

06 December 2024

NSW Rural Fire Service  
Locked Bay 17  
Granville NSW 2142  
Attn: Anna Jones

Dear Anna,

### **Bushfire IPA alternate solution – 15 Janderra Lane, Wilton (CNR-62545)**

NSW Rural Fire Service (RFS) issued an advice letter to Wollondilly Shire Council (Council) dated 17<sup>th</sup> October 2024 in regard to their assessment of a proposed subdivision at the above address (CNR-62545; DA/2023/1020/1). The letter contains information on a suggested pathway to achieve compliance with the 'Planning for Bush Fire Protection 2019' (PBP) Inner Protection Area (IPA) landscaping requirements for the subdivision proposal via an alternate solution.

#### **1. Purpose**

This letter has been prepared to present how compliant landscaping will be provided and maintained across the subdivision. The strategy presented herewith utilises and builds on the suggestions within the RFS letter and is to be treated as an addendum letter to the Bushfire Assessment Report (BAR) prepared by Holiday Coast Bushfire Solutions Pty Ltd (Steve Ellis) to address the *Rural Fires Act 1997* s100B requirements of the subdivision proposal. This letter replaces any reference in the BAR

to proposed landscaping compliance such as those listed at Section 4.4.6, Section 4.4.10.1 and Table 5.

Based on the landscape design proposed (Section 4) and the justification provided (Section 5), it is requested that Conditions 1 and 4 of the RFS GTA letter issued to Council (27<sup>th</sup> August 2024) be replaced with conditions that align with the proposal. The suggested condition wording is provided in Section 6.

## 2. PBP Acceptable Solution and Performance Criteria

PBP Table 5.3a lists the Acceptable Solution and Performance Criteria for landscaping within a subdivision on bushfire prone land. They are repeated below:

- a) Acceptable Solution: *Landscaping is in accordance with Appendix 4.*
- b) Performance Criteria: *Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.*

For most applications, the Acceptable Solution is proposed and reliance on PBP Appendix 4 is made. Appendix 4 describes how landscaping in an APZ is to perform and lists landscaping specifications for the Inner Protection Area (IPA) and Outer Protection Area (OPA). Unless proposed otherwise with suitable justification, RFS will condition the landscaping of an application with compliance with the IPA requirements listed in Appendix 4. As PBP is a performance-based document, it provides an opportunity to demonstrate compliance with the performance criteria via an alternate solution as a different pathway to the Acceptable Solutions.

## 3. PBP Appendix 4 IPA requirements

The key features of the landscaping requirements for an IPA listed in Appendix 4 of PBP (Acceptable Solution) are maximum 15% tree canopy cover, minimal use of shrubs, and groundcovers that can be regularly maintained to minimal height. The full list of requirements can be viewed at Attachment A.

This report presents an alternate solution that provides an amended IPA specification for the hazard perimeter area and introduces an OPA specification for the remainder of the site (refer to Section 4 below).

## 4. The proposal

It is proposed to design the landscaping across the subdivision to achieve the following objectives:

- Satisfy PBP Table 5.3a Performance Criteria for landscaping within a bushfire prone area;
- Achieve a 40% tree canopy cover across the subdivision to satisfy the Wilton Growth Area Development Control Plan 2021 South East Wilton Precinct Schedule 1, Section 2.3.1; and
- Minimise the maintenance intervention that would otherwise be required by Council to ensure and maintain compliance.

The key aspect of the alternate solution is the removal of a site wide application of IPA as specified within PBP Appendix 4. The solution applies an amended IPA treatment including canopy cover of 15% to the APZ, perimeter roads and front row lots. The remainder of the site will be subject to an amended OPA treatment including 40% canopy cover. The proposed landscaping strategy is listed in the sub-sections below. Justification for the alternate solution follows in Section 5.

#### **4.1 Relocation of 13 m APZ along western boundary**

It is proposed to relocate the 13 m APZ along the western boundary so that it is measured from the western road edge and western side of the footpaths surrounding the two basins. This will place the APZ within the perimeter road and within the path and turf areas around the edge of the basins. Figure 1 at Attachment B shows the proposed APZ location.

The mass planting within the basins and along the embankment west of the perimeter road will not be within the APZ and will effectively be an extension of the grassland hazard adjoining the site to the west. The proposed planting will be native grasses (boundary embankment and basin outside batter), low groundcover shrubs (inside basin batter) and reeds (within basin). Relocating the APZ will remove the requirement for any IPA compliance or maintenance intervention within these areas.

#### **4.2 Species selection around basins**

To ensure the applicability of an extension of a 'grassland' hazard through the basins, it is proposed to remove the following larger shrub species from the MP2 planting list (inside batter to basins):

- *Grevillea buxifolia*
- *Indigofera australis*
- *Kunzea ambigua*
- *Melaleuca thymifolia*

The remaining species will be predominantly grassland, reeds with wetland classification and some low groundcovers. Scattered trees may be introduced.

#### **4.3 Delineation between IPA (15% canopy) and OPA (40% canopy)**

It is proposed to apply a landscaping treatment referred to as 'IPA 15%' to the APZ, perimeter road and front row of lots. Figure 1 shows the proposed IPA 15% zone. The proposed landscaping specifications are listed in Table 1 on the following page.

The remainder of the site, except the park, will be treated as 'OPA 40%'.

**Table 1: Proposed landscaping specifications for IPA 15% and OPA 40% zones**

| <b>Stratum</b>      | <b>IPA 15% zone</b>   | <b>OPA 40% zone</b>  |
|---------------------|---|--|
| <b>Trees</b>        | <ul style="list-style-type: none"> <li>• Tree canopy cover should not exceed 15% at maturity.</li> <li>• Trees at maturity should not touch or overhang the building.</li> <li>• Lower limbs should be removed up to a height of 2m above the ground when in mature state.</li> <li>• Tree canopies should be separated by 2 m between the subdivision boundary and the building envelope.</li> <li>• Preference should be given to smooth barked and evergreen trees.</li> </ul> | <ul style="list-style-type: none"> <li>• Tree canopy cover should not exceed 40% at maturity.</li> </ul>   |
| <b>Shrubs</b>       | <ul style="list-style-type: none"> <li>• Large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings.</li> <li>• Shrubs taller than 1 m should not be located under trees.</li> <li>• Shrubs should not form more than 10% ground cover.</li> <li>• Shrubs should be separated from the edge of the building by 1 m.</li> </ul>   | <ul style="list-style-type: none"> <li>• Shrubs should not form a continuous canopy.</li> <li>• Shrubs should not form more than 20% ground cover.</li> </ul>  |
| <b>Groundcovers</b> | <ul style="list-style-type: none"> <li>• Grass should be kept mown (as a guide grass should be kept to no more than 100 mm in height).</li> <li>• Leaves and vegetation debris should be removed.</li> </ul>  | <ul style="list-style-type: none"> <li>• Grass should be kept mown (as a guide grass should be kept to no more than 100 mm in height).</li> <li>• Leaves and vegetation debris should be removed.</li> </ul> |

#### **4.4 Landscaping within the park**

It is proposed not to restrict the landscaping within the park. This will allow mass planting beds and high canopy cover in areas.

### **5. Justification**

The Acceptable Solution IPA landscaping requirements are described in PBP Appendix 4 as a component of an APZ to achieve the performance of an APZ, that is, to prevent fire spread from a bushfire hazard to a building. Appendix 4 does not describe an IPA beyond an APZ, such as throughout the remainder of a lot or a development. However, RFS has systematically applied the same IPA requirements throughout the remainder of a development site regardless of APZ affectation. This has perhaps occurred without any other guidance on what landscaping treatments could occur beyond the interface.

If not proposed otherwise with sufficient justification, the RFS will condition the entire development site with the Acceptable Solution IPA requirements. The justification for the proposed landscaping treatment (in Section 4 above) and deviation away from the Acceptable Solutions is provided below:

- a) The landscaping features of the embankment and basins along the western boundary are separate to the APZ and IPA 15% zone. This prevents management intervention by continual maintenance and the need for a plan of management. The application of the APZ is simplified by restricting it to the perimeter road.
- b) The landscaped embankment along the southern boundary is much narrower and is considered to be within the OPA for the 24 m APZ prescribed along the interface (PBP Table A1.12.4 allows a 10 m OPA for the APZ). Allowing the grass treatment along that boundary as an OPA feature is considered acceptable, particularly as the adjacent hazard is classified forest and not grassland. Therefore it is not proposed to relocate the APZ along the southern boundary.
- c) The IPA 15% zone has been designed based on the Acceptable Solutions and applied not only to the APZ but also the perimeter road reserve and front row of lots. This size IPA will prevent fire spread from the hazard to the dwellings, which is one of the primary objectives of an APZ. The IPA 15% zone is wider than the APZ as the APZ distance is related to a Bushfire Attack Level (BAL) under Australian Standard 'AS 3959-2018 Construction of buildings in bushfire-prone areas' and does not address the complexities of landscaping adjacent built components and the impact of secondary fires on building ignition. The IPA 15% zone has been made wider than the APZ to minimise landscaping ignition and secondary fires, which is more common along the first row of lots which are the areas of higher BAL (i.e. above BAL-12.5).
- d) The OPA 40% zone follows beyond the IPA 15% zone and has similar landscaping specifications with the main point of difference being the increase in canopy cover to 40%. Trees located throughout an urban development area beyond the APZ do not present an increased bushfire risk as they are separated from the bushfire hazards and are without a ground and shrub cover necessary to sustain a fire within the canopy. The small lot size will prevent any significant understorey landscaping that could threaten houses or contribute to fire spread. Trees across a subdivision can also provide a benefit by providing additional (limited) bushfire protection by trapping embers and offering radiant heat protection. The OPA 40% zone is predominantly BAL-LOW and also sits within BAL-12.5 along the southern perimeter.
- e) Applying no landscaping restrictions to the park is based on the 'low threat – exclusion' provisions of PBP Appendix A1.10 (dot point 1) whereby an area of vegetation less than 1 hectare in size and more than 100 m from other vegetation may be excluded from the hazard assessment and do not require consideration under PBP. That said, the proposed park landscaping would be acceptable within the OPA 40% zone based on the predominance of turf, discontinuous and small mass planting beds, and open areas amongst the canopy.

## 6. Conclusion and recommendations

In conclusion, the proposed landscaping strategy differs from the Acceptable Solutions by introducing a higher canopy cover away from the hazard interface. The design prevents maintenance intervention within the open space landscaped areas, and the standard development controls can be relied upon for tree plantings within the streetscape and residential lots as typically is the case for subdivisions.

It is recommended that the RFS issued GTAs letter feature the following conditions pertaining to APZs and landscaping treatment:

1. A 13 m APZ is to be provided along the western interface of the subdivision measured from the commencement of landscaping along the western edge of the perimeter road and western edge of pathway around to embankment of both basins (refer to Figure 1 of Peterson Bushfire addendum letter dated 29<sup>th</sup> November 2024).
2. A 24 m APZ is to be provided along the southern interface of the subdivision measured from the boundary of the subject land (refer to Figure 1 of Peterson Bushfire addendum letter dated 29<sup>th</sup> November 2024).
3. Landscaping across the subdivision is to comply with the Landscape Architecture Package by Group GSA issued with this letter. To this end, the following landscape elements are required:
  - a. The area identified 'IPA 15%' zone is to have landscaping comply with the specifications listed in Table 1 of Peterson Bushfire addendum letter dated 29<sup>th</sup> November 2024.
  - a. The area identified 'OPA 40%' zone is to have landscaping comply with the specifications listed in Table 1 of Peterson Bushfire addendum letter dated 29<sup>th</sup> November 2024.
  - b. Specific landscaping design for bushfire protection does not apply to the park.

Please contact me on the number below if you have any questions.

Yours sincerely



David Peterson  
Director



## Attachment A – PBP Appendix 4 IPA and OPA Acceptable Solutions

#### A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defensible space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

##### Trees

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

##### Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

##### Grass

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

#### A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

When establishing and maintaining an OPA the following requirements apply:

##### Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

##### Shrubs

- shrubs should not form a continuous canopy; and
- shrubs should form no more than 20% of ground cover.

##### Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.



## Attachment B – Figure 1: Landscaping alternate solution



### Legend

- Cadastre
- Subject Land

### Asset Protection Zone

- Asset Protection Zone - 13m
- Asset Protection Zone - 24m

### Canopy Cover

- 15% IPA
- 40% OPA



Date: 29/11/2024

0 25 50 100  
Metres

Figure 1: IPA Compliance

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap