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11 August 2015

The General Manager  
Warringah Council  
Civic Centre,  
725 Pittwater Road  
DEE WHY NSW 2009



**Attention:** Ms Janelle Brooks

Dear Janelle

**Re: Ralston Avenue, Belrose Planning Proposal  
Response to the NSW Rural Fire Service (RFS)**

*Travers bushfire & ecology (TBE)* provide the following response to the issues raised by the NSW Rural Fire Service (RFS) in their letter dated 26th June 2015.

The correspondence from the RFS deviates from existing RFS protocols in regard to land development in bushfire prone areas. In that regard we have provided responses to each of the matters raised by the RFS.

We assume the RFS did not have the detailed plans to understand the development and were unable to visit the site due to the locked gate. Should the RFS wish to visit the site to understand the landscape features then we can arrange that inspection and escort that inspection along with the land owners *Metropolitan Local Aboriginal Land Council (MLALC)*.

In regard to the management of the asset protection zones, we have prepared a detailed fuel management plan (FMP) for the development. The purpose of the plan is to facilitate the ongoing management of bushfire hazards within the proposed E3 zoned land especially focusing on the asset protection zone (APZ) landscape.

The implementation and ongoing management of the APZ within the E3 zoned land will be the responsibility of the *Metropolitan Local Aboriginal Land Council (MLALC)*.

***The location of Asset Protection Zones (APZs) on slopes greater than 18 degrees is not supported. The proposal to develop a Fuel Management Plan (FMP) to address the issue of APZs on steep slopes is unsupported.***

The RFS has long taken the view that slopes over 18 degrees are acceptable when they are comprised of stable surfaces such as rock. This is the case over parts of the development site and our explanatory graphics herein advise the area of steep lands greater than 20 degrees is limited – see Figure 3.

The following figure (Figure 1) was prepared as part of the FMP and will be used to guide future mechanical works within the APZ. The purple lines depict the full extent of the APZ and includes the APZ which occurs both within the proposed subdivision, road and in the adjoining proposed E3 zone.

Figure 2 depicts the breakup of the lands that occurs within the APZ i.e. the portion of the dwelling allotment, the portion that occurs within the public roadway and the portion that occurs within the E3 lands. The area in hectares for each portion is provided in the legend.

Figure 1 was prepared using *LiDAR* data equivalent to 1.0m contours. As depicted in Figure 1 the majority of the APZ support slopes less than 18 degrees. The small sections of APZ depicted in dark blue in the north-east, and even smaller section in the north-west, have a slope greater than 25 degrees. These small areas represent rock face / ledges, typically devoid of fuel and would require minimum APZ maintenance and virtually no removal of trees to accord with the RFS 2m separation of tree canopies. Rocky escarpments can have the effect of reducing the bushfire risk posed to a site and act, in effect, as a radiant heat barrier. In light of the above, and as determined during the preparation of the bushfire protection assessment, the small sections of land within the APZ comply with Section 4.1.3 of *Planning for Bush Fire Protection (PBP)*.

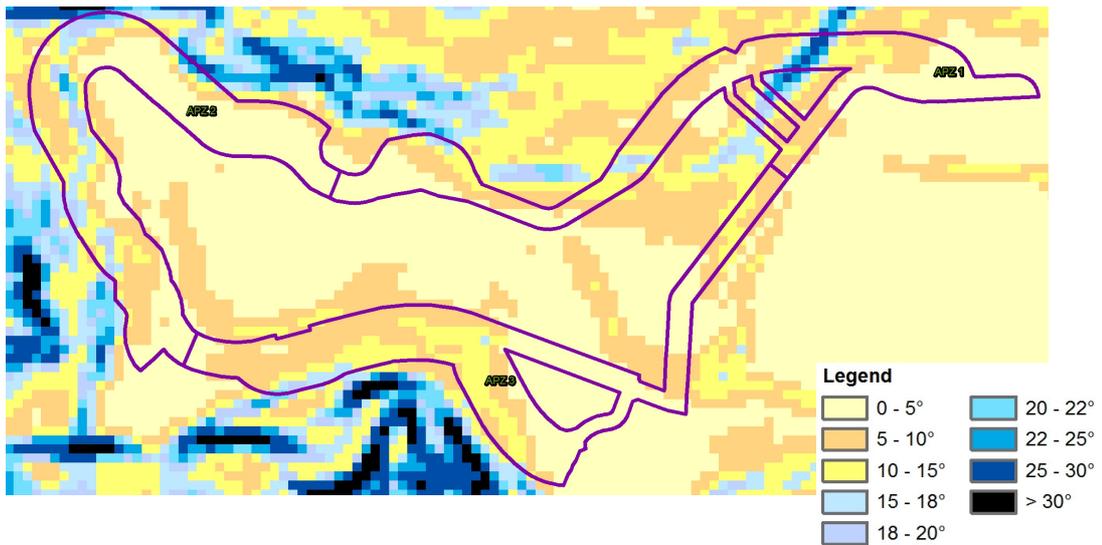


Figure 1 – Slope analysis

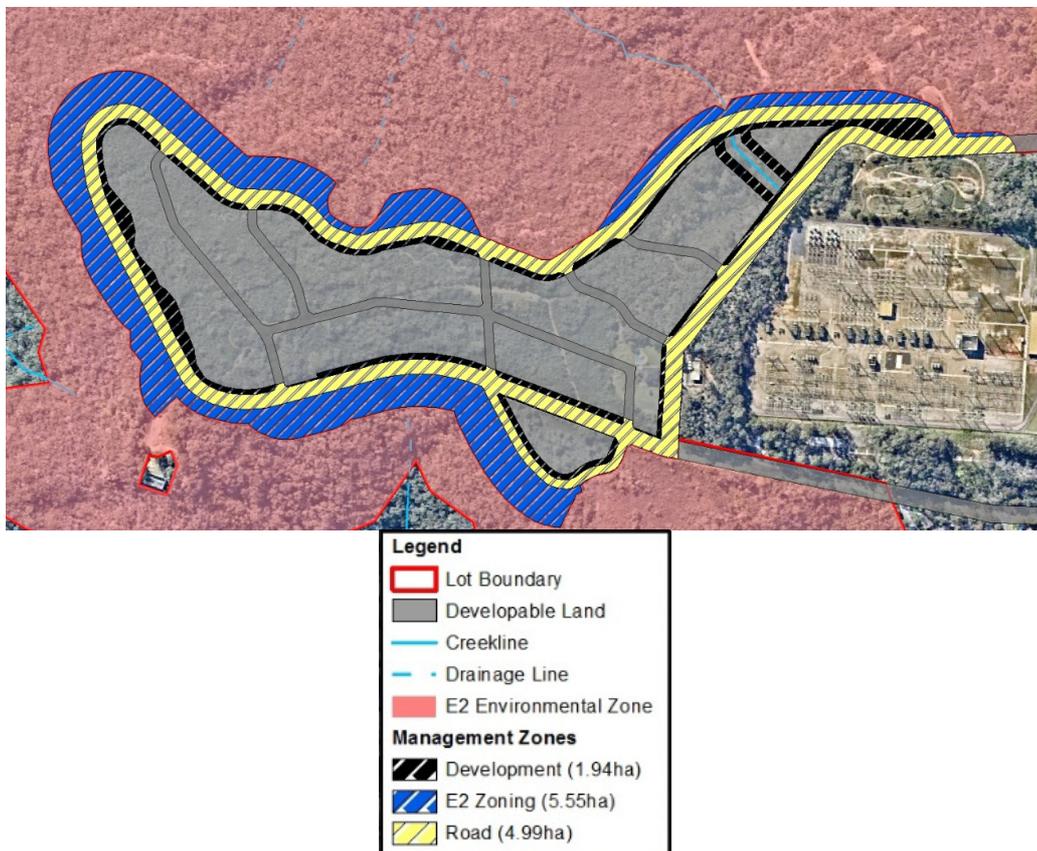
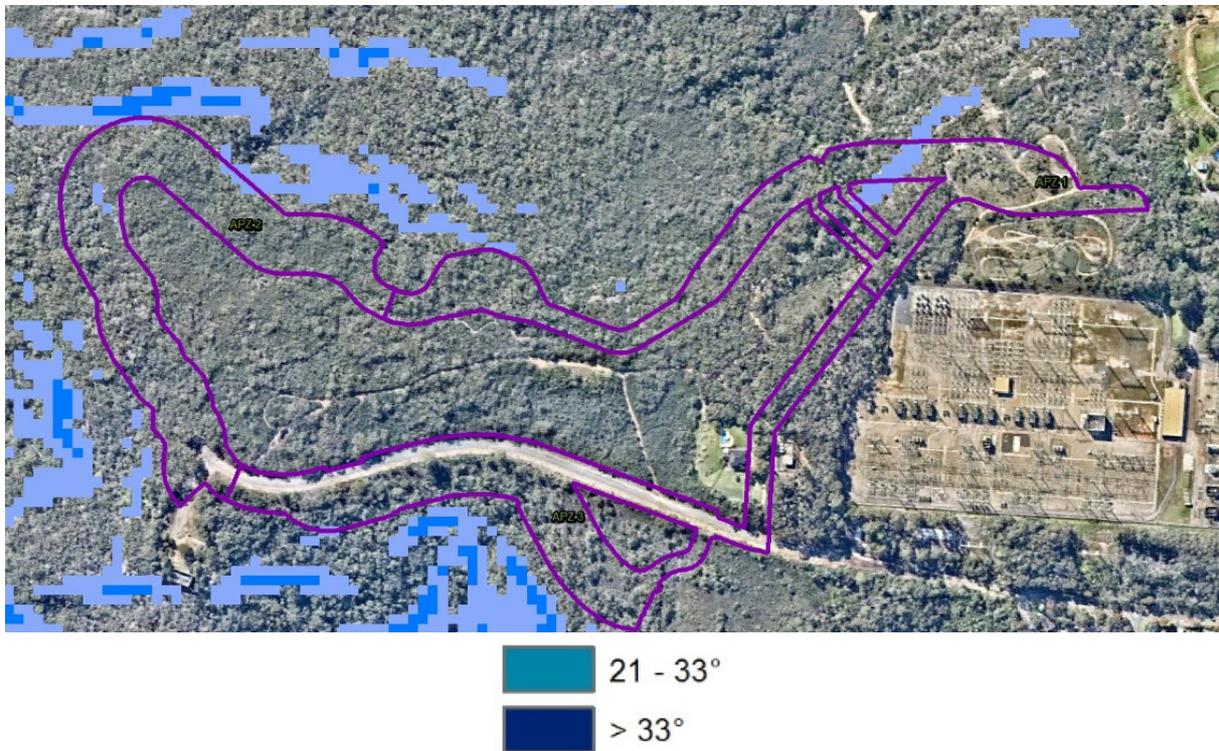


Figure 2 – APZ apportionment

Figure 3 illustrates the slope gradients even further by eliminating the slopes below 20 degrees and retaining the slopes between 21-33 degrees; and slopes over 33 degrees. This graphic displays the very small zone of slope between 21-33 degrees as a narrow vestige in the north-east of the APZ. Similarly, the graphic shows that there are very small areas of slopes greater than 33 degrees occurring external to the APZ.



**Figure 3** – Slope gradient depiction of slopes between 21-33 degrees and over 33 degrees

***The majority of APZs will not be located within the individual allotments and will be located within the residual lot which will remain privately owned. The ongoing maintenance of the APZs will be borne by the land owner who does not benefit. It is considered unlikely that the APZ will be maintained in perpetuity. Who would enforce the positive covenant and who would undertake the necessary maintenance works? Given the expertise required this is likely to fall to the NSW RFS creating an additional burden on existing resources.***

By way of background, the proposed future residential subdivision of the site is a joint venture between *MLALC, Mathew Civil* and *Payce Developments*.

The land owner responsible for the ongoing management of the E3 zoned land (including the APZ and the biodiversity offset area) is *MLALC*.

Indeed, *MLALC* will be bound under a positive covenant to manage the APZ on an ongoing basis as outlined in the fuel management plan (see attached). This is the same way a community management landscape is managed i.e. the land is subject to a fuel management plan and managed by an association (*MLALC*) who owns that land; as determined by a condition of development consent. The ongoing management of that responsibility is self-managed and includes external auditing by the likes of specialist firms such as ours.

As the *MLALC* is the land owner and part 'applicant' the eventual development consent for the works in the APZ will apply to the land. Thus the duty to undertake the work is applied as a development consent condition and the subsequent implementation of the FMP will be applied as a development consent condition.

In retaining the non-residential development portion of the land, *MLALC* will receive funds for the ongoing management of the APZ from the development consortium. These funds will be released to undertake the necessary day to day works as required.

***The APZs are proposed to be located on land which is to be rezoned E2 Environmental Conservation which may conflict with the objectives of the zone given the extent of area to be managed.***

There is no conflict. The proposed zoning has been amended from E2 to E3 – Environmental Management and that is part of the Council's, and I expect the JRPP, assessment criteria. The FMP has taken these constraints into account to address both the bushfire risk, whilst maintaining important ecological elements.

Figure 2 depicts the extent of the APZ in the E3 zone. This figure illustrates that the hazardous landscape to be managed equates to 5.54ha. This being the land that does not contain the portion of the public road and / or the setbacks within the private allotments. The remaining portion of the APZ consists of public road (4.99ha) and areas within each allotment (1.94ha).

Given the extent of the development perimeter, the area of 5.54ha is regarded as quite small based on edge to area ratio.

***In response to the bushfire protection assessment report (dated August 2013) the RFS have outlined the following:***

- ***An additional 1 metre APZ where slopes exceeded 18 degrees. The additional 1 metre APZ is considered inconsequential to compensate for the additional increase in slope.***

The APZ was determined based on Table 2.4.2 of AS3959 which identifies an APZ of 61m adjacent to forest vegetation on slopes of >15–20 degrees. Although AS3959 does not recognise APZ setbacks for hazardous vegetation on slopes greater than 20° the graphic slope analysis shown on Figure 1 and Figure 3 displays the true slopes gradients and the RFS concern should now be resolved.

- ***A 100m Strategic Fire Advantage Zone (SFAZ) around the periphery of the site. It is assumed this means the perimeter of the R2 Low Density Residential zoned land. The ongoing management of the SFAZ is expected to fall to the NSW RFS creating an additional burden on existing resources.***

The SFAZ will occur on land owned by *MLALC* and will be managed as per the requirements and actions of the FMP.

As detailed within the FMP (refer Figure 4 below), the SFAZ is measured from the periphery of the APZ. Ecological management (i.e. burning) will be undertaken in accordance with the FMP by the *MLALC*.

The SFAZ is not a burden but rather a proper planning regime in line with contemporary bushfire planning initiatives. The RFS is not required to provide commentary upon ongoing development expansion at DA stage. The RFS know only too well that their funding model is an agreed protocol with contributions from the insurance companies, the NSW state government and the local government councils; and it is this funding consortium that deals with urban expansion such as what is occurring in the broader Sydney environs, not just at Belrose.

- **The recommendation to edge the SFAZ with a fire trail is considered unachievable given the terrain.**

Fire trails exist on site and will be enhanced and managed in accord with the FMP.

- **The additional fire trails proposed will create an additional financial burden on the NSW RFS.**

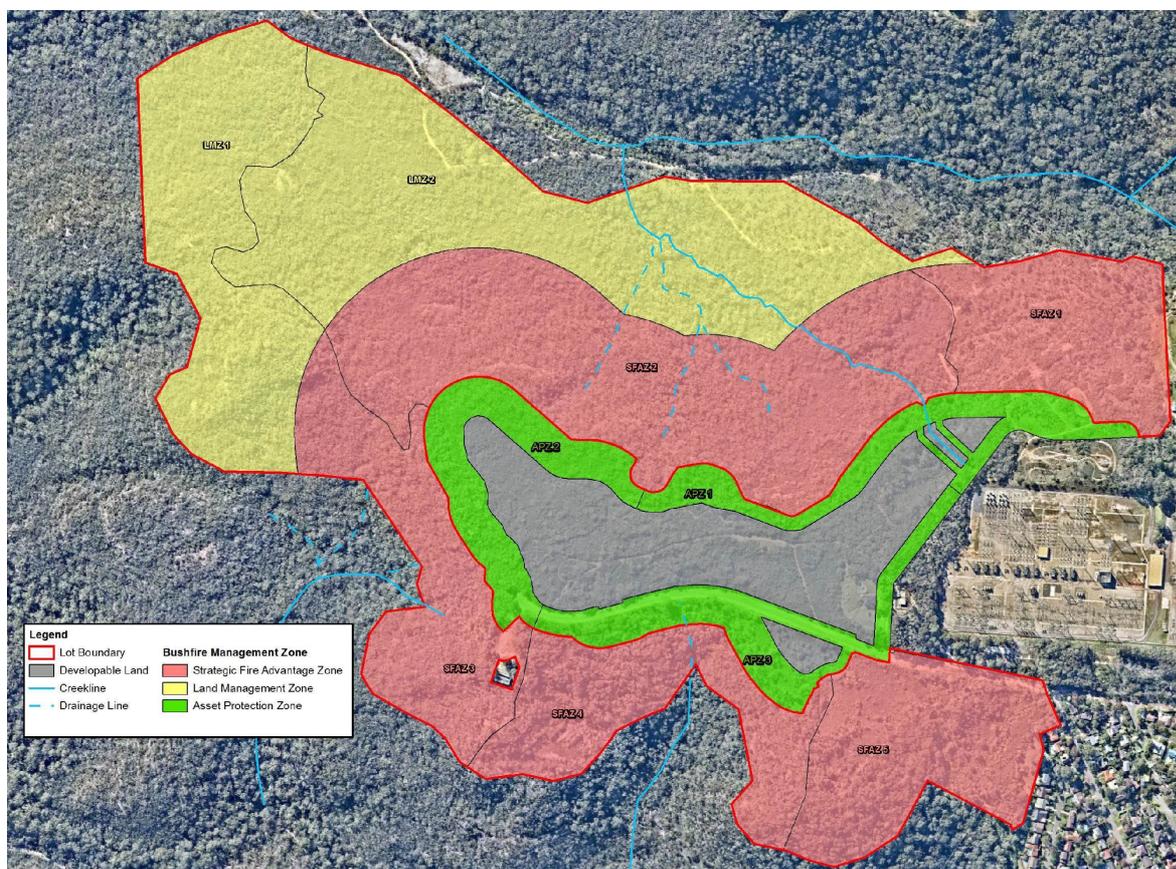
The land is not owned by the RFS, as such there is no burden.

As has been the case with fire trail management for some 40 years in NSW, the ongoing funding for strategic fire trail management can be sought from the Coordinating Committee and there is no reason why this same situation is not possible.

This policy was designed to assist local government with additional funding when necessary, for example with expanding urban boundaries, as is the case with the Belrose development.

- **The management of the APZ within the SFAZ is likely to be problematic in terms of defining the boundaries of each zone. APZs cannot be located within an SFAZ as APZs are usually maintained by mechanical means and SFAZs by prescribed burning. Mechanical works are not permitted in a SFAZ.**

As detailed within the FMP (refer Figure 3), the SFAZ is measured from the periphery of the APZ.



**Figure 4 – Management zones**

Should you require further information, please do not hesitate to contact the undersigned on 4340 5331 or [info@traverseecology.com.au](mailto:info@traverseecology.com.au).

Yours faithfully

A handwritten signature in black ink, appearing to read 'John Travers', with a large loop at the end of the line.

John Travers  
*BA Sc. / Ass Dip / Grad Dip / BPAD-Level 3-15195 (FPA)*  
Managing Director – ***Travers bushfire & ecology***