

# Bushfire Hazard Assessment Report



## Project: Repair Work to Existing Tourist Accommodation Lodge

31 Candle Heath Road, Perisher Valley  
Kosciuszko National Park NSW 2624  
Lot 1 DP 1172991

DATE: JUNE 2022  
REPORT NO: 21122  
REVISION: 03  
PREPARED FOR: VALHALLA SKI LODGE  
PREPARED BY: ACCENT TOWN PLANNING

- Preparation of Bushfire Reports for Development in Bushfire Prone Areas
- Bushfire Attack Level (BAL) Certificates
- Bushfire Evacuation Plans
- Construction Solutions & Advice for Bushfire Prone Areas



Accreditation No: BPD - 27149



## BUSHFIRE HAZARD ASSESSMENT

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#### WRITTEN BY:

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Town Planner

A handwritten signature in black ink, appearing to read 'Katy Murphy', is positioned below the printed name.

#### DISCLAIMER

The recommendations provided in the summary of this report are a result of the analysis of the proposal in relation to the requirements of Planning for Bushfire Protection 2019. Utmost care has been taken in the preparation of this report however there is no guarantee of human error. The intention of this report is to address the submission requirements for Development Applications on bushfire prone land. There is no implied assurance or guarantee the summary conditions will be accepted in the final consent and there is no way Accent Town Planning is liable for any financial losses incurred should the recommendations in this report not be accepted in the final conditions of consent.

This bushfire assessment provides a risk assessment of the bushfire hazard as outlined in the PBP 2019 and AS3959 2018. It does not provide protection against any damages or losses resulting from a bushfire event.



## EXECUTIVE SUMMARY

This bushfire assessment is for the proposed repair work to existing Lodge known as Valhalla Ski Lodge located at Lot 1 DP1172991, 31 Candle Heath Road, Perisher Valley NSW 2624.

Following is a list of the proposed alterations to Valhalla Ski Lodge:

- Replacement of deteriorated external timber cladding with Colourbond metal cladding.
- Replacement of deteriorated timber-framed windows with new UPVC double-glazed windows.
- Minor internal alterations to the bathroom.

It is important to note that this development is not proposing to increase the density or capacity of the lodge, the proposed works will not increase the size of the building footprint and the proposed external repair works will provide an improved bushfire outcome for the existing building.

It is proposed that ember protection upgrades will be undertaken to the existing lodge, in order to provide a better bushfire protection outcome for the building and its occupants. Please see Appendix II for ember protection upgrade list.

The land is zoned tourist accommodation and has been identified as being in bushfire prone land, and hence as outlined in *Planning for Bushfire Protection – PBP 2019* (NSW RFS 2019) is considered Special Fire Protection Purpose (SFPP) and is required to obtain a BFSa from the RFS under section 100B of the RF Act.

It is recommended that all **new works** in the building envelope meet the below requirements:

- ***Bushfire Attack Level of BAL Flame Zone (FZ) on all elevations for new work, not identified as repairs and maintenance.***

All of the proposed upgrades will improve the bushfire protection of the building, and therefore provide a better bushfire protection outcome for the building and its occupants. The proposed repair work is not considered as **new works**. For this reason, the proposed repair works are not required to meet the BAL level for **new works** as described above.

Ember Protection Upgrades are to be implemented for the existing lodge in order to enhance the bushfire safety of Valhalla lodge.



Pending compliance with the recommendations outlined in this report. The performance criteria and deemed to satisfy provisions of infill development within the Alpine Resorts outlined in Section 6.4 and 6.6 of PBP 2019 are found to be satisfied.

The assessment confirms the lot is located on Bushfire Prone Land and identifies the following:

- The predominant bushfire threat is Sub-Alpine Woodland vegetation surrounding the existing lodge.
- The entire allotment is to be maintained as an Inner Protection Area (IPA).
- Clearing will not exceed the clearing threshold permissible above which the Biodiversity Assessment Method (BAM) and offsets scheme to apply.
- No changes to existing road access are proposed as part of this application.
- The proposed APZ does contain areas identified with high biodiversity values towards the south-east corner of the allotment.
- Perisher is serviced by reticulated water and a hydrant system is located on Candle Heath Road.

## ASSET PROTECTION ZONES

The entire allotment will be maintained as an Inner Protection Area (IPA). Asset protection zones are the most strategically valuable defence against radiant heat and flame, and to lesser extent embers. To allow for emergency service personnel and residents to undertake property protection activities, a defensible space that permits unobstructed pedestrian access is to be provided around the building.

Native landscaping plants are proposed in this area so long as they are selected for their low combustibility, by virtue of high moisture content, low volatile oil content, high leaf minerals, large fleshy leaves, absence of shredding bark. They should be placed so as not to provide either vertical or horizontal connectedness of plant material and avoid overhanging roof lines or contact with the building.

Trees will be maintained in accordance with Appendix 4 (PBP 2019) within the APZ to reduce the attached canopy from adjoining vegetation and overhanging the building.



## CONSTRUCTION

All **new works** are to meet **BAL FZ on all elevations** as per AS3959-2018, with the exception that the construction requirements shall be varied to comply with the requirements of Section 7.5 of the NSW Rural Fire Service *Planning for Bushfire Protection 2019*.

The proposed repair works will provide an improved bushfire protection outcome for the existing lodge by providing improved fire-resistant materials. The proposed repair works are to replace deteriorated timber cladding with new colorbond metal sheet cladding and replace deteriorated timber-framed windows with new UPVC double glazed windows. Ember protection upgrades are also proposed, in order to further enhance the bushfire protection of Valhalla Lodge. See Appendix II for the list of ember protection upgrade requirements.

All of the proposed upgrades improve the bushfire protection of the building, and therefore provide a better bushfire protection outcome for the building and its occupants. For this reason, the proposed repair works are not required to meet the BAL level for **new works** as described above.

## UTILITIES

The intent of measures is to minimise the risk of bush fire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities. To achieve this, the following conditions shall apply:

## **WATER**

All above ground water pipes external to the building are to be metal. Perisher Valley is serviced by reticulated water. A hydrant system is located along Candle Heath Road. The location and distance to the hydrants will be consistent with the requirements of the PBP 2019.

## **GAS**

If gas is connected to the lodge on the subject land, must perform as per the following criteria:

- Bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. Metal piping is to be used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side of the installation.
- If gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2 metres away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal.
- Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.

## **EVACUATION AND EMERGENCY MANAGEMENT**

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments.

To achieve this, the following conditions shall apply:

A building evacuation diagram, site layout diagram and Statement of Action are to be provided in each building in accordance with the NSW Rural Fire Service Guidelines for the Preparation of Emergency/Evacuation Plan and with Australian Standard AS 3745 2010 'Planning for Emergencies in Facilities'.



## 1. PROPOSAL

This Bush Fire Assessment Report has been compiled for submission to the Department of Planning for the purpose of assessment under Section 100B of the RF Act and is also considered “integrated development” under Section 4.46 of *Environmental Planning and Assessment Act 1979* (EP&A Act).

The report has been prepared in accordance with the submission requirements of Appendix 4 of *Planning for Bush Fire Protection* (NSW RFS 2019) and identifies the proposal can meet the appropriate objectives and performance criteria of Section 6.4 and 6.6 *Planning for Bush Fire Protection* (NSW RFS 2019).

The assessment confirms the subject lot is mapped as bushfire prone.

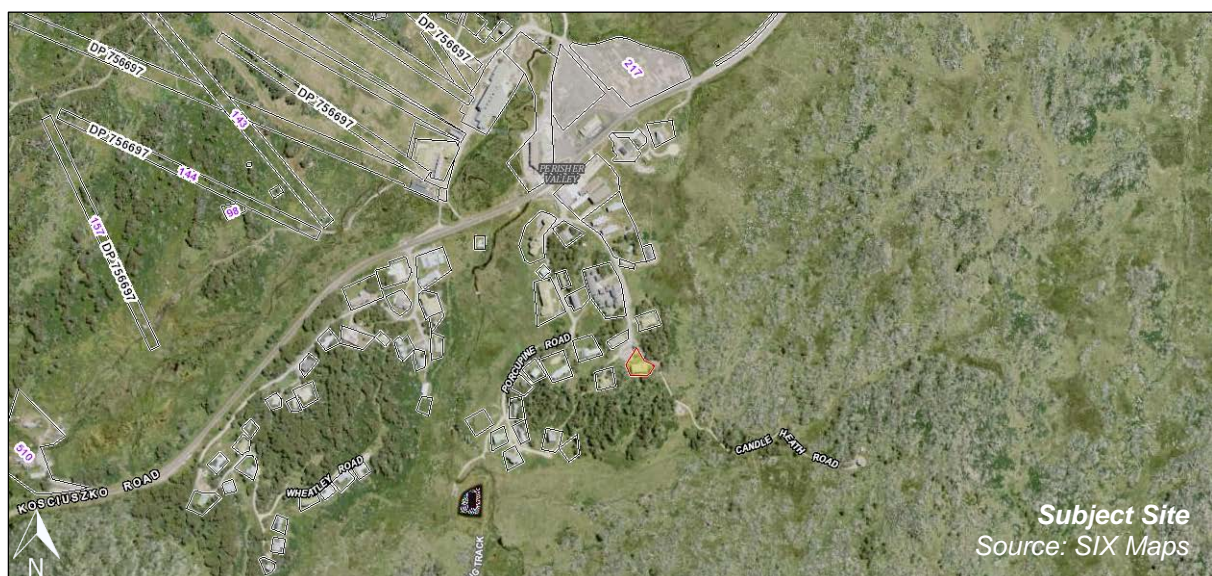
Accent Town Planning was commissioned to provide this bushfire assessment. Accredited bushfire assessor, Matthew Stewart inspected the site on 31 March 2021.

- **Figure 1** – Shows the subject lot location.
- **Figure 2** – Provides a broad scale aerial view of the subject site.
- **Figure 3** – Shows a close-up aerial view of the subject site.

**FIGURE 1 SITE LOCATION**



**FIGURE 2 BROAD SCALE AERIAL VIEW OF THE SUBJECT SITE**



**FIGURE 3 CLOSE UP AERIAL VIEW OF SUBJECT LOT**

## 2. PLANNING LAYERS

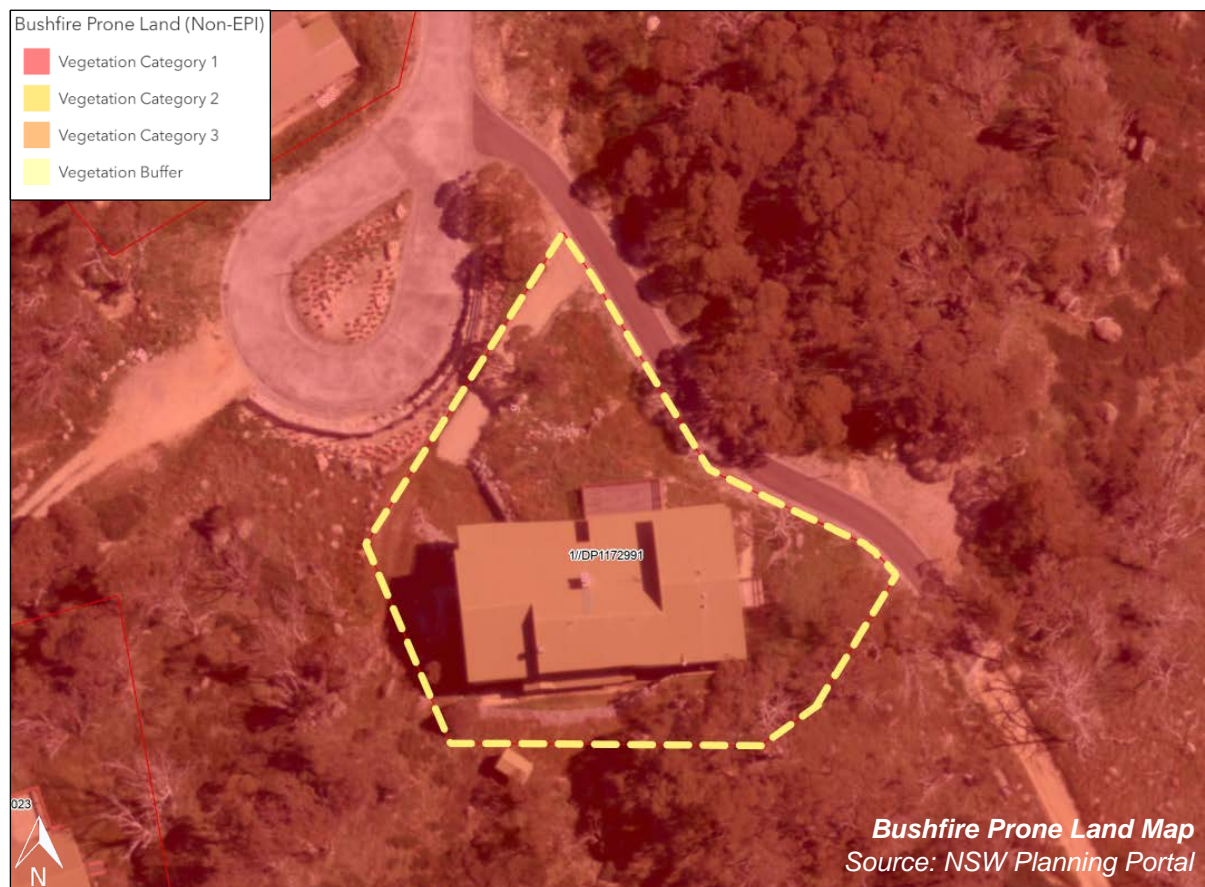
The following planning layers are described in Table 1 and shown in the Figures below:

**TABLE 1 PLANNING LAYERS**

MAP	FIGURE	DESCRIPTION
<b>Bushfire Prone Land Map</b>	4	The subject lot is mapped "Vegetation Category 1".
<b>LEP Zone Map</b>	5	The subject lot is zoned as "C1 – National Parks and Nature Reserves"
<b>Vegetation Mapping</b>	6	<p>The vegetation surrounding the existing lodge has been mapped as:</p> <ul style="list-style-type: none"> <li>- Sub-alpine Shrub-Grass Woodland</li> <li>- Sub-alpine Wet Herb-Grassland-Bog</li> </ul> <p>According to Keith (2004) this formation is classified as "Woodland." However, under PBP 2019, all sub-alpine woodland vegetation is classified as "Forest" vegetation.</p>
<b>Biodiversity Values Map</b>	7	Woodland vegetation within the south-eastern corner of the allotment is identified as an area with high biodiversity values.



**FIGURE 4 BUSHFIRE PRONE MAP**



**FIGURE 5 LEP MAP**

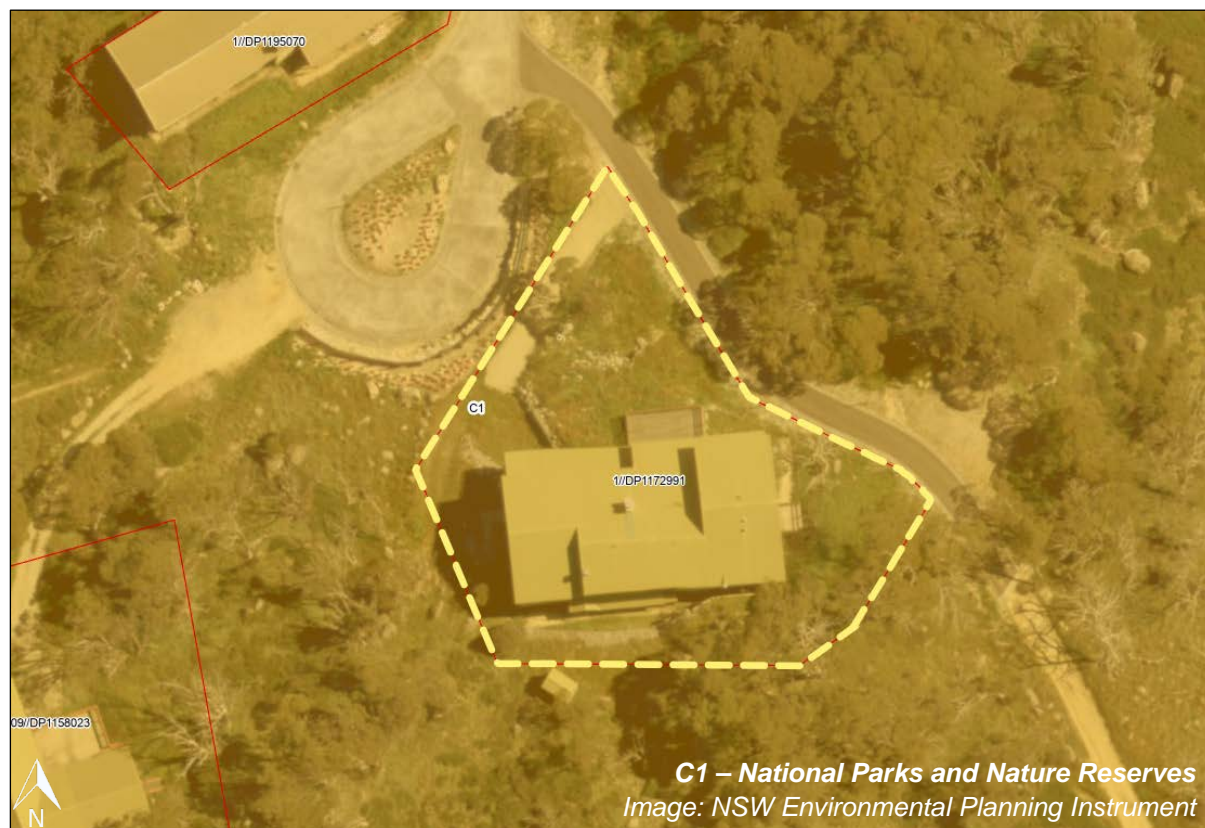




FIGURE 6 VEGETATION MAPPING

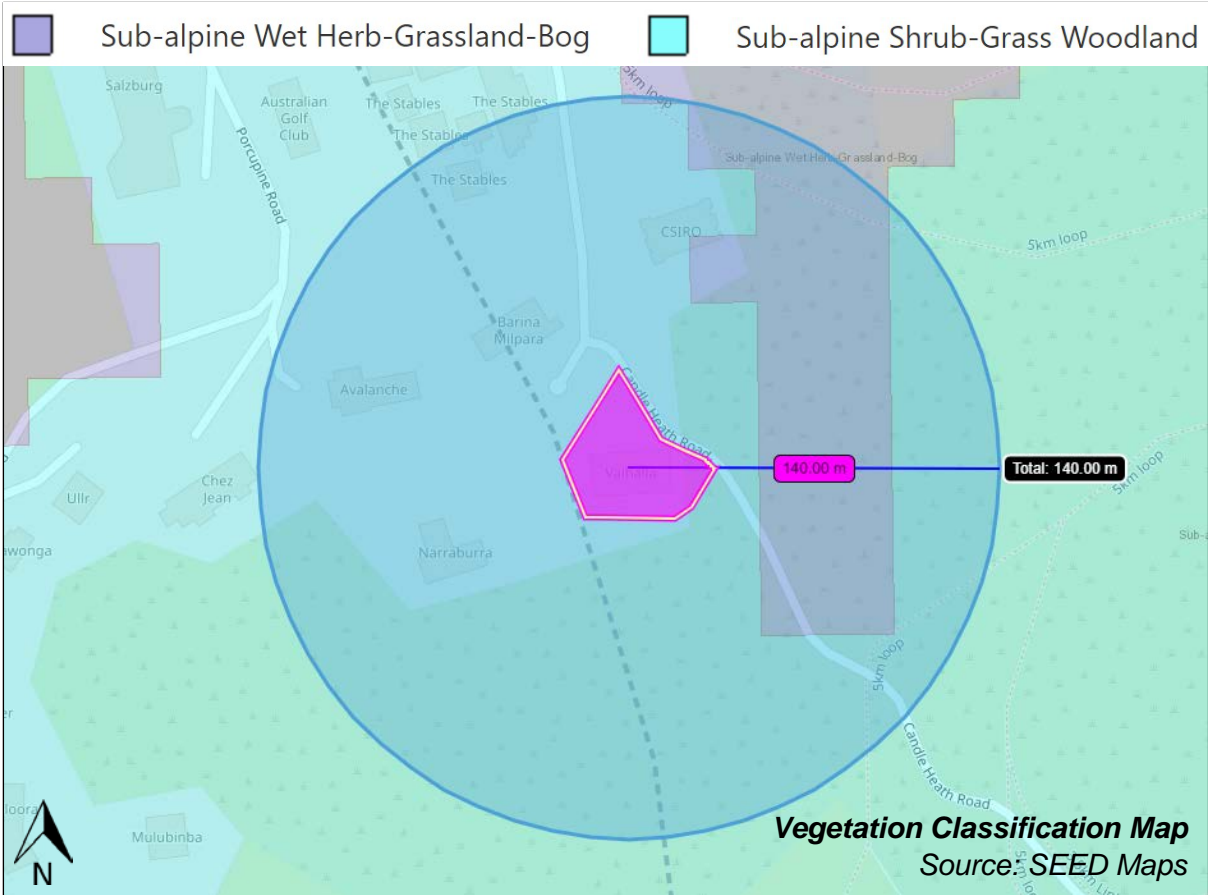


FIGURE 7 BIODIVERSITY VALUES MAP







# BUSHFIRE HAZARD ASSESSMENT FOR 31 CANDLE HEATH ROAD PERISHER VALLEY NSW

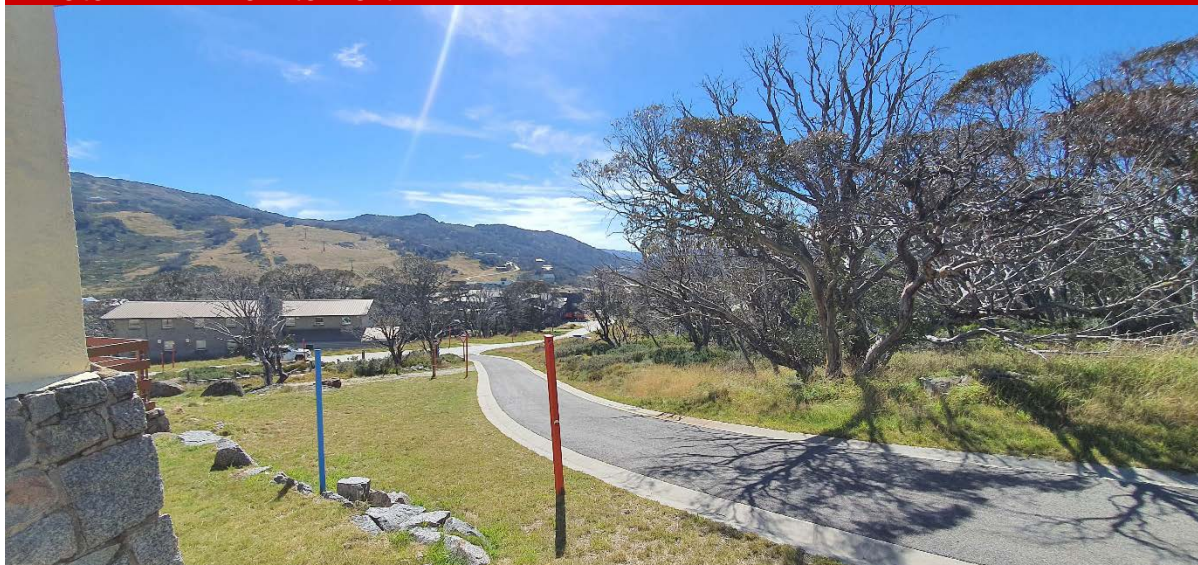
The vegetation formations are described below and summarised in Table 2.

**TABLE 2      PREDOMINATE VEGETATION CLASSIFICATION**

	Vegetation Formation	Effective Slope	APZ Proposed	Photo
North	Sub-Alpine Woodland	Downslope 10 – 15°	31m (Entire lot to be managed as IPA)	1
East	Sub-Alpine Woodland	Upslope/Flat	8m (Entire lot to be managed as IPA)	2
South	Sub-Alpine Woodland	Upslope	7m (Entire lot to be managed as IPA)	3
West	Sub-Alpine Woodland	Downslope 5 – 10°	5m (Entire lot to be managed as IPA)	4

## Site Photos

**Photo 1      View to North**



**Photo 2      View to East**





**Photo 3** *View to South*

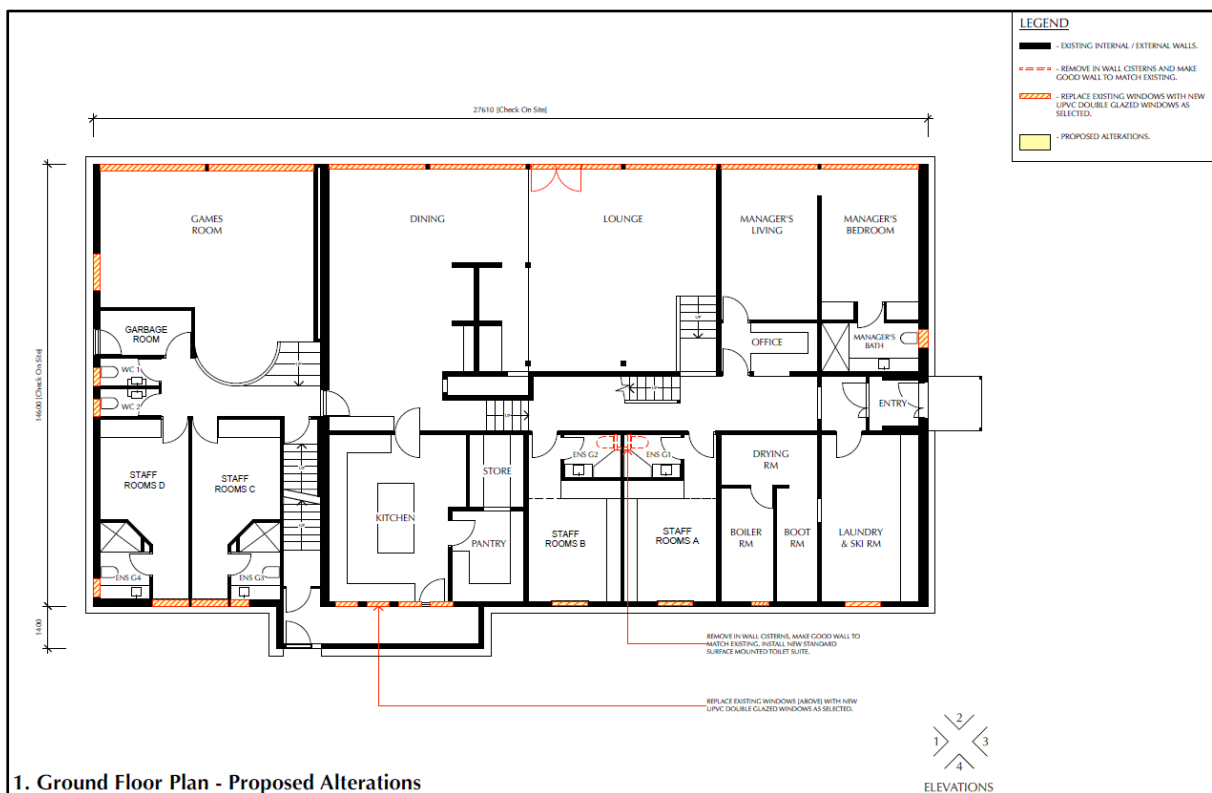


**Photo 4** *View to West*

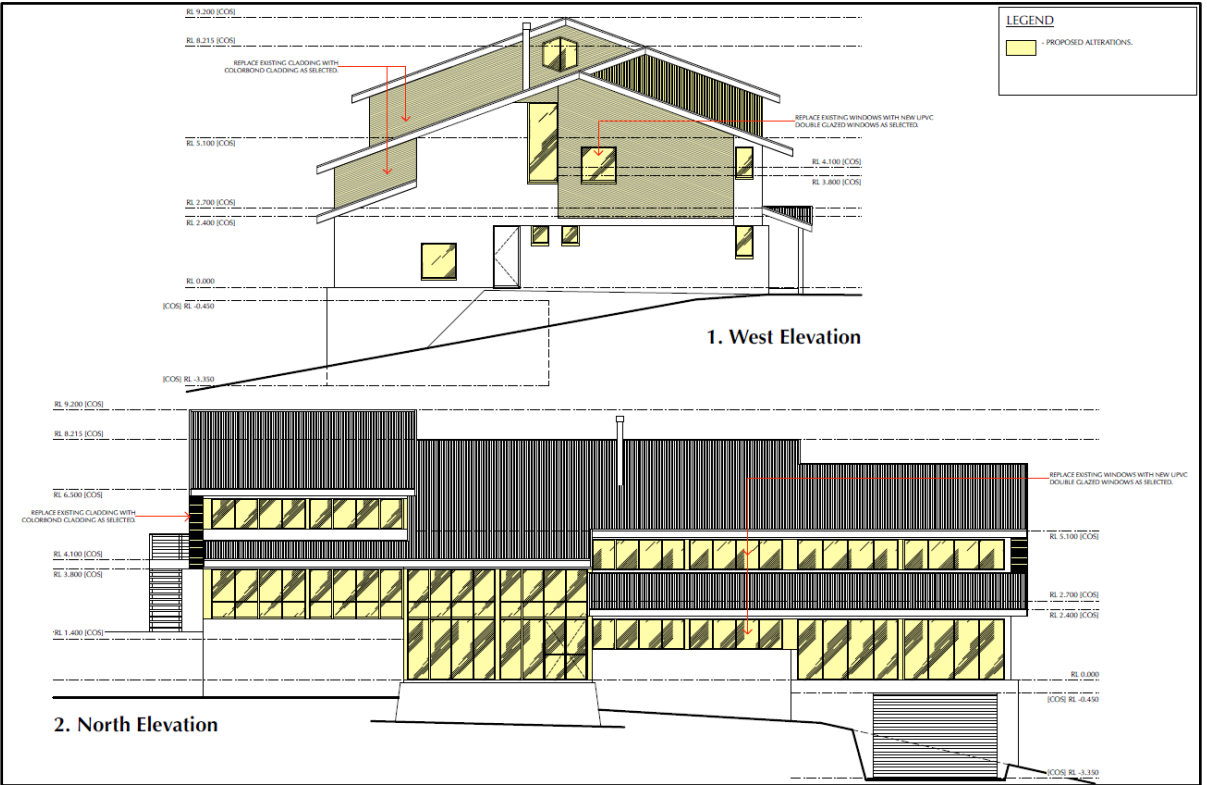
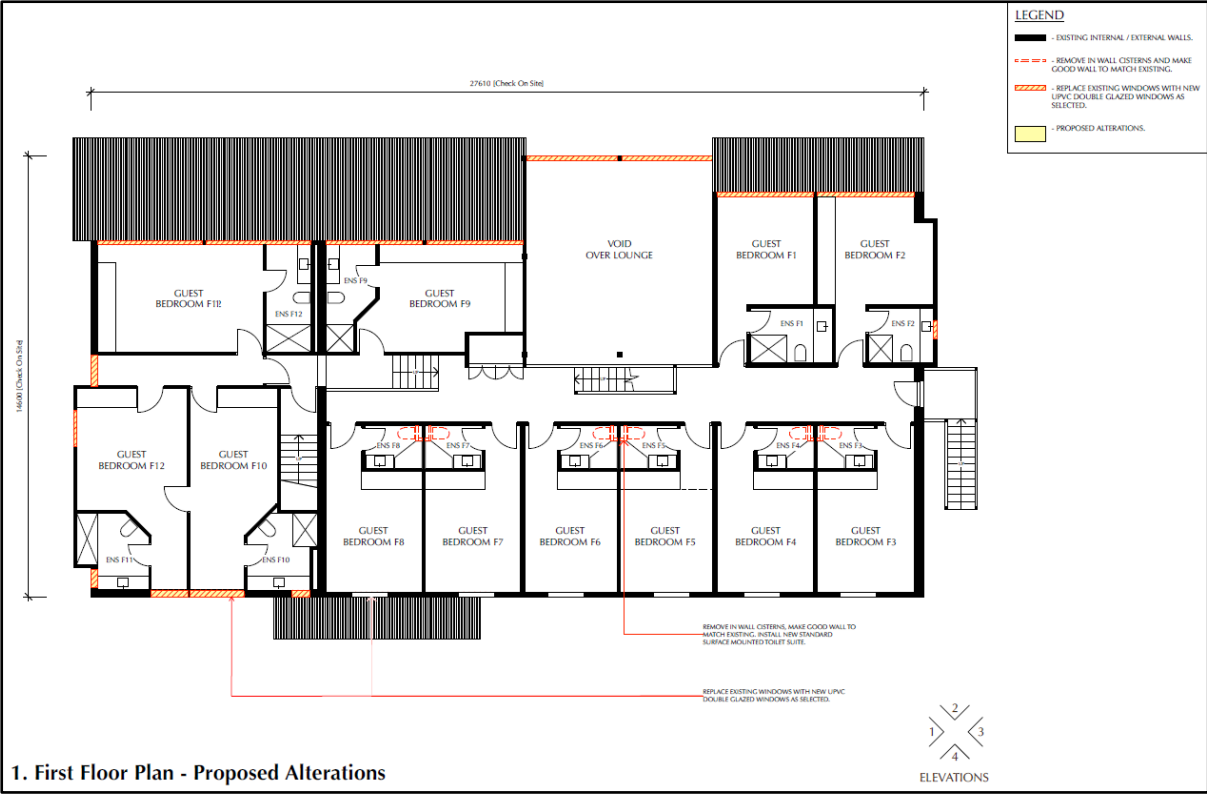




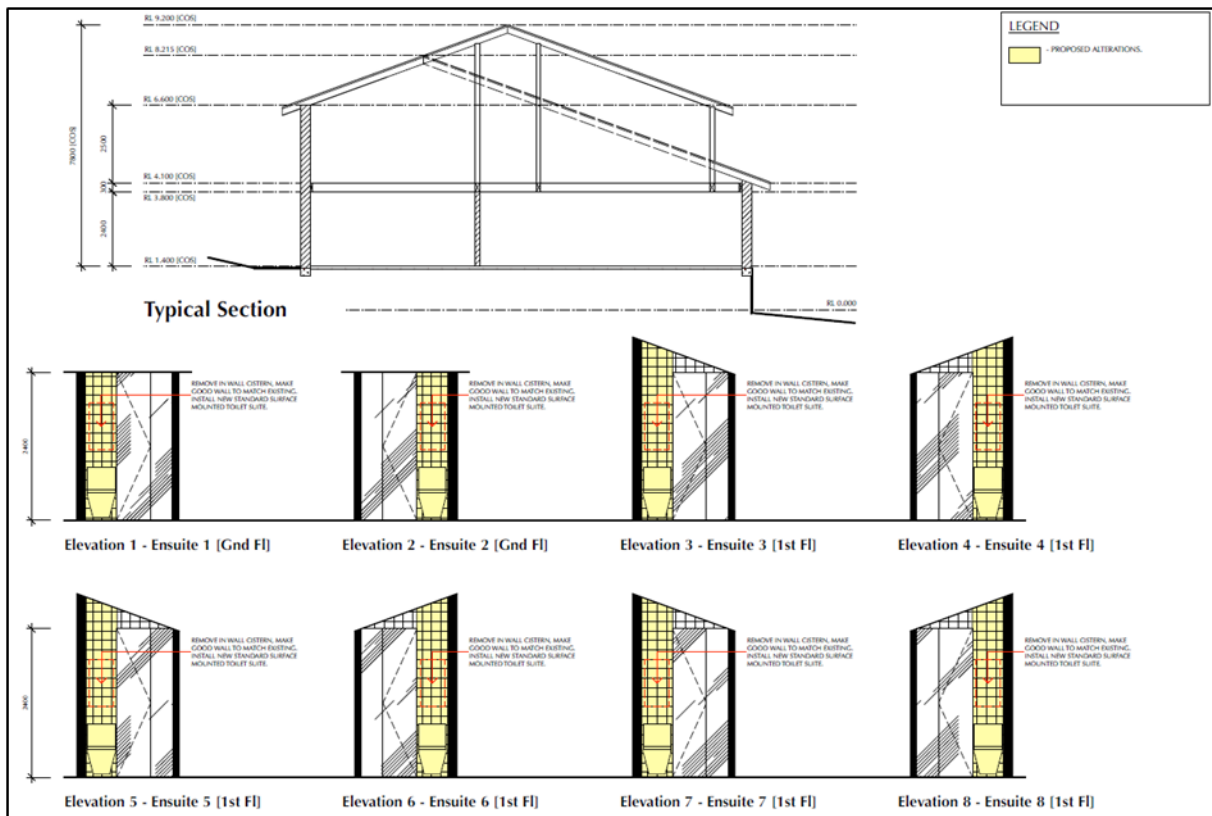
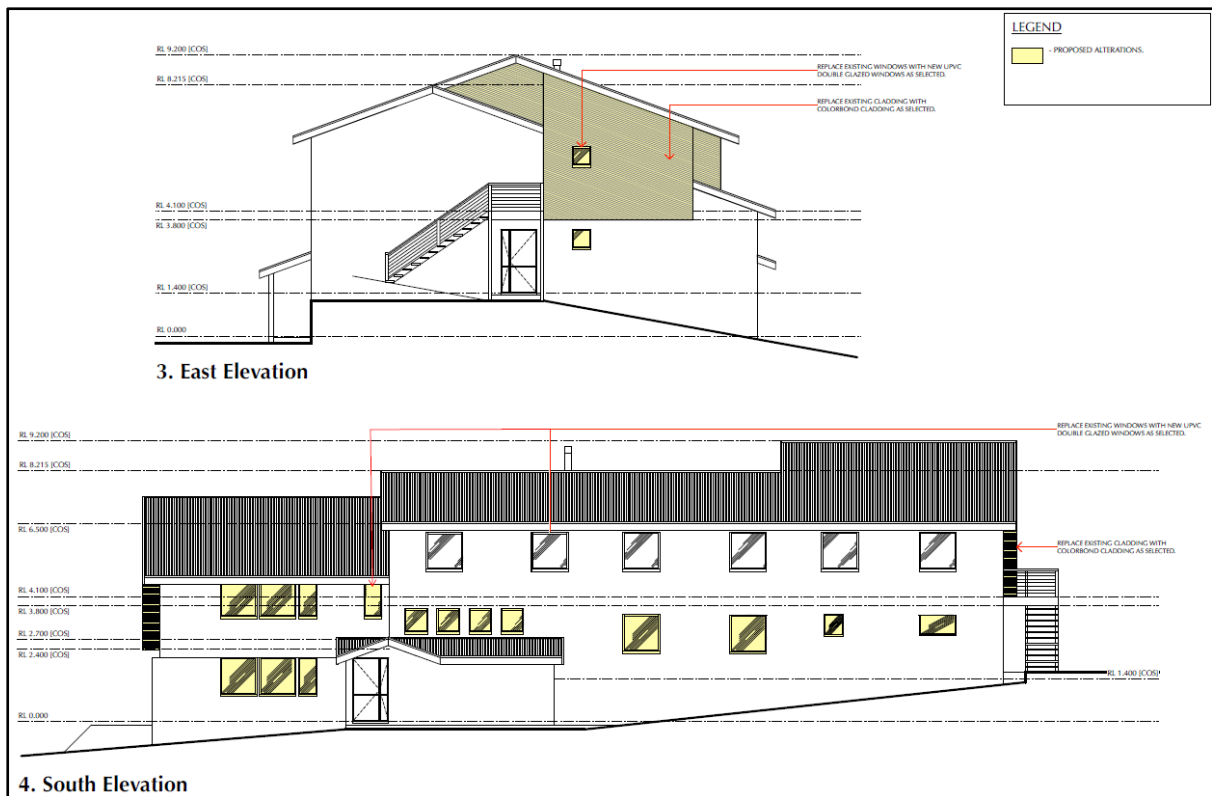
Proposed Plans and Elevations



BUSHFIRE HAZARD ASSESSMENT FOR 31 CANDLE HEATH ROAD PERISHER VALLEY NSW







## 4. BIODIVERSITY ASSESSMENT

### 4.1 Biodiversity Offsets Scheme Assessment

It is vital that all development and clearing follows the Biodiversity Offsets Scheme which has been created to avoid, minimise, and offset impacts on biodiversity.

There are two key elements to the Biodiversity Offsets Scheme, as follows:

- A. Developers and landholders who undertake development or clearing, generating a credit obligation which must be retired to offset their activity.
- B. Landholders who establish a biodiversity stewardship site on their land, generating credits to sell to developers or landholders who require those credits, to securely offset activities at other sites.

This report will address and assess the proposed repair works under element A. To complete this assessment, we will evaluate the four triggers and demonstrate that the proposed repair works should not trigger the Biodiversity Offsets Scheme and therefore the owner will not be required to offset their proposed activities.

#### 4.1.1 Clearing Threshold

**FIGURE 9 CLEARING THRESHOLD**

Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme apply
Less than 1 ha	0.25 ha or more
1 ha to less than 40 ha	0.5 ha or more
40 ha to less than 1000 ha	1 ha or more
1000 ha or more	2 ha or more

The proposed APZ area (less the existing building footprint) is approximately 0.2 hectares and hence clearing will be less than 0.25 hectares. IPA requirements allow tree canopy cover less than 15%. Therefore clearing to establish and maintain APZ will be within the proposed asset protection zone are permissible for an allotment of this size.

As a result, no offsets for the proposed repair works would be required due to this trigger.

#### 4.1.2 Biodiversity Values Map

In order to assess if the development is located within an area identified with Biodiversity Values, we have completed a search using the Biodiversity Values Map. As shown in Figure 7, the subject lot does contain areas with high biodiversity values. However, no building works are proposed within these areas and hence does not trigger the Biodiversity Offsets Scheme.

#### 4.1.3 Test of Significance

To assess the impact of the proposed repair works on threatened species we have completed a test of significance to determine if the proposed works are likely to significantly affect threatened species, ecological communities or their habitats.

We have considered the level of impact to the biodiversity of the area and to do this we have assessed the significance of any of the proposed activities at the site and surrounding alpine ecosystem.



Our assessment of the impact on threatened species and habitats finds:

- No predicted impacts to threatened species habitat at all.
- No endangered ecological communities or critically endangered ecological communities in the subject land.
- No predicted impacts to threatened species habitat at all.
- No removal of breeding habitats or fragmentation of habitats as a result of clearing below the permissible clearing threshold so will unlikely impact the long-term survival of any species or community.
- The lot does contain areas with High Biodiversity Values. However, no building works are proposed and selective clearing of vegetation for APZ is to be undertaken under the guidance of NPWS.
- Vegetation removal is a key threatening process and minimal vegetation removal (under clearing threshold limits) is proposed.

Similarly, the test shows that the proposed repair works are not likely to have a significant impact on threatened species or their habitat and will not be carried out in a declared area of outstanding biodiversity value. Therefore, the applicant will not be required to apply the Biodiversity Offsets Scheme or prepare a species impact statement (SIS) as a result of this trigger.

#### **4.1.4 Areas of Outstanding Biodiversity Values**

Protecting the habitats of endangered species is vital to the conservation and recovery of these species. Areas of declared critical habitat under the Threatened Species Conservation Act 1995, have become the first Areas of Outstanding Biodiversity Value (AOBV) in NSW with the commencement of the Biodiversity Conservation Act 2016.

The Biodiversity Conservation Regulation 2017 establishes the criteria for declaring AOBVs. The criteria have been designed to identify the most valuable sites for biodiversity conservation in NSW.

Kosciuszko National Park is not listed as an Area of Outstanding Biodiversity under the Biodiversity Conservation Act 2016. Therefore, due to the subject site being located within Kosciuszko National Park the proposed asset protection zone will not be within an area of outstanding biodiversity values and hence not trigger the BOS.

#### **4.1.5 BOS Conclusion**

As a result, clearing for the proposed repair work will be under the clearing threshold and will not trigger the biodiversity offset scheme. Therefore, a biodiversity assessment report by a certified biodiversity assessor is not necessary.

## 5. BUSHFIRE THREAT ASSESSMENT

### 5.1 Asset Protection Zones (APZ)

PBP 2019 Table A1.12.7 has been used to determine the width of the required APZ for the proposed development using the vegetation and slope data identified. An FFDI of 50 was used for this location. An APZ should be maintained from the commencement of building works and maintained for perpetuity.

The vegetation classification for bushfire purposes for this site is "Forest". Forest vegetation can be managed as an Inner Protection Area (IPA). The IPA is critical for providing a defensible space and managing heat intensities at the building surface.

The IPA should provide a tree canopy cover less than 15% and any tree canopies must be located greater than 2 metre from any part of the proposed dwelling roofline. Garden beds of flammable shrubs should not be located under trees and should not be within 10m from an exposed window or door. Trees should have lower limbs removed up to a height of 2 metres above ground.

Table 3 below shows the APZ and BAL Determination for the existing lodge.

**TABLE 3 APZ AND BAL DETERMINATION**

	NORTH	EAST	SOUTH	WEST
Gradient	Downslope 10 – 15°	Flat/Upslope	Upslope	Downslope 5 – 10°
Vegetation	Sub-Alpine Woodland	Sub-Alpine Woodland	Sub-Alpine Woodland	Sub-Alpine Woodland
Proposed distance to be provided between edge of building and vegetation	3m  Entire Lot to be Managed as IPA	4m  Entire Lot to be Managed as IPA	7m  Entire Lot to be Managed as IPA	5m  Entire Lot to be Managed as IPA
APZ required by PBP 2019 for BAL 40 under Table A1.12.7	<21 m	<11 m	<11 m	<21 m
BAL Proposed	BAL FZ	BAL FZ	BAL FZ	BAL FZ

### Relevant Construction Standard

The Australian Standard AS 3939 – 2018 is the enabling standard that addresses the performance requirements of both parts 2.3.4 and Part GF5.1 of the Building Code of Australia for the construction of the Class 1, 2 and Class 3 buildings within a designated Bushfire Prone Area.

The following was determined for this site:

Relevant fire danger index..... FFDI 50

The applicant proposes all **new work** will comply with BAL FZ on all elevations. The proposed repair works will provide an improved bushfire protection outcome for the existing lodge by providing improved fire-resistant materials. Ember protection upgrades are also proposed for the existing lodge, in order to further improve the bushfire safety outcome for the lodge. For this reason, the proposed repair works are not required to meet the BAL level for **new works** as described above.



## 5.2. Safe Operational Access

The Planning for Bushfire Protection requires the provision of safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

The PBP (2019) requires the provision of safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.

- Candle Heath Road is a two-wheel drive, all weather road. The widths and design would allow safe access for firefighters while residents are evacuating an area. The capacity of road surfaces is sufficient to carry fully loaded firefighting vehicles.

## 5.3. Emergency Management

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments.

To achieve this, the following conditions shall apply:

*A building evacuation diagram, site layout diagram and Statement of Action are to be provided for the proposed development in accordance with Building Emergency Procedures and Bush Fire Evacuation Plan, the NSW Rural Fire Service Guidelines for the Preparation of Emergency/Evacuation Plan and with Australian Standard AS 3745 2010 'Planning for Emergencies in Facilities'.*

The owners are advised to obtain the NSW Rural Fire Service – “Guidelines for the Preparation of Bush Fire Evacuation Plans” & ‘Bush Fire Survival Plan’ In the event of emergency, the owners should ensure they are familiar with the RFS Bush Fire Alert Levels and use their Bush Fire Survival Plan.

## 5.4. Adequate Water and Utility Services

Perisher Valley is serviced by reticulated water. A hydrant system is located along Candle Heath Road. The location and distance to the hydrants will be consistent with the requirements of the PBP 2019.

Any bottled gas will be installed and maintained in accordance with AS1596 and the requirements of the relevant authority. If gas cylinders need to be kept close to the buildings, the release valves must be directed away from the building and away from any combustible material. Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used.

## 6. LANDSCAPING

An APZ is required to be established and should be maintained for perpetuity as specified.

When landscaping, vegetation should be located greater than 2 m from any part of the roofline of the lodge. Garden beds of flammable shrubs are not to be located under trees and should not be within 10 m of an exposed window or door. Trees should have lower limbs removed up to a height of 2 m above the ground.

Appendix 4 (PBP 2019) provides guidelines for landscaping and Bushfire Provisions within the APZ. To incorporate bushfire protection measures into future development, the owner is advised to consider the following:

- Avoid planting trees species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopy.
- Avoid planting deciduous species that may increase fuel at surface/ground level by the fall of leaves.
- Avoid climbing species to walls and pergolas.
- Locate combustible materials such as woodchips/mulch, flammable fuel stores (LPG gas bottles) away from the building.
- Locate combustible structures such as garden sheds, pergolas and materials such as timber furniture away from the building.
- Ensure any vegetation planted around the house is a suitable distance away so these plants do not come into physical contact with the house as they mature.

The property should be developed to incorporate suitable impervious area surrounding the house, including courtyards, paths and driveways.



## 7. HOW THIS PROPOSAL MEETS DEEMED TO SATISFY SOLUTION

### DEMONSTRATION COMPLIANCE UNDER SECTION 6.4 – SPECIFIC OBJECTIVES PLANNING FOR BUSHFIRE (2019)

Performance Criteria	Complies	Acceptable solutions
<b>The intent may be achieved where:</b>		
<ul style="list-style-type: none"> <li>provide an appropriate defensible space</li> </ul>	<input checked="" type="checkbox"/>	See Table 3 for APZ distances.
<ul style="list-style-type: none"> <li>site the building in a location which ensures appropriate separation from the hazard to minimise potential for material ignition</li> </ul>	<input checked="" type="checkbox"/>	The existing building location and building footprint will not be changed in size or location. The entire allotment is proposed as the IPA, which provides an adequate defensible space around the lodge.
<ul style="list-style-type: none"> <li>provide a better bush fire protection outcome for existing buildings</li> </ul>	<input checked="" type="checkbox"/>	The proposed repair works are to replace deteriorated timber cladding with new colorbond metal sheet cladding and replace deteriorated timber-framed windows with new UPVC double glazed windows. These repair works will significantly improve the bushfire safety outcome of the building. Ember protection upgrades are also proposed, in order to further enhance the bushfire protection of Valhalla Lodge.
<ul style="list-style-type: none"> <li>new buildings should be located as far from the hazard as possible and should not be extended towards or situated closer to the hazard than the existing buildings (unless they can comply with section 6.8);</li> </ul>	<input checked="" type="checkbox"/>	No new buildings proposed as part of this application.
<ul style="list-style-type: none"> <li>ensure there is no increase in bush fire management and maintenance responsibility on adjoining landowners without their written confirmation</li> </ul>	<input checked="" type="checkbox"/>	The proposed works will not increase the bushfire management/maintenance responsibility for the lodge or any adjoining landowners. The proposed new materials will in fact reduce maintenance for the building, as the chosen materials are far more durable and do not require constant maintenance.
<ul style="list-style-type: none"> <li>ensure building design and construction enhances the chances of occupant and building survival</li> </ul>	<input checked="" type="checkbox"/>	The proposed repair works are to replace deteriorated timber cladding with new colorbond metal sheet cladding and replace deteriorated timber-framed windows with new UPVC double glazed windows. These repair works will significantly improve the bushfire safety outcome of the building. Ember protection upgrades are also proposed, in order to further enhance the bushfire protection of Valhalla Lodge. All of the proposed upgrades improve the bushfire protection of the building, and therefore provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> <li>provide for safe emergency evacuation procedures including capacity of existing infrastructure (such as roads)</li> </ul>	<input checked="" type="checkbox"/>	Access to the lodge is provided via Candle Heath Road which is an all-weather two-wheel drive access road.

**DEMONSTRATION COMPLIANCE UNDER SECTION 6.6 – SPECIFIC OBJECTIVES  
PLANNING FOR BUSHFIRE (2019)**

Performance Criteria	Complies	Acceptable solutions
<b>The intent may be achieved where:</b>		
<ul style="list-style-type: none"> <li>provide an appropriate defensible space</li> </ul>	<input checked="" type="checkbox"/>	See Table 3 for APZ distances.
<ul style="list-style-type: none"> <li>provide a better bush fire protection outcome for existing structures (e.g. via ember protection measures)</li> </ul>	<input checked="" type="checkbox"/>	Ember protection measures are proposed as part of this application. See Appendix II for list of ember protection upgrades to be implemented.
<ul style="list-style-type: none"> <li>ensure new building work complies with the construction standards set out in AS 3959;</li> </ul>		The proposed repair works and ember protection upgrades will comply with the construction standards set out in AS 3959.
<ul style="list-style-type: none"> <li>to ensure ongoing management and maintenance responsibilities are in place where APZs are proposed outside of the sub lease or leasehold area</li> </ul>		The entire allotment is to be managed as an IPA. The proposed APZ can be managed entirely within the property leasehold boundary.
<ul style="list-style-type: none"> <li>written consent from the land managers is provided for all proposed works outside of the sub lease or leasehold area</li> </ul>	<input checked="" type="checkbox"/>	No works are proposed outside of the leasehold area.
<ul style="list-style-type: none"> <li>proposed APZs outside of the sub lease or leasehold area are supported by a suitable legal mechanism to ensure APZs are managed under a binding legal agreement in perpetuity</li> </ul>	<input checked="" type="checkbox"/>	APZ is to be managed entirely within the leasehold area.
<ul style="list-style-type: none"> <li>ensure building design and construction standards enhance the chances of occupant and building survival;</li> </ul>	<input checked="" type="checkbox"/>	The proposed repair works are to replace deteriorated timber cladding with new colorbond metal sheet cladding and replace deteriorated timber-framed windows with new UPVC double glazed windows. Ember protection upgrades are also proposed, in order to further enhance the bushfire protection of Valhalla Lodge. All of the proposed upgrades improve the bushfire protection of the building, and therefore provide a better bushfire protection outcome for the building and its occupants.
<ul style="list-style-type: none"> <li>provide safe emergency evacuation procedures.</li> <li>Any additional construction requirements should be commensurate with the following: <ul style="list-style-type: none"> <li>the scope of the proposed works, including any increase in size and footprint of the building</li> <li>any additional capacity for the accommodation of guests and/or staff on site</li> <li>the cost associated with the proposed upgrade of any building.</li> </ul> </li> </ul>	<input checked="" type="checkbox"/>	<p>Access to the lodge is provided via Candle Heath Road which is an all-weather two-wheel drive access road.</p> <p>Emergency Evacuation plan will be provided in accordance with Perisher Blue Ski Resort evacuation management plan. An individual evacuation plan will be prepared as described in section 4.4. of this report.</p>



## 8. CONCLUSION

Pending the satisfaction of recommendations outlined in this report, the level of bushfire hazard risk identified in relation to the subject land and the proposed repair works is not considered to be such that the proposal should be denied due to bushfire considerations.

It is proposed that ember protection upgrades will be undertaken to the existing lodge, in order to provide a better bushfire protection outcome for the building and its occupants. Please see Appendix II for ember protection upgrade list.

It is recommended that all **new works** in the building envelope meet the below requirements:

- ***Bushfire Attack Level of BAL Flame Zone (FZ) on all elevations for new work, not identified as repairs and maintenance.***

The proposed repair works will provide an improved bushfire protection outcome for the existing lodge by providing improved fire-resistant materials. Ember protection upgrades are also proposed for the existing lodge, in order to further improve the bushfire safety outcome for the lodge. For this reason, the proposed repair works are not required to meet the BAL level for **new works** as described above.

This proposal meets a “deemed to satisfy” outcome for Bushfire Protection.

This report does not find that the proposal should be rejected due to bushfire considerations provided the recommendations are undertaken as proposed.



Katy Murphy  
Town Planner

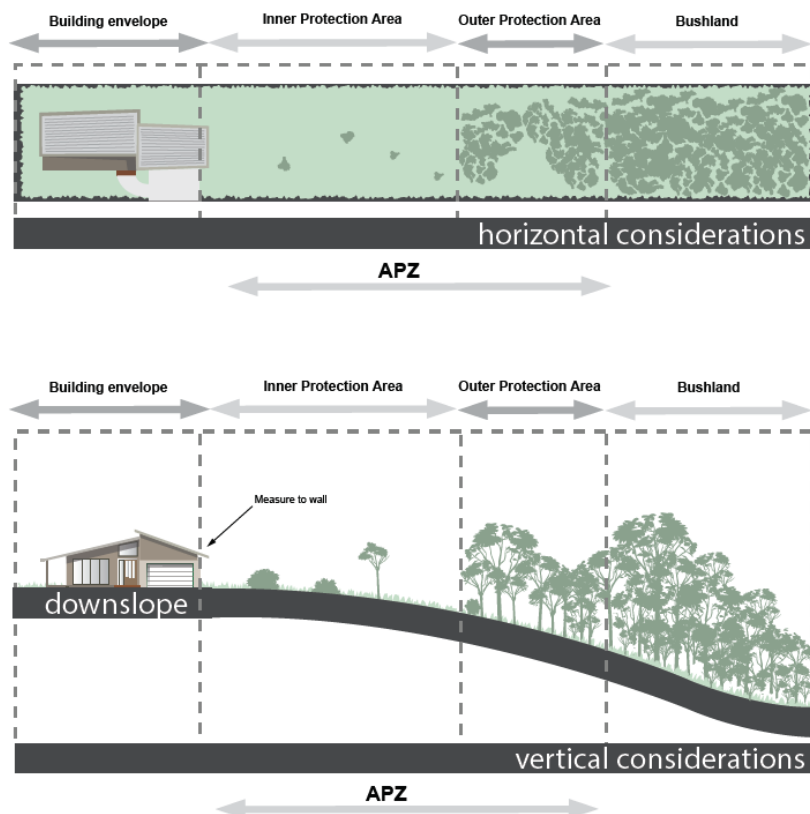
04 July 2022

## APPENDIX I DEFINITION OF ASSET PROTECTION ZONES

Vegetation within the APZ should be managed in accordance with APZ specifications for the purposes of limiting the travel of a fire, reducing the likelihood of direct flame contact and removing additional hazards or ignition sources. The following outlines some general vegetation management principles for APZs:

1. Discontinuous shrub layer (clumps or islands of shrubs not rows)
2. Vertical separation between vegetation stratum
3. Tree canopies not overhanging structures
4. Management and trimming of trees and other vegetation in the vicinity of power lines and tower lines in accordance with the specifications in "Vegetation Safety Clearances" issued by Energy Australia (NS179, April 2002)
5. Maintain low ground covers by mowing / whipper snipper / slashing; and
6. Non-combustible mulch e.g. stones and removing stores of combustible materials
7. Vegetation to be planted should consist of fire retardant/ less flammable species strategically located to reduce attack from embers (i.e. as ember traps when in small clumps and short wind breaks).

Typical Inner and Outer Protection Areas.





**APPENDIX II EMBER PROTECTION UPGRADES**

<b>BUILDING ELEMENT</b>	<b>MINIMAL PROTECTION MEASURES</b>
<b>GENERAL</b>	Seal all gaps (>33mm) around the house (excluding subfloor) with: <ul style="list-style-type: none"> <li>• Appropriate joining strips.</li> <li>• Flexible silicone-based sealant; or</li> <li>• Mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze, or aluminium.</li> </ul>
<b>WALLS</b>	Install sarking with a flammability index of not more than 5 behind weatherboards or other external cladding when they are being replaced for maintenance or other reasons.
<b>SUBFLOOR</b>	Removal of combustible materials and keeping areas clear and accessible.
<b>DOORS</b>	Install weather strips, draught excluders, or draught seals at the base of side-hung doors.
<b>VENTS &amp; WEEPHOLES</b>	Seal vents and weepholes in external walls with mesh (with an aperture size of 2mm) or corrosion resistant steel, bronze or aluminium.
<b>ROOFS</b>	Seal around roofing and roof penetrations with a non-combustible material.  Install sarking with a flammability index of not more than 5 beneath existing roofing when it is being replaced for maintenance or other reasons. If installed, gutter and valley leaf guards shall be non-combustible.
<b>WINDOWS</b>	Install mesh with a maximum aperture of 2mm, made from corrosion resistant steel, bronze or aluminium to all external doors and openable windows.