

Bushfire Assessment

In relation to

Proposed Subdivision

Lot 219 DP 753149

75 Forest Lane, Old Bar

Prepared for:

Archer Properties No.20 Pty Ltd

March 2024

Project: 22115

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Abbreviations	
AS3959	AS3959-2018 Construction of Buildings in Bushfire Prone Areas
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BCA	Building Code of Australia
BC Act	Biodiversity Conservation Act 2016 (NSW)
BFPL	Bush Fire Prone Land
BFEAC	Bushfire Environmental Assessment Code for NSW
DP&E	Department of Planning and Environment
EEC	Endangered Ecological Community
EP&A Act	Environmental Planning and Assessment Act 1979
IPA	Inner Protection Area
LGA	Local Government Area
NASH	National Association of Steel Framed Housing (2021) Steel Framed Construction in Bush Fire Areas
NCC	National Construction Code 2022
PBP	Planning for Bush Fire Protection 2019
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
URA	Urban Release Area

1. INTRODUCTION

This Bushfire Assessment has been prepared in relation to a proposed subdivision of land at Lot 219 DP 753149, 75 Forest Lane, Old Bar.

The land within the site and surrounds is mapped as bushfire prone land for the purposes of Section 10.3 of the *Environmental Planning & Assessment Act 1979* (EP&A Act). A site locality and bushfire prone land map is at Figure 3.1.

The proposed development is subdivision of bushfire prone land (BFPL) that could lawfully be used for residential purposes and requires the issue of a bushfire safety authority (BFSA) by the Commissioner of the NSW Rural Fire Service (RFS) pursuant to Section 100B of the *Rural Fires Act 1997*.

The purpose of this report is to carry out a bushfire assessment having regard to the provisions of the NSW Rural Fire Service guideline entitled *Planning for Bush Fire Protection 2019* (PBP) and the information requirements for obtaining a bushfire safety authority under Clause 45 of the *Rural Fires Regulation 2022* (RF Regulation).

1.1 Background

The proposed development involves the subdivision of land that is subject to a Concept Approval issued by Council on 2 May 2016 (439/2014/DA) and most recently modified under the Notice of Determination (NoD) to MOD2022/0277.

The Concept Approval relates to part of an Urban Release Area (URA) known as “Old Bar Precinct 3” and includes land occupying Lots 117, 217, 218 & 219 DP753149 (located on the northern side of Forest Lane) and Lots 591 and 592 DP1180317, Lot 14 DP733054, Lot 2 DP1022067, and Lot B DP377867 on the southern side of Forest Lane.

While MOD2022/0277 provides “Concept Approval” for the subdivision, the proposal remains subject to a separate detailed Development Application.

This assessment relates specifically to land within Lot 219 DP753149, identified as Stage 6 of the Concept Approval (Figure 1.1).

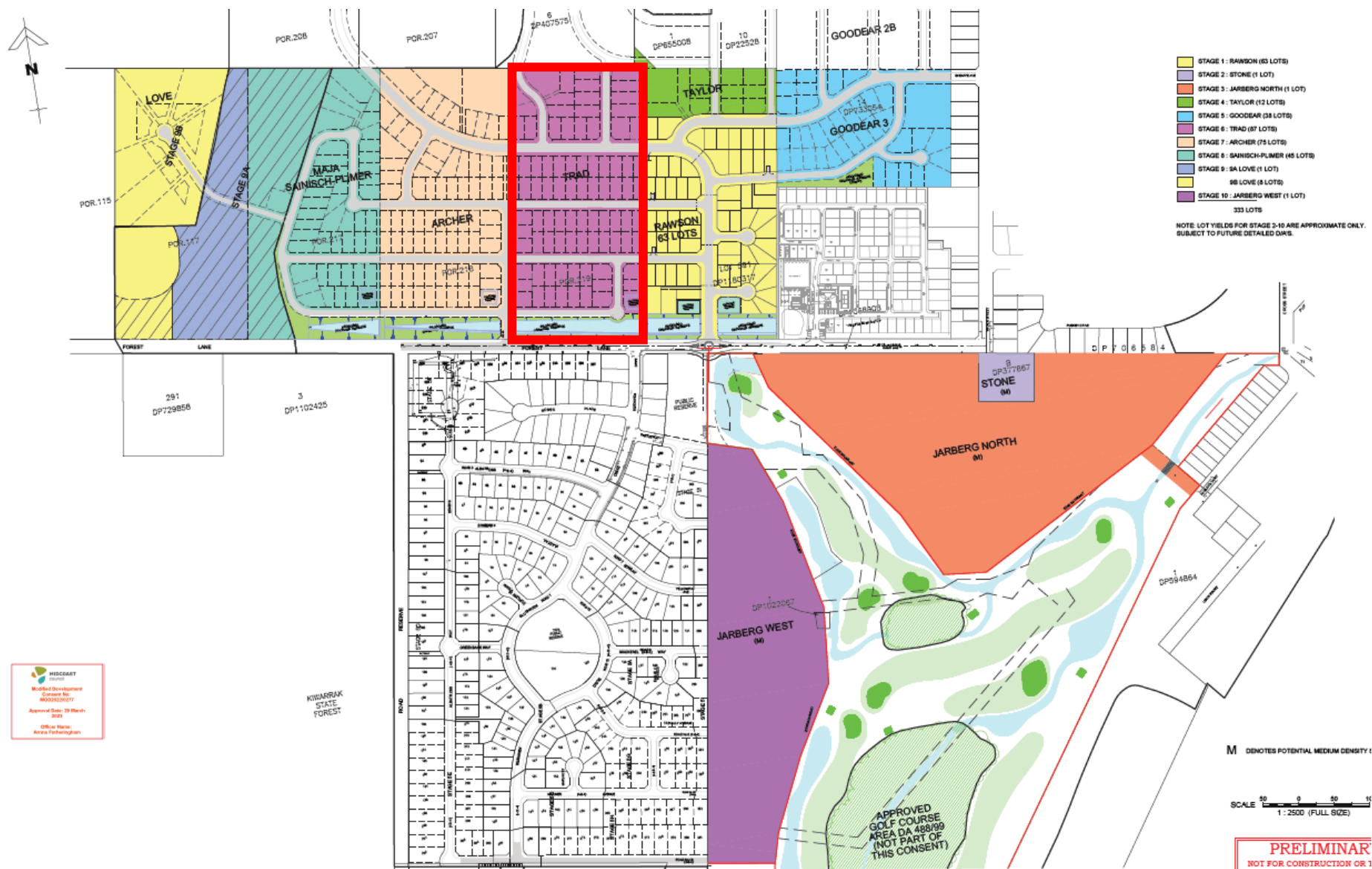


Figure 1.1: Concept Approval showing Stage 6 “Trad” road network and conceptual lot configuration (highlighted in red)

2. PROPOSED DEVELOPMENT

The proposed development involves an eighty-seven (87) lot residential subdivision including dedication of new public roads and drainage reserves.

The subdivision is proposed to be constructed over three (3) stages, as follows:

- Stage 1 will comprise twenty-nine (29) residential lots plus residue and drainage reserve in the southernmost part of the site, closest to Forest Lane.
- Stage 2 will contain twenty-four (24) residential lots and one (1) residue lot.
- Stage 3 will create the final thirty-four (34) residential lots and dedication of public road reserves.

The proposed development will be serviced by an extension of existing underground electricity, reticulated water, sewer and telecommunications.

The proposed subdivision is shown on drawings by LSW Surveyors, *Concept Plan for Development of Lot 219 DP753149, Forest Lane - Old Bar*. An extract of the plan is at Figure 2.1.

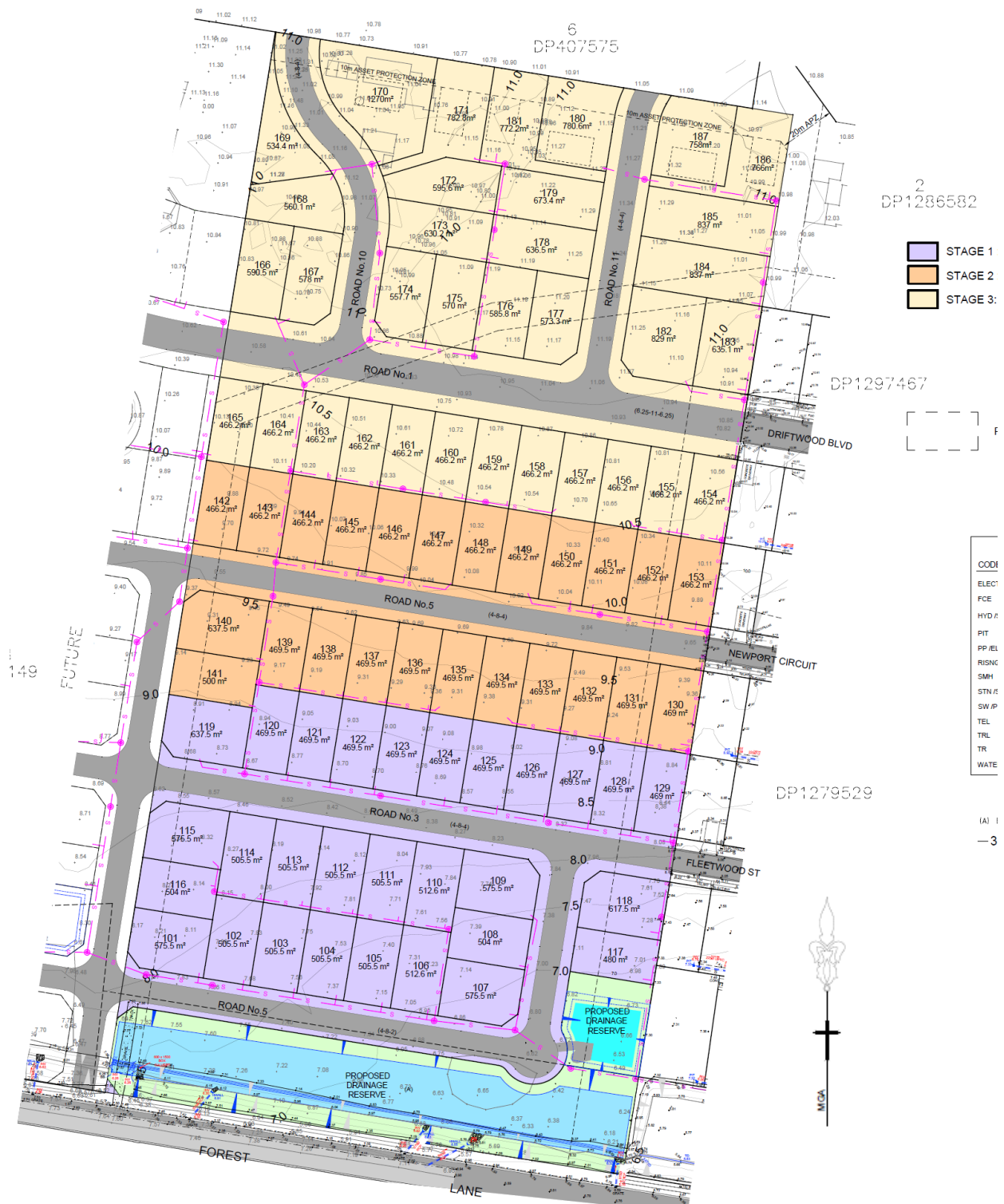


Figure 2.1: Extract of Proposed Subdivision Plan (Source: LSW, 2024)

3. SITE DESCRIPTION

The site comprises land described as Lot 219 DP 753149, 75 Forest Lane, Old Bar. The site is in the Mid-Coast local government area and the applicable local Environmental Planning Instrument (EPI) is the *Greater Taree Local Environmental Plan 2010 (LEP)*. The land is in the North Coast fire (weather) area and the relevant Fire Danger Index (FDI) is FDI 80.

The site is on the northern side of Forest Lane, with a total area of approximately 7.1 hectares. The site is presently vacant with the exception of an existing dwelling in the north-western corner. It is understood that the existing dwelling will be demolished (under a separate development consent) and will not remain on the land at the commencement of subdivision works.

The remaining area of the land comprises a construction site that has been subject to clearing and bulk earthworks.

3.1 Adjoining Land Uses

Land to the west of the site (within Lot 218 DP 753149) is land that forms Stage 7 of the Concept Approval (Archer land). Land to the east, within Lot 1 DP 1286582, forms Stage 1 of the Concept Approval (Rawsons land) which had been recently constructed with lots registered at the time of preparing this report (Photo 3.1).

To the north, land within Lot 6 DP 407575 and Lot 207 DP753149 is part of Old Bar Precinct 2B as detailed in Section L5 of *Greater Taree Development Control Plan 2010 (DCP)*. This land presently contains large rural-lifestyle lots that contain dwellings and a combination of either pasture or native forest vegetation that will form part of a future wildlife corridor.

Residential development occupies land on the southern side of Forest Lane. Kiwarra State Forest is also located on the southern side of Forest Lane, approximately 150 metres south-west of the site. Kiwarra State Forest extends south and south-west from the subject site and forms part of a contiguous vegetated landscape, including Khappinghat Nature Reserve and National Park further to the west.

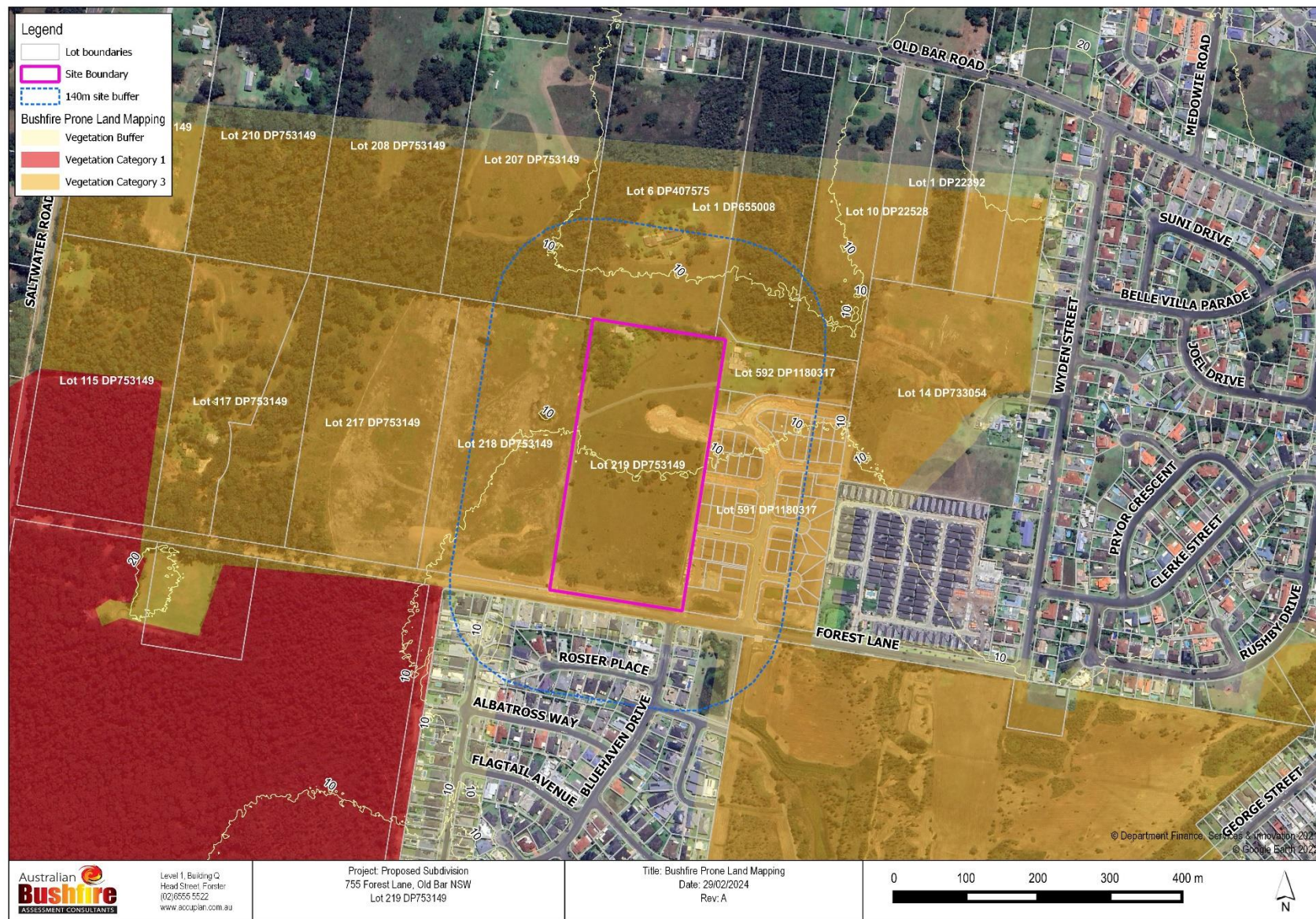


Photo 3.1: Looking west along the constructed part of Newport Circuit (road terminating at the eastern boundary of the site with the western boundary of the land subdivided via the Concept Approval Stage 1).

3.2 Bushfire Prone Land

The nearest areas of potential bushfire hazard vegetation in relation to development of the site exist on land adjoining the northern and western boundary of the site. This vegetation is mapped as Category 3 bushfire hazard vegetation (although, vegetation to the north includes tracts of forest vegetation that is consistent with Category 1 vegetation).

An extract of the bushfire prone land map is at Figure 3.1. An aerial view of the site is at Photo 3.1.





**Photo 3.2: Site condition looking north-east across the proposed development site from Forest Lane at the south western corner (Drone photo, 8 February 2022.
Note: Development on land to the east has since been completed).**

Table 3.1 summarises the services and infrastructure available to the site.

Table 3.1: Summary of Services

Service	Availability
Access	Access to the site is presently available via Forest Lane which is a public road providing two-way vehicular access. Forest Lane intersects with Saltwater Road to the west and Wyden Street at its eastern end. Vehicular access is also available via the road network that has been constructed in Stage 1 of the concept approval (Driftwood Boulevard, Newport Circuit and Fleetwood Street) which terminate at the eastern boundary of the site.
Water	Reticulated water supplies and hydrants are in Forest Lane and the road network constructed in Stage 1 of the concept approval (Newport Circuit and Fleetwood Street).
Electricity	Underground electricity and underground telecommunications are available in Forest Lane and the road network constructed in Stage 1 of the concept approval (Newport Circuit and Fleetwood Street).
Gas	No reticulated gas is available.

3.3 Environmental Features or Aboriginal Relics

A Flora and Fauna Impact Assessment was prepared in relation to the original Concept Development Application (Concept Approval, 439/2014/DA). The Flora and Fauna Assessment guided the design of the Concept Approval and concluded that the project concept was unlikely to result in any significant impacts to threatened species, populations and ecological communities, and/or their habitats protected under Federal and State legislation at that time.

Land within the site is now predominantly clear of vegetation due to recent bulk earthworks undertaken in accordance with the consent to Development Application DA2021/2320.

There are no apparent environmental constraints that would be relevant to the provision of Asset Protection Zones (APZs) or other Bushfire Protection Measures (BPMs) within the site.

An Aboriginal Heritage Due Diligence Assessment (McCardle Cultural Heritage, 2021) has been prepared in relation to the proposal. The assessment indicates that there are no known archaeological constraints at the subject site that would be relevant to bushfire protection measures for the proposed subdivision.

3.4 Vegetation Classification

3.4.1 Vegetation Within the Site

Vegetation within the site has been largely removed as a result of previous approvals for bulk earthworks. It is assumed that any residual vegetation would be capable of being managed to the standard of an APZ.

The proposal includes establishment and dedication of a drainage reserve occupying land in the southern part of the site (adjacent to Forest Lane). The drainage reserve is to be dedicated to Mid-Coast Council upon registration of the plan of subdivision.

It is conservatively assumed that the drainage reserve may regenerate as an assemblage of Swamp Oak, *Melaleuca* sp. and wetland-adapted shrubs and sedges.

The equivalent formation (following regeneration and/or in the absence of management) is likely to be representative of the Keith (2004) *coastal floodplain wetlands* vegetation class with the formation of *forested wetlands* for the purposes of applying Table A1.12.3 of PBP.

The proposed bioretention basin (located south of proposed Lot 117) would potentially contain vegetation that is contiguous with the drainage reserve. Any vegetation to be established in and around the bioretention basin is likely to be consistent with classification as *forested wetlands* for the purposes of Table A1.12.3 of PBP.

3.4.2 Adjacent Land

Land to the south and east of the site is entirely cleared, having recently been developed for Stage 1 of the Concept Approval for Precinct 3 for residential subdivision (see Figure 1.1).

Land to the west of the site is a construction site that has been cleared of vegetation in preparation for development as Stage 7 of the Concept Approval, with development consent granted for residential subdivision (DA2022/0355). In the absence of continuing construction, this land has potential to regenerate seasonally as weeds and grasses. A classification of grassland is appropriate for the purposes of this assessment.

The nearest area of significant bushfire hazard vegetation exists to the north of the site within lots that are part of Precinct 2B. This land is generally maintained as slashed grass/pasture, except for forested areas that generally corresponding with the boundaries of land to the north-west (southern part of Lot 207 DP 753149 and south-western corner of Lot 6 DP 407575) and north-east (Lot 1 DP 655008).

The (former) Greater Taree LGA Vegetation Mapping (2006) maps the surrounding native vegetation community as *Blackbutt with Grey Gum, Broadleaved White Mahogany, Ironbark and sometimes Tallowwood* (Map Unit 5d).

Any forest vegetation within 140 metres is consistent with Northern Hinterland Wet Sclerophyll Forests and has a corresponding formation of *Wet Sclerophyll Forests (Grassy sub-formation)* (Keith, 2004).

Vegetation on land within 140 metres of the site has been classified as a mix of:

- *grassland* on land to the west (Lot 218 DP 753149) and north (Lot 6 DP 407575); and
- *forest* to the north-west (southern part of Lot 207 DP 753149 and south-western corner of Lot 6 DP 407575) and north-east, within Lot 1 DP 655008.

3.5 Slope Assessment

The assessment of slope has been undertaken in accordance with the methodology in Section A1.5 of PBP. The assessment of slope was undertaken via analysis of 1 metre resolution Digital Elevation Model and through field analysis using a hand-held inclinometer and range finder.

For the purposes of this assessment, the slope of land most likely to influence bushfire behaviour in relation to the proposed dwelling sites has been assessed as relatively flat and/or upslope under any vegetation.

4. BUSHFIRE ASSESSMENT

4.1 Submission Requirements for BFSa

The following provides a summary of the submission requirements for a Bush Fire Safety Authority (BFSa) in relation to subdivision of BFPL within an Urban Release Area, as per Clause 45 of the Rural Fires Regulation 2022.

4.1.1 The extent to which the development is to provide for setbacks, including Asset Protection Zones

Appendix 1 of PBP provides the methods for determining the minimum APZs for residential subdivision.

The site is in the North Coast fire (weather) area and the relevant Fire Danger Index (FDI) is FDI 80. Table A1.12.3 of PBP provides the minimum APZs for residential subdivision for FDI 80 areas.

In relation to the slope and vegetation classification in Sections 3.4 and 3.5 of this assessment, and as per Table A1.12.3 of PBP, APZs/separation distances as set out in Table 4.1 are to be provided for any building envelope.

Table 4.1: Analysis of Minimum APZs

Direction	Vegetation	Slope	Minimum APZ (metres)	Available Separation (metres)
North	Grassland	Flat	10	10**
North-east	Forest	Flat	20	>20
North-west	Forest	Flat	20	>20
South (drainage reserve)	Forested Wetlands	Flat	8	>8*
East	N/A	N/A	N/A	N/A
West	Grassland (Approved future stages)	Flat	10	50*

It is assumed that land within each proposed lot will be maintained to the standard of an APZ for at least the minimum distances outlined in Table A1.12.3 of PBP.

() subject to implementation of APZs as shown in Figure 4.1 or as recommended in Section 6.*

As shown in the Bush Fire Protection Plan at Figure 4.1, each proposed lot can accommodate a dwelling site with separation distances from hazards (including roads) consistent with the minimum requirements for APZs prescribed in Table A1.12.3 of PBP.

In relation to land adjoining the western boundary (Lot 218 DP753149), achieving the minimum separation distances relies on the maintenance of that land as an APZ. While it is likely that Lot 218 will be developed prior to Lot 219, it is recommended that the land is subject to a temporary APZ ensuring that the land is maintained for a distance of not less than 50m perpendicular to the western boundary (commensurate with BAL-Low and reflecting the long-term hazard situation following development of Lot 218). The required APZs would be a temporary APZ that ensures the maintenance of that land in the event that presently active subdivision construction works cease on Lot 218.

Subject to the incorporation of the minimum required setbacks/APZs as per Table 4.1, the potential radiant heat exposure of future residential buildings on each allotment will not exceed 29kW/m² (≤BAL-29).

4.1.2 The siting and adequacy of water supplies for fire fighting

The siting and adequacy of water supplies is considered in relation to the performance criteria of PBP (Section 5) in Table 4.4 to this assessment.

4.1.3 The capacity of nearby public roads to handle increased volumes of traffic when a bush fire emergency occurs

The major roads directly serving the site are:

- Wyden Street which runs south-north from its intersection with the eastern end of Forest Lane through established residential areas, and intersects with Old Bar Road at its northern end; and
- Forest Lane which runs east-west south of the site and intersects with Wyden Street at its eastern end and Saltwater Road at its western end.

The route via Wyden Street is through established residential areas, generally not mapped as bushfire prone land.

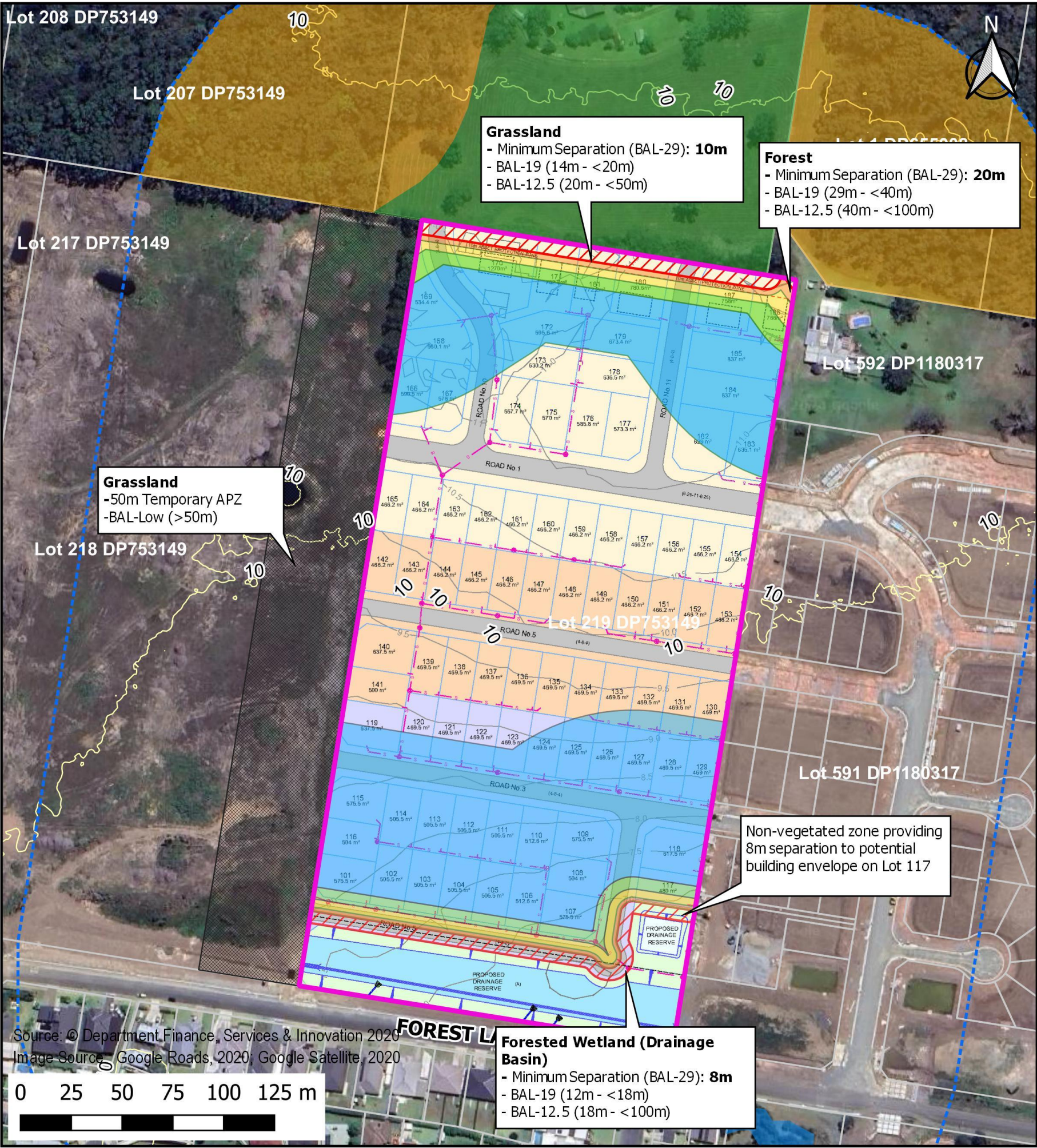
The route via Forest Lane is traverses relatively heavily forested areas west and south-west of the site and Saltwater Road. Forest Lane has been subject to upgrading to a two-way bitumen sealed road with improved capacity to handle increased volumes of traffic in a bushfire emergency.

4.1.4 Whether or not nearby public roads that link with the fire trail network have two-way access


There is no fire trail network within the site. The adjacent road network has two-way access.

4.1.5 The adequacy of arrangements for access to and egress from the development site for the purposes of an emergency response


The adequacy of arrangements for access to and egress from the development is considered in relation to the performance criteria of PBP (Section 5) in Table 4.3 to this assessment.




Legend



140m site buffer




Site Boundary




50m Temporary APZ


BALs




BAL-12.5




BAL-19



BAL-29




BAL-40




BAL-FZ


Vegetation



Forest



Grassland



Wetlands

	ABAC Group Pty Ltd Level 1, Building Q Head Street, Forster (02)6555 5522 www.acuplan.com.au	Project: Proposed Subdivision 55 Forest Lane Old Bar NSW Lot 218 DP753149	Bush Fire Protection Plan
			Date: 11/03/2024 Scale: 1: 2500 (A4) Revision: B

Figure 4.1: Bush Fire Protection Plan depicting proposed setbacks and Bushfire Attack Levels

4.1.6 The adequacy of bushfire maintenance plans and fire emergency procedures for the development site

No Bushfire Maintenance Plans (BMPs) are proposed.

4.1.7 The construction standards to be used for building elements in the development

There are no buildings proposed via the subdivision. All future dwellings are capable of being sited to be subject to ≤BAL-29. The Bush Fire Protection Plan Figure 4.1 shows the BALs that will apply to the residential lots in the subdivision.

4.1.8 The adequacy of sprinkler systems and other fire protection measures to be incorporated into the development

Not applicable.

4.1.9 Registered Fire Trails on the property

No registered fire trails exist on the property, and there are none proposed.

4.1.10 An assessment of the extent to which the proposed development conforms with or deviates from Planning for Bush Fire Protection

Performance criteria in Chapter 5 (Residential and Rural Residential Subdivisions) of PBP are relevant to the proposal. Section 4.2 of this assessment provides an analysis of the development in relation to the performance criteria in Chapter 5 of PBP.

4.1.11 Prescribed Information

The proposal is for subdivision of land within a URA as identified in *Greater Taree Local Environmental Plan 2010*. As per Section 45(3) of the RF Regulation, an application for a BFSA is to be accompanied by a plan of subdivision that shows:

- (i) *the bush fire attack levels that will apply to the property on completion of clearing of vegetation proposed to be carried out as part of subdivision work, within the meaning of the Environmental Planning and Assessment Act 1979, and*
- (ii) *proposed setbacks of buildings that may in future be erected on the property, including asset protection zones*

The prescribed information is provided in Figure 4.1 above.

4.2 Performance Criteria

Development for the purposes of subdivision is subject to the specific considerations in Chapter 5 (Residential and Rural Residential Subdivisions) of PBP 2019. The relevant performance criteria are considered in Table 4.2 to Table 4.4.

Table 4.2: Asset Protection Zones (Re: Table 5.3a PBP)

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO ACCEPTABLE SOLUTIONS
The intent may be achieved where:	
<div data-bbox="197 783 226 1118" style="writing-mode: vertical-rl; transform: rotate(180deg);">ASSET PROTECTION ZONES</div> <p data-bbox="257 871 571 1034"><i>Potential building footprints must not be exposed to radiant heat levels exceeding 29kW/m² on each proposed lot.</i></p>	<p data-bbox="598 603 2033 735">The site provides sufficient unconstrained areas to accommodate a dwelling site within each proposed residential allotment with provision of minimum APZs and/or effective separation distance from potential bushfire hazard vegetation as per Table A1.12.3 of PBP. Subject to the incorporation of the minimum required setbacks/APZs as per Table 4.1, the potential radiant heat exposure of future residential buildings on each allotment will not exceed 29kW/m² (≤BAL-29).</p> <p data-bbox="598 754 2033 887">The northernmost lots (170, 171, 180, 181, 186 and 187) are near the northern site boundary and grassland hazards adjacent to the northern boundary. Easements for APZs/building envelopes should be established to ensure that any future residential buildings will be not less than 10 metres from the northern boundary and not closer than 20 metres to any forest vegetation existing in north-easterly and north-westerly directions.</p> <p data-bbox="598 906 2033 1038">Adjacent land to the west comprises Stage 7 of the Concept Approval and it is understood that the land is in the same ownership as the subject site. While subdivision construction works are likely to soon commence on that land under DA2022/0355, it is recommended that a temporary easement for Asset Protection Zone is created over that land to ensure maintenance of the land until such time as subdivision works are completed.</p> <p data-bbox="598 1058 2033 1222">Any future vegetation that may establish within the drainage reserve has been classified as forested wetland (given the intended function of the basins) as per Table A1.12.3 of PBP. It is noted that, except for proposed Lot 117) roadways provide separation of at least 14 metres between the drainage reserve and any lots. It is recommended that a fuel-free zone be provided and maintained between the bioretention basin (to the south) and any building envelope on proposed Lot 117. The fuel-free zone should be established and maintained to facilitate permanent non-vegetated areas (such as concrete or bitumen).</p> <p data-bbox="598 1241 2033 1299">Figure 4.1 shows APZs and other bushfire protection measures to be provided within the site. The plan also shows the BALs that will apply to the residential lots in the subdivision.</p>

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO ACCEPTABLE SOLUTIONS
The intent may be achieved where:	
<div>APZs are managed and maintained to prevent the spread of fire towards the building.</div> <div>The APZ is provided in perpetuity.</div> <div>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</div>	Any identified APZs are to be managed and maintained to the standard of an Inner Protection Area (IPA).
	APZs can be contained wholly within the boundaries of the site, or within adjacent land that is either in common ownership or already required to be maintained as an APZ through prior stages of the Concept Approval. To the west of the site, temporary APZs are recommended over the adjacent Lot 218 (Stage 7 of the Concept Approval), to be subject to a positive covenant on the title of the land to the west to ensure maintenance of that land until such time as the land is developed for residential purposes and potential bushfire hazards are permanently removed.
	APZ maintenance is practical with the land being relatively flat.
<div>LANDSCAPING</div> <div>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</div>	<div>Recommendations are made in relation to maintenance of the entire site (except for drainage reserves) to the specifications of an APZ in accordance with requirements in Appendix 4 of PBP.</div> <div>APZs can be managed and maintained to the standard of an IPA to minimise potential for flame contact and radiant heat to any residential buildings.</div>

Table 4.3: Access (Re: Table 5.3b PBP)

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
The intent may be achieved where:	
<p>ACCESS</p> <p><i>Firefighting vehicles are provided with safe, all-weather access to structures.</i></p> <p><i>The capacity of access roads is adequate for firefighting vehicles.</i></p>	<p>Access to the proposed lots is to be provided via existing public roads in Stage 1 of the Concept Approval, which adjoins the eastern boundary of the site. The proposed road network will effectively provide for a westerly extension of Driftwood Boulevard, Newport Circuit and Fleetwood Street, with those roads temporarily terminating at the western boundary of the site (Unless Stage 7 is commenced at the same time as Stage 6. Stage 7 involves the construction of through roads south to Forest Lane).</p> <p>The proposed roads are contained within an urban environment and do not traverse forest, woodland or heath vegetation. While the roads will be temporarily dead-end roads, this situation arises due to the Concept Approval staging and sequencing of the development stages prior to the construction of alternate road connections in Stage 7. It is recommended that temporary turning heads are provided at the terminus of each road as per Appendix 3 of PBP until such time as Stage 7 of the Concept Approval is completed.</p> <p>The plan of subdivision also indicates that the road network within the northern part of the site will connect with the future road network planned as part of the Precinct 2B development to the north of the site (when development of that Precinct occurs). Once these connections are established, then there will be several alternate routes available for access to and egress from the proposed subdivision.</p> <p>All vehicular access roads to and within the proposed development will be two-wheel drive, all-weather roads.</p> <p>Recommendations are made in relation to road design and construction to achieve the acceptable solutions of PBP, including design of perimeter roads adjacent to the drainage reserve (refer to discussion on perimeter roads below).</p> <p>Any proposed roads within the subdivision are to be designed and constructed with road surfaces sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes).</p>

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
The intent may be achieved where:	
<p><i>There is appropriate access to water supply.</i></p>	<p>Appropriate access to water supply for firefighting purposes will be provided via the reticulated water supply and hydrants within the proposed roads.</p> <p>Recommendations are made for design and installation of hydrants to be:</p> <ul style="list-style-type: none"> ➤ outside of carriageways or parking reserves to ensure accessibility to reticulated water for fire suppression; and ➤ in accordance with the relevant provisions in <i>AS 2419.1: 2021 Fire hydrant installations – System design, installation and commissioning</i>.
<p>PERIMETER ROADS</p> <p><i>Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.</i></p>	<p>The proposed road network has been designed based on a Concept Approval for the staged residential subdivision development of Precinct 3, having consideration to the master plan for Precinct 2B (Figure 1.1). The proposed road network includes a perimeter road separating the southernmost lots from the only long-term vegetation interface, being the interface of vegetation in the drainage reserve in the southern part of the site.</p> <p>While there is no perimeter road at the northern interface, the development of Precinct 2B will eventually result in the continuation of urban development in a northerly direction such that the northernmost lots do not have an interface with potential bushfire hazards.</p> <p>The perimeter road has a carriageway width of at least 8m kerb to kerb and traverses flat land. Recommendations are made for the design of the perimeter road to:</p> <ul style="list-style-type: none"> ➤ incorporate parking bays outside of the minimum carriageway width; ➤ as above, hydrants are to be located outside of the carriageway and on the 'non-hazard' side of the road as described in Section A3.7 of PBP; ➤ be designed with a cross fall of <3°; and ➤ maintain 4 metre clearance to overhanging branches.

PERFORMANCE CRITERIA	RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
The intent may be achieved where:	
<p>NON-PERIMETER ROADS</p> <p><i>Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating</i></p>	<p>All roads within the proposed subdivision will be “through roads” upon completion of the road network in Stage 7 adjoining the western boundary. At that time, all roads will be linked to the internal road system at intervals less than 500 metres.</p> <p>Non-perimeter roads are bitumen-sealed two-way roads and have a clear width of at least 5.5 metres kerb to kerb.</p> <p>Recommendations include the construction of parking bays outside of the carriageway width and locating hydrants clear of parking areas.</p>
<p>PROPERTY ACCESS</p> <p><i>Firefighting vehicles can access the dwelling and exit the property safely.</i></p>	<p>The site is within an urban area. The proposed public road network will have a speed limit of less than 70km/h and supports the operational use of emergency firefighting vehicles.</p> <p>Following completion of the subdivision, the proposed lots will be in an urban area where there is an unobstructed path (no greater than 70 metres) between the most distant external part of any future dwelling and the nearest part of the proposed public road that supports the operational use of emergency firefighting vehicles.</p>

Table 4.4: Services (Re: Table 5.3c PBP)

PERFORMANCE CRITERIA		RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
The intent may be achieved where:		
WATER SUPPLIES	<i>Adequate water supplies are provided for firefighting purposes.</i>	Reticulated water is available to the site and will be connected to each lot in the development. Hydrant design and installation will also be part of the proposal.
	<i>Water supplies are located at regular intervals; and The water supply is accessible and reliable for firefighting operations.</i>	The proposal can achieve acceptable solutions subject to recommendations relating to: <ul style="list-style-type: none"> ➤ fire hydrant spacing, design and sizing to comply with the relevant clauses of AS 2419.1:2021; and ➤ hydrants not being installed/located within any road carriageway or parking bay.
	<i>Flows and pressure are appropriate.</i>	This is subject to fire hydrant spacing, design and sizing complying with the relevant clauses of AS 2419.1:2021 and required flow rates and pressures being achieved via the design of the system as per that Standard.
	<i>The integrity of the water supply is maintained.</i>	N/A. all water supply infrastructure will be installed underground.
ELECTRICITY SERVICES	<i>Location of electricity services limits the possibility of ignition of surrounding bush land or fabric of buildings.</i>	All future lots are to be serviced by underground electricity supply.
GAS	<i>Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i>	N/A. No buildings proposed. To be considered in conjunction with future residential building construction.

5. CONCLUSION

This Bushfire Assessment has been prepared in relation to a proposed subdivision of land at Lot 219 DP 753149, 75 Forest Lane, Old Bar.

The proposed subdivision has been assessed in relation to the performance criteria for a residential subdivision development as per Chapter 5 (Residential and Rural Residential Subdivisions) of *Planning for Bush Fire Protection 2019*.

APZs for the subdivision can be provided consistent with the minimum separation distances for residential subdivision as per Table A1.12.3 of PBP. Subject to the provision of the minimum required setbacks/APZs, the potential radiant heat exposure of future residential buildings on each allotment will not exceed 29kW/m² (≤BAL-29).

Subject to the following recommendations, the assessment has noted that the proposed subdivision will be consistent with the relevant requirements of PBP.

6. RECOMMENDATIONS

The following recommendations are made in relation to the proposed subdivision of land at Lot 219 DP 753149, 75 Forest Lane, Old Bar pursuant to the relevant provisions of *Planning for Bush Fire Protection 2019* (PBP).

Asset Protection Zones

- A. All land within the site (except for land within drainage reserves) is to be managed as an Asset Protection Zone (APZ) as described in Appendix 4 of PBP. The land is to be maintained to the standard of an Inner Protection Area (IPA) throughout each stage of the subdivision.
- B. The following APZs are to be created via s88B/E of the Conveyancing Act 1919 and registered over the lots identified in the table below.

Lots	Specification
Each proposed lot (excluding drainage reserves) and each residue lot created in Stages 1 and 2 of the subdivision.	Restriction as to User (RATU) requiring the land to be maintained to the standard of an Inner Protection Area (IPA) as described in Appendix 4 of Planning for Bush Fire Protection 2019.
101, 115, 116 and 119, 140-142, 165-169	Easement for Asset Protection Zone at least 10 metres wide, measured perpendicular from the western boundary.
171, 180, 181, 186, 187	Easement for Asset Protection Zone at least 10 metres wide, measured perpendicular from the northern boundary.
169, 170	Easement for Asset Protection Zone at least 20 metres wide, measured perpendicular from the northern boundary.
186	Easement for Asset Protection Zone at least 20 metres wide, measured perpendicular to any part of land at Lot 1 DP655008.
Lot 218 DP753149 (adjacent land)	Temporary easement for Asset Protection Zone at least 50 metres wide, measured perpendicular from any part of the westernmost boundary of the site (Lot 219).

Note: temporary easements may be extinguished, as appropriate, upon development for residential purposes, registration of APZs, or equivalent restrictions on those adjoining lands.

- C. A non-vegetated zone, such as a concrete access way or similar, is to be constructed to provide permanent non-vegetated separation between the proposed bioretention basin and the southern boundary of proposed Lot 117. The outer/southern edge of the non-vegetated zone is to be not less than 8 metres from the building envelope on Lot 117.

Access

- D. Road designs are to be in accordance with the acceptable solutions in Table 5.3b of PBP, including:
- Curves having a minimum inner radius of 6 metres;
 - Cross fall not exceeding 3°; and
 - Minimum vertical clearance of 4 metres to overhanging obstructions including tree branches.
- E. The proposed perimeter road is to be constructed with a minimum clear width of 8m and:
- Incorporate roll top kerb (not higher than 250mm);
 - Provide parking bays outside of carriageways; and
 - Provide surfaces capable of carrying a fully loaded fire fighting vehicle (23 tonnes).
- F. Non-perimeter roads are to be constructed with a minimum clear width of 5.5 metres and:
- Incorporate kerbs not higher than 250mm;

- b. Provide parking bays outside of the minimum carriageway;
 - c. Provide surfaces capable of carrying a fully loaded fire fighting vehicle (23 tonnes).
- G. Temporary turning heads or cul-de-sacs are to be provided at the terminus of any temporary dead-end roads. Vehicle turning heads are to be constructed in accordance with Appendix 3 of PBP and contained wholly within either public road reserves or a Right of Carriageway.

Services and Water Supplies

- H. Proposed fire hydrant spacing, design, sizing and installation for the proposed subdivision is to comply with the relevant clauses of AS 2419.1:2021 (*Fire hydrant installations System design, installation and commissioning*).
- I. Hydrants are not to be located within any road carriageway or parking bay.
- J. Hydrants are to be located on the residential lot side of the road away from the bushfire threat where possible.
- K. Any electricity supply required to service the development should be provided underground.

Landscaping

- L. Road verges are to be landscaped and maintained in a minimal fuel condition.

NOTES & DISCLAIMER:

1. *This assessment relates to a proposed subdivision of the land only.*
2. *This assessment has been based on bushfire protection guidelines as outlined in the document entitled Planning for Bush Fire Protection 2019 (PBP).*
3. *Notwithstanding the precautions recommended, it should always be remembered that bushfires burn under a range of conditions and an element of risk, no matter how small, always remains.*
4. *This assessment does not imply or infer any approval for the removal and/or thinning of vegetation for Asset Protection or other purposes. It is the responsibility of the client/landowner to obtain all necessary approvals in this regard.*

7. REFERENCES

NSW Rural Fire Service (2019)
Planning for Bush Fire Protection 2019

Standards Australia (2018)
AS 3959-2018 Construction of buildings in bushfire-prone areas