

# Bushfire Assessment Report

***Proposed:***  
**State Significant  
Development**

***At:***  
**TAFE NSW Nepean  
Kingswood campus**

*Reference Number:* 210564

*Prepared For:*  
TAFE NSW

## DRAFT 01

**26<sup>th</sup> November 2020**



*Prepared By:*  
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**SILVER  
MEMBER**  
Fire Protection  
Association Australia



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Section 4.14 applications (under the Environmental Planning and Assessment Act 1979) and all infill development applications may be referred by Council to the NSW Rural Fire Service for review and concurrence during the DA process. S100B applications under the Rural Fires Act 1997 (subdivisions and Special Fire Protection Purpose Developments), Flame Zone determinations and Alternate Solutions must be referred by Council to the NSW Rural Fire Service for review and receipt of a Bushfire Safety Authority (BSA) or other such recommended conditions from the NSW Rural Fire Service before the consent can be granted.

The onus is on the applicant to cross reference this document with any conditions of consent issued or any requirements supplied by the NSW Rural Fire Service following development approval. BCBHS can review and cross reference these documents however the onus is on the applicant to provide them to us and request this review – Building Code and Bushfire Hazard Solutions Pty. Ltd. is not in a position to track every development approval and we rely upon the applicant to undertake this role as project co-ordinator.

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Version Control			
Version	Date	Author	Details
1	26/11/2020	Stuart McMonnies BPAD Accreditation No. 9400	Draft Report

## List of Abbreviations:

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APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2018 as amended
BAL	Bushfire Attack Level
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Penrith City Council
DA	Development Application
ELVIS	Elevation and Depth Foundation Spatial Data
EP&A Act	<i>Environmental Planning and Assessment Act - 1979</i>
ESD	Ecologically Sustainable Development
FRNSW	Fire and Rescue NSW
IPA	Inner Protection Area
NASH	National Association of Steel-framed Housing
NCC	National Construction Code
NP	National Park
NSP	Neighbourhood Safer Place
OPA	Outer Protection Area
PBP	<i>Planning for Bush Fire Protection – November 2019</i>
ROW	Right of Way
RF Act	<i>Rural Fires Act - 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SFPP	Special Fire Protection Purpose
SWS	Static Water Supply

## Executive Summary:

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Building Code and Bushfire Hazard Solution P/L has been commissioned by TAFE NSW to prepare an independent Bushfire Assessment Report for the proposed Western Sydney Construction Hub (WSCH) at TAFE NSW Nepean Kingswood campus, 2-44 O'Connell Street, Kingswood.

The proposed works include the construction of a 2-3 storey Construction Hub accommodating 9,200m<sup>2</sup> of General Floor Area (GFA), additional car parking and associated landscaping.

This application is being assessed as a State Significant Development (Application No. SSD-8571481).

Penrith City Council's Bushfire Prone Land Map identifies the subject property as partially containing the 100 metre buffer zone from Category 1 Vegetation and 30 metre buffer zone from Category 2 Vegetation therefore the subject site is considered 'bushfire prone'. It should be noted that the location of the proposed works are located outside the buffer zones.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development as required in item 22 'Bushfire' of the Planning Secretary's Environmental Assessment Requirements (SEARS).

Tertiary institutions which do not contain staff or student accommodation are not listed as SFPP under section 100b of the *Rural Fires Act 1997* or section 46 of the *Rural Fires Regulation 2013*.

The subject site and proposal does not contain staff or student accommodation and is therefore not captured as SFPP development.

The proposal does however relate to the construction of an assembly building which exceeds 500m<sup>2</sup> and therefore in accordance with section 8.3.11 Public Assembly Buildings of PBP the development will be treated technically as SFPP development due to the evacuation challenges presented by large numbers of occupants.

The proposal must therefore conform to the aim and objectives detailed in Chapter 1 'Introduction' and the specific objectives and bushfire protection measures detailed in Chapter 6 'Special Fire Protection Purpose Developments' of PBP.

In this instance the proposed building was found to be located greater than 100 metres from any bushfire hazard and subsequently attracts a Bushfire Attack Level of Low and exceeds the minimum required Asset Protection Zones for SFPP development.

The existing APZs consist of maintained grounds within the subject property and the Great Western Highway.

The proposal satisfies all relevant specifications and requirements of *Planning for Bush Fire Protection 2019*.



## 1.0 Introduction

The development proposal relates to the construction of a 2-3 storey Construction Hub accommodating 9,200m<sup>2</sup> of General Floor Area (GFA), additional car parking and associated landscaping at TAFE NSW Nepean Kingswood campus, 2-44 O'Connell Street, Kingswood

The subject property has street frontage to the Great Western Highway and O'Connell Street to the west and abuts the Western Sydney University Werrington campus to the east and neighbouring private allotments to the south.

Penrith City Council's Bushfire Prone Land Map identifies the subject property as partially containing the 100 metre buffer zone from Category 1 Vegetation and 30 metre buffer zone from Category 2 Vegetation therefore the subject site is considered 'bushfire prone'. It should be noted that the location of the proposed works are located outside the buffer zones.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development as required in item 22 'Bushfire' of the Planning Secretary's Environmental Assessment Requirements (SEARS).

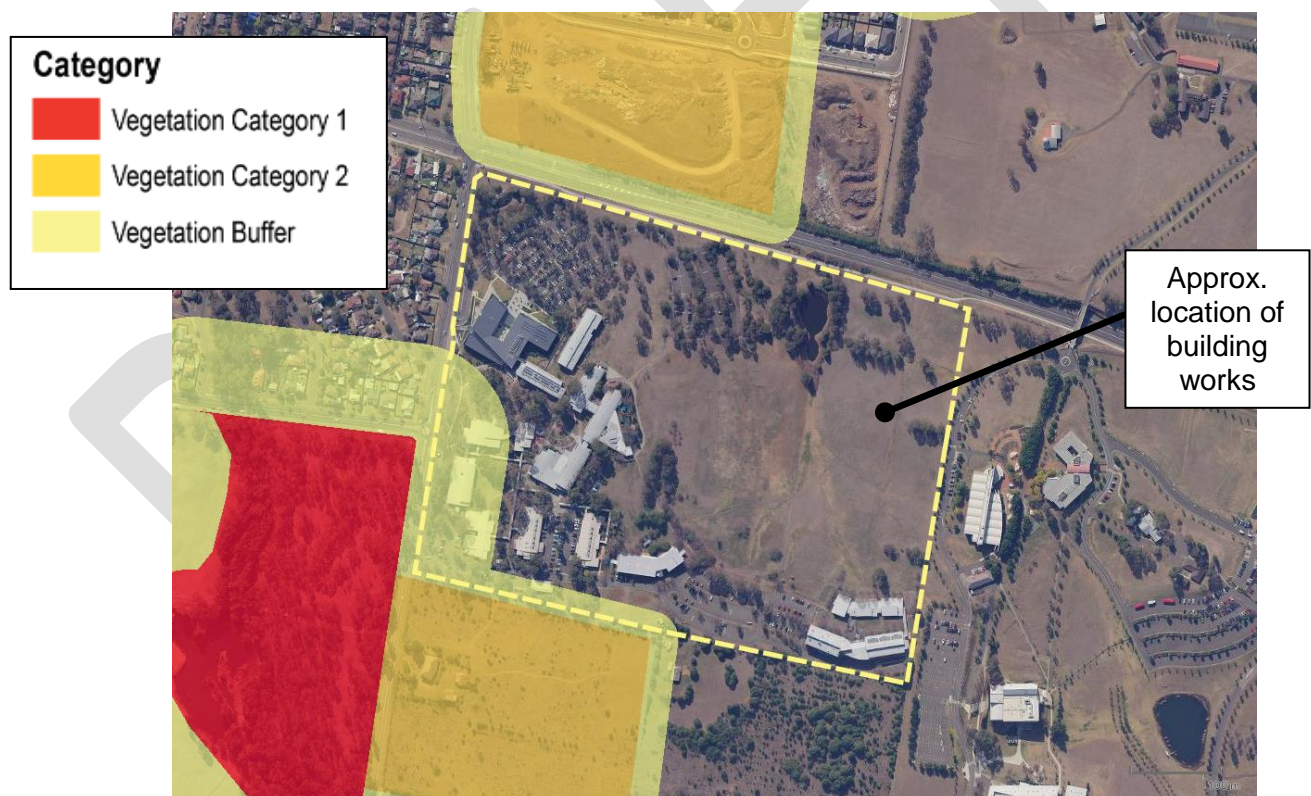


Figure 01: Extract from Penrith City Council's Bushfire Prone Land Map

## 2.0 Purpose of Report

The purpose of this Bushfire Assessment Report is to provide an independent bushfire assessment determination of the subject site and surrounding area and to determine if the State Significant Development Application will comply with the relevant specifications and requirements of Planning for Bush Fire Protection 2019 as required in item 22 'Bushfire' of the Planning Secretary's Environmental Assessment Requirements (SEARS).

## 3.0 Scope of this Report

The scope of this report is limited to providing a bushfire assessment and recommendations for the subject property. Where reference has been made to the surrounding lands, this report does not purport to directly assess those lands; rather it may discuss bushfire impact and/or progression through those lands and possible bushfire impact to the subject property.

## 4.0 Compliance Tables & Notes

The following table sets out the projects compliance with *Planning for Bush Fire Protection – 2019*.

	North	East	South	West
<b>Vegetation Structure</b>	Grassland	Managed Land	Managed Land	Managed Land
<b>Slope</b>	0 - 5° down	N/A	N/A	N/A
<b>Required Asset Protection Zone</b>	40 metres	N/A	N/A	N/A
<b>Available Asset Protection Zone</b>	130 metres	>140 metres	>140 metres	>140 metres
<b>Significant Landscape Features</b>	Great Western Highway	Existing road and university building	Existing TAFE buildings	Existing sports oval
<b>Threatened Species</b>	APZ Existing	APZ Existing	APZ Existing	APZ Existing
<b>Aboriginal Relics</b>	APZ Existing	APZ Existing	APZ Existing	APZ Existing
<b>Bushfire Attack Level</b>	BAL Low	N/A	N/A	N/A
<b>Required Construction Level</b>	BAL Low	BAL Low	BAL Low	BAL Low

Compliance Summary of Bushfire Protection Measures Assessed			
Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones & Landscaping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Construction Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03
Emergency Management Planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.03

## Asset Protection Zones Compliance

Asset Protection Zones for new Special Fire Protection Purpose (SFPP) development are determined from Table A1.12.1 of PBP or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m<sup>2</sup> at the closest point of the available building footprint.

The minimum required Asset Protection Zone (APZ) was determined from Table A1.12.1 of PBP to be 40 metres to the north

The proposed building was found to provide an Asset Protection Zone (APZ) of >130 metres to the north exceeding the minimum required APZ by over threefold.

No other bushfire hazard was identified within the 140 metre assessment area.

The existing APZs consist of maintained grounds within the subject property and the Great Western Highway.

## Construction Level Compliance

The highest Bushfire Attack Level to the proposed building was determined from Table A1.12.5 of PBP to be 'BAL Low'. There are therefore no construction provisions applicable to the proposed building.



## 5.0 Aerial view of the subject allotment

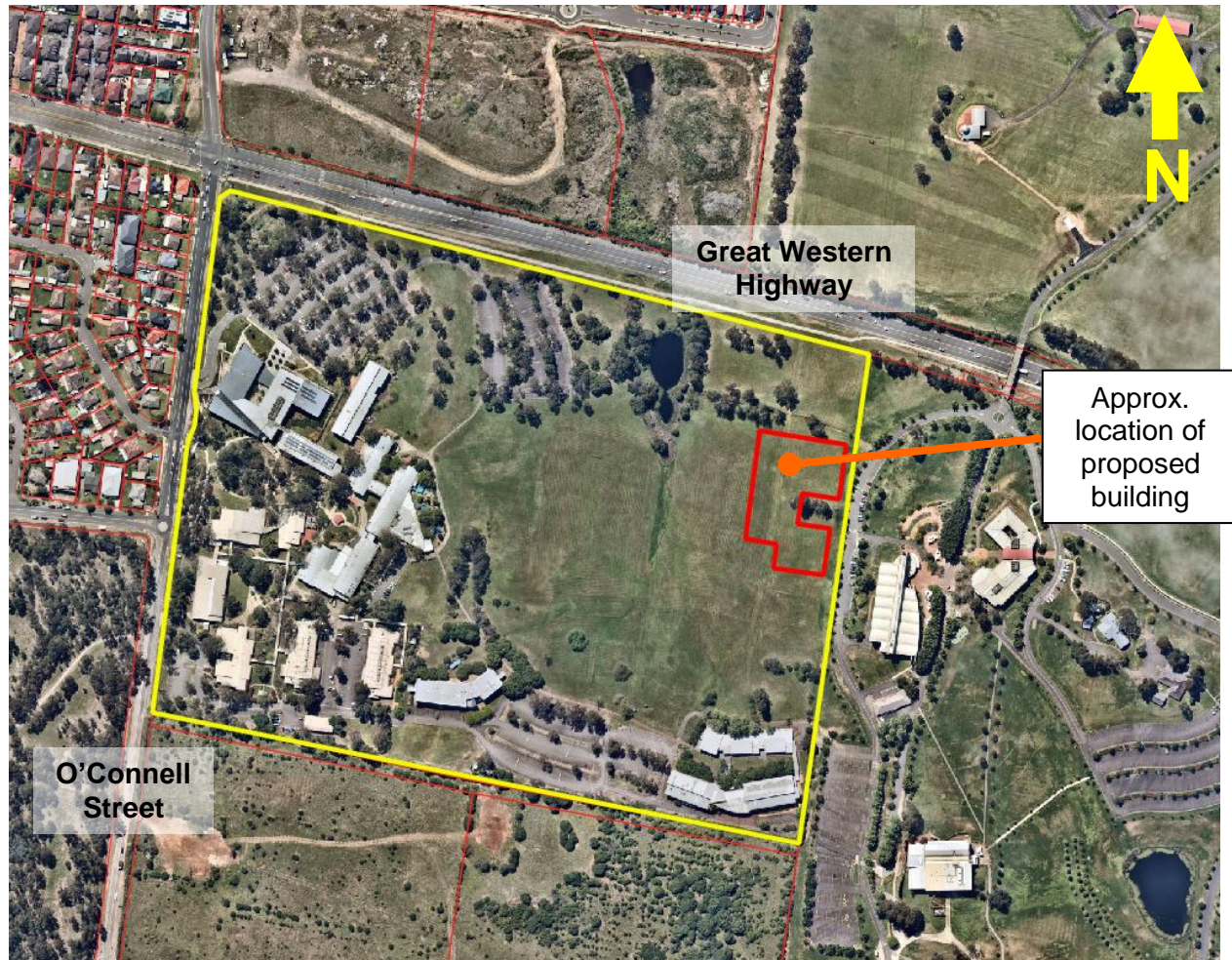


Figure 02: Aerial view of the subject site (yellow outline) and surrounding area

Courtesy Nearmap – October 2020

## 6.0 Site Assessment

### 6.01 Location

The subject site is known as TAFE NSW Nepean Kingswood campus and is located at 2-44 O'Connell Street, Kingswood (Lot 1 DP 866081). The subject site is zoned SP2: Infrastructure and within the Penrith LGA.

The subject property has street frontage to the Great Western Highway and O'Connell Street to the west and abuts the University of Western Sydney Werrington campus to the east and neighbouring private allotments to the south.

The proposed building is susceptible to possible bushfire impact from vegetation within private allotments to the north, beyond Great Western Highway.

Proposed  
building  
location



Photograph 01: View south from within the subject site toward the development site

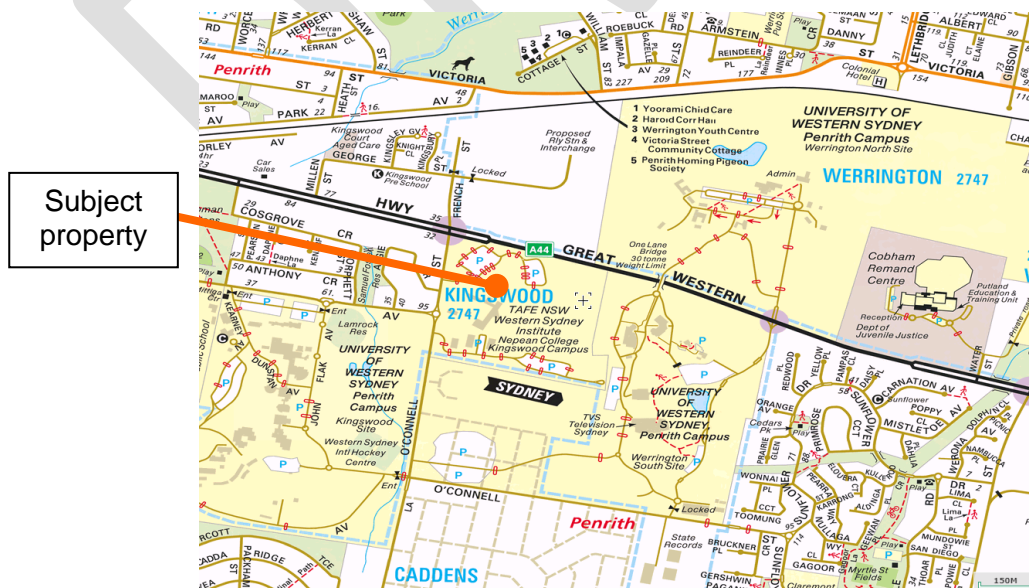


Figure 03: Extract from street-directory.com.au



## 6.02 Vegetation

The predominate vegetation within the subject site and adjacent Western Sydney University campus was found to comprise of slashed / mown lawns.

In accordance with Appendix 1 'Site Assessment Methodology' of PBP we have undertaken an assessment of all vegetation formations within 140 metres of the development site for each aspect as per Keith (2004).

A small stand of remnant vegetation was observed to the northwest of the building site around an existing dam within the subject site. This vegetation was generally found to be less than 20 metres wide and not within 20 metres of the building site or other areas of Category 1, 2 or 3 Vegetation. In accordance with A1.10 of PBP this vegetation was determined to be low threat vegetation.

The only other unmanaged vegetation within the 140 metre assessment area was found to be to the north of Great Western Highway within private allotments. This vegetation was found to comprise of a narrow band of shrubs adjacent Great Western Highway and grassland.

While it is noted that these allotments are nominated as future stages of a residential development as a grassland hazard was present at the time of our inspection a conservative assessment has been applied.

For the purpose of assessment under PBP the vegetation posing a hazard to the north was determined to be Grassland.



Figure 04: Aerial view of the subject site overlaid with vegetation assessment



### 6.03 Slope and Topography

The slope of the land under the classified vegetation has a direct influence on the forward rate of spread, fire intensity and radiant heat exposure. The effective slope is considered to be the slope under the classified vegetation which will most significantly influence bushfire behaviour toward the development site.

In accordance with A1.4 'Determine slope' of PBP the slope assessment is to be derived from the most detailed contour data available.

The slope that would **most significantly** influence bushfire behaviour was determined from topographic imagery (1 metre contours sourced from ELVIS - Geoscience Australia) in conjunction with site observations to be:

- 0 – 5 degrees down slope within the hazard to the north



Figure 05: Extract from Nearmap and ELVIS showing 1 metre contours

## 6.04 Fire History

There are areas within NSW that have significant fire history and are recognised as known fire paths. While the fire history is more commonly considered as part of strategic planning (to ensure future development is not exposed to an unacceptable risk), it is useful to consider at a Development Application phase to ensure the land is suitable for development in the context of bushfire risk.

In this instance there have been no wildfires recorded within the area (source NPWS Fire History dataset). The closest recorded wildfire was found to be located >4 kilometres from the proposed building (Andrew Road Fire 2002-03).

The subject site is therefore not considered to be within a known fire path. Furthermore in consideration of the previous bushfire history the likelihood of a bushfire occurring within the immediate area is considered unlikely.

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## 7.0 Bushfire Assessment

### 7.01 Planning for Bush Fire Protection - 2019

This application is being assessed as a State Significant Development (Application No. SSD-8571481).

Properties considered to be affected by possible bushfire impact are determined from the local Bushfire Prone Land Map as prepared by Council and or the Rural Fire Service.

Penrith City Council's Bushfire Prone Land Map identifies the subject property as partially containing the 100 metre buffer zone from Category 1 Vegetation and 30 metre buffer zone from Category 2 Vegetation therefore the subject site is considered 'bushfire prone'. It should be noted that the location of the proposed works are located outside the buffer zones.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development as required in item 22 'Bushfire' of the Planning Secretary's Environmental Assessment Requirements (SEARS).

Tertiary institutions which do not contain staff or student accommodation are not listed as SFPP under section 100b of the *Rural Fires Act 1997* or section 46 of the *Rural Fires Regulation 2013*.

The subject site and proposal does not contain staff or student accommodation and is therefore not captured as SFPP development.

The proposal does however relate to the construction of an assembly building which exceeds 500m<sup>2</sup> and therefore in accordance with section 8.3.11 Public Assembly Buildings of PBP the development will be treated technically as SFPP development due to the evacuation challenges presented by large numbers of occupants.

The proposal must therefore conform to the aim and objectives detailed in Chapter 1 'Introduction' and the specific objectives and bushfire protection measures detailed in Chapter 6 'Special Fire Protection Purpose Developments' of PBP.

### 7.02 Specific Objectives

The following table lists the specific objectives for Special Fire Protection Purpose development in accordance with section 6.2 of PBP applicable to the proposal and our comments on compliance or otherwise.

Specific Objective	Comment
<i>minimise levels of radiant heat, localised smoke and ember attack through increased APZ, building design and siting;</i>	The proposal exceeds the minimum required Asset Protection Zone for SFPP development by over threefold.  No other bushfire hazard was found within the 140 metre assessment area in any direction.

Specific Objective	Comment
<i>provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;</i>	<p>Great Western Highway, French Street and St Charbel Boulevard provide direct access to the identified grassland hazard for attending fire services and are considered the logical fire fighting platforms.</p> <p>The proposal also provides APZs in excess of the minimum requirements and good operational space around the proposed building.</p>
<i>ensure the capacity of existing infrastructure (such as roads and utilities) can accommodate the increase in demand during emergencies as a result of the development; and</i>	<p>The surrounding public roads provide existing carriageways in excess of the requirements for Perimeter Roads as described in Table 6.8b of PBP.</p> <p>Furthermore in consideration of the low risk posed to the proposed building a large scale evacuation due to bushfire is considered unlikely.</p> <p>The external utility providers (e.g. Sydney Water) have systems in place to cater for increased demand as necessary.</p>
<i>ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.</i>	This assessment includes a recommendation that a Bushfire Emergency Management Plan be prepared.

## 7.03 Bushfire Protection Measures

Section 6.8 'Bush fire protection measures' of PBP outlines the specific Bushfire Protection Measures (BPMs) applicable to Special Fire Protection Purpose development, including APZs, Landscaping, Construction, Access, Services & Emergency Management Plan.

The following section addresses each BMP and the proposals compliance or otherwise.

### Asset Protection Zones & Landscaping

Asset Protection Zones for new Special Fire Protection Purpose (SFPP) development are determined from Table A1.12.1 of PBP or bushfire design modelling achieving a radiant heat impact of no more than 10kW/m<sup>2</sup> at the closest point of the available building footprint.

The minimum required Asset Protection Zone (APZ) was determined from Table A1.12.1 of PBP to be 40 metres to the north

The proposed building was found to provide an Asset Protection Zone (APZ) of >130 metres to the north exceeding the minimum required APZ by over threefold.

No other bushfire hazard was identified within the 140 metre assessment area.

The existing APZs consist of maintained grounds within the subject property and the Great Western Highway.

All grounds within the subject site, excluding the identified low threat vegetation, will continue to be maintained in accordance with an Inner Protection Area as detailed in Appendix 4 of *Planning for Bush Fire Protection* 2019 and the NSW Rural Fire Service publication 'Standards for Asset Protection Zones'.

## Construction

The proposed building is required to be constructed to the relevant Bushfire Attack Level under Australian Standard 3959 'Construction of buildings in bushfire-prone areas' 2018.

The highest Bushfire Attack Level (BAL) for the proposed building was determined from Table A1.12.5 of PBP to be BAL Low and therefore there are no bushfire construction requirements.

## Access

The subject site has street frontage to Great Western Highway to the north and O'Connell Street to the east.

Vehicle access to the site is currently available via O'Connell Street. The proposal includes an extension of the existing internal access road system and new vehicle connection to the adjacent Western Sydney University Werrington campus to the east.

The proposed internal roads must comply with the requirements for Non-Perimeter Roads as detailed in Table 6.8b of PBP.

Persons seeking to egress the proposed building will be able to do so via the proposed roads and existing road infrastructure.

Great Western Highway, French Street and St Charbel Boulevard provide direct vehicle access to the identified grassland hazard. These roads are serviced by hydrants at regular intervals and would subsequently be the logical fire fighting platforms for attending fire services.

Access for fire services and opportunities for occupant evacuation are considered adequate for this development.

## Services – Water, electricity & gas

The site is connected to the reticulated town's water main for its commercial needs. Existing in ground hydrants are available along Great Western Highway, O'Connell Street and surrounding streets for the replenishment of attending fire services.

The existing hydrant network has been extended into the site to service the existing buildings.

The hydrant network will be further extended as part of this proposal to service the proposed new building. The hydrant spacing, design, sizing, flows and pressures must comply with AS2419.1-2005. Hydrants are not permitted within the carriageway of any road.

The proposed water supply is considered adequate for the replenishment of attending fire services.

Recommendations will be included to ensure compliance with any new electricity and gas services.

## Bushfire Emergency Management Plan

The intent of the Bushfire Emergency Management Plan measure is to provide suitable emergency and evacuation arrangements for occupants of SFPP developments.

This assessment includes a recommendation that a Bushfire Emergency Management Plan be prepared. This recommendation satisfies the acceptable solutions detailed in Table 6.8d of PBP.

## 7.04 Aim & Objectives

The following table details the aim and objectives of Planning for Bush Fire Protection 2019 and the proposals ability to comply.

Aim / Objective	Comment
<i>The aim of PBP is to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.</i>	With the inclusion of the recommendations made herein it is of our opinion that the aim of PBP has been satisfied.
<i>(i) afford buildings and their occupants protection from exposure to a bush fire;</i>	<p>The proposed building exceeds the minimum required APZ for SFPP development by over threefold.</p> <p>The new building attract a Bushfire Attack Level of BAL Low under AS3959 – 2018.</p>
<i>(ii) provide for a defensible space to be located around buildings;</i>	<p>The proposal exceeds the minimum required Asset Protection Zone for SFPP development by over threefold.</p> <p>No other bushfire hazard was found within the 140 metre assessment area in any direction.</p> <p>Great Western Highway, French Street and St Charbel Boulevard provide direct vehicle access to the identified grassland hazard. These roads are serviced by hydrants at regular intervals and would subsequently by the logical fire fighting platforms for attending fire services.</p>
<i>(iii) provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;</i>	<p>The available APZs to the proposed building exceed the minimum required under PBP.</p> <p>The available APZs will prevent the likely fire spread to the building.</p>



Aim / Objective	Comment
<i>(iv) ensure that appropriate operational access and egress for emergency service personnel and occupants is available;</i>	<p>Great Western Highway, French Street and St Charbel Boulevard provide direct vehicle access to the identified grassland hazard. These roads are serviced by hydrants at regular intervals and would subsequently by the logical fire fighting platforms for attending fire services.</p> <p>The proposal includes an extension of the existing internal access road system and new vehicle connection to the adjacent Western Sydney University Werrington campus to the east.</p>
<i>(v) provide for ongoing management and maintenance of bush fire protection measures, (BPMs); and</i>	<p>The grounds within the subject site, excluding the identified low threat vegetation, are to be maintained in accordance with the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of <i>Planning for Bush Fire Protection 2019</i>.</p> <p>Any new landscaping is to comply with the provisions of Appendix 4 of PBP.</p>
<i>(vi) ensure that utility services are adequate to meet the needs of firefighters.</i>	<p>Existing in ground hydrants are available along Great Western Highway, O'Connell Street and surrounding streets for the replenishment of attending fire services.</p> <p>The existing hydrant network has been extended into the site to service the existing buildings.</p> <p>The existing hydrant network will be extended as part of this proposal to service the new building.</p>

It is of our opinion that the proposal can satisfactorily comply with the aim and objectives of Planning for Bush Fire Protection 2019.

## 8.0 Recommendations

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The following recommendations are provided as the minimum necessary for compliance with Planning for Bush Fire Protection – 2019. Additional recommendations are provided to supplement these minimum requirements where considered necessary.

### Asset Protection Zones

1. That all grounds not built upon within the subject site, excluding the identified low threat vegetation, shall continue to be maintained as an Inner Protection Area as detailed in the NSW Rural Fire Service's document 'Standards for Asset Protection Zones' and Appendix 4 of Planning for Bush Fire Protection 2019.

### Emergency Management

2. That a bushfire emergency / evacuation plan be prepared (if already not done so) consistent with the NSW Rural Fire Service Guidelines for the *Preparation of Emergency / Evacuation Plan*.

### Landscaping

3. That any new landscaping is to comply with Appendix 4 of *Planning for Bush Fire Protection 2019*.

### Services (where applicable)

#### Water:

4. That the new internal hydrant system is to comply with the requirements detailed in Table 6.8c of Planning for Bush Fire Protection 2019, specifically:
  - fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005;
  - hydrants are not located within any road carriageway;
  - fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
  - all above-ground water service pipes external to the building are metal, including and up to any taps.
  - fire hose reels are constructed in accordance with AS/NZS 1221:1997 Fire hose reels, and installed in accordance with the relevant clauses of AS 2441:2005 Installation of fire hose reels.

#### Electricity:

5. Any new electrical services must comply with Table 6.8c of *Planning for Bush Fire Protection 2019*, specifically:
  - where practicable, electrical transmission lines are underground.
  - where 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 *ISSC3 Guideline for Management Vegetation Near Power Lines*.

#### Gas:

6. Any new gas services must comply with Table 6.8c of *Planning for Bush Fire Protection 2019*, specifically:
  - reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 - *The storage and handling of LP Gas*, the requirements of relevant authorities, and metal piping is 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 metal;
  - if gas cylinders need to be kept close to the building, safety valves are directed away from the building and at least 2m away from any combustible material, so they do not act as a catalyst to combustion;
  - polymer-sheathed flexible gas supply lines to gas meters adjacent to buildings are not to be used; and
  - above-ground gas service pipes external to the building are metal, including and up to any outlets.

#### **Access**

7. That the new internal road shall comply with the requirements for Non-Perimeter Roads as detailed in Table 6.8b of PBP, specifically:
  - SFPP access roads are two-wheel drive, all-weather roads;
  - access is provided to all structures;
  - traffic management devices are constructed to not prohibit access by emergency services vehicles;
  - access roads must provide suitable turning areas in accordance with Appendix 3; and
  - the capacity of road surfaces and any bridges/ causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges and causeways are to clearly indicate load rating.
  - hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;
  - hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005;
  - minimum 5.5m carriageway width kerb to kerb;
  - parking is provided outside of the carriageway width;
  - hydrants are located clear of parking areas;

- curves of roads have a minimum inner radius of 6m;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees; and
- a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

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## 9.0 Conclusion

The development proposal relates to the new Western Sydney Construction Hub (WSCH) at the TAFE NSW Nepean Kingswood campus, 2-44 O'Connell Street, Kingswood. The proposed works include the construction of a 2-3 storey Construction Hub, additional car parking and associated landscaping.

This application is being assessed as a State Significant Development (Application No. SSD-8571481).

Penrith City Council's Bushfire Prone Land Map identifies the subject property as partially containing the 100 metre buffer zone from Category 1 Vegetation and 30 metre buffer zone from Category 2 Vegetation therefore the subject site is considered 'bushfire prone'. It should be noted that the location of the proposed works are located outside the buffer zones.

This report has been prepared to address the relevant specifications and requirements of Planning for Bush Fire Protection - 2019 (PBP) for Special Fire Protection Purpose (SFPP) development as required in item 22 'Bushfire' of the Planning Secretary's Environmental Assessment Requirements (SEARS).

In accordance with the bushfire safety measures contained in this report, and consideration of the site specific bushfire risk assessment it is our opinion that when combined, they will provide a reasonable and satisfactory level of bushfire protection to the subject development.

The proposal satisfies all relevant specifications and requirements of *Planning for Bush Fire Protection 2019*.

We are therefore in support of the development.

Should you have any enquiries regarding this project please contact our office.

Prepared by  
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**Stuart McMonnies**

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BPAD Accreditation No. BPAD9400





## 10.0 Annexure 01

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### List of Referenced Documents

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Acknowledgements to:

Geoscience Australia  
NSW Department of Lands – SIXMaps  
[Street-directory.com.au](http://Street-directory.com.au)

### Attachments

Nil