



BUSH FIRE THREAT ASSESSMENT

LOT 591 in DP 1191380

***4226 NELSON BAY ROAD
ANNA BAY***



***PREPARED BY
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Executive Summary

This Bush Fire Threat Assessment has been prepared to provide comment on a development at 4226 Nelson Bay Road, Anna Bay (Lot 591 in DP 1191380). The proposed development is a sand mine and also includes a machinery shed with a care takers residence within the shed.

It is considered that the proposed development is compliant with *Planning for Bush Fire Protection (2006)* as it meets the aim and objectives. The machinery shed and caretakers residence is to be constructed to BAL-19 AS3959-2009 and a 35 metre APZ is to be constructed around this shed/residence.

1.0 INTRODUCTION

Tattersall Lander Pty Ltd has been commissioned to undertake a Bush Fire Threat Assessment for a proposed development at 4226 Nelson Bay Road, Anna Bay, in the Port Stephens Local Government Area (the LGA) – the property is identified as Lot 591 in DP 1191380. This Bush Fire Threat Assessment is based upon the guidelines as defined in the document, *Planning for Bush Fire Protection Guidelines (2006)*, which has been written by the *NSW Rural Fire Service*. This assessment outlines the risk posed from bush fire, and hence defines the constraints placed upon the proposed development.

Specifically this report has been prepared by myself (Ben Folbigg); I have a Diploma in Planning for Bushfire Protection and am BPAD accredited (Level 2 – BPAD31379) with the FPA Australia.



Figure 1 – Site Location

2.0 METHODOLOGY

This assessment is conducted entirely in accordance with the guidelines, as outlined in *Planning for Bush Fire Protection (NSW Rural Fire Service) 2006*.

This assessment:

- identifies the slope and aspect of the property;

- identifies all vegetation categories within 140 metres of the site;
- determines the Bush Fire Attack Category (Fire Danger Index – FDI) which applies to the development;
- identifies Asset Protection Zones/Setbacks;
- identifies the Bush Fire Construction (Bush Fire Attack Level – BAL) required in relation to the above for the proposed development (AS 3959-2009)

3.0 SITE DESCRIPTION

The subject site is a primarily undeveloped rural lot comprising 13.12 hectares. The site is accessed off Nelson Bay Road, which is a two way bitumen sealed road bordering the north of the site, and at this location the road is divided.

There is significant vegetation within the site and this vegetation is forest. The southern portion of the site contains an electrical easement and an encroaching sand dune. With regard to structures, there is a dwelling and a shed located towards the front of the site. An access track traverses the site in an approximately north south direction, commencing at Nelson Bay Road and ending at the electrical easement.

There are minor variations in the topography within the site, with small hollows, however, in reality, the site is flat.

An aerial photograph of the site and surrounds is provided in Appendix A. These aerial photographs do not show the extent of the encroachment of the sand dune system upon the easement.

The site is located in the Port Stephens LGA, which is in the Greater Hunter District and hence is afforded a Fire Danger Index rating (FDI) of 100.

4.0 THE PROPOSAL

The proposal is for a sand extraction industry which will include a machinery shed and caretakers/managers residence; this residence shall be located within the machinery shed for simplicity and to also minimise the requirement for vegetation removal.

There are to be no structures within ten metres of the proposed shed/residence.

Compliance shall be achieved by ensuring that the aims and objectives of *Planning for Bush Fire Protection* (PBP) are met. The inclusion of the

residence in the proposal results in the requirement to construct the shed to an appropriate BAL in relation to a relevant APZ and it is considered that a BAL-19 would be appropriate.

5.0 LEGISLATION

The proposal is for a machinery shed and caretakers residence – the sand mine component itself has no structures and as such is not assessable with regard to bush fire protection; Council is the determining authority under S79BA of the *Environmental Planning and Assessment Act (1979)* as the development is not integrated, nor is it Special Fire Protection Purpose (SFPP) development under the guidelines. The proposal does not require referral to the RFS.

The proposal is to comply with *Planning for Bush Fire Guidelines (2006)*, and specifically the proposal is to meet the aims and objectives, which are stated below.

Aim

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 property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment.

Objectives

- (i) afford occupants of any building adequate protection from exposure to a bush fire;*
- (ii) provide for a defensible space to be located around buildings;*
- (iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;*
- (iv) ensure that safe operational access and egress for emergency service personnel and residents is available;*
- (v) provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ); and*
- (vi) ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bush fire fighting).*

6.0 SITE ANALYSIS

6.1 Northern Aspect

The northern aspect presents forest for more than 140 metres and the slope under the vegetation is in the upslope/flat category. The proposed shed is to be located approximately 130 metres from the closest part of the northern boundary which will allow for an APZ to be located wholly within the subject site.

6.3 Southern Aspect

The southern aspect presents forest followed by an electrical easement and then a sand dune system – there is a small section of remnant forest between/on the sand dune system and the electrical easement. The shed will be located approximately 130 metres from the southern boundary which shall allow for an APZ to be located wholly within the subject site.

The slope under the vegetation to the south is in the upslope/flat category.

6.4 Eastern Aspect

The eastern aspect presents forest with a slope under vegetation in the upslope/flat category. The proposed shed is to be located a minimum of 35 metres from the eastern boundary to allow for the creation of an adequate APZ wholly within the subject site.

6.5 Western Aspect

The western aspect presents forest with a slope under vegetation in the upslope/flat category. The proposed shed is to be located over 200 metres from the western boundary and this is more than adequate for the required APZ to be located wholly within the subject site.

7.0 SITE ANALYSIS

| Aspect | Vegetation Classification | Slope (degrees) Under Vegetation | Distance of Proposed Asset Protection Zone (metres) * | BAL Requirement* |
|--------|---------------------------|-------------------------------------|--|------------------|
| North | Forest | Upslope/flat | 35 | BAL-19 |
| South | Forest | Upslope/flat | 35 | BAL-19 |
| East | Forest | Upslope/flat | 35 | BAL-19 |
| West | Forest | Upslope/flat | 35 | BAL-19 |

Table 1

6.0 UTILITIES

6.1 Water

Whilst reticulated water is available to the site, the development will operate off tank water and the reticulated system will not be extended to this area of the lot. A 20,000 litre (minimum) non-combustible rainwater tank will be installed in an appropriate location (next to the shed) and this tank shall be installed in accordance with the requirements of *PBP* (2006), including the fitment of a 65mm Storz outlet. All above ground pipe work and taps to and from this tank shall be metal and a SWS marker is to be installed at the front property boundary and also adjacent to the rainwater tank so that it is visible from the access track. A hardstand area shall be constructed so that fire fighting vehicles are able to get within at least 4 metres of this tank and there is to be shielding of the tank from any fire threat.

6.2 Electricity

Electrical supply to the shed shall be underground to avoid any possibility of this electrical supply resulting in an ignition source. This is acceptable and compliant with *PBP 2006*.

6.3 Gas

No reticulated gas shall be available to the shed. No bottled gas is proposed to be installed.

7.0 ACCESS

7.1 Road Capacity

The subject site is accessed via Nelson Bay Road which is capable of carrying fully laden fire fighting vehicles, including tankers. The area within the site is to be accessed via an all-weather access road which is to be 6 metres in width and with a minimum 4 metre vertical clearance. This width negates the requirement for any passing bays. There are no bridges within the property. The proposed access road will be *PBP* compliant.

7.2 Access and Egress

Access to and from the site is to be primarily directly off Nelson Bay Road. There is a secondary alternate access/egress for use in the event of a bush

fire emergency, and this is via the powerline easement. This is considered acceptable.

8.0 DISCUSSION and RECOMMENDATIONS

The proposed machinery shed and managers/caretakers residence are located so that an appropriate APZ of 35 metres is able to be created around the entire structure and this APZ shall be wholly located within the subject site.

The following recommendations are deemed appropriate:

1. A 35 metre APZ is to be constructed around the machinery shed/residence;
2. The machinery shed/residence is to be constructed to BAL-19;
3. A rainwater tank with a minimum 20,000 litre capacity is to be installed in accordance with *PBP* (2006), including:
 - the tank must be metal or concrete;
 - a 65mm storz fitting with a metal gate or ball valve is to be fitted near the base of the tank;
 - all above ground taps and pipe work is to be metal;
 - a hardstand area is to be constructed to at least within 4 metres of the tank.
4. SWS signage is to be installed, one at the property entrance, and one adjacent to the tank, so that it is visible from the access track.

The proposal meets the aim of *PBP* (2006) through meeting the objectives and how these objectives are met is detailed below.

Aim

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 property from the threat of bush fire, while having due regard to development potential, on-site amenity and protection of the environment.

Comment – this is achieved through meeting the objectives (below).

Objectives

- (i) *afford occupants of any building adequate protection from exposure to a bush fire;*

Comment – The proposed shed is to be constructed from Colorbond sheeting with a steel frame; it is considered that any occupants of the shed will be afforded a high degree of protection from exposure to any approaching bushfire as a result of the non-combustible nature of the sheds exterior. Additionally, the shed and residence will be constructed to BAL-19 which is acceptable with the proposed 35 metre APZ.

- (ii) *provide for a defensible space to be located around buildings;*
Comment – A 35 metre APZ is proposed around the entire structure and this is an acceptable defensible space.
- (iii) *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;*
Comment – The proposed APZ equates to a BAL-19 requirement and this clearly demonstrates that the structure will be well outside of flame zone and hence outside of flame contact.
- (iv) *ensure that safe operational access and egress for emergency service personnel and residents is available;*
Comment – The proposed access track is compliant with *PBP* (2006) except for the length and this is overcome via the electrical easement which is an acceptable secondary access/egress in an emergency event.
- (v) *provide for ongoing management and maintenance of bush fire protection measures, including fuel loads in the asset protection zone (APZ);*
Comment – The proposed APZ is to be managed appropriately in perpetuity (whilst the structure is in existence) and this satisfies this objective.
- (vi) *ensure that utility services are adequate to meet the needs of firefighters (and others assisting in bush fire fighting).*
Comment – The proposed rainwater tank shall ensure that there are adequate services for fire fighting.

The proposal meets the aims and objectives of *PBP* (2006) and therefore must be considered acceptable.

9.0 CONCLUSION

The proposal is for a sand extraction operation which is to include a machinery shed combined with a managers/caretakers residence; the location of this proposal is at the rear of Lot 591 in DP 1191380 which is located at 4226 Nelson Bay Road, Anna Bay, in the Port Stephens LGA.

The proposal has been assessed as per the NSW Rural Fire Service *Planning for Bush Fire Protection Guidelines* (2006).

It is considered that the proposal is compliant with *PBP* (2006) on the proviso that the shed is constructed to BAL-19 (AS3959-2009), a 35 metre

APZ is constructed around the shed, and a rainwater tank is installed in accordance with the requirements of PBP.

10.0 DISCLAIMER

All effort has been made to ensure the accuracy of this report, however, it is noted that bush fires can be unpredictable and this report in no way implies that any part of the proposed development is totally safe from fire.

Additionally it is noted that despite the site details at the time of writing this report, the situation may change; factors resulting in change to bush fire hazard include (but are not limited to) vegetation regrowth and improper maintenance of Asset Protection Zones.

No responsibility is accepted or implied for damage to, or loss of, life and/or property at any time resulting from bush fire or bush fire related issues (or any other factors) on this site.

Appendix A: Aerial photograph



Source: LPI Six Viewer Website
Position of photographs approximate only

Appendix B:

Photographs



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9

Appendix C:

Site Plan with Shed Location