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BUSH FIRE ASSESSMENT REPORT



For the Planning Proposal
at
7 POMONA ROAD,
Empire Bay, NSW
(LOT 1 in DP 610629)

May 2020

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EXECUTIVE SUMMARY

A Bush Fire Assessment Report has been undertaken for the proposed Planning Proposal relating to the amendment to Schedule 1 of Gosford Local Environmental Plan (LEP) 2014 to include an additional permitted use of a caravan park on the subject site.

This report identifies matters for consideration for the planning proposal and highlights the required bushfire protection measures, including asset protection zones (APZs), for future development in accordance with *Planning for Bush Fire Protection 2018 (PBP)*.

The key principle for the proposal is to ensure that future development is capable of complying with *PBP*. Planning principles for the proposal include the provision of adequate access including the establishment of adequate asset protection zones (APZs) for future housing, specifying minimum lot depths to accommodate APZs and the introduction of controls which avoid placing inappropriate developments in hazardous areas and placement of combustible material in APZs.

Our assessment found that bushfire can potentially affect the site from vegetation existing within the remnant vegetation existing within the adjoining property to the west. The bushfire risk posed to the proposal can, however, be mitigated if appropriate bushfire protection measures (including APZs) are put in place and managed in perpetuity.

The assessment has concluded that future development on site will provide compliance with the planning principles of *PBP*.

CONTENTS

1.0 INTRODUCTION.....	3
1.1 Proposed Development.....	4
2.0 OBJECTIVES AND LEGISLATION	6
3.0 SITE IDENTIFICATION AND DESCRIPTION	7
3.1 Site Identification and Location	7
3.2 Bushfire Prone Mapping.....	8
3.3 Surrounding Vegetation	8
3.4 Effective Slope	10
4.0 BUSHFIRE RISK ASSESSMENT	12
4.1 Background Information	12
4.2 Asset Protection Zones	12
4.2 Bushfire Attack Levels.....	13
5.0 PERFORMANCE CRITERIA COMPLIANCE.....	15
5.1 APZs and building construction	15
5.2 Access.....	16
5.3 Services-Water, electricity and gas.....	17
5.4 Emergency management planning	18
6.0 RECCOMENDATIONS & CONCLUSION	19

TABLES

Table 1: APZ Summary	12
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DOCUMENT TRACKING

Project Location	7 Pomona Road, Empire Bay
Date	18/05/2020
Prepared by	Kristan Dowdle
Approved by	Kristan Dowdle
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1.0 INTRODUCTION

This report forms part of the planning proposal for the rezoning to occur on the property known as 7 Pomona Road, Empire Bay. This report addresses the planning principles identified in Section 2.3 of *Planning for Bushfire Protection (2019) (PBP)* and demonstrates that the proposal satisfies the aim and objectives of PBP. This report provides a framework of strategies so that future development can comply with PBP.

This assessment aims to consider and assess the bushfire hazard and associated potential threats relevant to the future land usage potential of the site and to outline the minimum mitigative measures which would be required in accordance with the provisions of the *PBP*. This assessment has been made based on the bushfire hazards in and around the subject site at the time of the site inspection.

The aim of PBP is to use the NSW development assessment system to provide for the protection of human life (including firefighters) and to minimise impacts on the property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection for the environment.

More specifically, the objectives are to:

- afford buildings and their occupants protection from exposure to a bush fire;
- 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 fire spread to buildings;
- ensure that appropriate operational access and egress for emergency service personnel and occupants is available;
- provide for ongoing management and maintenance of BPMs; and
- ensure that utility services are adequate to meet the needs of firefighters.

When preparing a draft LEP or planning proposal, local councils are required to apply the EP&A Act s.9.1(2). Direction 4.4 Planning for Bush Fire Protection applies to planning proposals that affect, or are in close proximity to, land mapped as BFPL.

Under these directions, draft LEP or planning proposal should follow the below objectives:

- i. to protect life, property and the environment from bush fire, by discouraging the establishment of incompatible land uses in bush fire-prone areas; and
- ii. to encourage sound management of bush fire-prone areas.

This report provides adequate information in relation to the bushfire constraints for the site and proposed future land usage.

1.1 Proposed Development

The property contains an existing mobile home park of which is known as *Bayside Gardens Lifestyle Village*. The Planning Proposal relates to the amendment Schedule 1 of Gosford *Local Environmental Plan (LEP) 2014* to include an additional permitted use of caravan park on the subject site.

The proposed land-use change will allow for short-term and long-term accommodation and this assessment will provide requirements for both forms of land usage with reference to PBP. Figure 1 provides a site plan of the existing land usage and the potential future land usage areas on the southern portions.

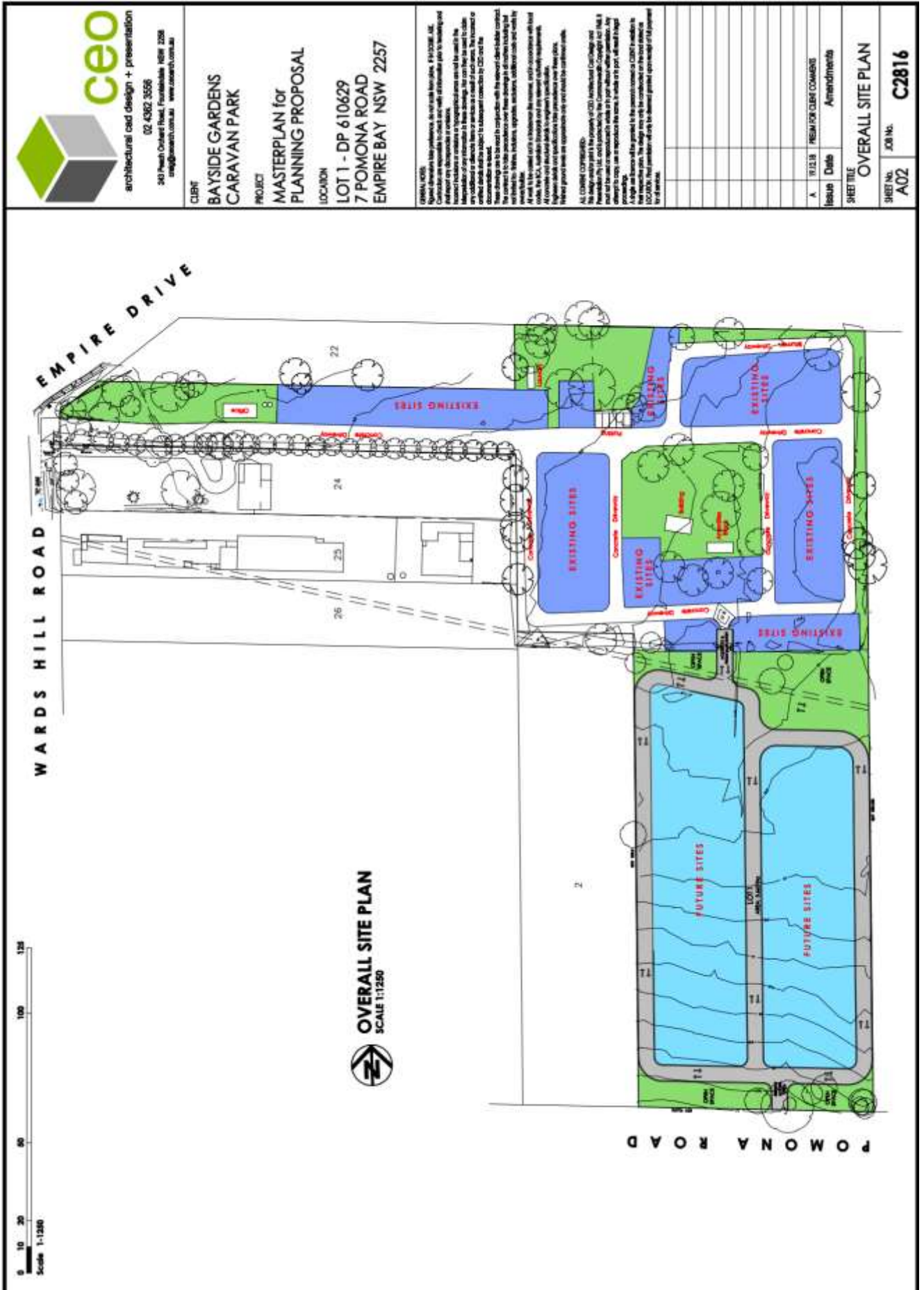


Figure 1: Proposed Development Site Plan

2.0 OBJECTIVES AND LEGISLATION

Local Planning Directions contain statutory requirements regarding the principles, aims, objectives or policies to be achieved, or given effect to, in the preparation of draft local environmental plans, under Section 9.1(2) of the EP&A Act. The objectives of Ministerial Direction 4.4 are;

- a) *to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and*
- b) *to encourage sound management of bush fire prone areas.*

Direction 4.4 Planning for Bush Fire Protection applies to planning proposals that affect, or are in close proximity to, land mapped as BFPL. Under these directions, a planning proposal must;

- (a) have regard to Planning for Bushfire Protection 2006 (now 2019);
- (b) introduce controls that avoid placing inappropriate developments in hazardous areas, and
- (c) ensure that bushfire hazard reduction is not prohibited within the APZ.

:
In addition, the planning proposal must, where development is proposed, comply with the following provisions, as appropriate:

- (a) provide an Asset Protection Zone (APZ) incorporating at a minimum:
 - i. an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and
 - ii. an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,
- (b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the Rural Fires Act 1997), the APZ provisions must be complied with,
- (c) contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,
- (d) contain provisions for adequate water supply for firefighting purposes,
- (e) minimise the perimeter of the area of land interfacing the hazard which may be developed,
- (f) introduce controls on the placement of combustible materials in the Inner Protection Area.

In the preparation of a planning proposal, the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 56 of the Act, and prior to undertaking community consultation in satisfaction of section 57 of the Act, and take into account any comments so made.

The following report addresses the above criteria.

3.0 SITE IDENTIFICATION AND DESCRIPTION

3.1 Site Identification and Location

The subject site is known as *Bayside Gardens Lifestyle Village* and is located at 7 Pomona Road, Empire Bay (Lot 1 in DP 610629). The site is in the Local Government Area (LGA) of Central Coast Council (Fire Danger Index-100).



Figure 2: Aerial Photograph of site
Source: Nearmap, 2018

The park is a large parcel of land that provides the following land conditions with its boundaries:

- Office Building, Amenities and sixty-two [62] movable dwellings on the northern portions
- Movable dwellings and a cottage on the southern portions
- Hardstand areas and internal roads
- Predominantly managed lands throughout the remaining portions of the site

The site is connected to the town-reticulated supply of water with an internal water hydrant/fire hose reel network currently existing. The park is connected to the mains electrical grid.

The property is provided main access via Wards Hill Road to the west (entry point of the park) and is provided with an additional access via Pomona Road to the south.

3.2 Bushfire Prone Mapping

The site has been mapped by Central Coast Council as being bushfire prone. The site has been mapped as being within the bushfire buffer (yellow) and partially containing Category 1 (red) and Category 2 (orange) vegetation. Figure 3 outlines this.



Figure 3: Bushfire Mapping (site bordered in blue)
Source: Department of Planning, 2018

3.3 Surrounding Vegetation

3.3.1 Non-Hazard Aspects

South & East

The surrounding land on these aspects contains large rural-residential properties of which contain managed lands for greater than 140m from the site. It is noted that a sparse remnant tree layer does exist in parts, however the lands beneath contain mown and managed lawns and gardens. Therefore, these aspects area deemed not to contain a bush fire hazard.

3.3.2 Hazard Aspects

West

To the west of the site is predominantly managed lands existing beneath a sparse tree layer. It is noted that some small areas of unmanaged vegetation do occur on this aspect. Previous applications and RFS approval (RFS Reference: D15/2817) have noted that these areas did not provide a great enough area and/or fuel loads to constitute as a bushfire hazard. However, discussions with Josh Calandra from the RFS in relation to a previously withdrawn application (DA31294/2006) has stated that the RFS now view this area as a hazard.

Based upon this altered opinion, as the area of the vegetation is less than 1 Hectare in area, it meets with Section A1.11.1 *Simplified Approach* for assessing remnant bushland and narrow vegetation in accordance with PBP. Therefore, this small area can be considered a low hazard and therefore will be assessed as equivalent to a rainforest.

North

To the north, beyond managed lands associated with the existing park, is vegetation that has been mapped as containing *Swamp Mahogany - Paperbark Forest*. This vegetation meets with Keith (2004) description of 'forested wetland'. In accordance with Appendix 1 in PBP, the vegetation will be assessed

as **Forest**. It is noted that this land has an approved subdivision of which will alter the existing vegetation conditions and reduce the fuel loads present.



1.



2.



3.



4.



5.

Note: See figure 5 for photograph location and direction.

3.4 Effective Slope

PBP states in A1.5 that effective slope is;

'The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the intensity of the fire and the ultimate level of radiant heat flux.

The effective slope is the slope of the ground under the hazard (vegetation). It is not the slope between the vegetation and the building (slope located between the asset and vegetation is the site slope).'

Figure 4 provides the topographic mapping surrounding the proposal as sourced by NSW Spatial Services (1m contours). This data has a stated accuracy of 0.3m (95% Confidence Interval) vertical and 0.8m (95% Confidence Interval) horizontal.

In combination with the mapping, ground truthing of the effective slope was conducted for no less than 100m from the proposed development for the hazard facing aspects. The effective slopes were determined as follows(See Figure 4);

North: Flat
West: Flat

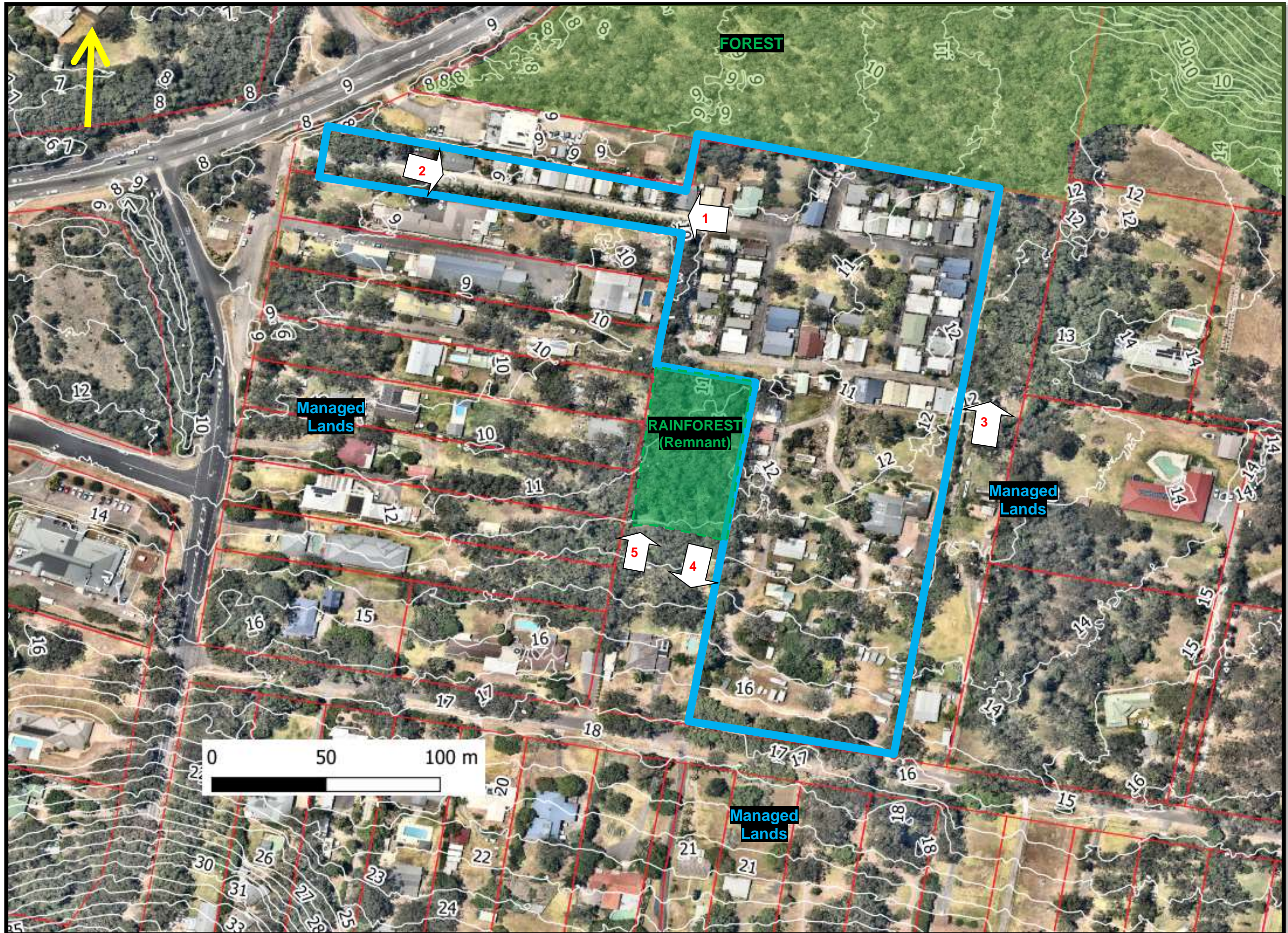


Figure 4: Bushfire Site Plan (site bordered in blue)
Source: Nearmap, 2018

4.0 BUSHFIRE RISK ASSESSMENT

4.1 Background Information

This bushfire assessment follows the methods and procedures recommended in PBP. This document provides concepts for (via a NSW State variation to the NCC) Class 1, 2, 3 buildings, Class 4 parts of buildings, some Class 10 structures and Class 9 buildings that are Special Fire Protection Purposes (SFPP) (AS3959-2018) in bushfire-prone areas and gives guidance on planning and development control processes in relation to bushfire protection measures. The document also provides a methodology for determining setback distance and Bushfire Attack Levels (BAL) required in development for residential purposes that are found to fall in areas designated as bushfire-prone.

4.2 Asset Protection Zones

Appendix 1 of PBP provides a methodology for determining the Asset Protection Zone (APZ) required for any given proposed development dependent upon the intended land usage. APZ's describes the distance between the proposed development (the asset) and the hazard (the bushland) and vary according to topography and vegetation type. PBP states that the primary purpose of an APZ is to ensure that a progressive reduction of bushfire fuels occurs between the bushfire hazard and any habitable structures within the development.

In relation to the site, and the potential mixed land usages, the following performance criteria as outlined within PBP.

Short-term/Caravan Sites

'radiant heat levels of greater than 10kW/m² (calculated at 1200K) will not be experienced on any part of the building.'

Long-term sites (>6weeks occupation)

'long-term accommodation may be treated as standard residential development and therefore needs to meet a radiant heat threshold of 29kW/m²'

Based upon the above performance requirements of PBP, a summary of the APZ's required for each aspect of the site is provided in Table 1. Table 1 provides a summary for both long-term and short-term accommodation as defined in Section 6.3.1 PBP.

Table 1: APZ Summary

Aspect	Vegetation ¹ within 140m of development	Effective Slope of Land	APZ required for short-term/caravan sites ²	APZ required for long-term sites ²
North	Forest	Flat	67m	24m
South	Managed Lands	Not Required	-	-
East	Managed Lands	Not Required	-	-
West	Remnant (Rainforest)	Flat	38m	11m

Notes for Table 1:

- (1) Refer to Keith (2004) and Appendix 1 in PBP
- (2) Refer to A1.12.1 in PBP for SFPP Development
- (3) Refer to A1.12.2 in PBP for long term sites

As summarised in Table 1, the following APZ's are required (Figure 5);

- For any proposed short-term/caravan sites, a minimum APZ of 67m is required from the vegetation to the north;
- For any proposed long-term sites a minimum APZ of 24m is required from the vegetation to the north;
- For any proposed short-term/caravan sites, a minimum APZ of 38m is required from the vegetation to the west; and
- For and proposed long-term sites a minimum APZ of 11m is required from the vegetation to the west.

4.2 Bushfire Attack Levels

The APZ's applying to the land usage has been determined and shown in Table 1. Upon the construction/placement of any new building within the site, will require construction to meet with the bushfire attack levels as per the requirements of AS3959-2018- *Construction of Dwellings in Fire-Prone Areas*. The Bushfire Attack Level for each site will be determined through Table A1.12.2 of PBP.

A preliminary assessment for the BAL determinations for each aspect exposed to a bushfire hazard is provided below:

NORTH- Forest

BAL 29:	24 -33 metres
BAL 19 :	16 – 23 metres
BAL 12.5:	23 – 100 metres

WEST- Remnant forest (Rainforest)

BAL 29:	11 -16 metres
BAL 19 :	33 – 45 metres
BAL 12.5:	45 – 100 metres

The BAL determination is measured from the west boundary to the closest wall of any new development.

An independent assessment will be required under 100B of the *Rural Fires Act, 1997* at the time of any future application usage of the land for short-term and/or long-term sites with the property.

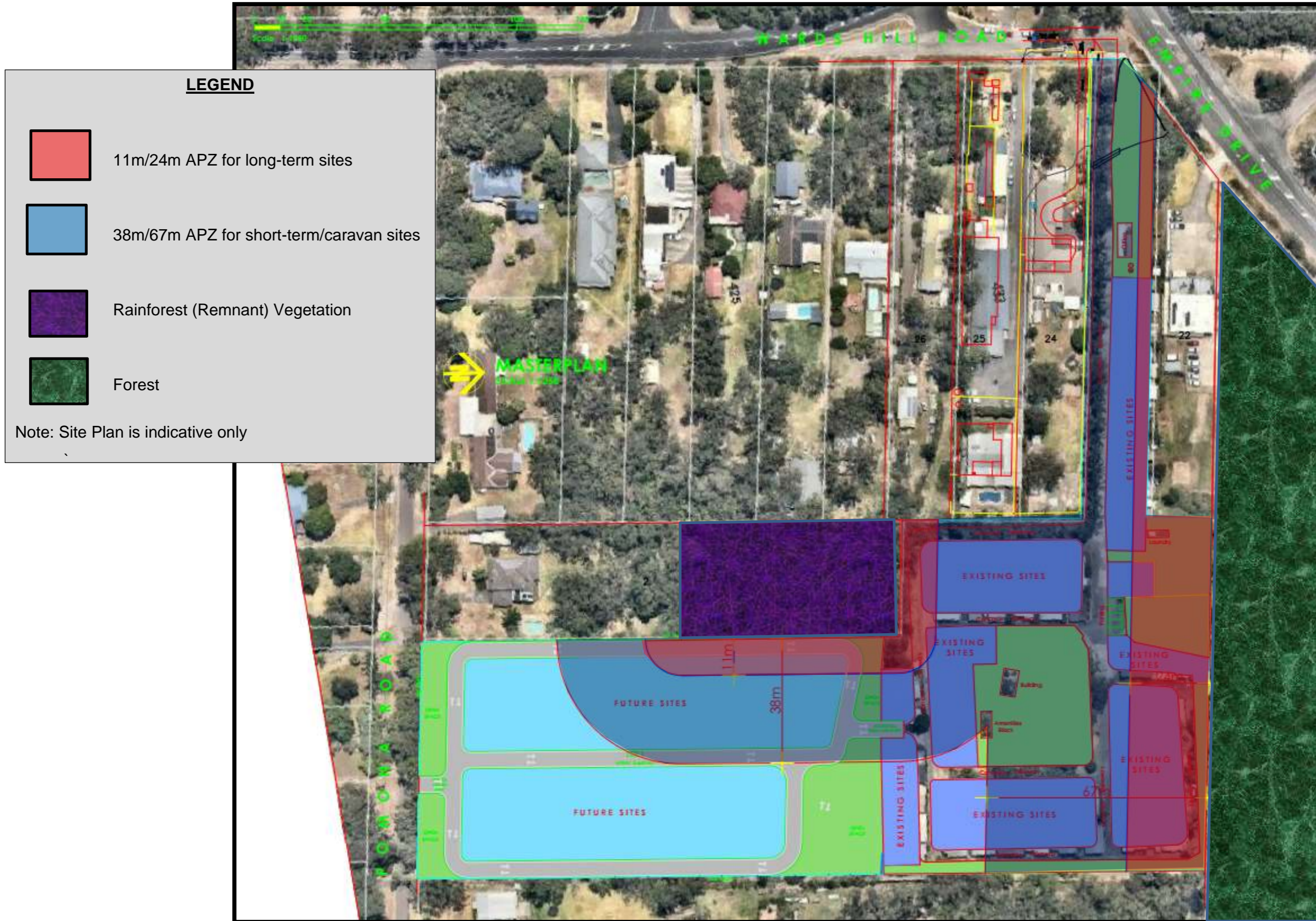


Figure 5: APZ Site Plan

5.0 PERFORMANCE CRITERIA COMPLIANCE

The following clauses outlined the potential compliance and/or otherwise for any future development with the property, with reference to the performance criteria and acceptable solutions outlined within Table 6.8a in PBP. Any future development will be required to be designed and comply with the performance criteria.

5.1 APZs and building construction

Intent of measures: to provide suitable building design, construction and sufficient space to ensure that radiant heat levels do not exceed critical limits for firefighters and other emergency services personnel undertaking operations, including supporting or evacuating occupants.

	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMMENTS
ASSET PROTECTION ZONES	Short-Term/Caravan Sites radiant heat levels of greater than 10kW/ m ² (calculated at 1200K) will not be experienced on any part of the building	<ul style="list-style-type: none"> the building is provided with an APZ in accordance with Table A1.12.1 in Appendix 1 	APZ's have been recommended and can be accommodated complying with Table A1.12.1 in Appendix 1.
	Long-Term Sites The building will not be exposed to radiant heat levels exceeding 29kW/m ² (1090K).	<ul style="list-style-type: none"> the building is provided with an APZ in accordance with Table A1.12.2 in Appendix 1 	APZ's have been recommended and can be accommodated complying with Table A1.12.2 in Appendix 1.
	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	<ul style="list-style-type: none"> APZs are located on lands with a slope less than 18 degrees 	APZ's will occur on lands that a relatively flat
	APZs are managed and maintained to prevent the spread of a fire towards the building. the APZ is provided in perpetuity	<ul style="list-style-type: none"> the APZ is managed in accordance with the requirements of Appendix 4 of this document, and is wholly within the boundaries of the development site; APZ are wholly within the boundaries of the development site; and other structures located within the APZ need to be located further than 6m from the refuge building. 	Any future development upon the site will be required to comply with this acceptable solution.
LANDSCAPING	landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions	<ul style="list-style-type: none"> landscaping is in accordance with Appendix 4; and fencing is constructed in accordance with section 7.6. 	Any future development upon the site will be required to comply with this acceptable solution.
CONSTRUCTION STANDARDS	Short-Term/Caravan Sites the proposed building can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact	<ul style="list-style-type: none"> a construction level of BAL-12.5 under AS 3959 or NASH Standard and section 7.5 of PBP is applied. 	APZ's have been recommended and can be accommodated complying with Table A1.12.1 in Appendix 1 and therefore BAL 12.5 will not be exceeded
	Long Term Sites the proposed manufactured home can withstand bush fire attack in the form of wind, embers, radiant heat and flame contact.	<ul style="list-style-type: none"> Where an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document the construction standards for BAL-29 shall apply. 	APZ's have been recommended and can be accommodated complying with Table A1.12.2 in Appendix 1 and therefore BAL 29 will not be exceeded

5.2 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	ACCEPTABLE SOLUTIONS	COMMENTS
ACCESS	firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation	<ul style="list-style-type: none"> SFPP access roads are two-wheel drive, all-weather roads; access is provided to all structures; traffic management devices are constructed to not prohibit access by emergency services vehicles; access roads must provide suitable turning areas in accordance with Appendix 3; and one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression 	Any future development upon the site will be required to comply with this acceptable solution
	the capacity of access roads is adequate for firefighting vehicles	<ul style="list-style-type: none"> the capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating 	Any future development upon the site will be required to comply with this acceptable solution
	there is appropriate access to water supply.	<ul style="list-style-type: none"> hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005; and there is suitable access for a Category 1 fire appliances to within 4m of the static water supply where no reticulated supply is available 	Any future development upon the site will be required to comply with this acceptable solution
PERIMETER ROAD	perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	<ul style="list-style-type: none"> there are two-way sealed roads; minimum 8m carriageway width kerb to kerb; parking is provided outside of the carriageway width; hydrants are to be located clear of parking areas; there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; curves of roads have a minimum inner radius of 6m; the maximum grade road is 15 degrees and average grade of not more than 10 degrees; the road crossfall does not exceed 3 degrees; and a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided 	No perimeter roads are applicable
NON-PERIMETER ROAD	non-perimeter access roads are designed to allow safe access and egress for firefighting vehicles while occupants are evacuating	<ul style="list-style-type: none"> minimum 5.5m carriageway width kerb to kerb; parking is provided outside of the carriageway width; hydrants are located clear of parking areas; there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; curves of roads have a minimum inner radius of 6m; the maximum grade road is 15 degrees and average grade of not more than 10 degrees; the road crossfall does not exceed 3 degrees; and a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided. 	Any future development upon the site will be required to comply with this acceptable solution. In addition, an emergency access road can/will be provided for the internal road network linking the site to Pomona Road to the south (See Figure 1)

5.3 Services-Water, electricity and gas

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	ACCEPTABLE SOLUTIONS	COMMENTS
WATER SUPPLY	an adequate water supply for firefighting purposes is installed and maintained.	<ul style="list-style-type: none"> reticulated water is to be provided to the development, where available 	A Reticulated supply of water is provided to the property and any future development.
	Water supplies are located at regular intervals. the water supply is accessible and reliable for firefighting operations	<ul style="list-style-type: none"> fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005; hydrants are not located within any road carriageway; and reticulated water supply to SFPPs uses a ring main system for areas with perimeter roads. 	Any future development upon the site will be required to comply with this condition
	flows and pressure are appropriate	<ul style="list-style-type: none"> fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005. 	Any future development upon the site will be required to comply with this condition
	the integrity of the water supply is maintained.	<ul style="list-style-type: none"> all above-ground water service pipes external to the building are metal, including and up to any taps 	Any future development upon the site will be required to comply with this condition
ELECTRICAL SERVICES	location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings	<ul style="list-style-type: none"> where practicable, electrical transmission lines are underground; where overhead, electrical transmission lines are proposed as follow: lines are installed with short pole spacing (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 Line 	Any future development upon the site will be required to comply with this condition
GAS SERVICES	location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings	<ul style="list-style-type: none"> reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used; 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; if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion; polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and above-ground gas service pipes external to the building are metal, including and up to any outlets 	Any future development upon the site will be required to comply with this condition

5.4 Emergency management planning

Intent of measures: to provide suitable emergency and evacuation arrangements for occupants of SFPP developments.

EMERGENCY MANAGEMENT	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS	COMMENTS
	<p>a Bush Fire Emergency Management and Evacuation Plan is prepared</p>	<p>Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the:</p> <ul style="list-style-type: none"> • The NSW RFS document: <i>A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan</i>; • NSW RFS Schools Program Guide; • Australian Standard AS 3745:2010 Planning for emergencies in facilities; and • Australian Standard AS 4083:2010 Planning for emergencies – Health care facilities (where applicable). <p>• the Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants.</p> <p>• Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development</p>	<p>Any future development upon the site will be required to comply with this condition</p>
<p>appropriate and adequate management arrangements are established for consultation and implementation of the Bush Fire Emergency Management and Evacuation Plan</p>	<ul style="list-style-type: none"> • an Emergency Planning Committee is established to consult with residents (and their families in the case of aged care accommodation and schools) and staff in developing and implementing an Emergency Procedures Manual; and • detailed plans of all emergency assembly areas including on-site and off-site arrangements as stated in AS 3745:2010 are clearly displayed, and an annually emergency evacuation is conducted 	<p>Any future development upon the site will be required to comply with this condition</p>	

6.0 RECCOMENDATIONS & CONCLUSION

It is clear from this investigation and assessment that the subject site located at 7 Pomona Road, Empire Bay is located on bushfire prone land. Therefore, any future development upon the site will have to be carried out in accordance with the specifications contained within PBP as assessed and presented within this report.

In summary, the following key recommendations have been generated to enable any future land development to meet the relevant legislative requirements:

- A minimum Asset Protection Zones (APZ) of 24m is recommended from the bushfire hazard located on the northern portions of the site to any proposed long-term sites
- A minimum APZ of 37m recommended from the bushfire hazard located on the northern portions of the site to any proposed short-term/caravan sites
- A minimum APZ of 11m is recommended from the bushfire hazard located on the western portions of the site to any proposed long-term sites
- A minimum APZ of 38m recommended from the bushfire hazard located on the western portions of the site to any proposed short-term/caravan sites
- Any habitable building shall be constructed to comply with the relevant BAL rating as determined under Table 1.12.2 of PBP
- Water, electricity and gas supply is to comply with the acceptable solutions as provided within Table 6.8b in PBP
- Any new internal access roads are to comply with the acceptable solutions provided within Table 6.8b in PBP for Non-Perimeter Roads.

This report demonstrates that the subject land is capable of accommodating future development classified as Special Fire Protection Purpose (SFFP) with the appropriate bushfire protection measures and bushfire planning requirements prescribed by s.117 (2) Direction 4.4 – ‘Planning for Bush Fire Protection’ (EP&A Act) and Planning for Bushfire Protection (RFS 2019).

As demonstrated the proposed rezoning offers compliance with the Rezoning Principles of PBP. This report should be referred to NSW Rural Fire Service for review.

For and on behalf of

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Disclaimer

PBP States;

Due to a range of limitations, the measures contained in this document do not guarantee that loss of life, injury and/or property damage will not occur during a bush fire event

This Report provides measures and recommendations which would contribute to the amelioration of the potential impact of any bushfire upon this study area, they do not and cannot guarantee that the area will not be affected by bushfire at some time.

REFERENCES

- Keith, D. (2004), *Ocean Shores to Desert Dunes*. Department of Environment and Conservation, Sydney
- National Construction Code (2018), *Building Codes Australia, Class 1 and Class 10 Building Housing Provisions Volume 2*
- NSW Rural Fire Service and Department of Planning (2019), *Planning for Bushfire Protection, A guide for Councils, Planners, Fire Authorities and Developers*. NSW Rural Fire Service.
- Schauble, J. (2004). *The Australian Bushfire Safety Guide*. Harper Collins Publishers, Sydney, Australia.
- Standards Australia, (2018), *AS3959 Construction of Buildings in Bushfire-prone Areas*. Standards Australia International