

## Bushfire Planning & Design

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# Bushfire Hazard Assessment

Lot 35 Miles Franklin Drive Talbingo 2720 (Lot 35/-/DP878862).



| Project Details                                    |                                                                                                                                                                                                                  |                  |                           |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|
| Assessed as:                                       | Residential Subdivision / Special Fire Protection Purpose.                                                                                                                                                       |                  |                           |
| Assessed by                                        | Matthew Noone                                                                                                                                                                                                    |                  |                           |
| Highest BAL on any facade                          | Subdivision - BAL-29 / SFPP - BAL-10                                                                                                                                                                             |                  |                           |
| Planning for Bushfire Protection (2019) Compliance | The development conforms to the relevant specification and requirements of Planning for Bushfire Protection (2019). This report has addressed the requirements of Clause 45 of the Rural Fire Regulation (2022). |                  |                           |
| Project Description                                | Masterplan with Mixed Use Subdivision and Tourist Accommodation.                                                                                                                                                 |                  |                           |
| Report Number                                      | BR-524422-B                                                                                                                                                                                                      |                  |                           |
| Date of Issue                                      | 17/08/2023                                                                                                                                                                                                       | Report Validity: | 1 year from date of issue |

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Lot 35 Miles Franklin Drive Talbingo 2720

17/08/2023



# BUSHFIRE RISK ASSESSMENT CERTIFICATION

|                                                            |                                                                  |
|------------------------------------------------------------|------------------------------------------------------------------|
| Development Address                                        | Lot 35 Miles Franklin Drive Talbingo 2720.                       |
| Parcel number                                              | (Lot 35/-/DP878862).                                             |
| Development description                                    | Masterplan with Mixed Use Subdivision and Tourist Accommodation. |
| Architectural Drawings Reviewed.                           | Attached to report BR-524422-B.                                  |
| Assessed Bushfire Attack Level                             | Subdivision - BAL-29 / SFPP - BAL-10                             |
| Does the assessment rely on alternate solutions?           | No.                                                              |
| Assessed by Matthew Noone<br>BPAD Accreditation Scheme No. | FPAA No. BPAD-PD 25584                                           |
| Certificate Number:                                        | BR-524422-B                                                      |

I hereby certify, in accordance with s.4.14 of the Environmental Planning and Assessment Act 1979 that;

|   |                                                                                                                                                                             |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | I am a person recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment; and                                                           |
| 2 | Subject to the recommendations contained in the attached Bushfire Risk Assessment Report the proposed development conforms to the relevant specifications and requirements* |

\* The relevant specifications and requirements being; specifications and requirements of the document entitled Planning for Bush Fire Protection prepared by the NSW Rural Fire Service in co-operation with the Department of Planning and any other document as prescribed by s.4.14 of the Environmental Planning and Assessment Act 1979.

I am aware that the Bushfire Assessment Report, prepared for the above mentioned site is to be submitted in support of a development application for this site and will be relied upon by Council as the basis for ensuring that the bushfire risk management aspects of the proposed development have been addressed in accordance with Planning for Bushfire Protection (2019).

The following have been provided and or included in our assessment.

- ☒ - Bushfire Risk Assessment Report.
- ☒ - Recommendations.
- ☒ - Statement of vegetation impact in relation to APZ.

| DATE       | ISSUED TO               | REV.        | Comments                                 |
|------------|-------------------------|-------------|------------------------------------------|
| 09/09/2022 | Dane Nethery (Siteplus) | A (Draft-2) | Issued for Comment.                      |
| 12/10/2022 | Ironstone Developments  | A           | Client Issue.                            |
| 17/08/2023 | Ironstone Developments  | B           | Updated with revised subdivision layout. |

## **DISCLAIMER and TERMS OF USE**

Bushfire Planning & Design cannot be held liable for the loss of life or property caused by a bushfire event. This report has considered the relevant planning instruments, bushfire constructions codes and practices applicable at the time of writing. Should additional information be provided after this report has been issued, we reserve the right to review and if necessary modify our report. Bushfire Planning and Design has no control over workmanship, buildings degrade over time and vegetation if not managed will regrow. In addition legislation and construction standards are subject to change. Due to significant variance of bushfire behaviour, we do not guarantee that the dwelling will withstand the passage of bushfire even if this development is constructed to the prescribed standards.

AS3959 (2018) states *"It should be borne in mind that the measures contained in this Standard cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature of behaviour of fire, and extreme weather conditions."*

The information and material contained herein is general in nature and is intended for your use and information. This report relates only to the specific development described within and cannot be used to support any other future development. Bushfire Planning and Design disclaims, to the extent permitted by law, all warranties, representations or endorsements, express or implied, with regard to the material contained herein. Bushfire Planning and Design does not warrant or represent that the material contained herein is free from errors or omissions, or that it is exhaustive.

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This report has been prepared by Matthew Noone trading as Bushfire Planning and Design. Matthew Noone holds a BPAD Level 2 accreditation with the Fire Protection Association of Australia. Under the BPAD accreditation scheme a BPAD Level 2 consultant can provide advice and undertake all types assessments with the exception of alternate solutions. In the event that alternate solution is proposed it will be undertaken outside of our accreditation. Alternate solutions are considered a deviation from the prescribed standards and as per s.4.14 of the Environmental Planning and Assessment Act (1979) are required to be required to be referred to the New South Wales Rural Fire Service (RFS) for review.

This report has been based on our interpretation of Planning for Bushfire Protection (2019), AS3959 (2018) and the methodology for site specific bushfire assessment. As a consultant, our view can be subjective. Our opinions may differ from the opinions provided by you the Client (or Client Representative), the Council, the RFS or another bushfire consultant. The Rural Fire Service (RFS) has a higher authority and can upon their review, increase a nominated BAL-rating or entirely reject a development proposal. Any such recommendations made by the RFS take precedence. Our role is intermediary between our Client (or Client Representative) and the consenting authority. We apply our knowledge of the relevant bushfire protection standards to provide the best possible outcome for our Client (or Client Representative), both from a bushfire safety and financial perspective. Should the RFS modify our recommendations or reject the proposal to which this report relates to we will not be held liable for any financial losses as a result. By using this document, you the Client (or Client Representative) agree to and acknowledge the above statements.

Bushfire Planning and Design accepts no liability or responsibility for any use or reliance upon this report and its supporting material by any unauthorized third party. The validity of this report is nullified if used for any other purpose than for which it was commissioned. Unauthorized use of this report in any form is deemed an infringement of our intellectual property. By using this document to support your development you the Client (or Client representative) agree to these terms.

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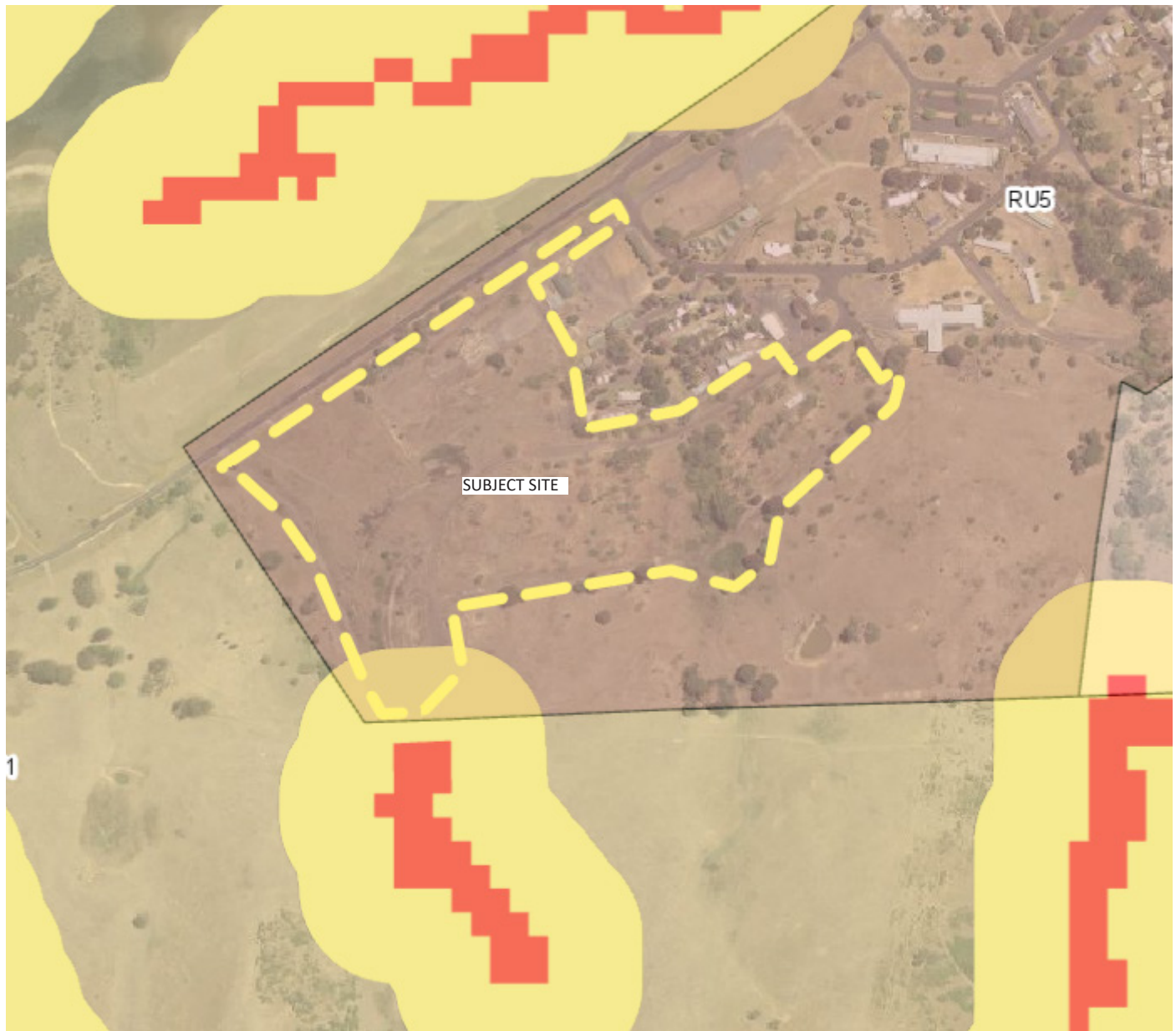
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## SECTION 01 - BACKGROUND AND BRIEFING NOTES

### 1.1 BUSHFIRE PRONE LAND

The subject site whether in whole or part is recorded as bushfire affected on a relevant map certified under Section 10.3 (2) of the Environmental Planning and Assessment Act 1979 (Refer figure 1.1). The development relates to the development of bushfire prone land and therefore must address the legislative requirements stipulated in Section 4.14 of the Environmental Planning and Assessment Act 1979. The development is required to comply with the New South Wales Rural Fire Service document Planning for Bushfire Protection (2019).



| BUSHFIRE PRONE LAND MAP                                                                                                                               |  | PLOT DATE: 17/08/2023                                                                        | PROJECT CRS: 28356 | FIGURE |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------|--------------------|--------|
| <div><div><div></div><div>Subject Site</div></div><div><div></div><div>Vegetation Buffer</div></div><div><div></div><div>Category 1</div></div></div> |  | <div><b>BUSHFIRE PLANNING AND DESIGN</b><br/>bpad.matthew.noone@gmail.com / 0406077222</div> |                    | 1      |

## 1.2 DEVELOPMENT PROPOSAL

The development relates to a masterplan for a mixed use development. The development proposal will occur over three stages. Stage 1 to the east relates to residential subdivision in the eastern precinct. Stage 2 relates to residential subdivision with a mixed use (industrial / commercial) component in the western precinct. Stage 3 relates to a hotel development to the north west of the site located on Miles Franklin Drive.

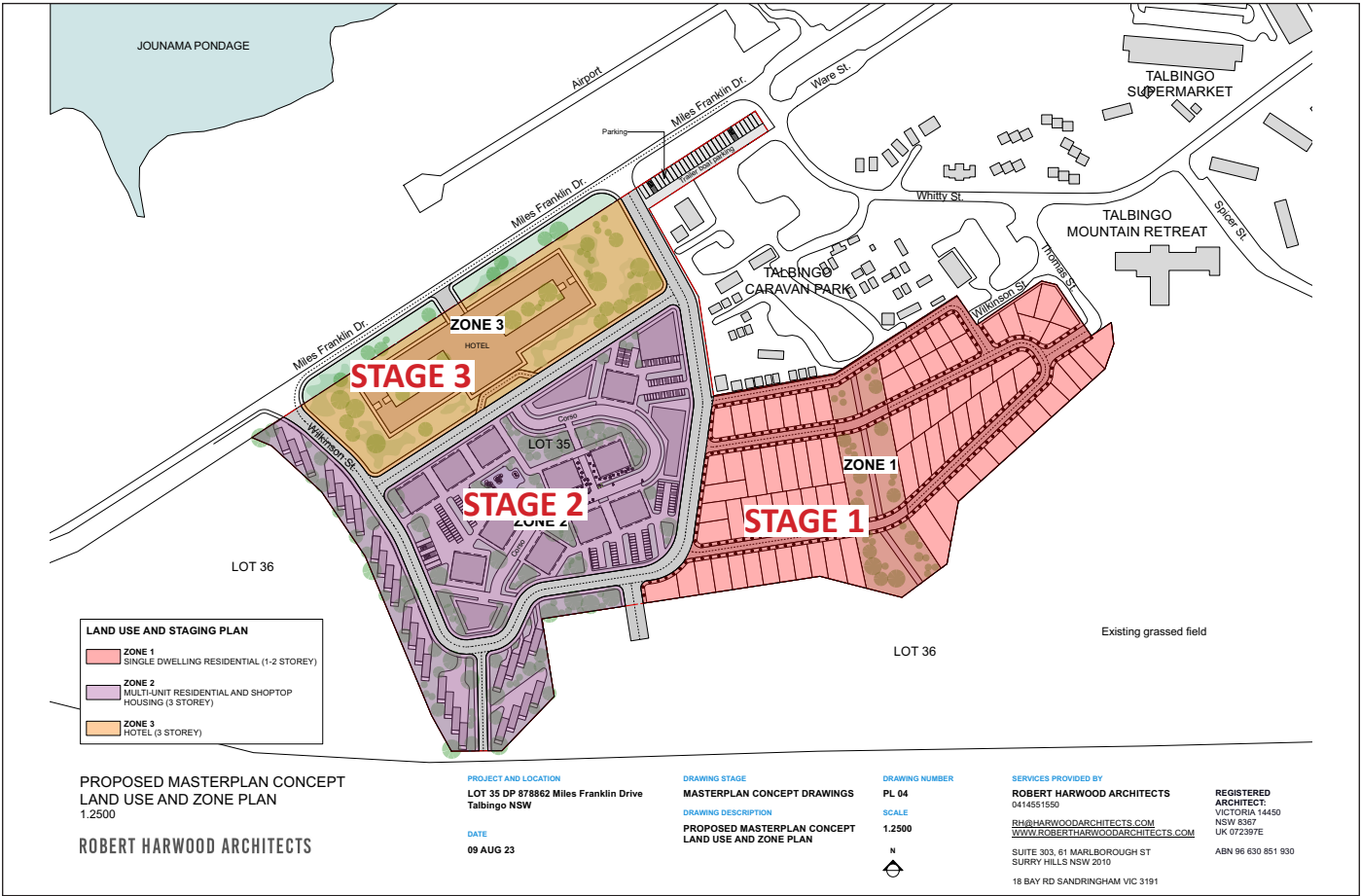


Figure 1.2: Concept Drawing

## 1.3 REGULATORY FRAMEWORK

The main legislation, planning instruments, development controls and guidelines that are related to this project are as follows; 100B of the Rural Fires Act 1997, Clause 45 of the Rural Fires Regulation 2022, the New South Wales RFS document Planning for Bushfire Protection (PBP 2019) and the National Construction Code (NCC 2019).

## 1.4 SITE LOCATION AND DESCRIPTION

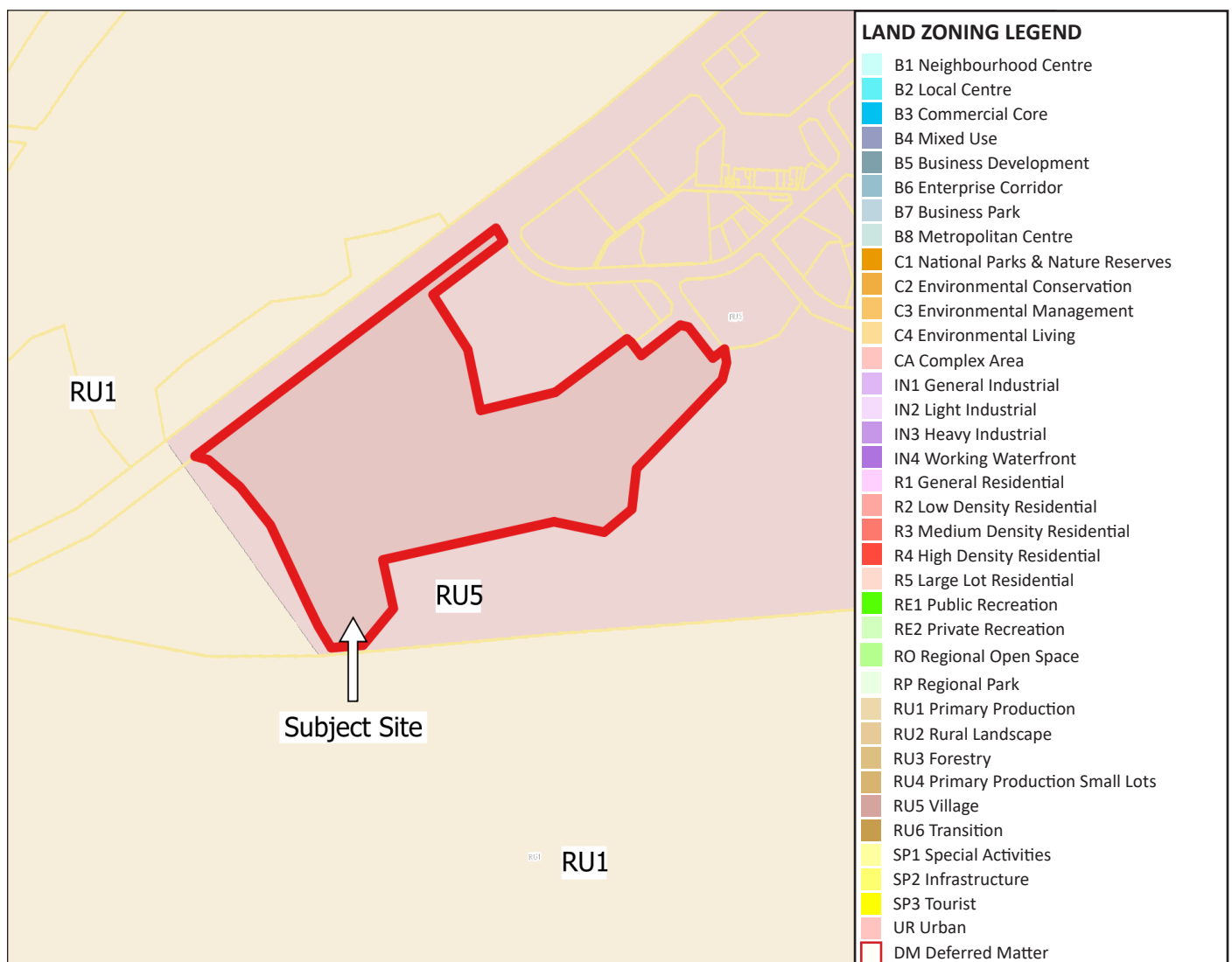
The subject site is located approximately 40 km from the town of Tumut in the Snowy Valley Council region. It is surrounded by undeveloped land in various ownership including significant areas owned by Kosciuszko National Park, Snowy Mountains Hydro Electric Authority, State Forest and Crown ownership and parcels in private ownership. The site is located to the west of the existing township of Talbingo.

The land is currently zoned 'RU5 Village' which permits a mix of residential and business uses. The topography is moderate to steeply sloping with a general northerly aspect. The site contains a series of ridges and valleys with associated drainage lines that flow towards Jounama Pondage to the north of Miles Franklin Drive.

The site is dominantly open pasture (Grassland) with scattered trees and contains a number of drainage channels but no named creeks.

## 1.5 LAND USE, ZONING AND PERMISSIBILITY

The subject site, the surrounding allotments and Brick Kiln Park to the north are zoned UR Urban and CA Complex Area. The reserve to the west is zoned RP Regional Park. A thin band of RO zoned land (Regional Open Space) is located to the south-east of the subject site.







**FIGURE 1.4 LOCATION DRAWING**

Plot date:17/08/2022

Project CRS: EPSG:28356

 Site Boundary

0 100 200 300 400 m  
Meters



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V:1.1

## **1.6 SIGNIFICANT ENVIRONMENTAL FEATURES**

There are no significant environmental features within the subject site.

## **1.7 DETAILS OF ANY THREATENED SPECIES, POPULATIONS, ECOLOGICAL COMMUNITIES OR CRITICAL HABITATS**

To our knowledge there are no threatened species, populations, ecological communities or critical habitat within the subject site.

## **1.8 DETAILS OF ABORIGINAL HERITAGE**

To our knowledge the site is not associated with any items of Aboriginal heritage.



## SECTION 02 - BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

### 2.0 INTRODUCTION

For the purpose of this bushfire assessment, the vegetation is required to be described to a distance of 140m from the boundary and the slope to 100m from boundary. Vegetation type and slope under vegetation are the factors that will significantly affect bushfire behaviour.

‘Research has shown that 85% of buildings are lost in the first 100m from bushland and that ember attack is a significant form of attack on properties’ (RFS 2006).

### 2.1 SLOPE DETERMINATION

The effective slope has been assessed for a distance of at least 100m from the proposed development. The slope data has been calculated from a 1m LiDAR Digital Elevation Model (DEM). The source data sets have been captured to standards that are generally consistent with the Australian ICSM LiDAR Acquisition Specifications which require a fundamental vertical accuracy of at least 0.30m (95% confidence) and horizontal accuracy of at least 0.80m (95% confidence). The slope arrows indicated in figure A represent the slope calculated across the length of the arrow direct from the digital elevation model. The calculated slope as shown in Figure A has not been manipulated or modified in any way.

### 2.2 PREDOMINANT VEGETATION CLASS

This assessment includes vegetation both within and external to the site boundaries. Where mixes of vegetation formations are located together, the vegetation formation providing the greater hazard shall be used for the purpose of assessment. The combination of vegetation and slope that yields the worst case scenario shall be used (A1.2 PBP 2019).

Space left intentionally blank.



2.2.1 VEGETATION PHOTOS



Photo 1: Eastern precinct looking north.



Photo 2: Eastern precinct looking west.





Photo 3: Eastern precinct looking south.



Photo 4: Eastern precinct looking north / NE.





Photo 5: Western precinct looking south.



Photo 6: Western precinct looking north / NW.





Photo 7: Western precinct looking west.



Photo 8: Western precinct looking north / NE.



## 2.3 ASSET PROTECTION ZONE (APZ) ASSESSMENT.

The proposed development area is surrounded by Grassland to the west and south and south east. The land to the east being the township of Talbingo is managed land. The air strip is located to the north / NW of Miles Franklin Drive. The airstrip is considered to be managed land. The land to the south, south east and west is dominantly up-slope in relation to the subject site. The land to the north west and north of the air strip transitions to a 0-5° downslope running into Jounama Pondage. Stage 1 and Stage 2 relating to residential subdivision are required to achieve a maximum predicted radiant heat load of 29 kW/m<sup>2</sup> in the event of a bushfire. A temporary 10m APZ will be provided around the perimeter of the subdivision within Lot 35 to the south and west. The proposed APZ will be established subject to written approval from the adjoining landowner (PBP 2019, s.3.2.5). The proposed 10m APZ to the south, SW and west satisfies the APZ requirement for residential subdivision.

Stage 3 relates to the hotel development. The hotel development is considered to be Special Fire Protection Purpose (SFPP). A 40m APZ is required for the hotel. As shown in Figure A, the proposed APZ can be achieved to the south, and south west. The land to the north of Miles Franklin Drive is occupied by the air strip (managed land). The land to the east of the hotel being the township of Talbingo, is managed land.

| TABLE 1(a) STAGE 1 & STAGE 2 (SUBDIVISION). (To be read in conjunction with Figure A). |                                     |                                  |                         |                                   |                                 |            |
|----------------------------------------------------------------------------------------|-------------------------------------|----------------------------------|-------------------------|-----------------------------------|---------------------------------|------------|
| LGA = Snowy Valleys Council                                                            |                                     |                                  |                         | Forest Fire Danger Index = FDI 80 |                                 |            |
| ASPECT <sup>1</sup>                                                                    | Vegetation Class <sup>2</sup>       | Max Effective Slope <sup>3</sup> | Site slope <sup>3</sup> | Required APZ <sup>4</sup>         | Proposed APZ / EML <sup>5</sup> | BAL-Rating |
| S, SE, W                                                                               | Grassland                           | U-S                              | N/A                     | 10m                               | 10m                             | BAL-29     |
| N, NE, NW                                                                              | Managed residential land - Airstrip |                                  |                         |                                   |                                 |            |
| Abbreviations                                                                          |                                     |                                  |                         |                                   |                                 |            |
| AOD All other directions                                                               |                                     | EML Extent of managed land       |                         |                                   | NVC Narrow vegetation corridor  |            |

|              |                                                                                                                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <sup>1</sup> | Cardinal direction from each proposed building facade based on grid north.                                                                                                                              |
| <sup>2</sup> | Vegetation Classifications are as described in PBP (2019) A1.2.                                                                                                                                         |
| <sup>3</sup> | Site slope is calculated from 1m LiDAR contours.                                                                                                                                                        |
| <sup>4</sup> | Minimum APZ required stated as Acceptable Solutions within Table 1.12.2 and A1.12.5. PBP (2019).                                                                                                        |
| <sup>5</sup> | Actual dimensional setback from the face of the building to the assessed vegetation. Achieved Asset Protection Zone (APZ) or extent of managed land (EML).                                              |
| <sup>6</sup> | Where the direct line of sight between the proposed building and assessed vegetation is obstructed (by a wall or building) the assessed rating can be lowered by one BAL-rating (PBP 2019, s. A1.8).    |
| <sup>7</sup> | Remnant bushland and narrow vegetation corridors (NVC) as stated in PBP (2019) s.A1.11 can be assessed as rainforest as a simplified approach or be assessed as Short Fire Run using method 2 (AS3959). |

## 2.3 ASSET PROTECTION ZONE (APZ) ASSESSMENT CONT'D.

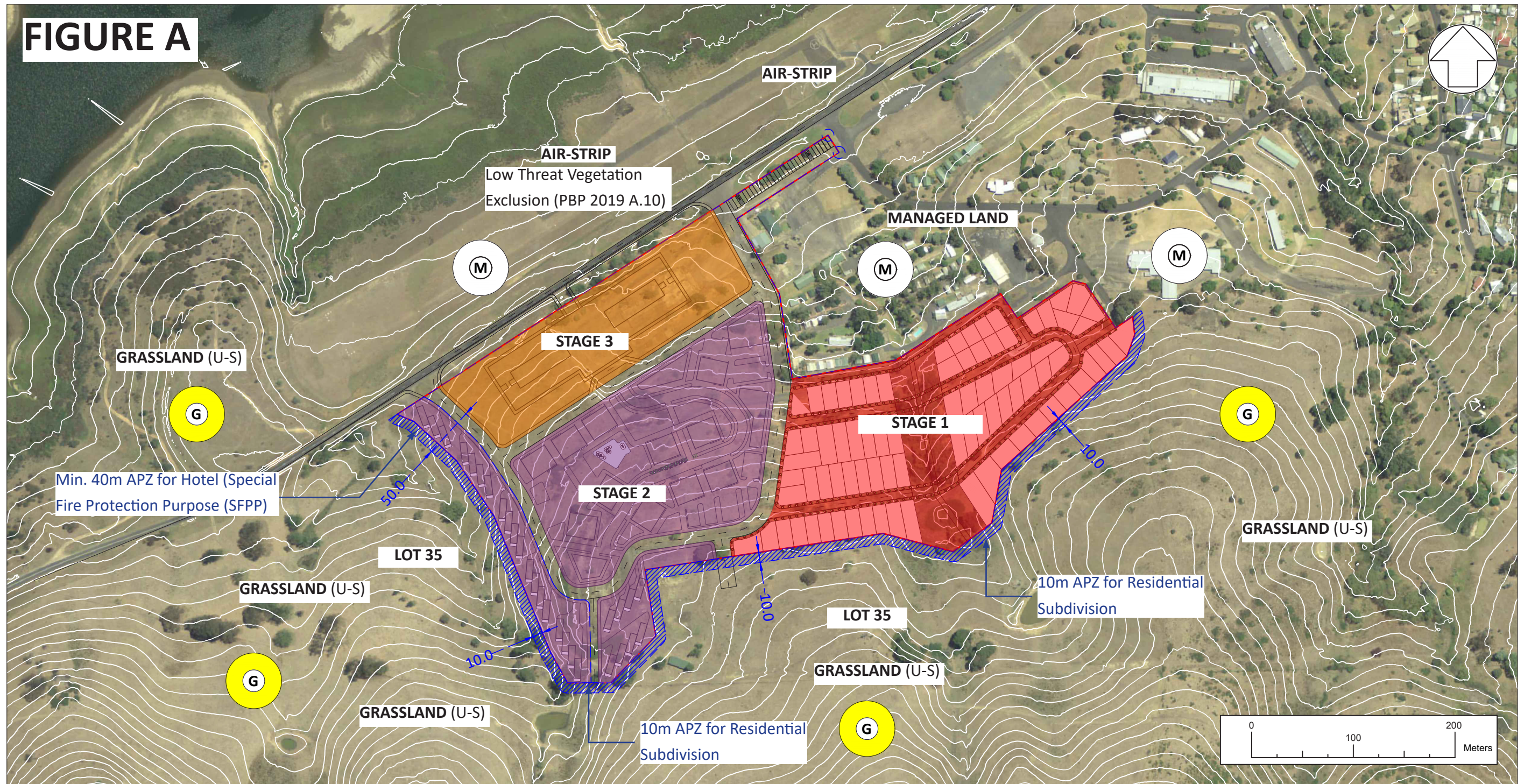
| TABLE 1(b) STAGE 3 (SFPP). (To be read in conjunction with Figure A). |                                                                                        |                                  |                         |                                   |                                 |            |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------|-------------------------|-----------------------------------|---------------------------------|------------|
| LGA = Snowy Valleys Council                                           |                                                                                        |                                  |                         | Forest Fire Danger Index = FDI 80 |                                 |            |
| ASPECT <sup>1</sup>                                                   | Vegetation Class <sup>2</sup>                                                          | Max Effective Slope <sup>3</sup> | Site slope <sup>3</sup> | Required APZ <sup>4</sup>         | Proposed APZ / EML <sup>5</sup> | BAL-Rating |
| SW                                                                    | Grassland                                                                              | U-S                              | N/A                     | 40m                               | > 40m                           | BAL-12.5   |
| AOD                                                                   | Managed residential land - Provided by previous Stage 1 and Stage 2.Airfield to the NW |                                  |                         |                                   |                                 |            |
| Abbreviations                                                         |                                                                                        |                                  |                         |                                   |                                 |            |
| AOD All other directions                                              |                                                                                        | EML Extent of managed land       |                         |                                   | NVC Narrow vegetation corridor  |            |

|              |                                                                                                                                                                                                                |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <sup>1</sup> | <i>Cardinal direction from each proposed building facade based on grid north.</i>                                                                                                                              |
| <sup>2</sup> | <i>Vegetation Classifications are as described in PBP (2019) A1.2.</i>                                                                                                                                         |
| <sup>3</sup> | <i>Site slope is calculated from 1m LiDAR contours.</i>                                                                                                                                                        |
| <sup>4</sup> | <i>Minimum APZ required stated as Acceptable Solutions within Table 1.12.2 and A1.12.5. PBP (2019).</i>                                                                                                        |
| <sup>5</sup> | <i>Actual dimensional setback from the face of the building to the assessed vegetation. Achieved Asset Protection Zone (APZ) or extent of managed land (EML).</i>                                              |
| <sup>6</sup> | <i>Where the direct line of sight between the proposed building and assessed vegetation is obstructed (by a wall or building) the assessed rating can be lowered by one BAL-rating (PBP 2019, s. A1.8).</i>    |
| <sup>7</sup> | <i>Remnant bushland and narrow vegetation corridors (NVC) as stated in PBP (2019) s.A1.11 can be assessed as rainforest as a simplified approach or be assessed as Short Fire Run using method 2 (AS3959).</i> |
| <sup>8</sup> | <i>Deeming provisions for grassland s.7.9 PBP (2019).</i>                                                                                                                                                      |
| <sup>9</sup> | <i>BAL-rating determined via method 2 (AS3959)</i>                                                                                                                                                             |

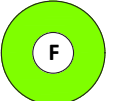
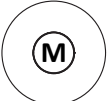


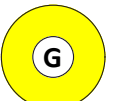

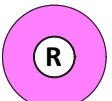
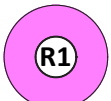
Refer to Section 3 for recommendations relating to APZ provision.



**FIGURE A**




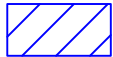




**VEGETATION KEY (solid)**

|                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| Forest                                                                              | Managed Land                                                                        | Woodland                                                                            | Low Threat Vegetation PBP (2019) A1.10                                                |
|  |  |  |  |
| Grassland                                                                           | Under Development                                                                   | Rainforest                                                                          | Remnant / Narrow Vegetation Corridor (NVC) PBP (2019) A1.11                           |

**BUSHFIRE PLANNING & DESIGN**

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**DRAWING LEGEND**

|                                       |                                                                                       |                                                      |                                                                                       |                 |                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|
| Site Boundary                         |  | Proposed APZ                                         |  | Hydrant         |  |
| Stage 1 - Single dwelling residential |  | Stage 2 - Multi unit residential and shoptop housing |  | Stage 3 - Hotel |  |



## SECTION 03 - ASSET PROTECTION ZONES (APZs)

Intent of measures: to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting fire fighting activities.

### 3.0 APZ PERFORMANCE CRITERIA (PBP 2019)

- |   |                                                                                                                       |
|---|-----------------------------------------------------------------------------------------------------------------------|
| • | APZs are to be provided commensurate with the construction of the building.                                           |
| • | A defensible space is to be provided.                                                                                 |
| • | APZs are to be managed and maintained to prevent the spread of a fire to the building.                                |
| • | The APZ is to be provided in perpetuity.                                                                              |
| • | APZ maintenance is to be practical, soil stability is not compromised and the potential for crown fires is minimised. |

The asset protection zones (APZ) requirements have been derived from the methodology of A1.12.2 or A1.12.3 in Appendix 1 of PBP (2019). Asset protection zones and in particular the Inner Asset Protection Zones are critical for providing defensible space and reducing flame length and rate of spread (PBP 2019). APZs are designed to provide sufficient open space for emergency workers to operate and for occupants to egress the site safely. They are divided into Inner and Outer Asset Protection Zones (IPAs and OPAs) and are required to be maintained for the life of the development. The IPA provides for defensible space and a reduction of radiant heat levels at the building line and the OPA provides for the reduction of the rate of spread and filtering of embers.

#### GENERAL RECOMMENDATIONS

- |   |                                                                                                                                                                                                    |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • | The APZ should be located completely within the boundary of the site. The required APZ extent will often be satisfied by surrounding managed land which is excluded under clause A1.10 PBP (2019). |
| • | Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions (refer to Section 3.1 and 3.2).           |
| • | The APZ should not be located on slopes greater than 18° unless terracing is introduced.                                                                                                           |
| • | A clear area of low-cut lawn or pavement is maintained adjacent to the asset requiring protection.                                                                                                 |

### 3.1 - INNER APZ (IPA) GUIDELINES

|                                                                                                                                                                                                                                                                        |                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| The Inner APZ (IPA) is the managed area closest to the asset (eg. dwelling). The IPA is managed to minimal fuel conditions and aims to mitigate the impact of direct flame contact and radiant heat on the development. The IPA also aims to provide defensible space. |                                                                                                                                   |
|                                                                                                                                                                                                                                                                        |                                                                                                                                   |
| <b>TREES</b>                                                                                                                                                                                                                                                           |                                                                                                                                   |
| •                                                                                                                                                                                                                                                                      | Canopy cover should be less than 15% (at maturity) within the Inner APZ.                                                          |
| •                                                                                                                                                                                                                                                                      | Trees (at maturity) should not touch or overhang the building.                                                                    |
| •                                                                                                                                                                                                                                                                      | Lower limbs should be removed up to a height of 2m above ground.                                                                  |
| •                                                                                                                                                                                                                                                                      | Canopies should be separated by 2 to 5m (horizontal and or vertical displacement). .                                              |
| •                                                                                                                                                                                                                                                                      | Preference should be given to smooth barked and evergreen trees.                                                                  |
|                                                                                                                                                                                                                                                                        |                                                                                                                                   |
| <b>SHRUBS</b>                                                                                                                                                                                                                                                          |                                                                                                                                   |
| •                                                                                                                                                                                                                                                                      | Create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings.              |
| •                                                                                                                                                                                                                                                                      | Shrubs should not be located under trees shrubs should not form more than 10% ground cover.                                       |
| •                                                                                                                                                                                                                                                                      | Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. |
|                                                                                                                                                                                                                                                                        |                                                                                                                                   |
| <b>GRASS</b>                                                                                                                                                                                                                                                           |                                                                                                                                   |
| •                                                                                                                                                                                                                                                                      | Should be kept mown (as a guide grass should be kept to no more than 100mm in height).                                            |
| •                                                                                                                                                                                                                                                                      | Leaves and vegetation debris should be removed.                                                                                   |

### 3.2 - OUTER APZ (OPA) GUIDELINES

|                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| The Outer APZ (OPA) is the part of the APZ that is located between the IPA and the bushfire vegetation threat. The reduction in the available fuels and canopy connections in the OPA aims to mitigate the intensity of an approaching fire and restricts the pathways to crown fuels thus reducing the level of direct flame, radiant heat and ember attack on the IPA and asset (dwelling). |                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
| <b>TREES</b>                                                                                                                                                                                                                                                                                                                                                                                  |                                                                              |
| •                                                                                                                                                                                                                                                                                                                                                                                             | Canopy cover should be less than 30% (at maturity) within the Outer APZ.     |
| •                                                                                                                                                                                                                                                                                                                                                                                             | Trees should have canopy separation canopies should be separated by 2 to 5m. |
|                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
| <b>SHRUBS</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                                                              |
| •                                                                                                                                                                                                                                                                                                                                                                                             | Shrubs should not form a continuous canopy.                                  |
| •                                                                                                                                                                                                                                                                                                                                                                                             | Shrubs should form no more than 20% of ground cover.                         |



## SECTION 04 - CONSTRUCTION

### PERFORMANCE CRITERIA (PBP 2019)

This application relates to the subdivision of the land only. All future infill development is required to provide a site specific bushfire report or BAL-Certificate to ascertain the required Bushfire Attack Level. This report should not be used to support future infill development.

Space left intentionally blank.

## SECTION 05 - ACCESS

Intent of measures: To provide safe operational access for emergency services personnel in suppressing a bush fire, while residents are accessing or egressing an area.

### PERFORMANCE CRITERIA (PBP 2019)

- Fire-fighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.
- The capacity of access roads is adequate for fire-fighting vehicles.
- There is appropriate access to water supply.
- Fire-fighting vehicles can access the dwelling and exit the property safely.

### ACCESS - GENERAL REQUIREMENTS

The public road system is suitable for emergency response vehicles. The site is accessed from Miles Franklin Drive to the north and Whitty Street to the east. Provide the following where applicable

- Property access roads to be two-wheel drive, all-weather roads.
- Perimeter roads to be provided for residential subdivisions of three or more allotments.
- Subdivisions of three or more allotments have more than one access in and out of the development.
- Maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.
- All roads to be through roads.
- Dead end roads are not recommended, but if unavoidable, are not more than 200m in length, incorporate a minimum 12m outer radius turning circle, and are clearly sign posted as a dead end.
- Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road.
- Where access/egress can only be achieved through forest, woodland and heath vegetation, secondary access shall be provided to an alternate point on the existing public road system.
- One way only public access roads to be no less than 3.5 metres wide.
- The capacity of perimeter and non-perimeter road surfaces and any bridges/causeways to be sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges / causeways are to clearly indicate load rating.
- Hydrants to be located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression.
- Hydrants to be provided in accordance with the relevant clauses of AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning.
- Provided suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.

## PROPERTY ACCESS

The proposed development is to provide the following where applicable;

|   |                                                                                                                                                                                                                                                                                                                                                                     |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - | There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles. |
| - | Provide a minimum 4m carriageway width.                                                                                                                                                                                                                                                                                                                             |
| - | In forest, woodland and heath situations, rural property access roads are to have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay.                                                                                                                                                                |
| - | Provide a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.                                                                                                                                                                                                                                                                |
| - | Maximum grades for sealed roads is not exceed 15 degrees and not more than 10 degrees for unsealed roads.                                                                                                                                                                                                                                                           |
| - | The crossfall is to be not more than 10 degrees.                                                                                                                                                                                                                                                                                                                    |
| - | Curves have a minimum inner radius of 6m.                                                                                                                                                                                                                                                                                                                           |
| - | Provide a suitable turning area in accordance with PBP (2019) Appendix 3.                                                                                                                                                                                                                                                                                           |
| - | A development comprising more than three dwellings is to provide access by dedication of a road and not by right of way.                                                                                                                                                                                                                                            |
| - | Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed.                                                                                                                                                                       |

## ADDITIONAL COMMENTS IN RELATION TO ACCESS

The development will occur over a number of stages. Initially, Stage 1, 2 and 3 will be constructed. Lot 36 to the south will be developed in a future stage. To accommodate the transition between the development of Stages 1-3 and development of Lot 36 a temporary APZ will be provided. The APZ will be absorbed by the future development of Lot 35. A perimeter fire trail can be established within the temporary APZ buffering the subdivision. The perimeter fire trail can connect at intervals to the proposed road systems and can have passing bays at 200m intervals.

## SECTION 06 - WATER

Intent of measures: To provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

### WATER - SPECIFIC REQUIREMENTS

The proposed development can comply with the PBP (2019) with regards to water requirements. Reticulated water is provided however the hydrant sizing, spacing or pressures have not been tested. No additional water for the suppression of bushfire is required for the proposed development. The following points are to be adhered to for the life of the development.

|   |                                                                                                                                              |
|---|----------------------------------------------------------------------------------------------------------------------------------------------|
| • | A static water and hydrant supply is to be provided for non-reticulated developments or where reticulated water supply cannot be guaranteed. |
| • | All above-ground water storage tanks shall be of concrete or metal.                                                                          |
| • | All above ground water and gas service pipes and fittings external to the building are to be metal.                                          |
| • | Reticulated water is to be provided to the development where available.                                                                      |
| • | Fire hydrant, spacing, design and sizing is to comply with the relevant clauses of Australian Standard AS 2419.1:2005.                       |
| • | Hydrants are not to be located within any road carriageway.                                                                                  |
| • | Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.                                                         |
| • | Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.                                       |
| • | Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.                                       |

### ADDITIONAL COMMENTS IN RELATION TO THE PROVISION OF WATER

The proposed development can comply with PBP (2019).

## SECTION 07 - ELECTRICITY & GAS

Intent of measures: To provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

### PERFORMANCE CRITERIA (PBP 2019)

- Location of electricity services is to limit the possibility of ignition of surrounding bush land or the fabric of buildings.
- Location and design of gas services is not to not lead to the ignition of surrounding bushland or the fabric of buildings.

### ELECTRICITY AND GAS - SPECIFIC REQUIREMENTS

The proposed development can comply with the PBP (2019) with regards to electricity and gas requirements. The following points are to be adhered to (where applicable) for the provision of electricity and gas services where applicable.

#### ELECTRICITY REQUIREMENTS

- Where practicable place electrical transmission lines are underground or,
- If overhead electrical transmission lines are proposed:- lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and no part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).
- No part of a tree is to be closer to a power line than the distance set out in accordance with the specifications in ISSC3 Guideline for Managing Vegetation Near Power Lines.

#### GAS REQUIREMENTS

- Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is to be used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are to be metal.
- Polymer-sheathed flexible gas supply lines are not to be used.
- Above-ground gas service pipes are to be metal, including and up to any outlets.

### ADDITIONAL COMMENTS IN RELATION TO THE PROVISION OF ELECTRICITY AND GAS.

The proposed development can comply with PBP (2019) with regard to the provision of gas and electricity.



## SECTION 08 - SUMMARY

The development relates to a masterplan for a mixed use development. The development proposal will occur over three stages. Stage 1 to the east relates to residential subdivision in the eastern precinct. Stage 2 relates to residential subdivision with a mixed use (industrial / commercial) component in the western precinct. Stage 3 relates to a hotel development to the north west of the site located on Miles Franklin Drive.

For the purpose of bushfire assessment and pursuant of clause 4.46 of the EP&A Act 1979 and 100B of the Rural Fire Act 1997, this project is considered to be an integrated development and is required to be referred to the RFS for their approval and issuance of a Bushfire Safety Authority (BFSA).

The subject site is located approximately 40 km from the town of Tumut in the Snowy Valley Council region. It is surrounded by undeveloped land in various ownership including significant areas owned by Kosciuszko National Park, Snowy Mountains Hydro Electric Authority, State Forest and Crown ownership and parcels in private ownership. The site is located to the west of the existing township of Talbingo.

The land is currently zoned 'RU5 Village' which permits a mix of residential and business uses. The topography is moderate to steeply sloping with a general northerly aspect. The site contains a series of ridges and valleys with associated drainage lines that flow towards Jounama Pondage to the north of Miles Franklin Drive. The site is dominantly open pasture (Grassland) with scattered trees and contains a number of drainage channels but no named creeks.

With regard to Stage 1 and Stage 2, a building envelope that achieves a maximum predicted radiant heat load less than 29 kW/m<sup>2</sup> in the event of a bushfire can be provided. The development therefore satisfies the APZ provisions in PBP (2019) for residential subdivision.

With regard to Stage 3, the hotel is located in a position that will achieve a maximum predicted radiant heat load less than 10 kW/m<sup>2</sup> in the event of a bushfire. The development therefore satisfies the APZ provisions in PBP (2019) for SFPP development.

Access via the public road system is suitable for emergency response vehicles. The development can with PBP (2019) with regards to the provision of water, electricity and gas.

Should Council or the NSW Rural Fire Service have any objection to any part of this report, please get in contact to discuss.

Regards,



Matthew Noone

Grad.Dip. Design for Bushfire Prone Areas.

BSc (Geology)

0406077222

T/A Bushfire Planning and Design

Lot 35 Miles Franklin Drive Talbingo 2720



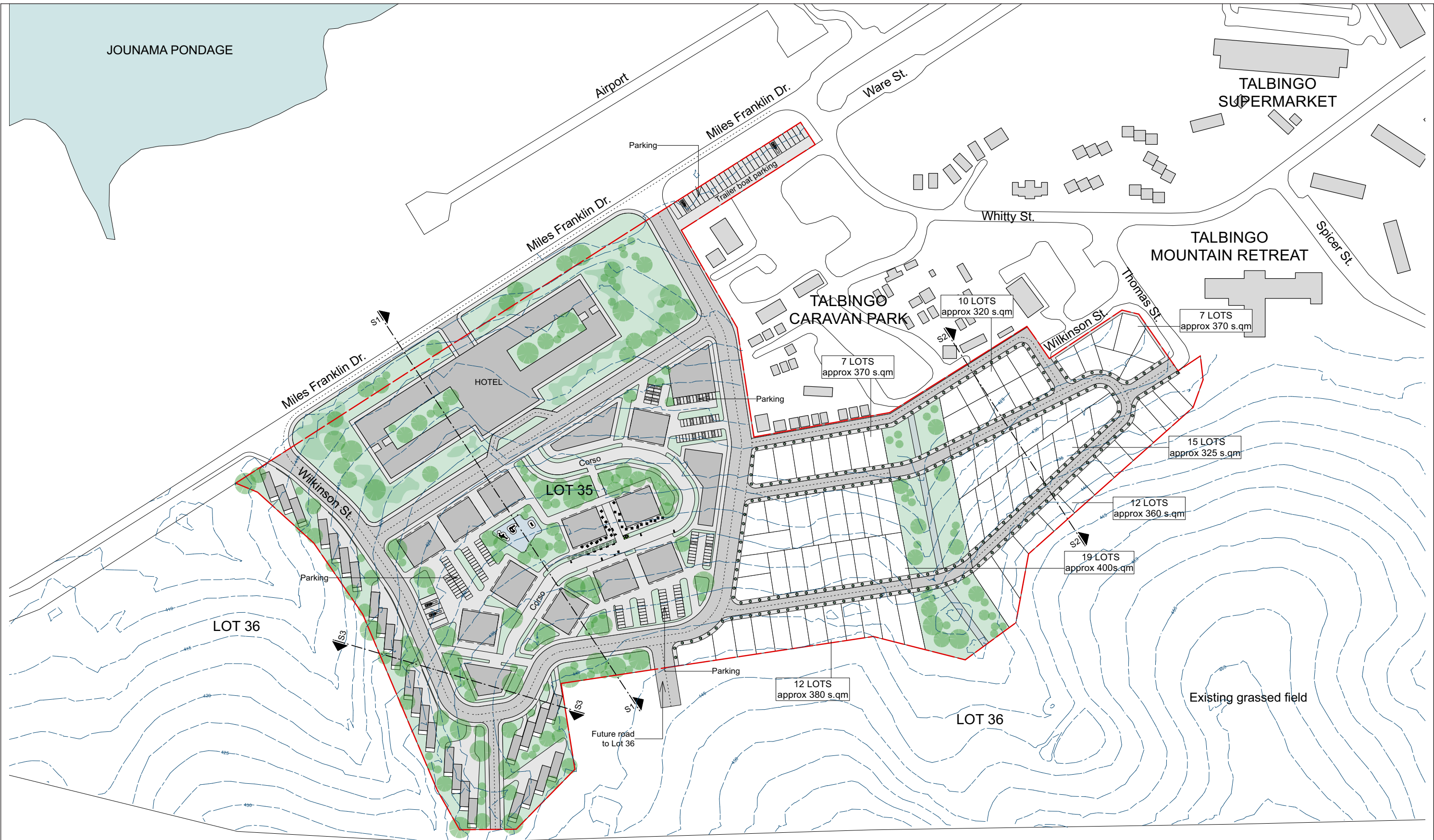
## SECTION 09 - REFERENCES

|                |                                                                                                                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS3959 (2018)  | Australian Standard, Construction of buildings in bushfire-prone areas, AS 3959, Third edition 2018 Standards Australia International Ltd, Sydney.                                          |
| BCA (2019)     | Building Code of Australia 2019, Building Code of Australia, Australian Building Codes Board, Canberra 2019.                                                                                |
| EPA Act (1979) | Environmental Planning and Assessment Act 1979, NSW Government, NSW, legislation found at <a href="http://www.legislation.nsw.gov.au">www.legislation.nsw.gov.au</a>                        |
| PBP (2019)     | Planning for Bushfire Protection, a Guide for Councils,Planners, Fire Authorities, Developers and Home Owners. Rural Fire Service 2019, Australian Government Publishing Service, Canberra. |
| RFS (2015)     | Rural Fire Service, Guide For Bush Fire Prone Land Mapping, Version 5b.                                                                                                                     |

## SECTION 10 - APPENDICES

Appendix A - Masterplan Drawings.

# **APPENDIX A - ARCHITECTURAL DRAWINGS**



**PROPOSED MASTERPLAN CONCEPT SITE PLAN**  
1.2500

**ROBERT HARWOOD ARCHITECTS**

**PROJECT AND LOCATION**  
LOT 35 DP 878862 Miles Franklin Drive  
Talbingo NSW

**DATE**  
09 AUG 23

**DRAWING STAGE**  
MASTERPLAN CONCEPT DRAWINGS

**DRAWING DESCRIPTION**  
PROPOSED MASTERPLAN CONCEPT  
SITE PLAN

**DRAWING NUMBER**  
PL 03

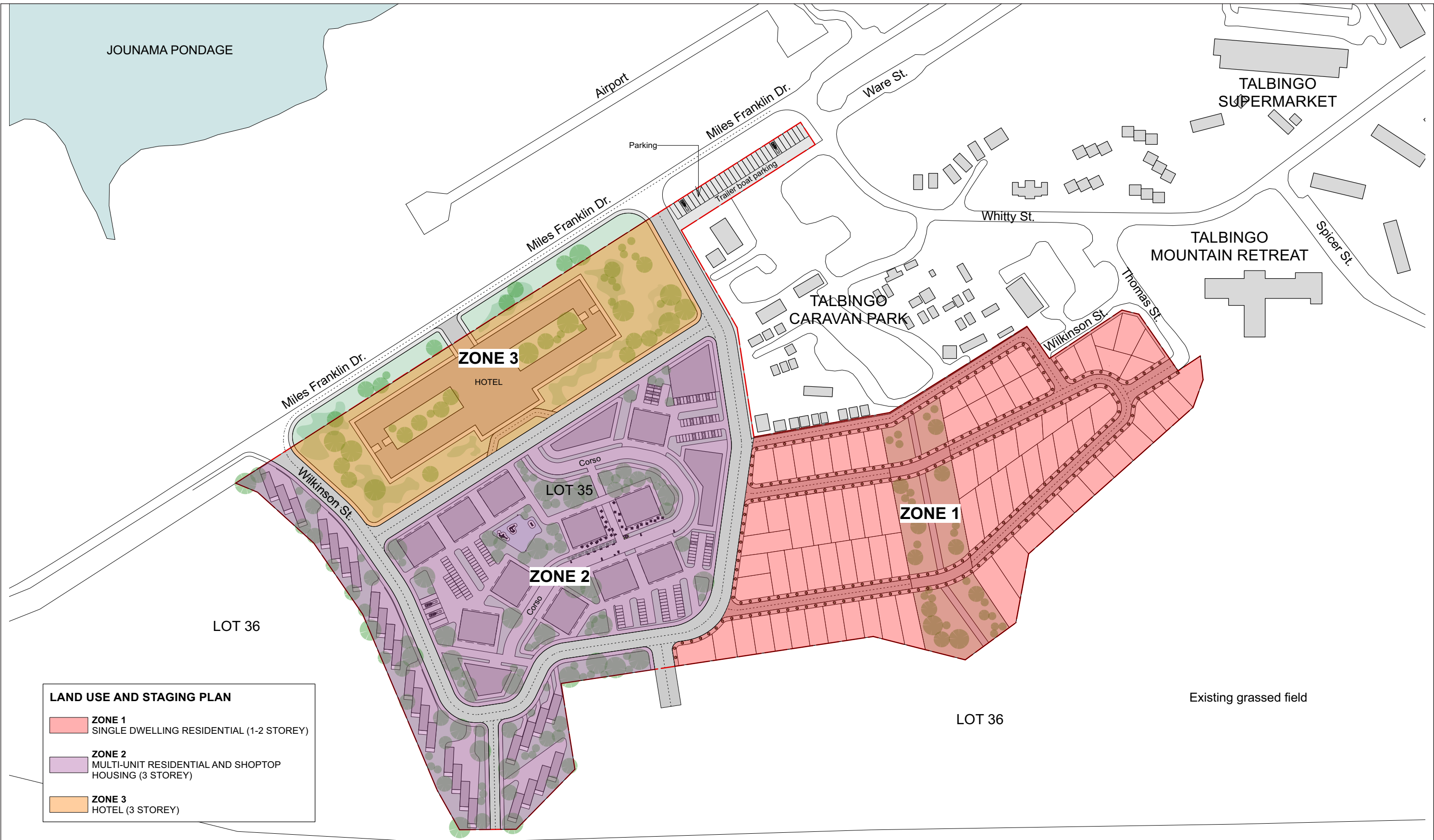
**SCALE**  
1.2500

N

**SERVICES PROVIDED BY**  
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18 BAY RD SANDRINGHAM VIC 3191

**REGISTERED ARCHITECT:**  
VICTORIA 14450  
NSW 8367  
UK 072397E  
ABN 96 630 851 930





**LAND USE AND STAGING PLAN**

**ZONE 1**  
SINGLE DWELLING RESIDENTIAL (1-2 STOREY)

**ZONE 2**  
MULTI-UNIT RESIDENTIAL AND SHOPTOP HOUSING (3 STOREY)

**ZONE 3**  
HOTEL (3 STOREY)

PROPOSED MASTERPLAN CONCEPT  
LAND USE AND ZONE PLAN  
1.2500

**ROBERT HARWOOD ARCHITECTS**

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