



BUSHFIRE
CONSULTING
SERVICES PTY LTD

Designing Bushfire Protection Measures

Reference: J25/0108

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Date of Issue: 6 February 2025

Bush Fire Assessment Report

in relation to the for the Planning Proposal - Additional
use under Schedule 1 of Campbelltown LEP 2015 for a

Place of Public Worship at:



Lot 7 DP 39165

13-17 Eagleview Road Minto

(subject site)

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Document Tracking

Item	Detail
Project Name	Bush Fire Assessment Report for the Planning Proposal - Additional use under Schedule 1 of Campbelltown LEP 2015 for a Place of Public Worship
Project Address	Lot 7 DP 39165, 13-17 Eagleview Road Minto
Client Name	Saiful Islam for the Australian Muslim Welfare Centre
Project Number	J25/0108
Plan Reference	Plans by AT Studio 02, Project – Community Centre for AMWC, revision D, dated 26/09/2023 and Site Plan Amended 23/01/2024
Prepared by	Laura Richards
Approved by	Catherine Gorrie

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Document Control

Version	Primary Author	Description	Date Completed
1	Catherine Gorrie	Final	6/02/2025

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It should be borne in mind that the measures recommended in this report cannot guarantee that a building will survive a bushfire event on every occasion. This is due to the degree of vegetation management, the unpredictable behaviour of bushfires and extreme weather conditions. As such, the author is not liable to any person for any damage or loss whatsoever which has occurred or may occur in relation to the person taking action or not taking action based on the recommendations of this report.

NOTE: This bush fire assessment shall remain valid for 12 months from the date of issue.

Executive Summary


Bushfire Consulting Services was commissioned by Saiful Islam for the Australian Muslim Welfare Centre to provide a bush fire assessment for the Planning Proposal - Additional use under Schedule 1 of Campbelltown LEP 2015 for a Place of Public Worship at Lot 7 DP 39165, 13-17 Eagleview Road Minto. The subject site is mapped as designated bush fire prone land by Campbelltown City Council and is located within 100 metres of bush fire prone (hazardous) vegetation.

The proposal is a form of “other non-residential” development and although the building classification under the NCC is a Class 9b Building, the proposal does not include a Special Fire Protection Purpose use, and this report makes recommendations in accordance with the aim and objectives of Chapter 1 and 8 of the NSW RFS document ‘*Planning for Bush Fire Protection*’ (PBP) (NSWRFS 2019). This includes:

- afford buildings and their occupants protection from exposure to a bush fire
- provide for a defensible space to be located around buildings
- provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings
- ensure that appropriate operational access and egress for emergency service personnel and occupants is available
- provide for ongoing management and maintenance of BPMs
- ensure that utility services are adequate to meet the needs of firefighters
- Provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation
- Provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development
- Provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building
- Provide for the storage of hazardous materials away from the hazard wherever possible

Where all recommendations are implemented, the report concludes that the proposal can comply with the aim and objectives of PBP.

Compliance Summary

<p>This Assessment has been Certified by:</p> <p>Catherine Gorrie</p> <p>BPAD-Level 3 Accredited Practitioner</p> <p>FPAA Cert No: BPAD20751</p>	
<p>Does this development comply with the aim and objectives of PBP?</p>	<p>Yes</p>
<p>Is referral to the NSW Rural Fire Service (RFS) required?</p>	<p>No</p>

List of Abbreviations

APZ	Asset Protection Zone
AS3959	Australian Standard 3959 – 2018, <i>Construction of Buildings in Bushfire Prone Areas</i>
BAL	Bushfire Attack Level
BPAD	Bushfire Planning and Design (Accreditation Scheme)
BPMs	Bushfire Protection Measures
BPLM	Bushfire Prone Land Map
Council	Campbelltown City Council
DA	Development Application
DEM	Digital Elevation Model
EP&A Act	<i>Environmental Planning and Assessment Act – 1979</i>
FDI	Fire Danger Index
FPAA	Fire Protection Association of Australia
IPA	Inner Protection Area
kW/m ²	Kilowatts per metre squared
LiDAR	Light Detection and Ranging
LPMA	Land & Property Management Authority
NCC	National Construction Code
PBP	<i>Planning for Bush Fire Protection 2019</i>
RF Act	<i>Rural Fires Act – 1997</i>
RFS	NSW Rural Fire Service
SEPP	State Environmental Planning Policy
SIX	Spatial Information Exchange
SWS	Static Water Supply

1. Introduction

This report has been commissioned by Saiful Islam for the Australian Muslim Welfare Centre to provide a bush fire assessment for the Planning Proposal - Additional use under Schedule 1 of Campbelltown LEP 2015 for a Place of Public Worship at Lot 7 DP 39165, 13-17 Eagleview Road Minto.

The subject property is “bushfire prone land” as per the local Council bushfire prone land map (Figure 3) as defined by section 10.3 (s10.3) of the *Environmental Planning & Assessment Act* (EP&A) 1979 and therefore the requirements stipulated by legislation apply to any new development on the site.

Planning for Bush Fire Protection 2019 (Chapter 8) describes this type of development as “other non-residential development” and therefore the aim and objectives of Chapter 1 and 8 of PBP are applicable. The development is not considered to be a Special Fire Protection Purpose.

The bush fire assessment and recommendations are derived from the Rural Fire Service document *Planning for Bush Fire Protection 2019* and *AS3959-2018*.

2. Purpose of this Report

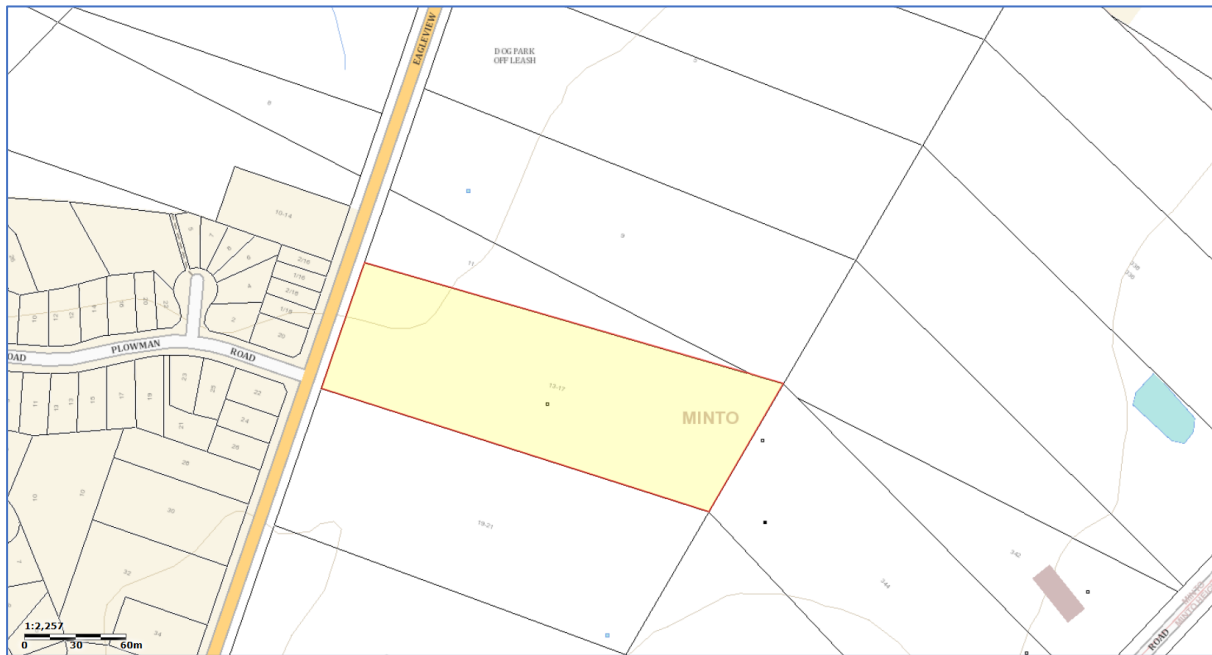
The purpose of this report is to provide the owners, the Consent Authority, the Certifier and the Rural Fire Service with a description of the proposed development as well as the vegetation type, slope and any other factors influencing the likely bushfire behaviour, sufficient to show that the development will be protected from the likely bushfire threat as outlined in current legislation.

This assessment includes an analysis of the hazard, threat and subsequent risk to the development and provides recommendations that satisfy the aim and objectives of Planning for Bush Fire Protection that apply to a Place of Public Worship.

3. Location

The site is located and known as Lot 7 DP 39165, 13-17 Eagleview Road Minto. The property is part of the Campbelltown City local government area.

Figure 1. Location Map. Source: LPMA SIX Viewer (NSW Government 2023a)



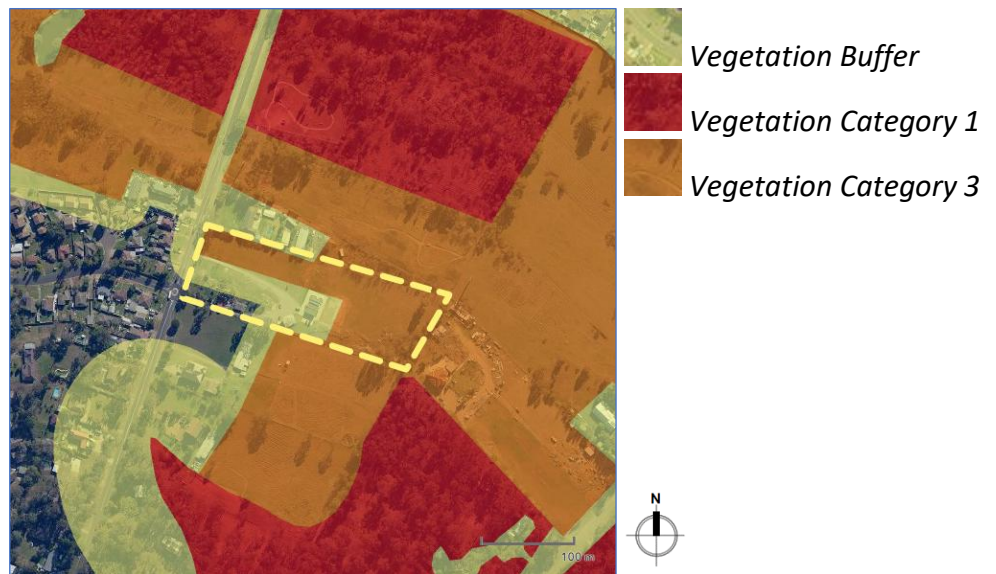
Site location outlined in red

Figure 2. Aerial Map. Source: LPMA SIX Viewer (NSW Government 2025a)



Site location outlined in red

**Figure 3. Bushfire Prone Land Map. Source: NSW Government Planning Portal
(NSW Government 2025b)**



Site location outlined in yellow

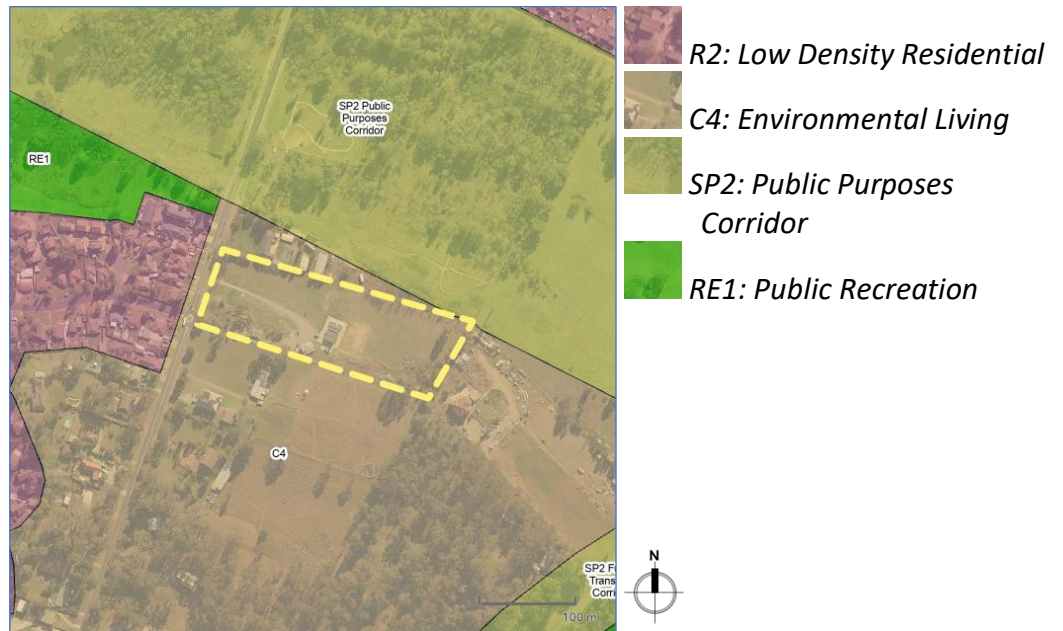
4. Property Description

The property is comprised of Lot 7 DP 39165, 13-17 Eagleview Road Minto, covering approximately 2.08ha in area (Figure 2). It is bounded by private allotments to the approximate northeast, southeast and southwest, and Eagleview Road to the approximate northwest. It currently an existing dwelling with approved alterations and additions for use as a community facility, detached carport, storage room, two halls, an awning and carparking, to be retained. The site has been approved for use as a Community Facility to hold regular events to support the needs of the Australian Muslim Welfare Centre (AMWC).

4.1 Zoning

The land is zoned C4 under Campbelltown Local Environmental Plan 2015. Adjacent lands to the north are zoned SP2 Public Purposes Corridor (Figure 4).

**Figure 4. Zoning Map. Source: NSW Government Planning Viewer
(NSW Government 2023b)**



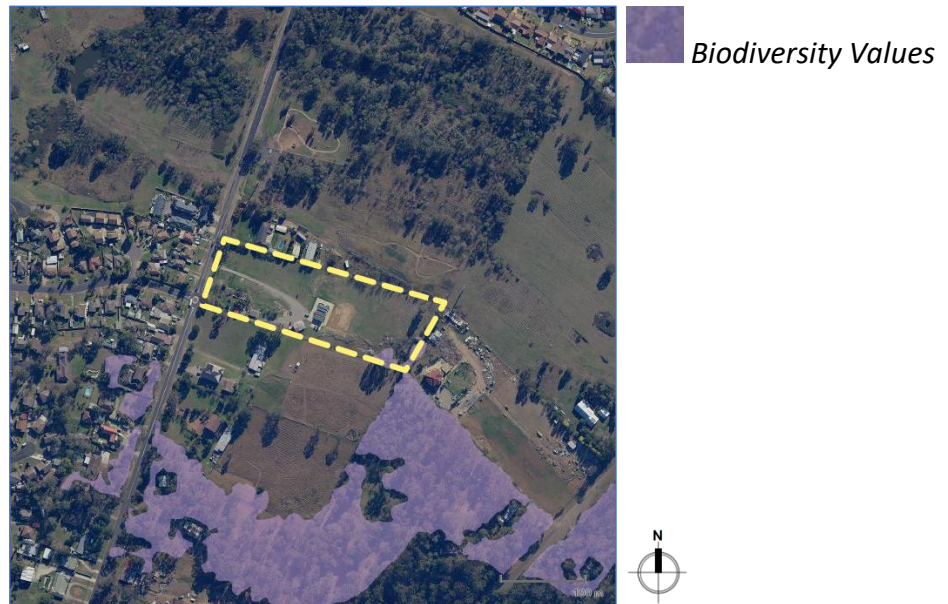
Site location outlined in yellow

4.2 Biodiversity Values

A search of the NSW Office of Environment and Heritage’s Biodiversity Values Map has been carried out which indicates land with high biodiversity value, as defined by the *Biodiversity Conservation Regulation 2017*. The development, including the required APZs and access are wholly located outside the mapped area.

**Figure 5: Biodiversity Values Map: NSW Government Planning Viewer
(NSW Government 2023b)**

<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>



*Site location outlined in yellow
Areas mapped in purple indicate land with high values*

4.3 The Planning Proposal

The Planning Proposal seeks to amend Campbelltown Local Environmental Plan 2015 to include an additional permitted use within Schedule 1. This amendment is to facilitate an additional land use at Lot 7 in Deposited Plan 39165, 13-17 Eagleview Road Minto which would enable it to also be used as a 'place of public worship'.

5. Site Assessment

Bushfire Consulting Services Pty Ltd attended the site on 27 September 2023. The assessment relates to the Planning Proposal using the plans depicting a Community Centre shown in the site plans (reference Appendix 1 below). The NSW Spatial Services mapping website has also been used as a reference (NSW Government 2023a), and 'Ocean Shores to Desert Dunes' by David Keith (Keith 2004), in determining the vegetation type.

6. Bush Fire Attack Assessment

6.1 Fire Weather

The development is located in the Campbelltown City Council area, a part of the Greater Sydney Region, which has a ¹Fire Danger Index of 100.

6.2 Determine Vegetation Formations

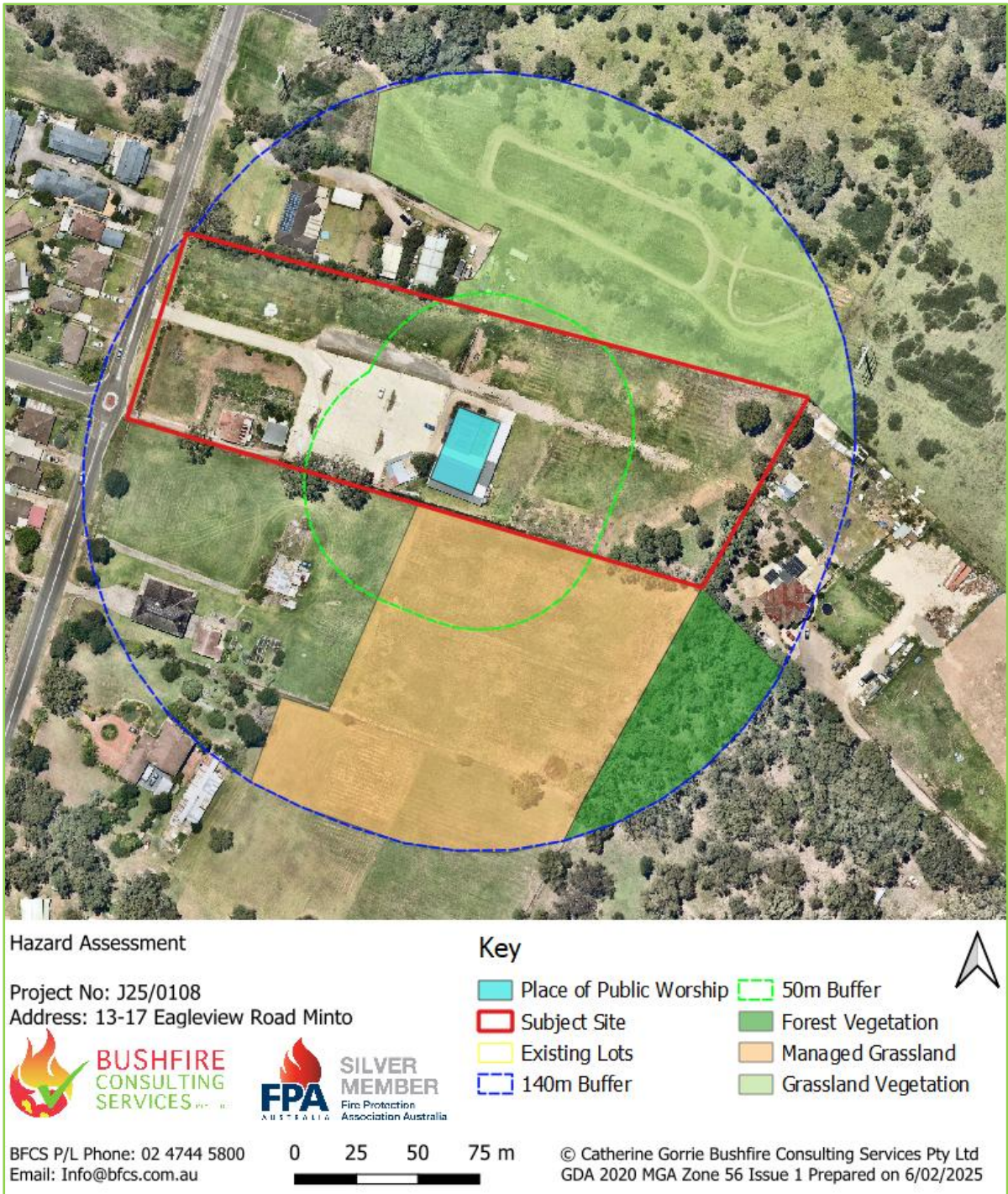
The hazardous vegetation formations for each aspect of the development within 140m of the asset have been identified according to Keith (2004). The bushfire threat emanates from bushland located to the northeast, southeast and southwest of the subject building. This vegetation is external to the subject site boundaries.

It is important to note that the theoretical hazard located beyond the southern lot boundary is managed land comprising of mown grass, however there is no mechanism in place to ensure the maintenance of the land as an Asset Protection Zone for the life of the development as required by PBP, and therefore the hazard is nominated as Grassland). (reference PBP Part 3.2.5 APZs on Adjoining Land).

Based on a site visit and determination of vegetation formation using the Keith (2004) Identification Key, the primary bushland vegetation having the potential to affect the subject building is most representative of Grassland to the northeast and southwest and Forest to the southeast.

¹ The Fire Danger Index (FDI) is a numerical rating that indicates the level of fire danger in a specific area. The FDI takes into account factors such as the chance of fire starting, its rate of spread, its intensity, the chance of a fire starting, and the difficulty potential for its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long and short-term drought effects

Figure 6. Hazardous vegetation affecting the subject building. Source: NearMap (2025) with overlays by BFCS P/L. Aerial Photography date: 28/01/2025



Subject site outlined in red. Vegetation was assessed to a distance of 140m from the subject building

6.3 The effective slope

The slope of the land under the classified vegetation has a direct influence on the rate of fire spread, the intensity of the fire and the level of radiant heat flux. The effective slope of the land from the new building for a distance of 100m is derived from a site assessment combined with the most detailed contour data available. The slope is then categorised into one of following classes, relative to the location of the hazard:

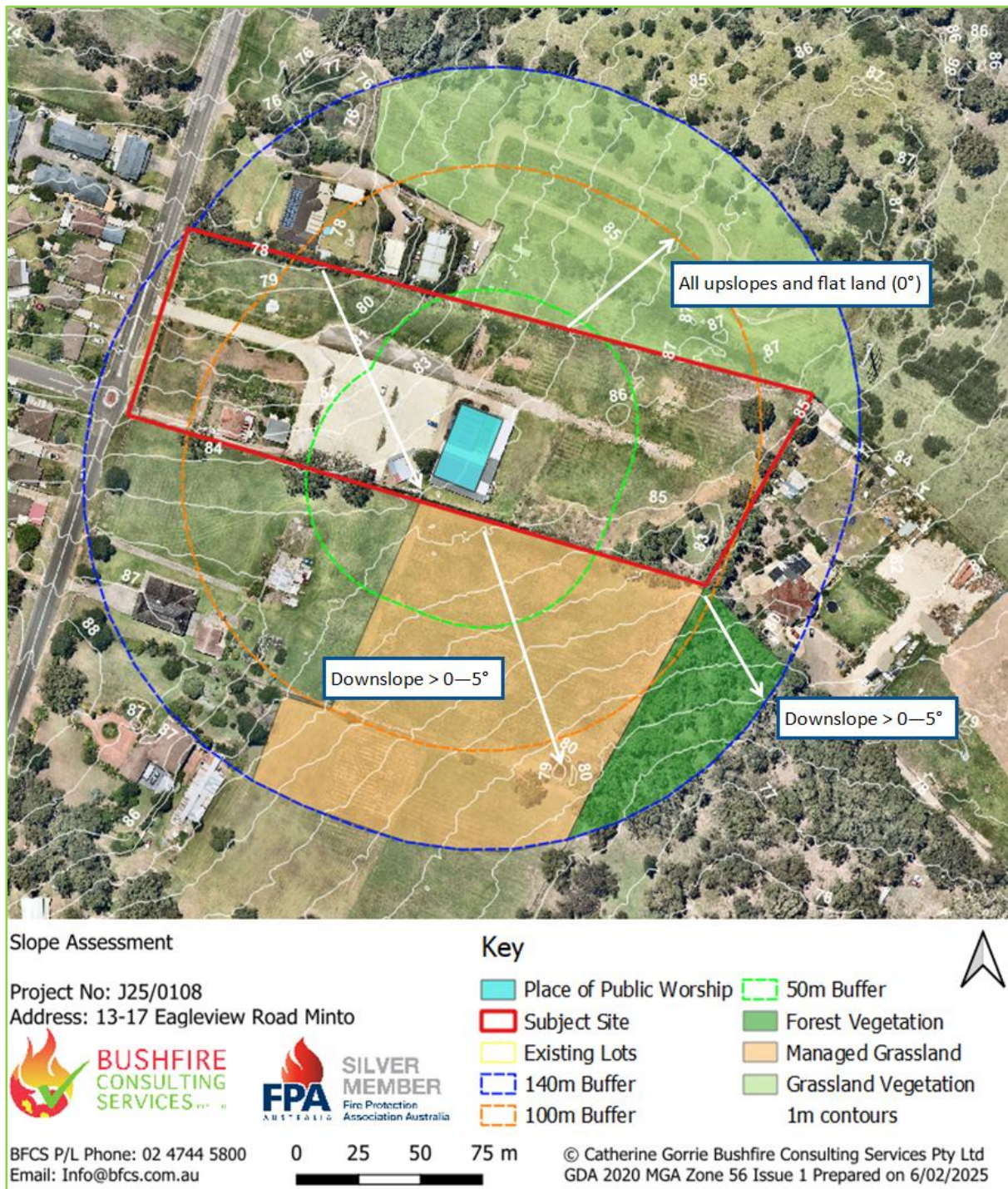
- all upslope vegetation (considered 0 degrees)
- >0 to 5 degrees downslope vegetation
- >5 degrees to 10 degrees downslope vegetation
- >10 degrees to 15 degrees downslope vegetation, and
- >15 degrees to 20 degrees downslope vegetation.

1m DEM data is sourced from NSW Spatial Services which is captured using LiDAR and has a horizontal accuracy of 0.3m and vertical accuracy of 0.8m at 95%.

The effective slope has been measured manually on site over a distance of 100m from the proposed development where accessible, under the classified vegetation community constituting the hazard. The slope was found to be consistent with the topographical information from NSW Spatial Services LiDAR data.

Direction from Building Footprint	Slope Description
Northeast	All upslopes and flat land (0°)
Southeast	Downslope >0- 5°
Southwest	Downslope >0- 5°
Northwest	N/A

Figure 7. Slope Diagram. Source: NearMap (2021) and LiDAR (NSW Government 2023a) with overlays by BFCS P/L: Aerial Photography Date: 28/01/2025



Site location outlined in red, 1m contours

Northeast Grassland Slope $((85-86)/56) \times 1/\tan = \text{Upslope } 1^\circ$

Southeast Grassland Slope $((86-80)/111.5) \times 1/\tan = \text{Downslope } 3.1^\circ$

Southeast Forest Slope $((82-78)/60) \times 1/\tan = \text{Downslope } 3.8^\circ$

Site Slope NW to SE $((78-85)/100.6) \times 1/\tan = \text{Upslope } 4^\circ$

Southeast Forest Slope $((82-78)/60) \times 1/\tan = \text{Downslope } 3.8^\circ$

7. Relevant objectives of PBP

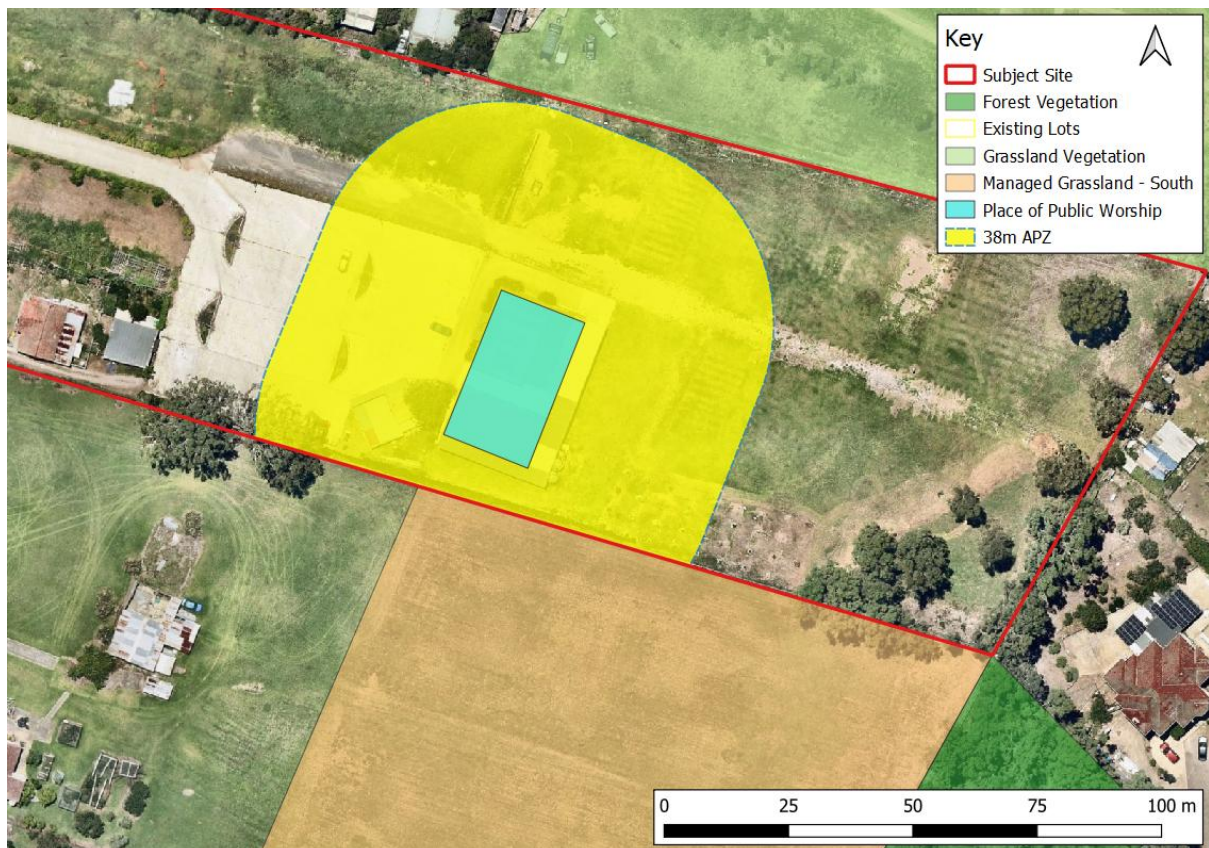
The objectives for Places of Public Worship are outlined in PBP Chapter 1 and 8.

7.1 Objectives of Chapter 1

Objective	Comment
Afford buildings and their occupants protection from exposure to a bush fire	The building is separated from the hazard by a minimum of 9m. It is a non-habitable structure which is intended to be closed on days of catastrophic fire exposure
Provide for a defendable space to be located around buildings	A defendable space of 6-9m is available around the building, which meets the requirements of PBP
Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings	<p>The relevant FFDI (100), vegetation formation (Grassland to the northeast and southwest and Forest to the southeast) (Forest) and effective slope (All upslopes and flat land (0°) to the northeast, and Downslope >0- 5° to the southeast and southwest) have been matched using Table A1.12.1 of PBP, and the available separation distance between the building and the hazard of 41m to the northeast, 96m to the southeast and 9m to the southwest indicates that direct flame contact on the building is theoretically anticipated.</p> <p>The site shall be managed as an Inner Protection Area (IPA) Asset Protection Zone from the building for a distance of 38m to the north, east, west and to the boundary to the south, as outlined in PBP 2019 Appendix 4.</p> <p>The 38m distance is derived from Method 2 Calculations shown as an Appendix</p>

Objective	Comment
Ensure that appropriate operational access and egress for emergency service personnel and occupants is available	Can comply as road widths, curvatures and grades and swept paths enable appropriate operational access and egress for emergency service personnel and occupants
Provide for ongoing management and maintenance of BPMs	Normal property maintenance will ensure that BPMs are maintained
ensure that utility services are adequate to meet the needs of firefighters	Complies, see above

Figure 8. APZ Diagram. Source: NearMap (2021) and LiDAR (NSW Government 2025) with overlays by BFCs P/L: Aerial Photography Date: 28/01/2025



7.2 Objectives of Chapter 8

Objective	Comment
Provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupant egress for evacuation	Can comply, the lot has direct access to Eagleview Road, which is a public road. Internal access provides a minimum road width of approximately 6m, with hard surfaces and managed grass around the development, sufficient for fire trucks and other emergency vehicles to enter and egress the lot in a forwards direction. A turning area is also to be constructed. Suitable access for fire-fighting vehicles and evacuation is available
Provide suitable emergency and evacuation (and relocation) arrangements for occupants of the development	Can comply, the need to formulate an emergency evacuation plan is suggested. To do so, occupants can complete a Bush Fire Safety Plan on the NSW RFS Website http://www.rfs.nsw.gov.au/ under publications / bushfire safety. It is also recommended that the facility be closed on days of Catastrophic fire risk
Provide adequate services of water for the protection of buildings during and after the passage of bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building	<p>Can comply, the development has an existing static water supply for fire fighting purposes</p> <p>Electrical supplies are existing</p> <p>Where applicable, reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used</p> <p>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</p> <p>Polymer-sheathed flexible gas supply lines are not used, and above-ground gas service pipes are metal, including and up to any outlets</p>

Objective	Comment
Provide for the storage of hazardous materials away from the hazard wherever possible	There is no storage of hazardous materials associated with the development

8. Public Assembly Buildings (Part 8.3.11 PBP)

The proposal is for a Public Assembly Building, and whilst not a form of Special Fire Protection Purpose under the *Rural Fires (RF) Act* section 100B (s.100B), and a Bush Fire Safety Authority (BFSA) from the NSW RFS is not required, the proposal will be treated technically as though it were an SFPP. In circumstances where new building works within existing SFPPs are proposed, an appropriate combination of Bushfire Protection Measures (BPMs), are required.

The enclosed floor space of the development is as follows;

Hall 1 (Community Centre): 16.6m X 10.03m = 166.5m²

(Reference: drawing number 03: Layout Plan of original DA approved drawings)

Alfresco (East side of Hall 1): 16.6m X 7.7m = 127.8m²

(Reference: drawing number 03: Layout Plan of S4.55 drawings)

Hall 2 (Former Open Performing Area): 9.6m X 8.8m = 84.5m²

(Reference: drawing number 03: Layout Plan of original DA approved drawings)

TOTAL enclosed floor area (EXCLUDING toilets & kitchenette) = 378.8m²

Toilets & kitchenette area = 8.8m X 7.7m = 67.8m²

(Reference: drawing number 03: Layout Plan of original DA approved drawings)

TOTAL enclosed floor area (INCLUDING toilets & kitchenette) = 446.6m²

The aim and specific objectives of PBP for existing SFPPs is to,

- Provide an appropriate defensible space
- provide a better bush fire protection outcome for existing buildings
- ensure there is no increase in bush fire management and maintenance responsibility on adjoining land owners without their written confirmation
- ensure building design and construction enhances the chances of occupant and building survival

In a recent development application, in order to enhance building resilience to meet these specific objectives, it was proposed to provide a 2m high non-combustible fence along the southern boundary for a distance of 40m, which reduces the estimated radiant heat on the building by at least 5 kW/m². (from 36.76-31.55kW/m²- It is important to note that the theoretical hazard located beyond the southern lot boundary is considered to be managed land, however there is no mechanism in place to ensure the maintenance of the land as an Asset Protection Zone for the life of the development as required by PBP, and therefore the hazard is nominated as Grassland). (reference PBP Part 3.2.5 APZs on Adjoining Land)

The radiant heat shield is designed as follows,

Figure 9. Radiant Heat Shield Diagram. Source: NearMap (2023) and LiDAR (NSW Government 2023a) with overlays by BFCs P/L: Aerial Photography Date: 28/01/2025



9. Identify Construction Requirements

The planning Proposal does not include and construction and construction requirements are therefore not applicable.

10. Recommendations

The following recommendations are made for the Planning Proposal - Additional use under Schedule 1 of Campbelltown LEP 2015 for a Place of Public Worship at Lot 7 DP 39165, 13-17 Eagleview Road Minto, and are based upon the relevant provisions of the NSW Rural Fire Service Guideline entitled *Planning for Bush Fire Protection 2019*.

1. Asset Protection Zones

At the commencement of the development, and in perpetuity, the site shall be managed as an Inner Protection Area (IPA) Asset Protection Zone from the building for a distance of 38m to the north, east and west and to the boundary to the south, as outlined in PBP 2019 Appendix 4.

2. Emergency and Evacuation Planning

The need to formulate an emergency evacuation plan is suggested. To do so, occupants can complete a Bush Fire Safety Plan on the NSW RFS Website <http://www.rfs.nsw.gov.au/> under publications / bushfire safety.

11. Summary

This report consists of a bush fire assessment for the Planning Proposal - Additional use under Schedule 1 of Campbelltown LEP 2015 for a Place of Public Worship at Lot 7 DP 39165, 13-17 Eagleview Road Minto. The report concludes that the proposed development is on designated bushfire prone land and the legislative requirements for development in bushfire prone areas are applicable.

This report has considered all the elements of bushfire attack and finds that the development satisfies the aim and objectives of 'Planning for Bush Fire Protection' 2019, subject to implementation of the recommendations made by this report.

Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains and although the standard is designed to improve the performance of such buildings, there can be no guarantee because of the variable nature of bushfires that any one building will withstand bushfire attack on every occasion.

This report is a bush fire assessment that provides the required information to assist local Council and the Rural Fire Service in determining compliance in accordance with Planning for Bush Fire Protection. The local Council is the final consenting authority and the construction of the building must comply with the recommendations included in the Council's conditions of consent.



Catherine Gorrie

(a person who is recognised by the NSW Rural Fire Service as a suitably qualified consultant in bush fire risk assessment)

Accredited Bushfire Planning and Design Practitioner

Fire Protection Association Australia BPAD-Level 3 (BPAD 20751)

Grad Dip Bushfire Protection (UWS 2010)

Diploma Environmental Health & Building Surveying (TAFE 2005)

Corporate Silver Member Fire Protection Association Australia

Bushfire Consulting Services Pty Ltd

Tel: 02 4744 5800 | Mob: 0425 833 893

12. References

Keith D 2004, *Ocean Shores to Desert Dunes, the Native Vegetation of NSW and the ACT*, Department of Environment and Conservation, Sydney

NearMap 2023, *NearMap Photomap Aerial Imagery*, NearMap Australia, Barrangaroo, NSW

NSW Government 2023a, *NSW Spatial Services*, NSW Department of Finance, Services and Innovation.

NSW Government 2023b, *NSW Planning Portal*, NSW Department of Planning and Environment.

NSW Government 2023c, *Biodiversity Values Map*, NSW Department of Environment and Heritage.

NSW RFS 2019, *Planning for Bush Fire Protection*, NSW Rural Fire Service, Sydney.

Standards Australia 2018, *Australian Standard AS 3959-2018 'Construction of Buildings in Bushfire Prone Areas'*, SAI Global, Australia.

13. Legislation

Environmental Planning & Assessment Act 1979

Rural Fires Act 1997

Rural Fires Regulation 2013

Appendix 1 - Site Plan

NOTES

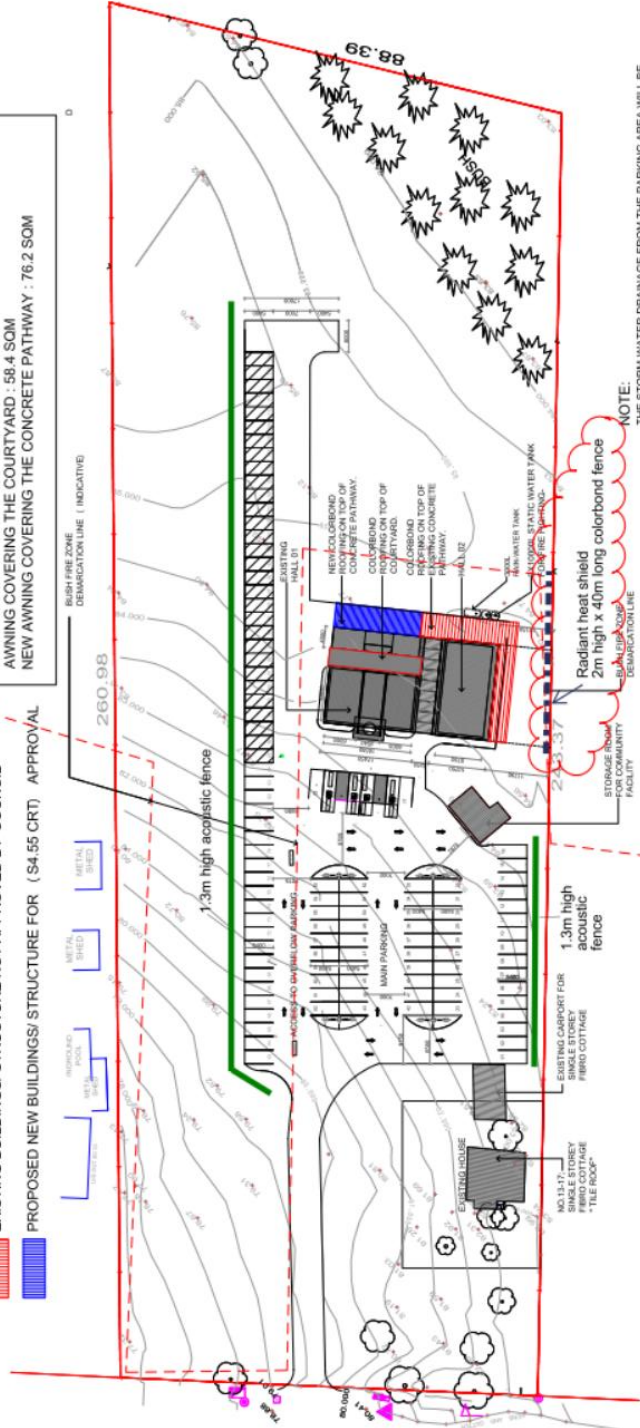
1. ALL WORKS TO COMPLY WITH CURRENT VERSIONS OF BCA, AUSTRALIAN STANDARDS, COUNCIL REQUIREMENTS AND OTHER RELATED BUILDING REGULATIONS.
 2. ALL LEVELS AND DIMENSIONS MUST BE VERIFIED BY THE FLUOR CONTRACTORS PRIOR TO COMMENCEMENT OF ANY WORK AND ANY DISCREPANCY MUST BE NOTIFIED TO THE DESIGNER.
 3. DRAWINGS OR BE READ IN CONJUNCTION WITH SPECIFICATIONS, ENGINEERING DESIGN AND RELEVANT CONSULTANT'S DRAWINGS.
 4. FINISHED DIMENSIONS TO TAKE PREFERENCE OVER SCALED DIMENSIONS.

NOTE:
 ALL NEW STRUCTURES ON SITE ARE MEASURED MANUALLY TO PREPARE THE ARCHITECTURAL DRAWINGS.
 IT DOESN'T ENSURE THE ACCURACY OF SURVEY DRAWINGS.
 ALL NEW AWNINGS, ROOFING AND GLAZING REFER TO STRUCTURAL DESIGN AND DETAIL.

LEGEND:

-  EXISTING BUILDINGS/ STRUCTURE APPROVED BY COUNCIL
-  EXISTING BUILDINGS/ STRUCTURE NOT APPROVED BY COUNCIL
-  PROPOSED NEW BUILDINGS/ STRUCTURE FOR (S4.55 CRT) APPROVAL

AREA CALCULATION:
 PROPOSED GROSS FLOOR AREA (BUILDING FOOT PRINT)
 EXISTING HALL 01: 189 SQM
 EXISTING OUT BUILDING 03: 60 SQM
 HALL 02 AREA: 196 SQM
 NEW ALFRESCO SHED 04: 70 SQM
 AWNING COVERING THE CONCRETE PATHWAY: 143.67 SQM
 AWNING COVERING THE COURTYARD: 58.4 SQM
 NEW AWNING COVERING THE CONCRETE PATHWAY: 76.2 SQM



NOTE:
 THE STORMWATER DRAINAGE FROM THE PARKING AREA WILL BE SUBJECTED TO HYDRAULIC DESIGN, LODGED WITH THE CONSTRUCTION CERTIFICATE.
 HEARING AUGMENTATION SYSTEM WILL BE INSTALLED DURING CONSTRUCTION.

02 SITE PLAN:
 SCALE - 1:800 @A3

PROJECT: COMMUNITY CENTRE FOR AMVIC
 ADDRESS: 22 GLYCHINE ST, DENHAM COURT, NSW 2565
 CLIENT: AUSTRALIAN MUSLIM WELFARE CENTRE INC

NO	DATE	BY	CHECKED BY	REVISIONS
1	16.06.2023	TANVI AHMED	16.06.2023	CONCEPT DESIGN: ISSUE D
2	26.07.2023	TANVI AHMED	26.07.2023	ISSUE FOR S 4.55 CERT
3	28.09.2023	TANVI AHMED	28.09.2023	ISSUE FOR S 4.55 CERT-REV B
4	23.01.2024	TANVI AHMED	23.01.2024	Update in response to WFS RPT (REV E)

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studio 02
 S 4.55 CERT: DOC

Appendix 2 – Photos of Site and Surrounds

Source: BFCS P/L 27/09/2023



Subject site



Unauthorised structure



Vegetation to the northeast, approximately 41m from the development



Vegetation to the southeast, approximately 96m from the development



Vegetation to the southeast, approximately 96m from the development



Vegetation to the southwest, approximately 8m from the development

Appendix 3 – Method 2 Calculations



NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 22/01/2024

Assessment Date: 22/01/2024

Site Street Address: 13-17 Eagleview Road, Minto
 Assessor: Catherine Gorrie; Bushfire Consulting Services Pty Ltd
 Local Government Area: Campbelltown Alpine Area: No

Equations Used

Transmissivity: Fuss and Hammins, 2002
 Flame Length: RFS PBP, 2001/Vesta/Catchpole
 Rate of Fire Spread: Noble et al., 1980
 Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
 Peak Elevation of Receiver: Tan et al., 2005
 Peak Flame Angle: Tan et al., 2005

Run Description: Southeast

Vegetation Information

Vegetation Type: Grassland
 Vegetation Group: Grassland
 Vegetation Slope: 3.1 Degrees
 Surface Fuel Load(t/ha): 6
 Vegetation Height(m): 0
 Vegetation Slope Type: Downslope
 Overall Fuel Load(t/ha): 6
 Only Applicable to Shrub/Scrub and Vesta

Site Information

Site Slope: 4 Degrees
 Elevation of Receiver(m): 4.2
 Site Slope Type: Upslope
 APZ/Separation(m): 9

Fire Inputs

Veg./Flame Width(m): 100
 Flame Temp(K): 1090

Radiant Heat Shielding Inputs

Shield Height(m): 2
 Shield Width(m): 40

Calculation Parameters

Flame Emissivity: 95
 Heat of Combustion(kJ/kg): 18600
 Moisture Factor: 5
 Relative Humidity(%): 25
 Ambient Temp(K): 308
 FDI: 130

Program Outputs

Category of Attack: VERY HIGH
 Level of Construction: BAL 40
 Radiant Heat(kW/m2): 31.55
 Flame Length(m): 9.6
 Shielded View Factor: 0.078
 Rate Of Spread (km/h): 20.93
 Transmissivity: 0.879
 Peak Elevation of Receiver(m): 4.51
 Fire Intensity(kW/m): 64885
 Flame Angle (degrees): 52
 Maximum View Factor: 0.472
 Inner Protection Area(m): 9
 Outer Protection Area(m): 0

BAL Thresholds

BAL-40: BAL-29: BAL-19: BAL-12.5: 10 kw/m2: Elevation of Receiver:
 Asset Protection Zone(m): 9 11 16 24 38 3