUCTION IN BUSHFIRE PRONE AREAS

3.10.5.0 Performance Requirement P2.7.5 is satisfied, for—

(a) a Class 1 building; or

(b) a Class 10a building or deck associated with a Class 1 building,

located in a designated bushfire prone area if it is constructed in accordance with—

(c) AS 3959; or

(d) NASH Standard – Steel Framed Construction in Bushfire Areas.

NATIONAL CONSTRUCTION CODE (NCC) CONTD...

STATE AND TERRITORY VARIATIONS

3.10.5.0 IS REPLACED WITH THE FOLLOWING CLAUSE IN NEW SOUTH WALES:

Performance Requirement P2.7.5 is satisfied, for—	
(a)	a Class 1 building; or
(b)	a Class 10a building or deck associated with a Class 1 building,

located in a designated bushfire prone area , if it is constructed in accordance with the following: AS 3959 except—

(1)	as amended by Planning for Bush Fire Protection; and
(2)	for Section 9 for Bushfire Attack Level FZ (BAL-FZ).

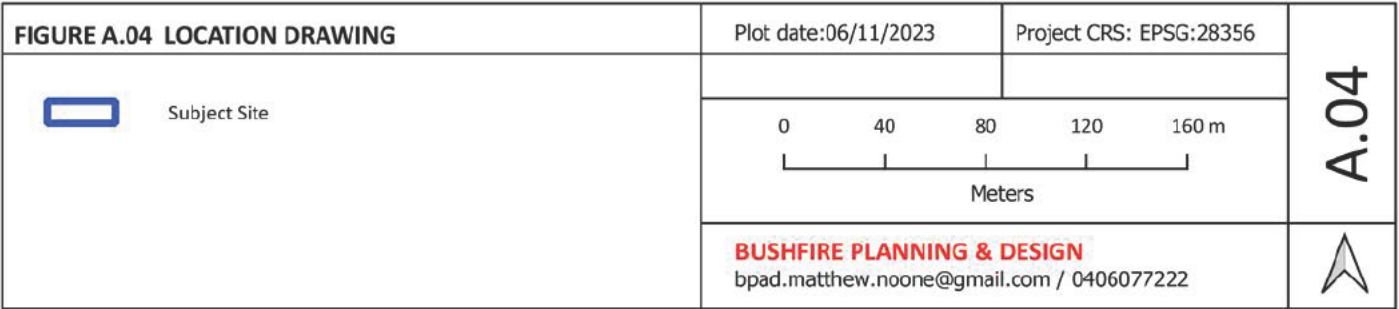
NASH Standard – Steel Framed Construction in Bushfire Areas except—

(1)	as amended by Planning for Bush Fire Protection; and
(2)	for Section 9 for Bushfire Attack Level FZ (BAL-FZ).

the requirements of (c), or (d) above as modified by the development consent following consultation with the NSW Rural Fire Service under section 4.14 of the Environmental Planning and Assessment Act 1979 if required; or the requirements of (c), or (d) above as modified by development consent with a bushfire safety authority issued under section 100B of the Rural Fires Act 1997 for the purposes of integrated development.

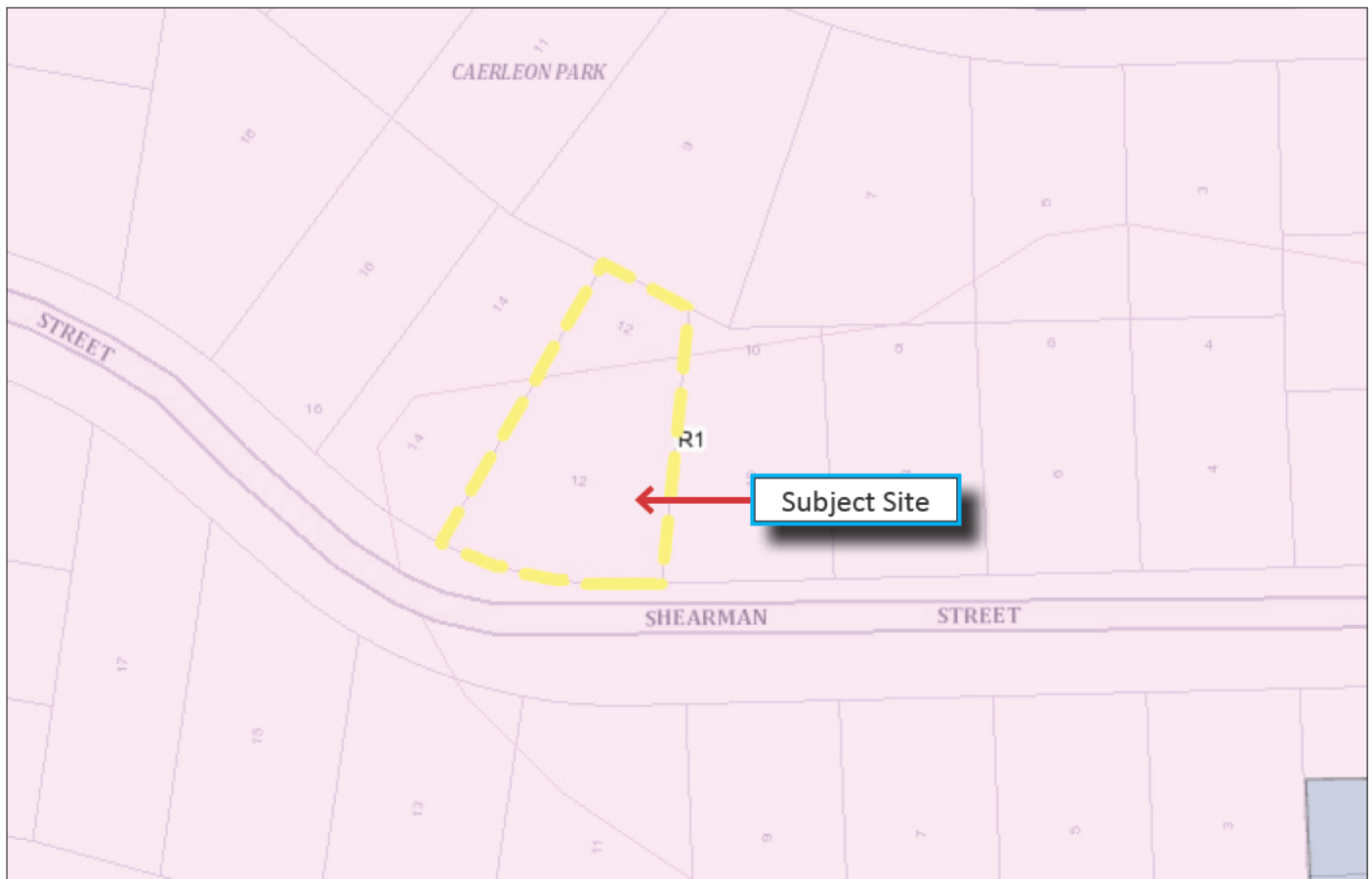
A.04 SITE LOCATION, DESCRIPTION AND POTENTIAL BUSHFIRE THREATS

The subject site is located in Caerleon which is within the Mid-Western Regional Local Government Area (LGA). The site is located in a recent subdivision and will be surrounded by managed residential curtilage in the near future. Woodland vegetation is located to the west of the subdivision. A lesser threat of Grassland is located to the south of the subdivision. The subdivision will be developing further south in the near future.



A.05 LAND USE, ZONING AND PERMISSIBILITY

The subject site is zoned R1 General Residential.



LAND ZONING LEGEND

	B1 Neighbourhood Centre		IN1 General Industrial		RU1 Primary Production
	B2 Local Centre		IN2 Light Industrial		RU2 Rural Landscape
	B3 Commercial Core		IN3 Heavy Industrial		RU3 Forestry
	B4 Mixed Use		IN4 Working Waterfront		RU4 Primary Production Small Lots
	B5 Business Development		R1 General Residential		RU5 Village
	B6 Enterprise Corridor		R2 Low Density Residential		RU6 Transition
	B7 Business Park		R3 Medium Density Residential		SP1 Special Activities
	B8 Metropolitan Centre		R4 High Density Residential		SP2 Infrastructure
	C1 National Parks & Nature Reserves		R5 Large Lot Residential		SP3 Tourist
	C2 Environmental Conservation		RE1 Public Recreation		UR Urban
	C3 Environmental Management		RE2 Private Recreation		DM Deferred Matter
	C4 Environmental Living		RO Regional Open Space		
	CA Complex Area		RP Regional Park		

A.06 SIGNIFICANT ENVIRONMENTAL FEATURES

There are no significant environmental features within the subject site.

A.07 DETAILS OF ABORIGINAL HERITAGE

To our knowledge the site is not associated with any items of Aboriginal heritage.

A.08 THREATENED SPECIES, COMMUNITIES AND CRITICAL HABITATS

The subject site is mapped by the Department of Planning, Industry and Environment (DPIE) under Part 7 of the Biodiversity Conservation Act 2016 (BC Act) as having Biodiversity Values (BV). Figure A.09 identifies the areas within the site that are mapped. Our Asset Protection Zone study on page 23 details what if any modification is required within the BV mapped land to satisfy our APZ recommendations.



FIGURE A.09 BIODIVERSITY		Plot date:06/11/2023	CRS: EPSG:28356	A.09
<div><div>BIODIVERSITY VALUES</div><div><div><div></div></div> Subject Site</div><div><div></div> Biodiversity Values</div><div><div></div> Biodiversity Values added in the last 90 days</div></div> <div><div>The BV Map has been prepared by the Department of Planning, Industry and Environment (DPIE) under Part 7 of the Biodiversity Conservation Act 2016 (BC Act).</div></div>		<div><div><div>0</div><div></div><div>150 m</div></div><div>Meters</div></div>		
		<div><div>BUSHFIRE PLANNING & DESIGN</div><div>bpad.matthew.noone@gmail.com / 0406077222</div></div>		<div></div>

A.09 REPORT LIMITATIONS

This bushfire assessment is developed based on the current accepted standards. The severity of bushfire attack is reliant on many variables. Due to these variables the bushfire attack on any given day could be higher due to the limitations outline below. The bushfire protection measures contained in this document does not guarantee that loss of life, injury or property damage will not occur during a bush fire event.

Fire Danger Index

It may be possible that days of higher Fire Danger Index (FDI) may be experienced than the FDI levels used for assessment. This may result in fire situations where conditions challenge survivability of buildings and their occupants.

Fuel Load

The fuel loads and vegetation classes used in our assessment are based on the State Vegetation Mapping and Comprehensive Fuel Loads based on The University of Wollongong's (UoW) Fuels Modelling Project. Fuel loads in some areas may be higher than those used in this document. This can influence bush fire behaviour and the potential impact on property. The DTS APZs in PBP (2019) are based on the UoW fuel loads and are therefore suitable for design purposes.

Climate change

Climate change has led to longer, more intense fire seasons and an increase in the average number of elevated fire weather days, as measured by the Forest Fire Danger Index (FFDI). Last year saw the highest annual accumulated FFDI on record. Australia was the first country in the world to report the impact of climate change on bushfires through CSIRO's work to model the increase in high fire danger days.

Legislative Standards

Recommendations relating to development of bushfire prone land are a directive through the legislative standards applicable at the time of writing. Legislative standards change over time. All recommendations made are based on the current standards. We cannot guarantee that the current standards will be suitable in comparison to future standards.

Maintenance

After the issuance of an Occupancy Certificate (OC) it is imperative that the bushfire protection recommendations are carried out for the life of the development. Failure to maintain a property in accordance with the RFS standards for Asset Protection Zones could lead to the failure of the building, property and life. We have no control over the extent of how well a property will be maintained post OC.

B.01 INTRODUCTION

For the purpose of this bushfire assessment, the vegetation is required to be described to a distance of 140m from the boundary and the slope to 100m from boundary. Vegetation type and slope under vegetation are the factors that will significantly affect bushfire behaviour.

‘Research has shown that 85% of houses are lost in the first 100m from bushland and that ember attack is a significant form of attack on properties’ (RFS 2006).

B.02 SLOPE DETERMINATION

The effective slope has been assessed for a distance of at least 100m from the proposed development. The slope data has been calculated from a 1m LiDAR Digital Elevation Model (DEM). The source data sets have been captured to standards that are generally consistent with the Australian ICSM LiDAR Acquisition Specifications which require a fundamental vertical accuracy of at least 0.30m (95% confidence) and horizontal accuracy of at least 0.80m (95% confidence). The slope arrows indicated in figure A represent the slope calculated across the length of the arrow direct from the digital elevation model. The calculated slope as shown in Figure A has not been manipulated or modified in any way.

B.03 HOW THE VEGETATION COVER IS MEASURED

The author has visited the site to view the vegetation. The distance to vegetation is measured from the extent of vegetation cover interpolated from high resolution aerial imagery. For the areas beyond the line of sight we have defaulted to interpreting the extent of vegetation cover high resolution aerial image.

B.04 PREDOMINANT VEGETATION FORMATIONS

This assessment considers the vegetation within the site and if relevant, vegetation external to the site boundaries. Where mixes of vegetation formations are located together, the vegetation formation providing the greater hazard (highest radiant heat load) shall be used to determine the BAL and APZ. The combination of vegetation and slope that yields the worst case scenario shall be used (A1.2 PBP 2019). The vegetation mapping provides an overview of the types of vegetation proximal to the site. The vegetation mapping shown in Figure B.04 is not intended to be conclusive.



FIGURE B.04 VEGETATION CLASS

Subject Site
 Grassy Woodlands

CRS: EPSG:28356

Plot date: 06/11/2023

0 Meters 100 m

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 projects@bpad-nsw.com / 0406077222

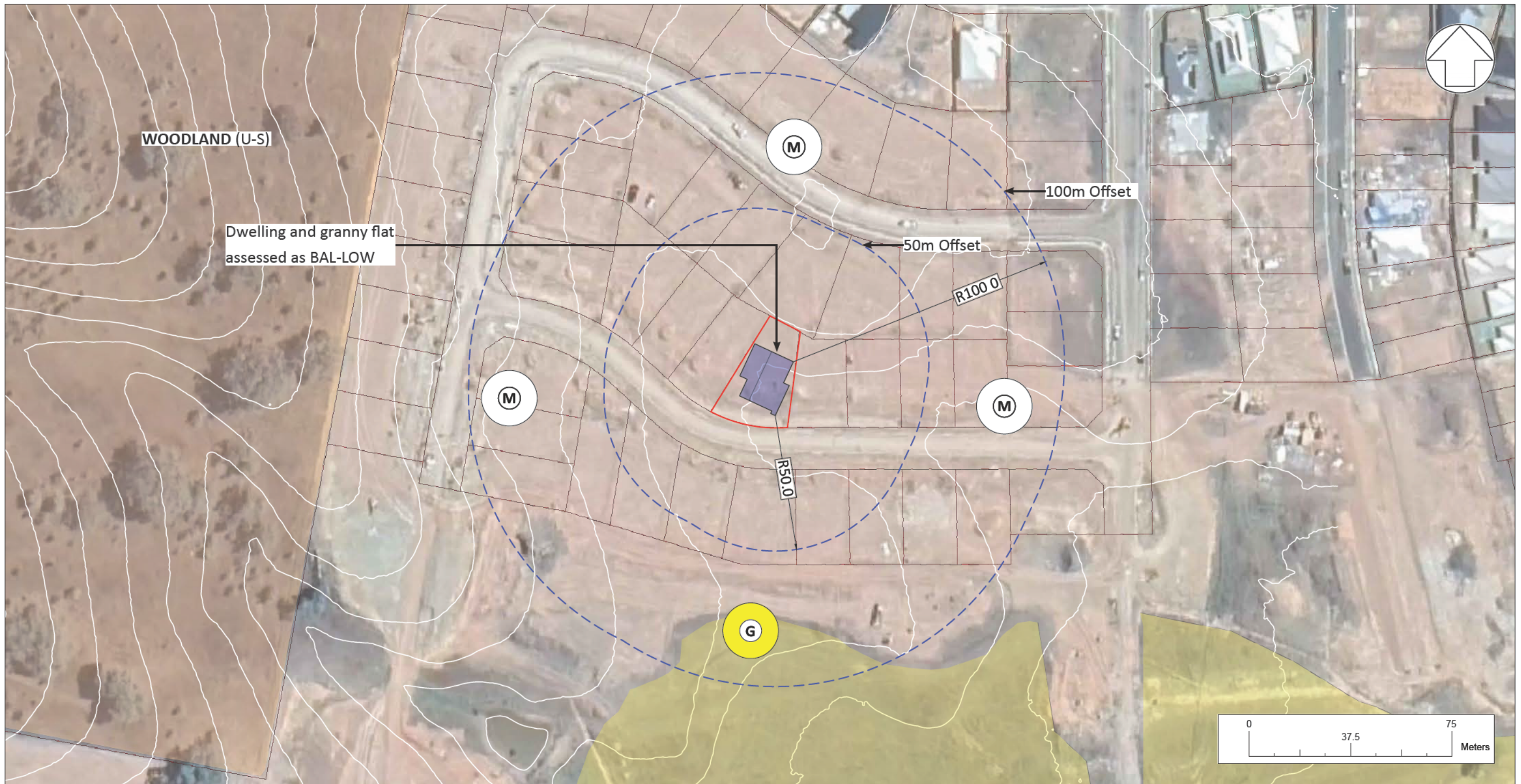
B.05 BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT.

To clarify the findings below, there is no grassland within 50m and no other bushfire prone vegetation within 100m of the proposed dwelling and granny flat.

Based on the parameters identified in table 1 below and as depicted in Figure A, the proposed dwelling and granny flat are assessed as BAL-LOW as specified in AS3959 (2018).

TABLE 1 (To be read in conjunction with Figure A).						
LGA = Mid-Western Regional Council				Forest Fire Danger Index = FDI 80		
ASPECT ¹	Vegetation Class ²	Max Effective Slope ³	Site slope ³	Required APZ ⁴	Proposed APZ / EML ⁵	BAL-Rating
N	No bushfire prone vegetation within 100m of the proposed development					BAL-LOW
S	No bushfire prone vegetation within 100m of the proposed development					BAL-LOW
E	No bushfire prone vegetation within 100m of the proposed development					BAL-LOW
W	No bushfire prone vegetation within 100m of the proposed development					BAL-LOW
Abbreviations						
AOD All other directions		EML Extent of managed land		NVC Narrow vegetation corridor		

¹	Cardinal direction from each proposed building facade based on grid north.
²	Vegetation Classifications are as described in PBP (2019) A1.2.
³	Site slope is calculated from 1m LiDAR contours.
⁴	Minimum APZ required stated as Acceptable Solutions within Table 1.12.2 and A1.12.5. PBP (2019).
⁵	Actual dimensional setback from the face of the building to the assessed vegetation. Achieved Asset Protection Zone (APZ) or extent of managed land (EML).
⁶	Where the direct line of sight between the proposed building and assessed vegetation is obstructed (by a wall or building) the assessed rating can be lowered by one BAL-rating (PBP 2019, s. A1.8).
⁷	Remnant bushland and narrow vegetation corridors (NVC) as stated in PBP (2019) s.A1.11 can be assessed as rainforest as a simplified approach or be assessed as Short Fire Run using method 2 (AS3959).
⁸	Deeming provisions for grassland s.7.9 PBP (2019).



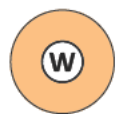
VEGETATION KEY (Not all used in this drawing)



Forest



Managed Land



Woodland



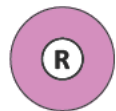
Low Threat Vegetation
PBP (2019) A1.10



Grassland



Under
Development



Rainforest



Remnant / Narrow Vegetation
Corridor (NVC) PBP (2019) A1.11

DRAWING LEGEND

Site Boundary



Proposed /
Subdivision APZ



Hydrant



BUSHFIRE PLANNING & DESIGN

bpad.matthew.noone@gmail.com

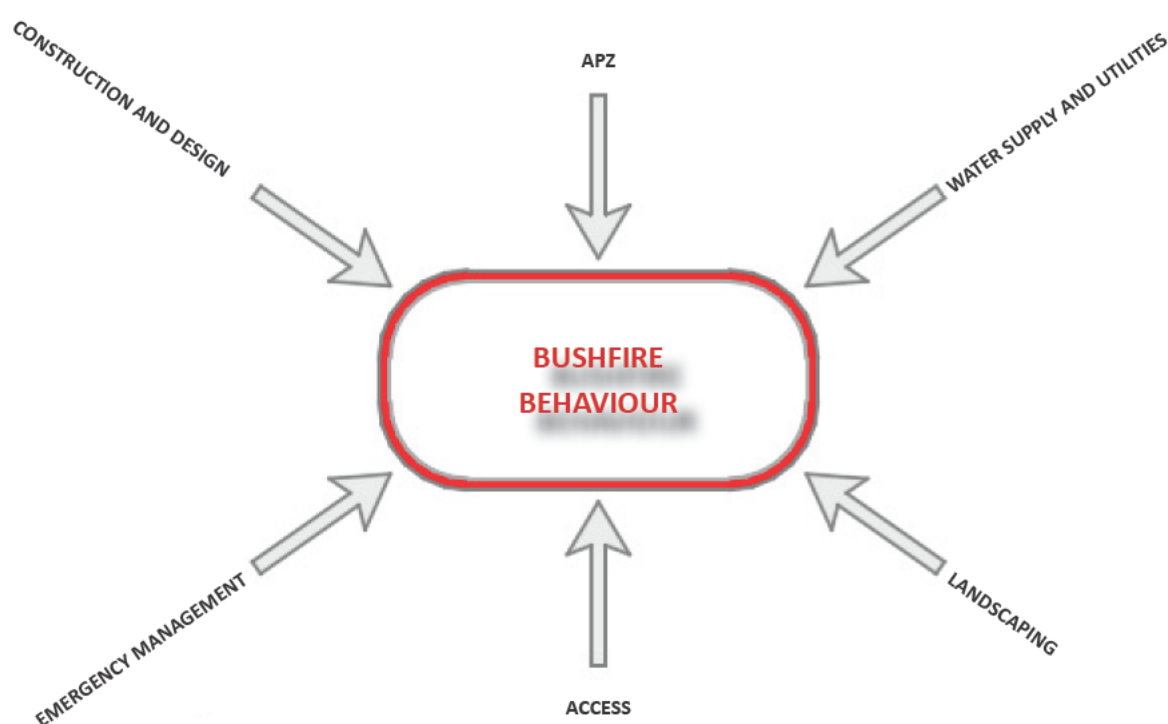
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Figure:

A

PART C BUSHFIRE PROTECTION MEASURES

BPMs can mitigate the impact of bush fire attack on people and assets. The types of protection measures include APZs, access, landscaping, water supply, building design and emergency management arrangements. These measures assist building survival during a bush fire. They also contribute to the safety of firefighters and members of the community occupying buildings during the passage of a bush fire front. There are a range of different BPMs which should be applied in combination based upon the development type and the level of bush fire risk. All requirements for BPMs that relate to the development must be provided, as required by this document.



C.01 ASSET PROTECTION ZONES (APZs)

C.03 CONSTRUCTION

C.04 ACCESS

C.05 WATER

C.06 ELECTRICITY & GAS

C.01 ASSET PROTECTION ZONES (APZs)

APZ Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities.

The asset protection zones (APZ) recommendations in this report have been derived from the methodology of A1.12.2 or A1.12.3 in Appendix 1 of PBP (2019). Asset protection zones and in particular the Inner Asset Protection Zones are critical for providing defensible space and reducing flame length and rate of spread (PBP 2019). APZs are designed to provide sufficient open space for emergency workers to operate and for occupants to egress the site safely. They are divided into Inner and Outer Asset Protection Zones (IPAs and OPAs) and are required to be maintained for the life of the development. The IPA provides for defensible space and a reduction of radiant heat levels at the building line and the OPA provides for the reduction of the rate of spread and filtering of embers.

PERFORMANCE CRITERIA (PBP 2019)

- APZs are to be provided commensurate with the construction of the building.
- A defensible space is to be provided.
- APZs are to be managed and maintained to prevent the spread of a fire to the building.
- The APZ is to be provided in perpetuity.
- APZ maintenance is to be practical, soil stability is not compromised and the potential for crown fires is minimised.

Refer to our APZ discussion and recommendations on page 23.

C.02 ASSET PROTECTION ZONES (APZs) RECOMMENDATIONS

As there is no un-managed grassland within 50m and no other bushfire prone vegetation within 100m of the development there is insufficient threat to warrant any specific asset protection zones (APZ) or level of construction with regards to the construction of a building in a bushfire prone area. We recommend that the subject site be managed as an inner asset protection zone in perpetuity.

3.1 - INNER APZ (IPA) GUIDELINES

The Inner APZ (IPA) is the managed area closest to the asset (eg. dwelling). The IPA is managed to minimal fuel conditions and aims to mitigate the impact of direct flame contact and radiant heat on the development. The IPA also aims to provide defensible space.	
TREES	
•	Canopy cover should be less than 15% (at maturity) within the Inner APZ.
•	Trees (at maturity) should not touch or overhang the building.
•	Lower limbs should be removed up to a height of 2m above ground.
•	Canopies should be separated by 2 to 5m (horizontal and or vertical displacement). .
•	Preference should be given to smooth barked and evergreen trees.
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.
•	Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
GRASS	
•	Should be kept mown (as a guide grass should be kept to no more than 100mm in height).
•	Leaves and vegetation debris should be removed.

3.2 - OUTER APZ (OPA) GUIDELINES

The Outer APZ (OPA) is the part of the APZ that is located between the IPA and the bushfire vegetation threat. The reduction in the available fuels and canopy connections in the OPA aims to mitigate the intensity of an approaching fire and restricts the pathways to crown fuels thus reducing the level of direct flame, radiant heat and ember attack on the IPA and asset (dwelling).	
TREES	
•	Canopy cover should be less than 30% (at maturity) within the Outer APZ.
•	Trees should have canopy separation canopies should be separated by 2 to 5m.
SHRUBS	
•	Shrubs should not form a continuous canopy.
•	Shrubs should form no more than 20% of ground cover.

C.03 CONSTRUCTION

PERFORMANCE CRITERIA (PBP 2019)

The proposed dwelling is assessed as having a Bushfire Attack Level of BAL-LOW. There is insufficient threat to warrant any specific level of construction with regards to the construction of building in a bushfire prone area.

C.04 ACCESS

Intent of measures: To provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area.

PERFORMANCE CRITERIA (PBP 2019)

- | | |
|---|--|
| • | Fire-fighting vehicles are provided with safe, all-weather access to structures and hazard vegetation. |
| • | The capacity of access roads is adequate for fire-fighting vehicles. |
| • | There is appropriate access to water supply. |
| • | Fire-fighting vehicles can access the dwelling and exit the property safely. |

PUBLIC ROADS

The subject site is accessed from Shearman Street. Shearman Street is a sealed public road. The public road system is deemed to be adequate for emergency services appliances.

PROPERTY ACCESS

The nearest bushfire prone vegetation is located more than 100m from the proposed development. There is insufficient threat to warrant provision for RFS access.

C.05 WATER

Intent of measures: To provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

PERFORMANCE CRITERIA (PBP 2019)

- An adequate water supply is to be provided for fire-fighting purposes.
- Water supplies are to be located at regular intervals.
- The water supply is to be accessible and reliable for fire-fighting operations.
- Flows and pressure are to be appropriate
- The integrity of the water supply is to be maintained.
- A static water supply is to be provided for fire-fighting purposes in areas where reticulated water is not available.

COMMENTS IN RELATION TO THE PROVISION OF ELECTRICITY AND GAS.

ACCEPTABLE SOLUTION

The nearest bushfire prone vegetation is located more than 100m from the proposed development. There is insufficient threat to warrant the provision of additional water for fire fighting.

C.06 ELECTRICITY AND GAS

PERFORMANCE CRITERIA (PBP 2019)

- Location of electricity services is to limit the possibility of ignition of surrounding bush land or the fabric of buildings.
- Location and design of gas services is not to not lead to the ignition of surrounding bushland or the fabric of buildings.

ELECTRICITY AND GAS - SPECIFIC REQUIREMENTS

The proposed development can comply with the PBP (2019) with regards to electricity and gas requirements. The following points are to be adhered to (where applicable) for the provision of electricity and gas services where applicable.

COMMENTS IN RELATION TO THE PROVISION OF ELECTRICITY AND GAS.

ACCEPTABLE SOLUTION

The nearest bushfire prone vegetation is located more than 100m from the proposed development. There is insufficient threat to warrant any specific bushfire requirements for the provision of electrical and gas supply.

C.07 RECOMMENDATIONS

In the event that Council or the NSW Rural Fire Service modifies our recommendations, this report becomes obsolete and should no longer be referred to. The bushfire requirements as stated in the DA Consent conditions will take precedence. We strongly recommend the Applicant cross references the bushfire conditions within the DA consent and the recommendations within Part C of our report and alert us to any discrepancies prior to any works starting on site.

Should Council wish to include our recommendations in the DA consent please insert the following into the consent conditions.

Bushfire (Bushfire Protection Measures)

All Bushfire Protection Measures (BPMs) eg. Asset Protection Zones, Access, Water and Utilities noted in Part C of the bushfire report prepared by Bushfire Planning and Design (BR-701423 Revision A) are to be complied with.

Design and Construction

The proposed dwelling and granny flat are assessed as having a Bushfire Attack Level of BAL-LOW. There is insufficient threat to warrant any specific level of construction with regards to the construction of a building in a bushfire prone area.

Asset Protection Zones (APZs)

As there is no un-managed grassland within 50m and no other bushfire prone vegetation within 100m of the development there is insufficient threat to warrant any specific asset protection zones (APZ) or level of construction with regards to the construction of a building in a bushfire prone area. We recommend that the subject site be managed as an inner asset protection zone in perpetuity.

Water, Electricity and Gas

The nearest bushfire prone vegetation is located more than 100m from the proposed development. There is insufficient threat to warrant the provision of additional water for fire fighting and electrical and gas supply.

PART D SUMMARY

The development relates to the construction of a sole occupancy dwelling and attached granny flat on a vacant allotment.

The development is captured under Section 4.14 of the Environmental Planning and Assessment Act 1979; Consultation and development consent – certain bush fire prone land. For the purpose of bushfire assessment the development is considered infill development as described in the New South Wales Rural Fire Service document Planning for Bushfire Protection (2019).

The subject site is located in Caerleon which is within the Mid-Western Regional Local Government Area (LGA). The site is located in a recent subdivision and will be surrounded by managed residential curtilage in the near future. Woodland vegetation is located to the west of the subdivision. A lesser threat of Grassland is located to the south of the subdivision. The subdivision will be developing further south in the near future.

As there is no un-managed grassland within 50m and no other bushfire prone vegetation within 100m of the development there is insufficient threat to warrant any specific asset protection zones (APZ) or level of construction with regards to the construction of a building in a bushfire prone area. We recommend that the subject site be managed as an inner asset protection zone in perpetuity.

The proposed dwelling is assessed as BAL-LOW as indicated in Figure A and as specified in AS3959 (2018) the Australian Standard for the Construction of Buildings in a Bushfire Prone Area.

Access to the site via the public road system is suitable for emergency response vehicles. RFS do not require site access.

Reticulated water is available on Shearman Street. No Additional water is required for fire fighting.

The project can comply with the construction requirements of AS3959 (2018) and the performance requirements of the BCA. The objectives and performance requirements of PBP (2019) are also achieved.

In the event that Council or the NSW Rural Fire Service has any questions in relation this report please get in contact to discuss.

Report peer reviewed by:



Matthew Noone

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Grad.Dip. Design for Bushfire Prone Areas.
BSc (Geology)
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T/A Bushfire Planning and Design PTY LTD

Report prepared by:

Olivia Pepper

Intermediate Bushfire Consultant
BA (Criminology)

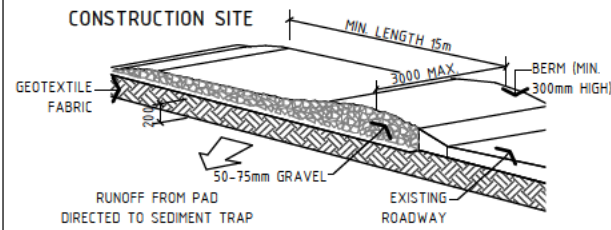
D.01 REFERENCES

AS3959 (2018)	Australian Standard, Construction of buildings in bushfire-prone areas, AS 3959, Third edition 2018 Standards Australia International Ltd, Sydney.
BCA (2019)	Building Code of Australia 2019, Building Code of Australia, Australian Building Codes Board, Canberra 2019.
EPA Act (1979)	Environmental Planning and Assessment Act 1979, NSW Government, NSW, legislation found at www.legislation.nsw.gov.au
Keith (2004)	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 (2004).
PBP (2019)	Planning for Bushfire Protection, a Guide for Councils,Planners, Fire Authorities, Developers and Home Owners. Rural Fire Service 2019, Australian Government Publishing Service, Canberra.
RFS (2015)	Rural Fire Service, Guide For Bush Fire Prone Land Mapping, Version 5b.

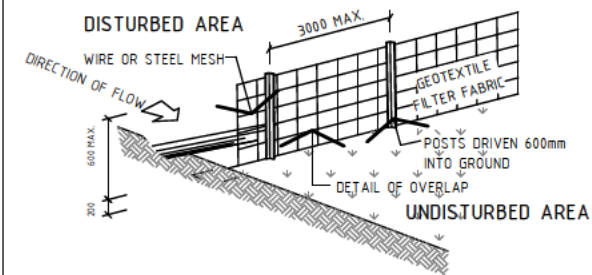
D.02 APPENDICES

Appendix A - Architectural Drawings.

APPENDIX A - ARCHITECTURAL DRAWINGS



DETAIL PLAN: CONSTRUCTION ENTRY / EXIT
NOT TO SCALE



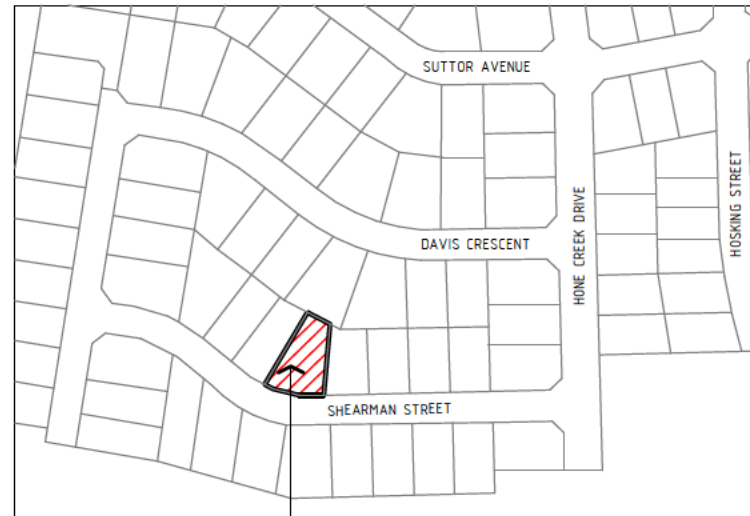
DETAIL PLAN: SEDIMENT FENCE
NOT TO SCALE

EROSION & SEDIMENT CONTROL NOTES:

1. ALL EROSION & SEDIMENT CONTROL STRUCTURES ARE TO BE INSTALLED PRIOR TO SITE DISTURBANCE.
2. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED & MAINTAINED BY THE BUILDER AT LEAST WEEKLY. IF STRUCTURES ARE TO BE REMOVED, THEY ARE TO BE REINSTALLED & INSPECTED BY THE BUILDER.
3. ALL SEDIMENT RETAINING STRUCTURES TO BE CLEANED ON REACHING 50% STORAGE CAPACITY & SPREAD ON DISTURBED AREA.
4. ACCESS TO SITE IS TO BE THROUGH USE OF THE ENTRY/EXIT SHOWN
5. ALL VEGETATION OUTSIDE OF THE CONSTRUCTION AREA IS TO BE RETAINED WHERE POSSIBLE (VEGETATION BUFFER)
6. STOCKPILES OF ERODIBLE BUILDING MATERIALS INCLUDING SAND & SOIL MUST BE LOCATED WITHIN THE DESIGNATED MATERIAL STOCKPILE AREA (MSA) & PROTECTED WITH SEDIMENT FENCE OR STRAW BALE SEDIMENT FILTERS. THE BUILDER MAY NOMINATE FURTHER STORAGE AREAS WITHIN THE SITE.
7. NO STORAGE OF MATERIALS OR VEHICLE MOVEMENTS ARE TO OCCUR OUTSIDE THE SITE BOUNDARIES.

SITWORK NOTES:

1. CONFIRM ALL DIMENSIONS ON SITE TO EXISTING RESIDENCE PRIOR TO COMMENCEMENT OF ANY WORK
2. THIS PLAN DOES NOT PROVIDE SPECIFIC LANDSCAPE PLANTING LOCATIONS
3. THE EXACT LOCATION OF UNDERGROUND AND ABOVEGROUND SERVICES SHALL BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
4. THIS DRAWING SET TO BE READ IN CONJUNCTION WITH THE SPECIFICATION PROVIDED.
5. BEWARE OF EXISTING SERVICES. CONFIRM LOCATIONS PRIOR TO EXCAVATION. TAKE EXTREME CARE.

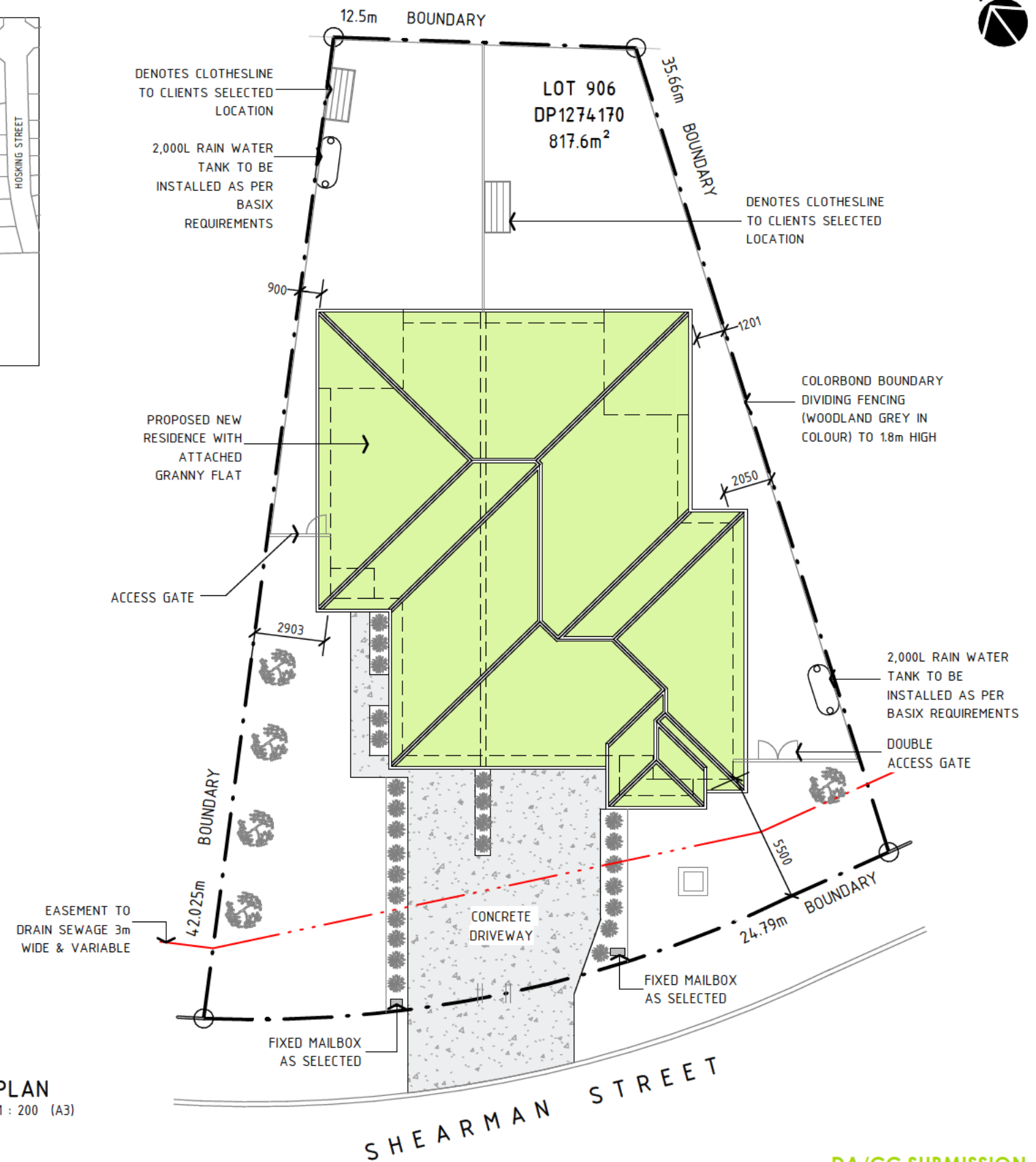


SITE LOCATION
12 SHEARMAN STREET, CAERLEON
LOT 906 - DP1274170

01 | LOCALITY PLAN NOT TO SCALE

LEGEND:

- TEMPORARY SITE MATERIAL DISPOSAL AREA DURING CONSTRUCTION. TO BE PROTECTED BY A SEDIMENT FENCE OR STRAW BALE FILTER.
- SITE ACCESS DURING CONSTRUCTION



02 | SITE PLAN SCALE: 1 : 200 (A3)

DA/CC SUBMISSION

Rev	Date	Description
A	4/09/23	ISSUED FOR REVIEW
B	11/09/23	ISSUED FOR REVIEW
C	25/09/23	DA/CC SUBMISSION

NOTE:

- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH:
- ALL SHEETS TO THIS SET OF PLANS
 - SEPERATE SPECIFICATION DOCUMENTS
 - STRUCTURAL ENGINEERS DOCUMENTATION
 - PCA DOCUMENTS (WHERE APPLICABLE)
 - BASIX CERTIFICATE
 - ALL RELEVANT CODES, STANDARDS & APPROVALS



LYNCH BUILDING GROUP

Client: AMIATO PTY LTD

Project: HOUSE & ATTACHED GRANNY FLAT AT 12 SHEARMAN STREET, CAERLEON (LOT 906)



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Drawing Title: SITE & LOCATION PLAN

Design	LBG	Sheet 02 of 08
Drawn	G.HACKETT	Drawing Number
Check	J.LYNCH	0506 - A02
		Revision C