

Bushfire Assessment

Existing dwelling

Lot 11 DP 248445

42 Kinka Road, Seal Rocks

November 2024

Final

Prepared for
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Project No:24224

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1. INTRODUCTION

This Bushfire Assessment is in relation to an existing two-storey dwelling in the northern part of land at Lot 11 DP 248445, 42 Kinka Road, Seal Rocks.

The dwelling has recently been subject to upgrading works and it is understood an application is to be made for a Building Information Certificate (BIC) to formalise the works that have been carried out.

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).

As the land within the site is mapped as bushfire prone land, the purpose of this Bushfire Assessment is to consider the existing dwelling in relation to the New South Wales Rural Fire Service (RFS) guideline, *Planning for Bush Fire Protection 2019* (PBP).

2. EXISTING DWELLING

A survey plan by TSD (Project No. 240267), *Plan showing features & levels over Lot 11 in DP248445* (Plan No. 240267DET-A), shows that the land is occupied by a '2-storey block and timber residence' (two-storey dwelling) in the northern part of the site, and a '1 storey weatherboard residence' in the southern part of the site. An extract of the survey plan is at Figure 2.1.

The subject of this assessment is the two-storey dwelling (as now existing after recent new work) in the northern part of the site. Drawings by ODE Architecture indicate that the current floor plan for the two-storey dwelling (see Figure 2.2) is:

- At ground floor level: Sitting room, three (3) bedrooms, bathroom, garage/store, separate storeroom and entry.
- At upper floor level: Dining, lounge, kitchen, one (1) bedroom, powder room and bathroom.

The drawings by ODE Architecture note that no works are involved to either the existing cottage in the southern part of the site (the '1 storey weatherboard residence' shown on the survey plan) or an existing shed (shown on the architectural drawings between the one and two-storey buildings). This assessment does not consider those other structures.

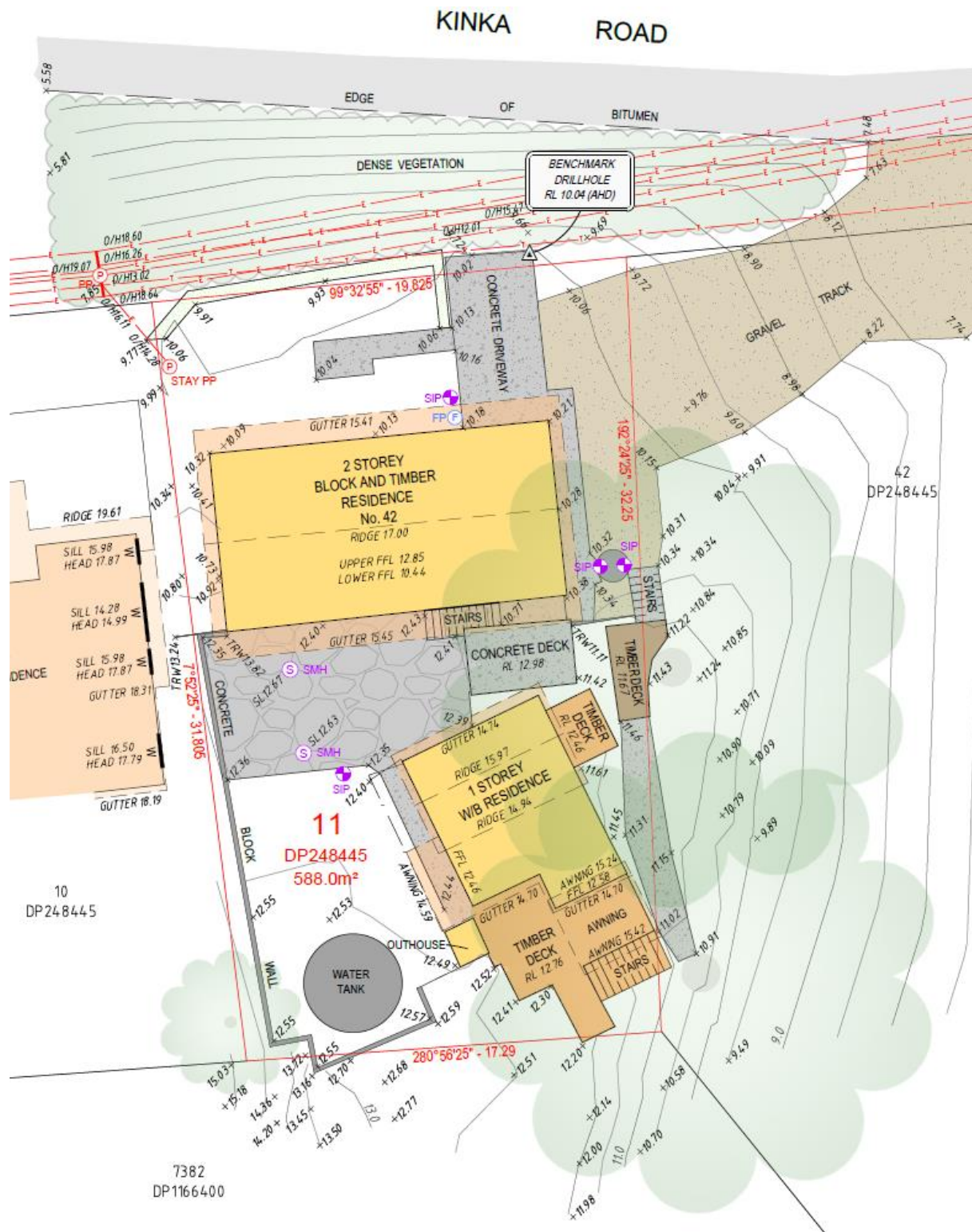
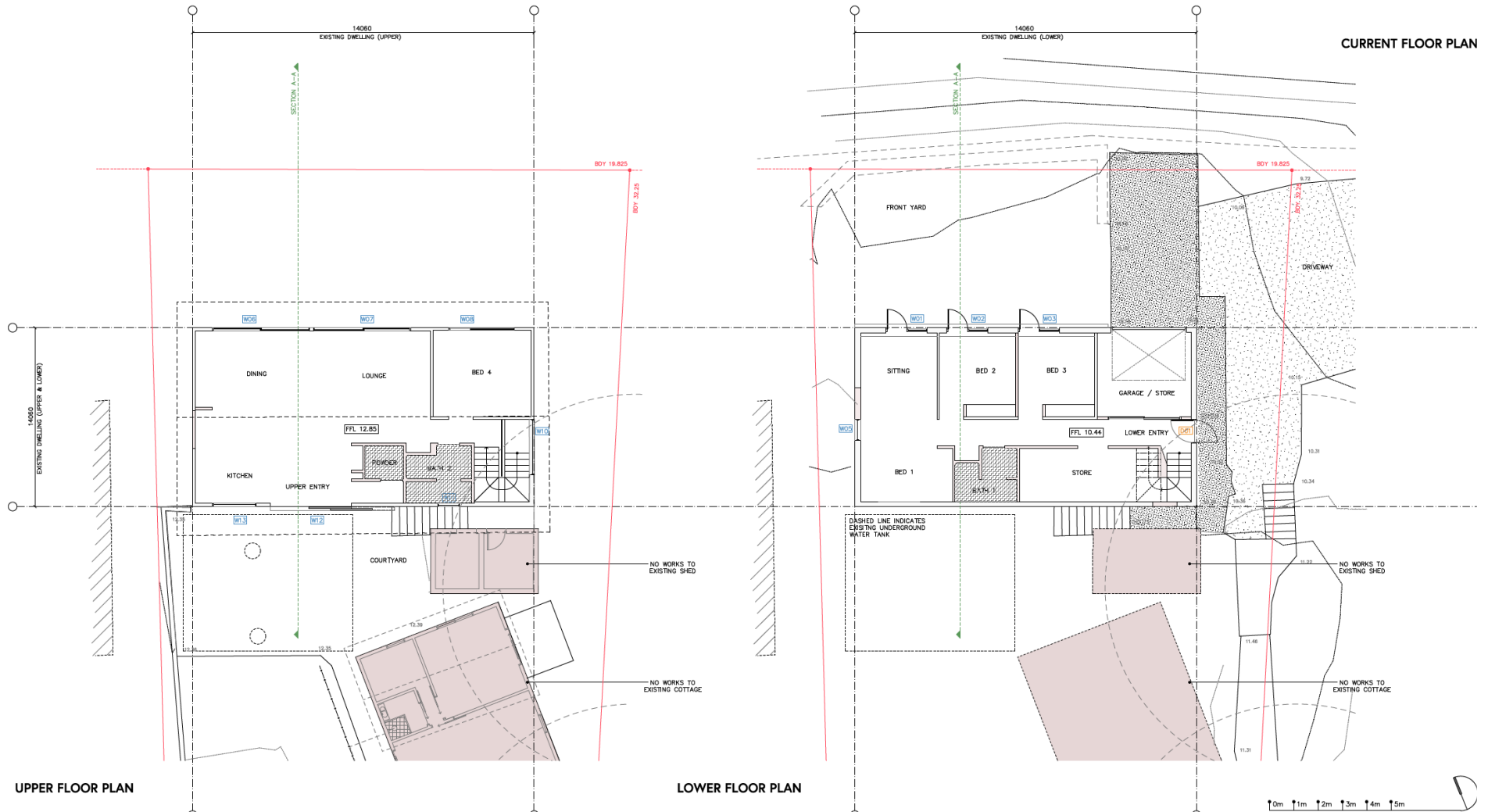


Figure 2.1: Extract of survey plan
(Source: TSD) Not to scale.



3. SITE DESCRIPTION

The site comprises land described as Lot 11 DP 248445, 42 Kinka Road, Seal Rocks. The site has an area of approximately 590m² and is on the southern side of Kinka Road, approximately opposite the access from Kinka Road to the eastern car park to Boat Beach.

The site is in the Mid-Coast Local Government Area and the current local environmental plan applying to the land is *Great Lakes Local Environmental Plan 2014* (LEP). The land within the site is zoned RU5 (Village) under the LEP.

Existing buildings are on the land as shown in Figure 2.1. The land within the site is clear of any significant vegetation. Two (2) Norfolk Island Pine trees on the land to the east of the site partly overhang the site and buildings.

A dwelling has recently been constructed on land to the west of the site, at 40 Kinka Road.

A dilapidated dwelling, which appears to have been unoccupied for some time, is on land to the south-east of the site at Lot 12 DP 248455, 46 Kinka Road. Access to (Lot 12) 46 Kinka Road is over Lot 42 DP 248455, 44 Kinka Road (which adjoins the eastern/side boundary of the site). It is unknown whether (Lot 42) 44 Kinka Road and (Lot 12) 46 Kinka Road are under the same ownership.

The nearest area of significant potential bushfire hazard vegetation is on land which adjoins the southern/rear boundary of the site, within Lot 7382 DP1166400 (part of Myall Lakes National Park) to the south of the site.

Vegetation in Lot 7382 extends to the south and south-east from the site. Part of the land in Lot 7382 is mapped as containing Category 1 potential bushfire hazard vegetation. The land within the site and adjoining and residential allotments along the southern side of this part of Kinka Road is mapped as being in the 100 metre bushfire buffer to the north of the mapped Category 1 vegetation in Lot 7382.

Some vegetation is regenerating in parts of the land at Lot 42 DP 248455, 44 Kinka Road, which adjoins the eastern/side boundary of the site. While this is the case, the vegetation within Lot 7382 has been considered as the main area of potential bushfire hazard in relation to the site.

A site locality map with bushfire prone land map overlay is at Figure 3.1.



Figure 3.1: Site Locality and Bushfire Prone Land Map

Existing vehicular access to the site is via a driveway from Kinka Road which traverses the north-western part of the land at (Lot 42) 44 Kinka Road. The site is not serviced by reticulated water. Electricity supply is from overhead lines in Kinka Road.

The land in Lot 7382 is subject to management by NSW National Parks and Wildlife Service (NPWS) via the *Myall Lakes National Parks and Island Nature Reserves – Fire Management Strategy* (FMS).

The FMS identifies land within MLNP to the south/south-east of the site (and the adjoining Lot 1) as a *Strategic Fire Advantage Zone* (SFAZ). As described in the FMS, the objective of SFAZs is to *reduce fire intensity across larger areas by maintaining overall fuel hazard at high or below* (subject to any guidelines for biodiversity).

The FMS identifies the Township Fire Trail as a 'Category 9, Important' fire trail, shown dotted yellow in Figure 3.2. Part of the Township Fire Trail exists through part Lot 7382, the nearest part of which is about 40 metres from the south-western corner of the site. The trail extends east from Thomas Road before intersecting with the south-eastern end of Kinka Road near the Sugarloaf Point Lighthouse Car Park.

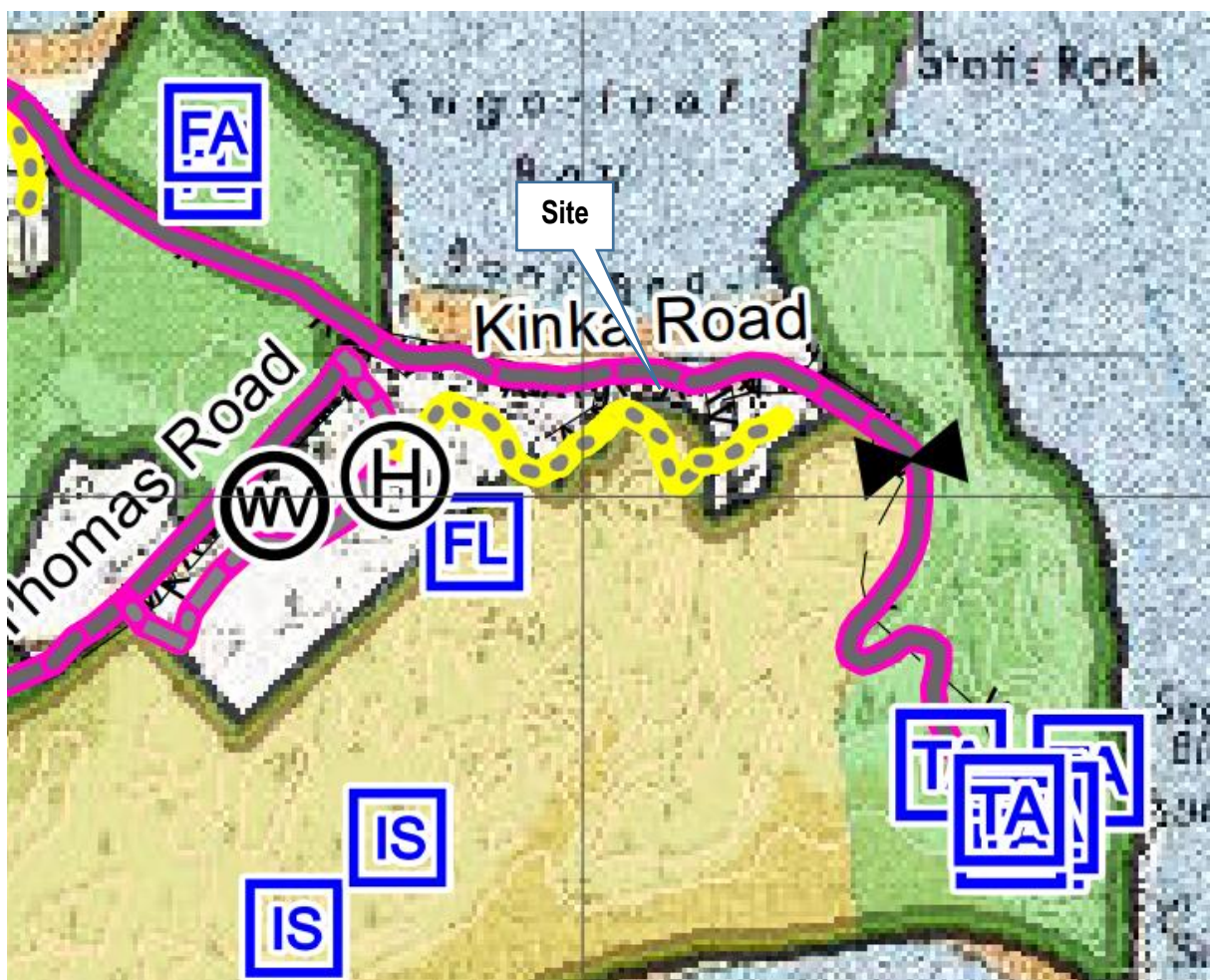


Figure 3.2: Extract of the FMP showing SFAZ and fire trails south of the site

The following photos show the condition of land on and around the site.



Photo 3.1: View of existing dwelling from driveway access from Kinka Road.



Photo 3.2: Vegetation in part of Lot 7382 to the south of the site.



Photo 3.3: Existing hardstand area to the rear of the subject dwelling. The building to the left is the '1 storey weatherboard residence' shown on the survey plan extract at Figure 2.1. The building to the right is the dwelling on the adjoining land at 40 Kinka Road. Vegetation in part of Lot 7382 is in the background.



Photo 3.4: Photo taken from same area as Photo 3.3 showing the '1 storey weatherboard residence' shown on the survey plan extract at Figure 2.1.



Photo 3.5: Photo taken from same area as Photo 3.3 showing the western part of the ‘1 storey weatherboard residence’ shown on the survey plan extract at Figure 2.1, looking south towards land in Lot 7382.

3.1 Vegetation Classification

The vegetation within the adjoining land to the south of the site, Lot 7382 (which is part of Myall Lakes National Park), has been considered as the main area of potential bushfire hazard in relation to the site.

While *Banksia* and *Tuckeroo* species are common in the part of Lot 7382 immediately adjacent to the southern boundary of the site, the vegetation transitions into a *Blackbutt* dominated forest community (which would be considered the “worst case” scenario in relation to vegetation classification).

The vegetation within the National Park to the south of the site is classified as *forest* vegetation formation (Keith, 2004) and is the predominant vegetation type occurring within 140 metres of the site.

3.2 Slope assessment

The assessment of slope and effective slope has been undertaken in accordance with the methodology contained within Sections A1.4 and A1.5 of PBP respectively, via reference to a 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 site has been assessed as upslope under vegetation in the part of Lot 7382 immediately adjacent to the southern boundary of the site.

4. BUSHFIRE ASSESSMENT

4.1 Assessment of Bushfire Attack Levels

Appendix 1 of PBP provides the methods for determining the Bushfire Attack Level (BAL). The Mid-Coast Local Government Area is in the North Coast fire (weather) area and the relevant Fire Danger Index (FDI) is FDI 80.

The determination of BALs is subject to Table A1.12.6 of PBP and, for the purposes of assessing BALs, it has been assumed that all land within the site boundaries can be maintained as an Asset Protection Zone (APZ) to the standard for an Inner Protection Area (IPA).

As mentioned in Section 1 of this assessment, the drawings by ODE Architecture note that no works are involved to either the existing cottage in the southern part of the site (the '1 storey weatherboard residence' shown on the survey plan) or an existing shed (shown on the architectural drawings between the one and two-storey buildings). This assessment does not consider those other structures.

On this basis, the southern/rear elevation of the two-storey dwelling is approximately 17.5 metres north from the southern/rear boundary of the site with Lot 7382. Based on this separation distance, the southern part of the two-storey dwelling, which has been subject to the recent works, is subject to BAL-40.

Note: this BAL may be subject to revision if either the existing cottage/'one storey weatherboard residence' shown on the survey plan) or existing shed are required to be assessed.

According to Section A1.8 (Shielding) of PBP, *where an elevation is shielded from direct radiant heat arising from bush fire attack, then the construction requirements for that elevation can be reduced to the next lower BAL*. Section A1.8 of PBP also provides that *reduced construction requirements do not apply where any elevation is BAL-FZ unless justified with an appropriate performance-based assessment*.

The northern elevation of the two-storey dwelling faces Kinka Road and Boat Beach. Any potential bushfire hazard vegetation is to the south of the site, with no potential line of sight between the northern part of the existing dwelling and any potential bushfire hazard vegetation. On this basis, it is considered that the northern elevation of the existing dwelling could be considered for application of Section A1.8 of PBP.

BAL-40 applies to the roof and the southern, eastern and western elevations of the dwelling (as each of these elevations have a 'line of sight', whether parallel or perpendicular, to potential bushfire hazard vegetation to the south of the site).

Applying Section A1.8 of PBP, the northern elevation of the dwelling may be considered for application of construction requirements for BAL-29.

The dwelling has recently been subject to upgrading works, and it appears that materials used for those works do not necessarily meet the requirements for bushfire-resisting construction for BAL-40 (and/or BAL-29) as per AS3959. As an application is to be made for a Building Information Certificate (BIC) to formalise the works that have been carried out, it is possible that any non-compliances may need to be resolved by substitution of materials with those that meet the relevant BAL requirements. This would be subject to whatever decision is made by Council in its assessment of any application for a BIC.

If, on the other hand, Council only requires upgrading works to certain parts of the dwelling, then any parts of the building not affected by upgrading requirements/directions may be subject to consideration for the purposes of Section 7.8 (Better Bushfire Outcomes) of PBP.

Section 7.8 of PBP includes considerations for infill development where alterations/additions are involved to a dwelling built prior to 2002 and the existing building has little or no BPMs incorporated into its design. In this circumstance, PBP notes that:

- a. consideration must be given to upgrading the existing structure; and
- b. the new works are required to comply with the National Construction Code of Australia (NCC).

Given (b) above, any new/additional work that might be required to the building (and/or not yet complete), then construction and materials are to be consistent with the requirements for BAL-40 (or BAL-29 if those works are to the north-facing elevation of the building).

4.2 Performance Criteria

The development is for the purposes of a dwelling and is residential infill development and assessed in accordance with the acceptable solutions and performance criteria in Chapter 7 (Residential Infill Development) of PBP. The relevant performance criteria are considered in Table 4.1 to Table 4.4.

Table 4.1: Asset Protection Zones

PERFORMANCE CRITERIA		RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
ASSET PROTECTION ZONES	<i>APZs are provided commensurate with the construction of the building; and A defensible space is provided.</i>	As mentioned previously, this assessment does not consider the existing cottage in the southern part of the site (the '1 storey weatherboard residence' shown on the survey plan) or an existing shed (shown on the architectural drawings between the one and two-storey buildings). On this basis, the southern/rear elevation of the two-storey dwelling is approximately 17.5 metres north from the southern/rear boundary of the site with Lot 7382. Based on this separation distance, and subject to maintenance of all land within the boundaries of the site as an APZ, the highest assessed BAL for the two-storey dwelling is BAL-40.
	<i>APZs are managed and maintained to prevent the spread of a fire to the building.</i>	Land within the boundaries of the site is to be maintained as an APZ to the standard of an Inner Protection Area (IPA) for the purposes of Appendix 4 of PBP.
	<i>The APZ is provided in perpetuity. APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</i>	The areas to be maintained as an APZ within the site boundaries are to be managed in that condition in perpetuity. There are no apparent issues with soil stability and ongoing maintenance of the land is practical.

Table 4.2: Access

PERFORMANCE CRITERIA		RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
ACCESS	<i>Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.</i>	<p>Access to the site is via an existing driveway from Kinka Road. There are no details of any changes to access to the site from Kinka Road. The subject dwelling is existing and there is no ability for vehicular access around the existing building.</p> <p>Firefighters will need to access the rear of the site on foot if necessary (as is the case at present). While the Township Fire Trail traverses part of Lot 7382 about 40 metres from the site, no constructed vehicular access is available to the site via that fire trail.</p>
	<i>The capacity of access roads is adequate for firefighting vehicles.</i>	It appears that Kinka Road has capacity to carry fully loaded firefighting vehicles. While Kinka Road has limited width, this is an existing situation and is unable to be rectified.
	<i>There is appropriate access to water supply.</i>	<p>There is no reticulated water supply.</p> <p>While existing water tanks are on site, there are limited opportunities to provide suitable access for firefighting purposes given the existing site arrangement.</p> <p>Consideration should be given to the installation of a standpipe near the Kinka Road frontage (for example, adjacent to the garage) providing firefighter access to a static water supply. Any standpipe is to be fitted with a 65mm Storz fitting.</p>
	<i>Firefighting vehicles can access the dwelling and exit the property safely.</i>	As per the first row in this table.

Table 4.3: Services

PERFORMANCE CRITERIA		RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
WATER SUPPLIES	<i>An adequate water supply for firefighting purposes.</i>	<p>There is no reticulated water supply.</p> <p>While existing water tanks are on site, there are limited opportunities to provide suitable access for firefighting purposes given the existing site arrangement.</p> <p>Consideration should be given to the installation of a standpipe near the Kinka Road frontage (for example, adjacent to the garage) providing firefighter access to a static water supply. Any standpipe is to be fitted with a 65mm Storz fitting.</p>
	<i>Water supplies are located at regular intervals; and The water supply is accessible and reliable for firefighting operations.</i>	N/A. The site is not serviced by reticulated water.
	<i>Flows and pressure are appropriate.</i>	N/A. The site is not serviced by reticulated water.
	<i>The integrity of the water supply is maintained.</i>	As above.
	<i>A static water supply is provided for firefighting purposes in areas where reticulated water is not available.</i>	As per the first row in this table.
ELECTRICITY SERVICES	<i>Location of electricity services limits the possibility of ignition of surrounding bush land or fabric of buildings.</i>	Overhead powerline infrastructure exists within Kinka Road. It is recommended that any changes to electricity connection to the dwelling from the nearest public power pole be installed underground if practical.
GAS SERVICES	<i>Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.</i>	No reticulated gas is proposed. Recommendations are made for the installation of gas if proposed.

Table 4.4: Construction Standards

PERFORMANCE CRITERIA		RELATIONSHIP OF PROPOSAL TO PERFORMANCE CRITERIA
CONSTRUCTION STANDARDS	<i>The proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.</i>	As per the discussion in Table 4.1, the highest assessed BAL for the two-storey dwelling is BAL-40. Section 4.1 of this assessment discusses the potential application of Section A1.8 (Shielding) to the northern elevation of the dwelling, with potential consideration of that elevation as subject to BAL-29.
	<i>Proposed fences and gates are designed to minimise the spread of bush fire.</i>	N/A
	<i>Proposed Class 10a buildings are designed to minimise the spread of bush fire.</i>	No Class 10a buildings proposed as part of the development.
LANDSCAPING	<i>Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</i>	The area of the site around the dwelling is to be maintained, generally as lawn. Recommendations are made in relation to the management of APZs in accordance with Appendix 4 of PBP.

5. CONCLUSION

This Bushfire Assessment is in relation to an existing two-storey dwelling in the northern part of land at Lot 11 DP 248445, 42 Kinka Road, Seal Rocks.

The dwelling has recently been subject to upgrading works, and it appears that materials used for those works do not necessarily meet the requirements for bushfire-resisting construction for BAL-40 (and/or BAL-29) as per AS3959.

As an application is to be made for a Building Information Certificate (BIC) to formalise the works that have been carried out, it is assumed that any non-compliances may need to be resolved by substitution of materials with those that meet the relevant BAL requirements. This would be subject to whatever decision is made by Council in its assessment of any application for a BIC.

If, on the other hand, Council only requires upgrading works to certain parts of the dwelling, then any parts of the building not affected by upgrading requirements/directions may be subject to consideration for the purposes of Section 7.8 (Better Bushfire Outcomes) of PBP.

For any new/additional work that might be required to the building (and/or not yet complete), then construction and materials are to be consistent with the requirements for BAL-40 (or BAL-29 if those works are to the north-facing elevation of the building).

6. RECOMMENDATIONS

The following recommendations are made in relation to the bushfire protection measures for the existing two-storey dwelling on land at Lot 11 DP 248445, 42 Kinka Road, Seal Rocks:

- A. All land within the site boundaries is to be managed as an Asset Protection Zone (APZ). This is to include any areas within the site which are not presently established and maintained as an APZ.
- B. APZs are to be maintained in accordance with the requirements of an Inner Protection Area (IPA) as described in Appendix 4, Section A4.1.1 of *Planning for Bush Fire Protection 2019* (PBP) and any grassy vegetation within the IPA is to be maintained to a height <100mm. A clear area of low-cut lawn or pavement is to be maintained adjacent to the dwelling and proposed additions.
- C. Subject to (A), (B) and (D), construction of any new building work is to comply with the construction requirements for BAL-40 as per Section 8 of AS 3959-2018 (*Construction of buildings in bushfire-prone areas*) and any additional construction requirements/variations as outlined in Section 7.5 of *Planning for Bush Fire Protection 2019*.

Note: Recommendation (C) will also apply if any existing works and/or materials to the building are subject to any requirement of Council for replacement and/or further work.

- D. As per Section A1.8 of PBP 2019 (and Section 3.5 of AS3959-2018), consideration may be given to construction of any new building work to the north-facing elevation of the dwelling being reduced by one level of construction to comply with the construction requirements for BAL-29 as per AS3959-2018, and any applicable additional construction requirements/variations as outlined in Part 7.5.2 of PBP 2019, or the NASH Standard.
- E. Where existing works are accepted by Council as not requiring any replacement and/or further work, then those parts of the building are to be upgraded to improve ember protection as follows:
 - i. (if not already installed) Enclosing or covering openings with a corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2mm. Where applicable this includes the openable portion of the windows, vents, weepholes and eaves, but does not include roof tile spaces.
 - ii. (if not already installed) Weather strips, draught excluders or draught seals shall be installed at the base of side-hung external doors as per AS 3959.

- iii. (if not already installed and if applicable) Enclosure of the subfloor space of the dwelling with non-combustible material and/or mesh screens consistent with (i) above.
- F. Non-combustible leafless guttering and/or metal leaf guard is to be installed in the gutters and/or roof valleys of the existing dwelling to reduce the potential build-up of flammable material.
- G. Where bottled gas is existing or proposed:
 - i. It is to be installed and maintained in accordance with AS 1596 and the requirements of relevant authorities.
 - ii. All fixed gas cylinders are to be kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation.
 - iii. If gas cylinders need to be kept close to the buildings, the release valves are to be directed away from the buildings and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion.
 - iv. Connections to and from gas cylinders are to be metal.
- H. A static water supply of not less than 20,000 litres is to be maintained/available on site for firefighting purposes.

If new tanks are proposed, any new tank(s) are to be of concrete or metal construction.

Where existing tanks are to be utilised, pipework is to be installed to extend from the water supply tanks to the Kinka Road frontage of the site. A standpipe is to be installed within 4 metres of the Kinka Road frontage and provided via an outlet with a 65mm Storz fitting with ball valve.

Access to the static water supply should be clearly identified with an SWS marker supplied by or approved by the RFS.

- I. All above-ground water service pipes external to the dwelling are to be metal, including and up to any taps.
- J. Occupants are advised to prepare a Bush Fire Survival Plan which is revised annually prior to the bushfire season. A *Guide to Making a Bush Fire Survival Plan* has been developed by the NSW RFS to assist residents in the preparation of their plan and can be found at the NSW RFS website - www.rfs.nsw.gov.au. On days of catastrophic fire weather, the NSW RFS recommends leaving early as the only safe option.

NOTES & DISCLAIMER:

- (i) This assessment relates only to the development described in Section 2 of this assessment.
- (ii) This assessment has been based on bushfire protection guidelines as outlined in the document entitled Planning for Bush Fire Protection 2019 (PBP).
- (iii) 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.
- (iv) 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 National Parks and Wildlife Service (2014), *Myall Lakes National Parks and Island Nature Reserves – Fire Management Strategy*

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

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