



**BUSHFIRE PROTECTION ASSESSMENT  
FOR THE PROPOSED ADDITIONS  
TO THE  
HILLS MARKET PLACE  
LOT 1 in DP 845094  
No. 287 MONA VALE ROAD, TERREY HILLS**

AUSTRALIAN BUSHFIRE PROTECTION PLANNERS PTY LTD  
32 Old Dog Trap Road, Somersby NSW 2250  
Tel. 612 43622112 / 612 43621184 Mob. 0427 622204  
Email. [abpp@bigpond.net.au](mailto:abpp@bigpond.net.au)





**BUSHFIRE PROTECTION ASSESSMENT**

**FOR THE PROPOSED ADDITIONS**

**TO THE**

**HILLS MARKET PLACE**

**ON LOT 1 in DP 845094**

**No. 287 MONA VALE ROAD,**

**TERREY HILLS**

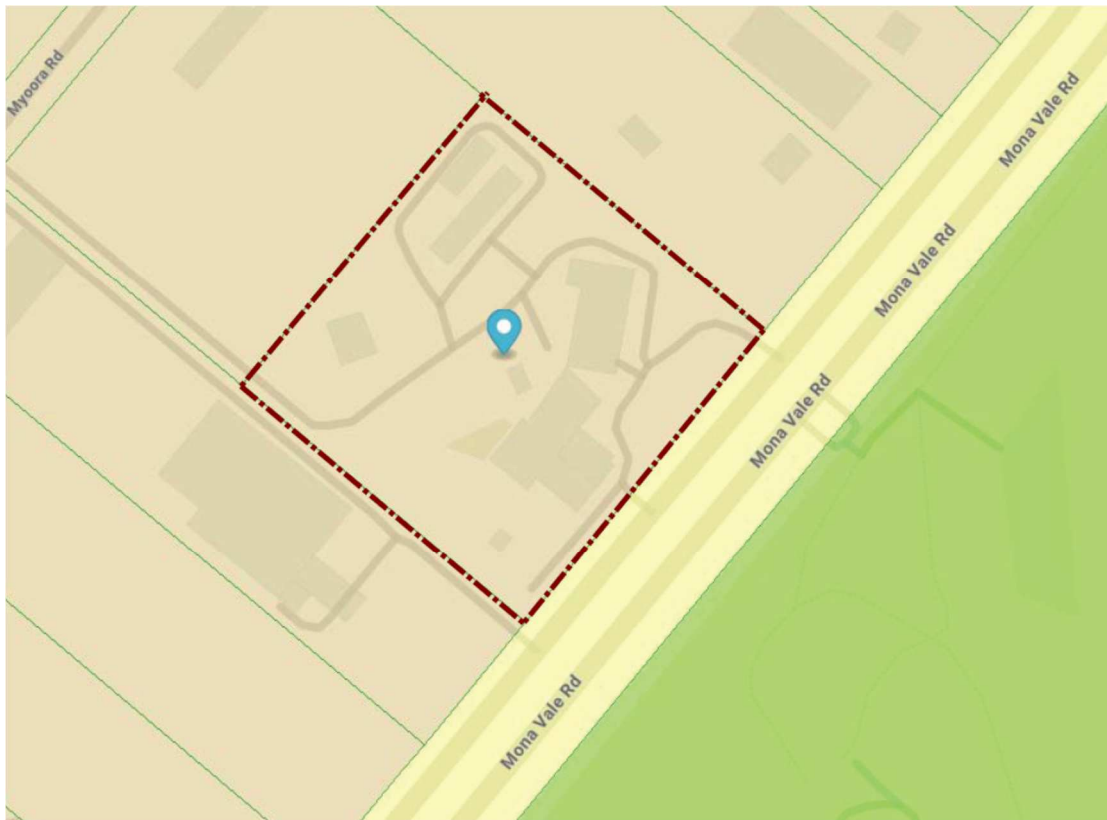
<b>Report Number</b>	<b>Document</b>	<b>Preparation Date</b>	<b>Issue Date</b>	<b>Directors Approval</b>
B213699 - 1	Final	13.10. 2022	20.10.2022	<i>G.L. Swain</i>

## EXECUTIVE SUMMARY

*Australian Bushfire Protection Planners Pty Limited* has been commissioned by *Mainbrace Constructions* to prepare a report to provide advice on the bushfire protection measures required for the proposed additions to the Hills Market Place on Lot 2 in DP 845099, No. 287 Mona Vale Road, Terrey Hills.

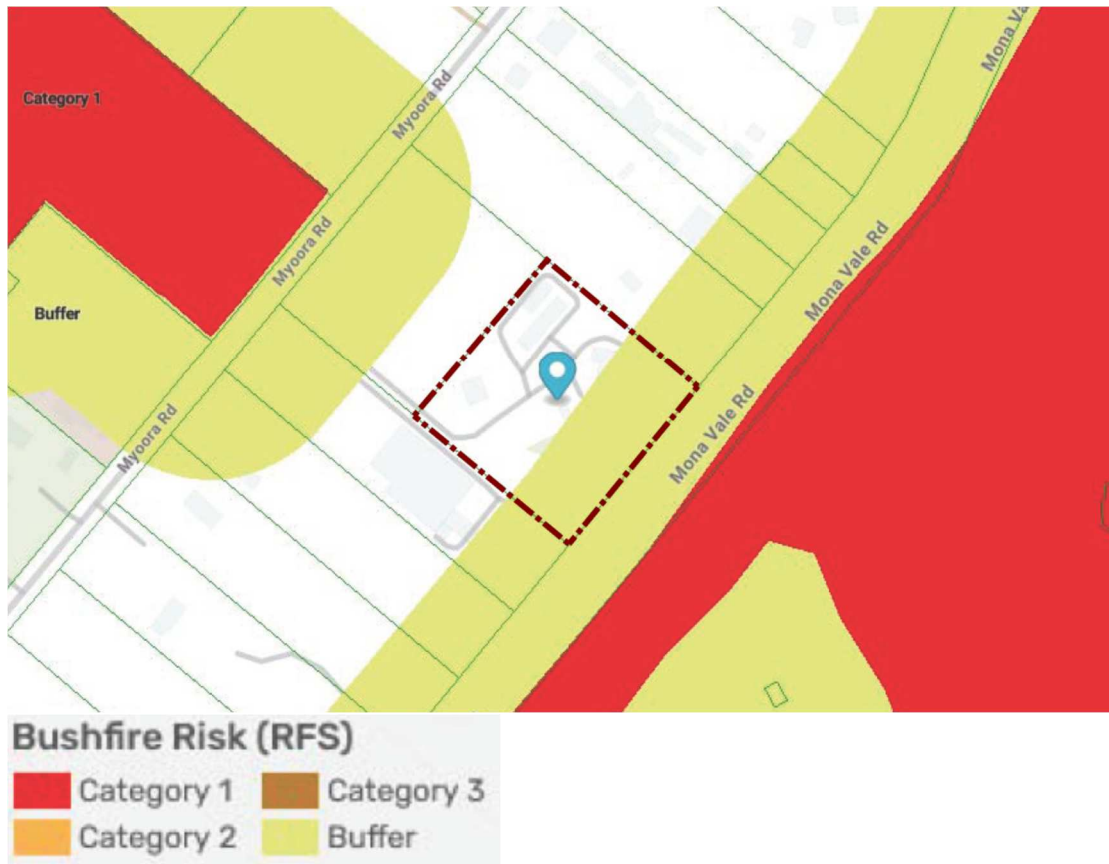
The site is zoned for RU4 – Primary Production Small Lots and contains the existing Hills Market Place complex.

**Figure 1 – Landuse Zoning Map.**



The Northern Beaches Bushfire Prone Land Map records the front of the development site as containing the buffer zone to Category 1 Bushfire Prone Vegetation located on land to the southeast of the Mona Vale Road corridor – refer to Figure 2 on Page 4.

**Figure 2 – Extract from Northern Beaches Bushfire Prone Land Map showing Category 1 Bushfire Prone Vegetation on the land to the southeast of the Mona Vale Road corridor and the Buffer Zone on Lot 2 in DP 1254181.**

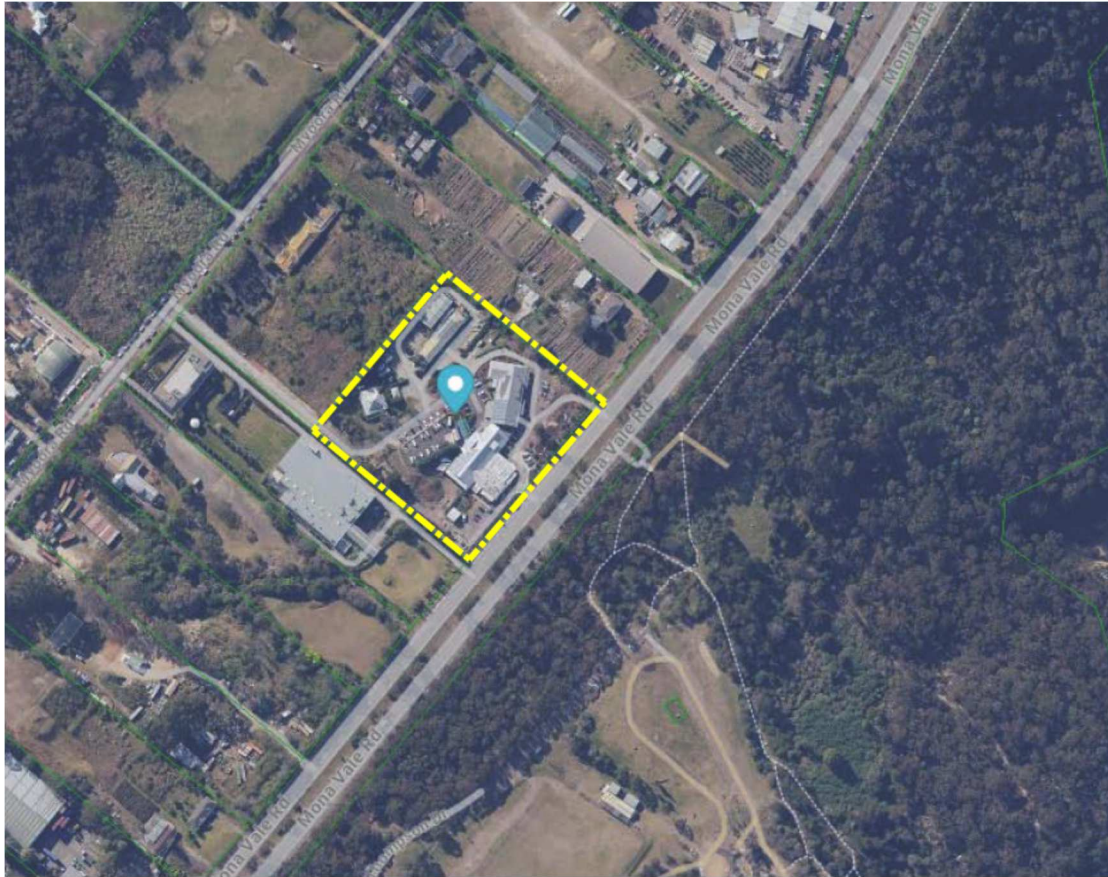


The site inspection confirmed that the land to the northwest, northeast and southwest of the development site contains existing development.

The site inspection also confirmed that the land to the east, southeast and southwest of the Mona Vale Road corridor is vacant and contains unmanaged vegetation.

Figure 4 provides a copy of an Aerial Photograph showing the location of the development site, the adjoining landuse to the northwest, northeast and southwest and the vacant land to the east, southeast and southwest of the Mona Vale Road corridor.

**Figure 3 – Aerial Photograph showing the development site and the adjoining development to the northwest, northeast and southwest and vacant land to the east, southeast and southwest of the Mona Vale road corridor.**



The development site is impacted by the buffer zone to bushfire prone vegetation and therefore Section 4.14 of the *Environmental Planning & Assessment Act 1979* applies to the construction of the proposed buildings.

Section 4.14 of the *Environmental Planning and Assessment Act* requires a Consent Authority, when considering development within a bushfire prone area, to be satisfied that the development conforms with the specifications and requirements of *Planning for Bushfire Protection 2019*.

*Planning for Bushfire Protection 2019* provides specific deemed-to-satisfy provisions on the bushfire protection measures necessary for rural & residential subdivisions, the construction of “*Special Fire Protection Purpose Developments*” and the construction of Class 1, 2, 3 & 4 buildings in Bushfire Prone areas.

The document does not identify specific deemed-to-satisfy protection measures for buildings of Class 5 to 8 and Class 10 of the Building Code of Australia.

The document does provide the following advice for these classes of buildings:

*“The NCC does not provide for any bushfire specific performance requirements for these particular classes of buildings. As such A.S. 3959 and the NASH Standard are not considered as a set of Deemed to Satisfy provisions, however compliance with A.S. 3959 and NASH must be considered when meeting the aim and objectives of Planning for Bushfire Protection 2019*

The objectives of *Planning for Bushfire Protection 2019* are:

- (i) Afford occupants of any building adequate protection from exposure to a bushfire;
- (ii) Provide for a defensible space to be located around buildings;
- (iii) Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;
- (iv) Ensure that safe operational access and egress for emergency service personnel and residents is available;
- (v) Provide for ongoing management and maintenance of bushfire protection measures; and
- (vi) Ensure that utility services are adequate to meet the needs of firefighters.

This Bushfire Protection Assessment undertakes an assessment of the bushfire protection measures required to address bushfire risk to the proposed buildings, consistent with the provisions of Section 4.14 of the *Environmental Planning and Assessment Act 1979* and examines the adequacy of the setbacks [defensible spaces] to the building; fire-fighting access and provision of fire-fighting water supplies, fuel management protocols and other matters considered necessary to mitigate any potential bushfire threat to persons, property and the environment.

The characteristics of the site as discussed in this report, together with the recommendations provided in this assessment, confirms that the site is suitable in terms of its intended use.



Graham Swain  
Managing Director,  
***Australian Bushfire Protection Planners Pty Limited.***



## TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	3
TABLE OF CONTENTS.....	7
SECTION 1.....	8
INTRODUCTION 8	
1.1 AIM OF THIS ASSESSMENT.....	8
1.2 STATUTORY REQUIREMENTS. ....	8
1.2.1 LEGISLATION. ....	9
1.2.2 PLANNING POLICIES.....	9
1.3 DOCUMENTATION REVIEWED. ....	9
1.4 DEVELOPMENT PROPOSAL.....	10
1.4 SITE INSPECTION. ....	12
SECTION 2.....	13
DESCRIPTION OF DEVELOPMENT SITE .....	13
2.1 LOCATION & DESCRIPTION. ....	13
2.2 ADJOINING LAND USE.....	13
2.3 TOPOGRAPHY.....	14
2.4 VEGETATION.....	14
2.5 BUSHFIRE VEGETATION COMMUNITIES ADJOINING THE LAND WITHIN THE BUILDING SITE.....	14
2.6 SIGNIFICANT ENVIRONMENTAL FEATURES ON THE LAND WITHIN THE DEVELOPMENT SITE.....	14
2.7 KNOWN THREATENED SPECIES, POPULATIONS, ENDANGERED ECOLOGICAL COMMUNITIES OR CRITICAL HABITAT ON THE LAND WITHIN THE DEVELOPMENT SITE.....	14
2.8 DETAILS OF ABORIGINAL/EUROPEAN HERITAGE WITHIN THE DEVELOPMENT SITE.....	15
SECTION 3.....	16
BUSHFIRE PROTECTION ASSESSMENT.....	16
3.1 INTRODUCTION.....	16
3.2 THE PROVISION OF DEFENDABLE SPACE/S [ASSET PROTECTION ZONES].....	17
3.3 CONSTRUCTION MEASURES TO THE DATA CENTRE BUILDING.....	18
3.4 ACCESS STANDARDS FOR FIREFIGHTING OPERATIONS.....	19
3.5 WATER SUPPLIES FOR FIREFIGHTING OPERATIONS.....	19
3.6 EMERGENCY MANAGEMENT FOR FIRE PROTECTION / EVACUATION.....	19
SECTION 4.....	20
CONCLUSION.....	20
REFERENCES:.....	21



## SECTION 1

### INTRODUCTION

#### 1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to address the aim & objectives of *Planning for Bushfire Protection 2019* including:

- Determine the formation of the vegetation within 140 metres of the development site, in accordance with the vegetation classification system contained in Appendix 1 of *Planning for Bushfire Protection 2019*;
- Undertake an assessment to determine the effective slope of the land on and surrounding the development site;
- Determine the Fire Danger Index [FDI] for the site;
- Undertake an assessment to determine bushfire protection strategies for the proposed development, including the bushfire protection measures required to be implemented in the design and construction of the Canopies and the requisite bushfire protection measures required to address the safety of the staff and shoppers.
- Prepare a report that addresses the following matters:
  - (i) The provision of building setbacks (Asset Protection Zones) from vegetated areas and the siting of buildings to minimize the impact of radiant heat and direct flame contact;
  - (ii) Fire-fighting water supplies;
  - (iii) Access requirements for emergency service vehicles;
  - (iv) Construction standards to be used for the future buildings within the proposed development to minimize the vulnerability of buildings to ignition from radiation and ember attack;
  - (v) Land management responsibilities; and
  - (vi) Evacuation management.

#### 1.2 Statutory Requirements.

This assessment has been prepared having regard to the following legislative and planning requirements:

### **1.2.1 Legislation.**

#### **(a) *Environmental Planning and Assessment Act - 1979 (EPA Act)***

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1997* (EPA Act). In relation to bushfire protection planning for retail/commercial development in bushfire prone areas in NSW, Section 4.1.4 of the EPA Act applies and requires a consent authority to be satisfied that the proposed development conforms to the specifications and requirements of *Planning for Bushfire Protection 2019*.

#### **(b) *Rural Fires Act 1997***

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention;
- Protection of people and property from fires; and
- Protection of the environment.

Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of the spread of bushfires.

### **1.2.2 Planning Policies.**

#### ***Planning for Bushfire Protection – 2019 (NSW Rural Fire Service)***

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for rural residential and residential subdivision, “*Special Fire Protection*” and Class 5 – 8 and 10 buildings in bushfire prone areas [Industrial buildings are Class 7 as defined by the Building Code of Australia].

These measures include the provision of defensible space requirements and access/water supply provisions to Class 5 – 8 & 10 developments in bushfire prone areas.

Provision for the assessment of construction standards to buildings and management / maintenance of the Asset Protection Zones/defensible space to buildings is also provided.

### **1.3 Documentation Reviewed.**

The following documents were reviewed in the preparation of this assessment:

- Architectural Plans prepared by the BN Group;
- Aerial Photograph of the site;

- Northern Beaches Council Certified Bushfire Prone Land Map;
- *Planning for Bushfire Protection 2019* prepared by the NSW Rural Fire Service.

### 1.4 Development Proposal.

This Bushfire Protection Assessment has been prepared for the demolition of existing Weatherboard Cottage, Garage and two Metal Sheds and construction of a new Rural Supplies Building a new Garden Centre and new Restaurant within the existing Hills Market Place.

The works also include the construction of at-grade carparking.

**Figure 4 – Site Plan of proposed Works**

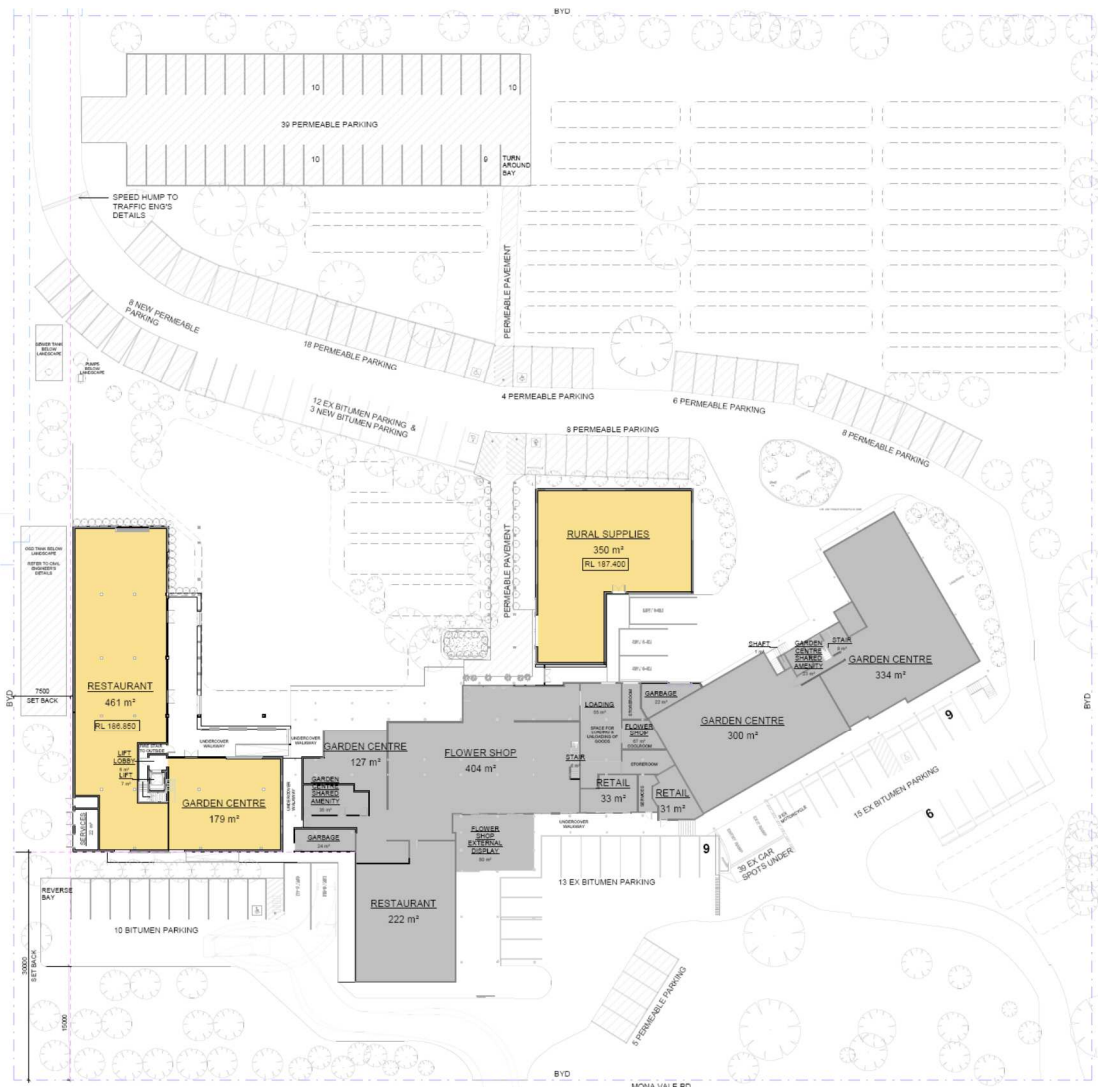
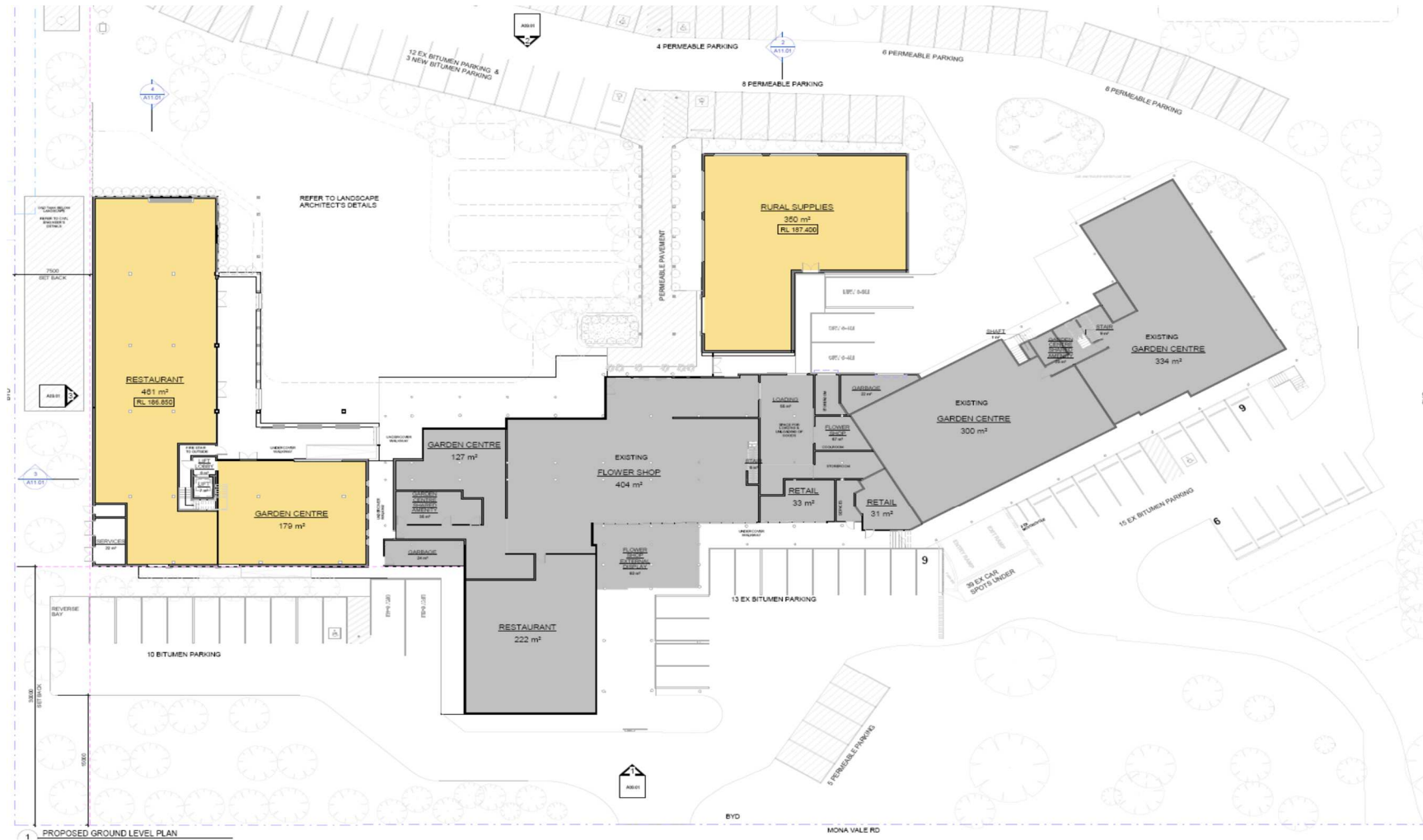




Figure 5 – Ground Plan of the proposed Works.





#### **1.4 Site Inspection.**

Graham Swain of *Australian Bushfire Protection Planners Pty. Limited* inspected the development site and adjoining land on the 21<sup>st</sup> August 2022 to assess the topography, slopes, vegetation classification and land use within and adjoining the development site.

An assessment of the extent of bushfire prone vegetation and the accuracy of the Northern Beaches Bushfire Prone Land Map was also undertaken.

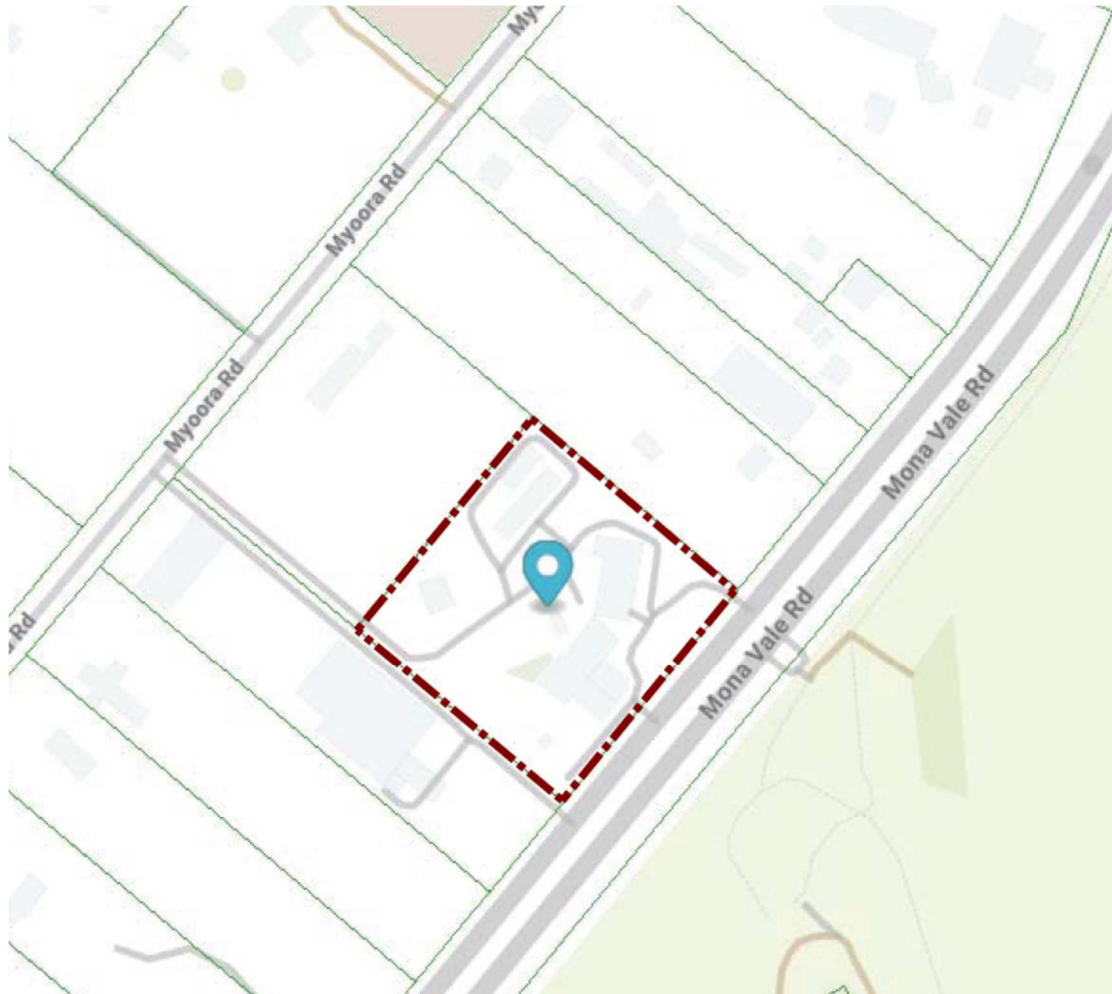
## SECTION 2

### DESCRIPTION OF DEVELOPMENT SITE

#### 2.1 Location & Description.

The site is known as Lot 2 in DP 845094, No. 287 Mona Vale Road, Terrey Hills.

**Figure 6 – Site Location Plan**



#### 2.2 Adjoining Land Use.

The development site is adjoined to the northwest, northeast and southwest by existing development on the adjoining land.

The land to the southeast of the development site, beyond the Mona Vale Road corridor consists of vacant land within the II Melbourne Hills Memorial Reserve.

### **2.3 Topography.**

Appendix A1.5 of *Planning for Bushfire Protection 2019* states that slopes should be assessed and the gradient of the land should be determined which will most significantly influence the fire behaviour on the site.

➤ ***Within the Development Site.***

The land within the building site rises gently to the north.

➤ ***Beyond the Development Site.***

The bushfire prone vegetation within the Il Melbourne Hills Memorial Reserve is on land that initially rises to the southeast before falling (beyond 100m) at 12 degrees.

### **2.4 Vegetation.**

Vegetation is classified using Figure A1.2 of *Planning for Bushfire Protection 2019*, which classifies vegetation types into the following groups:

- (a) *Rainforest;*
- (b) *Wet Sclerophyll Forest;*
- (c) *Dry Sclerophyll Forest;*
- (d) *Woodland;*
- (e) *Tall Heath;*
- (f) *Short Heath;* and
- (g) *Grassland.*

The vegetation within the development site and adjoining land to the northwest, northeast and southwest is managed and not mapped as bushfire prone vegetation.

### **2.5 Bushfire Vegetation Communities adjoining the land within the Building Site.**

The vegetation within the Il Melbourne Hills Memorial Reserve, beyond the Mona Vale Road corridor, consists of Sydney Hinterland Dry Sclerophyll Forest.

### **2.6 Significant Environmental Features on the land within the Development Site.**

The development site does not contain any significant environmental features.

### **2.7 Known Threatened Species, Populations, Endangered Ecological Communities or Critical Habitat on the land within the Development Site.**

There are no known threatened species, populations, endangered ecological communities or critical habitat within the development site.



## **2.8 Details of Aboriginal/European Heritage within the Development Site.**

There are no known Aboriginal sites, relics or European heritage within the development site.



## SECTION 3

### BUSHFIRE PROTECTION ASSESSMENT

#### 3.1 Introduction.

The Northern Beaches Bushfire Prone Land Map records the development site as containing the buffer zone Category 1 Bushfire Prone Vegetation located in the Il Melbourne Hills Memorial Reserve, to the southeast of Mona Vale Road.

Therefore, the construction of the proposed buildings is required to comply with the provisions of Section 4.14 of the *Environmental Planning & Assessment Act 1979*.

Section 4.14 of the *Environmental Planning and Assessment Act* requires that the development located in a bushfire prone area shall comply with the requirements of *Planning for Bushfire Protection 2019* with respect to the protection of persons, property and the environment from the danger that may arise from a bushfire.

The aim of *Planning for Bushfire Protection 2019* is to 'provide for the protection of human life and minimise impacts on property from the threat of bushfire while having due regard to development potential and protection of the environment'.

Bushfire protection can be achieved through a combination of strategies which are based on the following principles:

- (i) Control the types of development permissible in bushfire prone areas;
- (ii) Minimise the impact of radiant heat and direct flame contact by separating development from bushfire hazards;
- (iii) Minimise the vulnerability of buildings to ignition and fire spread from flames, radiant heat and embers;
- (iv) Enable appropriate access and egress for the public and fire-fighters;
- (v) Provide adequate water supplies for bushfire suppression and operations;
- (vi) Focus on property preparation, including emergency planning and property maintenance requirements; and

- (vii) Facilitate the maintenance of Asset Protection Zones (APZs), fire trails, access for fire-fighting and on site equipment for fire suppression.

*Planning for Bushfire Protection 2019* provides the following objectives for Class 5 to 8 buildings:

- (i) *Provide safe access to/from the public road system for fire-fighters providing property protection during bushfire and for occupant egress for evacuation;*
- (ii) *Provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development;*
- (iii) *Provide adequate services of water for protection of buildings during and after the passage of bushfire and to locate gas and electricity so as not to contribute to the risk of a fire to a building; and*
- (iv) *Provide for the storage of hazardous materials away from the hazard.*

*'The general fire safety construction provisions of the NCC are taken as acceptable solutions, however construction requirements for bushfire protection will need to be considered on a case by case basis'.*

*Planning for Bushfire Protection 2019* does not provide specific deemed-to-satisfy protection measures for Class 5 to 8 buildings as defined by the Building Code of Australia.

However, compliance with A.S.3959 - 2018 must be considered when meeting the aims and objectives of *Planning for Bushfire Protection 2019*.

Section 3.2 of this report examines the development proposal in relation to the provision of a suitable "defendable space" between the bushfire hazard and the proposed building.

The bushfire construction standards to the proposed buildings is examined in Section 3.3 and the provision of access and water supplies for fire-fighting operations management of the defendable space [Asset Protection Zone] and evacuation planning are examined in Sections 3.4 – 3.9 of this report.

### **3.2 The provision of Defendable Space/s [Asset Protection Zones].**

Defendable Spaces/Asset Protection Zones [APZs] have been assessed for the proposed buildings in accordance with *Planning for Bushfire Protection 2019* and Australian Standard A.S. 3959 – 2018 (using effective slope and predominant vegetation communities).

The assessment is based on the predominant vegetation within the Il Melbourne Hills Memorial Reserve is forest.

The NSW Rural Fire Service's requirement for industrial/commercial buildings is to provide a setback from the bushfire prone vegetation which will minimise flame contact on a building.

Table A1.12.5 of *Planning for Bushfire Protection 2019* identifies that to prevent flame contact on the proposed buildings exposed to the forest vegetation on the upslope land to the south east the minimum width of the Defendable Space is 18 metres.

Table A1.12.5 of *Planning for Bushfire Protection 2019* identifies that to prevent flame contact on the proposed buildings exposed to the forest vegetation on the 12 degrees downslope to the east the minimum width of the Defendable Space is 36 metres.

The actual width of the Defendable Space to the southeast of the proposed Garden Centre and Restaurant building is more than 70.00 metres. The actual width of Defendable Space to the Rural Supplies Building exceeds 100 metres. Refer to Figure 7 – Fire Protection (Defendable Space) Plan on Page 19.

### 3.3 Construction Measures to the Data Centre Building.

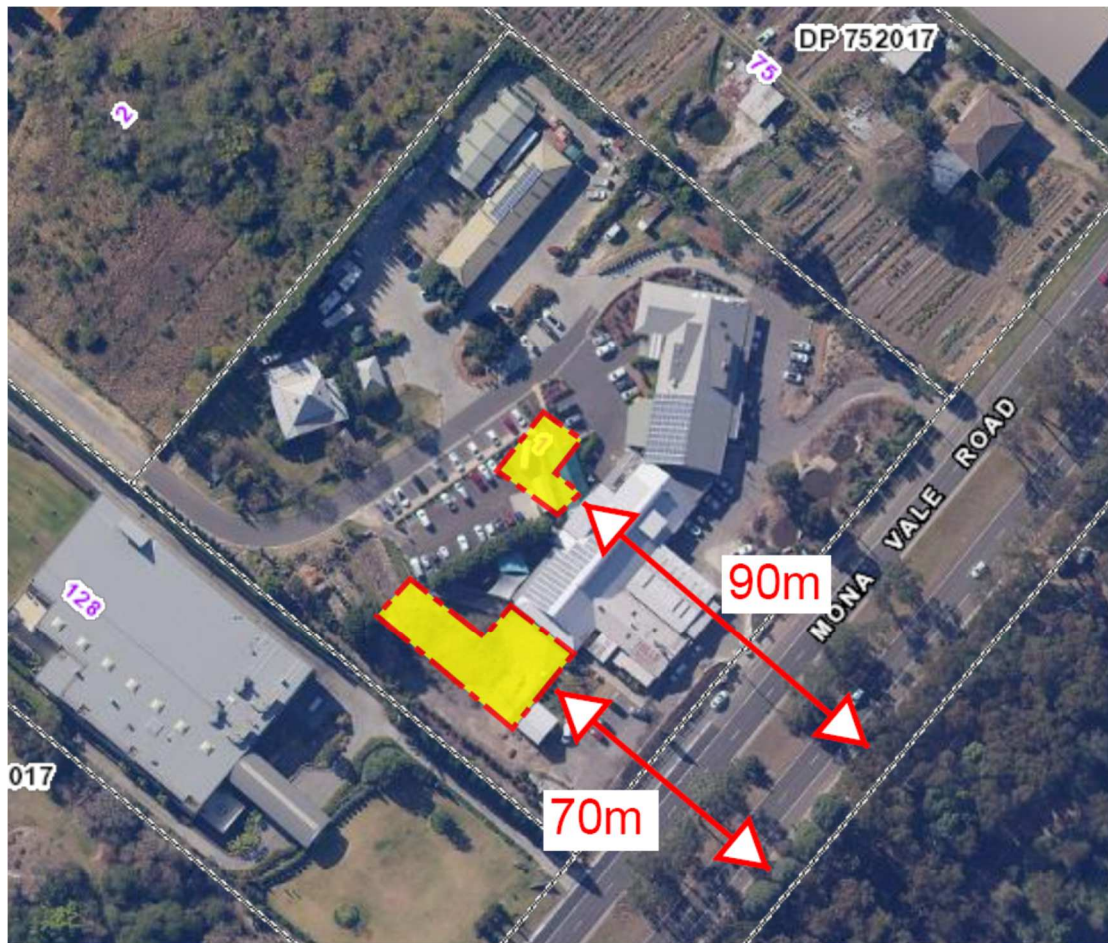
Table 1 examines the bushfire construction standards required to be implemented to comply with A.S. 3959 – 2018 – '*Construction of Buildings in Bushfire Prone Areas*'.

**Table 1. Determination of Bushfire Construction Standards.**

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation Class	Effective Slope of Land	Width of Defendable Space provided to fixed assets	Bushfire Construction Standard – A.S. 3959 – 2018
<i>East</i>	Dry Sclerophyll Forest	Forest	Upslope/ Downslope 12 degrees	Minimum 90.00 metres	BAL 12.5
<i>Southeast</i>	Dry Sclerophyll Forest	Forest	Upslope	Minimum 70.00 metres	BAL 12.5

New works within 100 metres of the bushfire prone vegetation within the Il Melbourne Hills Memorial Reserve shall be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959-2018 – '*Construction of Buildings in Bushfire prone Areas*'.

**Figure 7 – Fire Protection (Defendable Space).**



### **3.4 Access Standards for Firefighting Operations.**

Vehicular access to the proposed buildings will be provided directly off the existing carpark and the internal access road.

### **3.5 Water Supplies for Firefighting Operations.**

The fire-fighting water supply to the proposed buildings shall comply with the Building Code of Australia [BCA] and Australian Standard A.S. 2419.1 – 2021.

Electricity and gas supplies will be laid underground and therefore address the performance standard of Chapter 4 of *Planning for Bushfire Protection 2019*.

### **3.6 Emergency Management for Fire Protection / Evacuation.**

The proposed buildings are unlikely to be subject to a fire event that will create the need for the evacuation of the complex.

However, it is recommended that a Bushfire AND Emergency Evacuation Plan (BEEP) be prepared for the complex.

## SECTION 4

### CONCLUSION

The Development Application seek approval for the demolition of the existing cottage and garage and two steel sheds and the construction of a new construction of a new Rural Supplies, Garden Centre and Restaurant as part of an extension to the existing Hills Market Place complex.

The development site is recorded on the Northern Beaches Bushfire Prone Land Map as containing the buffer zone to Category 1 Bushfire Prone Vegetation on the land to the southeast of the Mona Vale Road corridor.

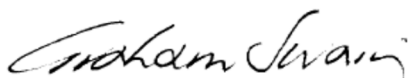
The proposed buildings are located more than 70 metres from the unmanaged bushfire prone vegetation. This separation removes the risk from flame contact on the buildings and requires the application of BAL 12.5 construction standards to the new buildings.

Table 2 summarises the extent to which the development conforms to the aim and objectives of *Planning for Bushfire Protection 2019*.

**Table 2. Compliance with the aim and objectives of *Planning for Bushfire Protection 2019*.**

<b>Bushfire Protection Measure</b>	<b>Compliance with the aim and objectives of <i>Planning for Bushfire Protection 2019</i>.</b>
Defendable Space setback	The width of the Defendable Space removes the risk of flame contact on the proposed buildings.
Access for fire-fighting operations	Access to the existing and proposed buildings complies with the specifications of Appendix 3 of <i>Planning for Bushfire Protection 2019</i>
Water supplies for fire fighting	Fire-fighting water supply to be installed to satisfy the requirements of AS 2419.1 – 2021.
Emergency Management	A Bushfire Emergency and Evacuation Plan shall be prepared for the complex.

I confirm that the proposed development complies with the aim and objectives of *Planning for Bushfire Protection 2019* and the deemed to satisfy requirements of Section 8.3.10 of *Planning for Bushfire Protection 2019* – Buildings of Class 5 to 8 and Class 10 of the Building Code of Australia in respect to the provision of asset protection zones [defendable spaces], access, bushfire construction standards to the new buildings and water supplies for fire-fighting operations.



Graham Swain, Managing Director,  
Australian Bushfire Protection Planners Pty Limited.  
***Fire Protection Association Australia Member No 4878***

## REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2019*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2021*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015*;
- *Bushfire Environmental Assessment Code 2019*;
- Building Code of Australia;
- Australian Standard A.S. 3959-2018 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Northern Beaches Bushfire Prone Land Map*.