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Bushfire Risk Assessment for Residential Apartments Block 4 Section 235 Gungahlin

Prepared for
Suburban Land Agency



23 September 2024 | Version 1.0

Document Tracking:

Project Name:	Bushfire Risk Assessment for Residential Apartments at Block4 Section 235 Gungahlin
Project Number	J3729
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Document Control

Version	Primary Author(s)	Description	Date Completed
1.0	Lew Short	Final	23 September 2024

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Glossary of Terms

APZ	Asset protection zone
AS2419	<i>Australian Standard – Fire hydrant installations</i>
AS3959	<i>Australian Standard – Construction of buildings in bushfire-prone areas 2018</i>
BAL	Bushfire attack level
BPA	Bushfire Prone Area
BMS	<i>ACT Bushfire Management Standards (July 2023)</i>
BCA	<i>Building Code of Australia</i>
PBRMGC	<i>Bushfire Risk Mitigation General Code</i>
ESA	ACT Emergency Services Authority
FDI	Fire danger index
ha	Hectare
m	Metres
SBMP	<i>ACT Strategic Bushfire Management Plan Version 3 2014</i>
SUD	Sensitive Use Development

1. Introduction

Blackash Bushfire Consulting has been commissioned by the Suburban Land Agency to prepare a Bushfire Threat Assessment for Block 4 Section 235 Gungahlin, ACT (Figure 1). The proposed use for residential development is consistent with the Minor plan amendment 2024-i (MA2024-i) to the *Territory Plan* and the *Gungahlin Town Centre East Design and Place Framework* (December 2023) that will:

- *Demonstrate best-practice urbanism, establishing Gungahlin Town Centre East as a model in contemporary centre-making*
- *Respond to the local and regional landscape of this place*
- *Provide for a complementary mix of uses, activities and events which build upon the offerings of the existing town centre*
- *Create an integrated, permeable network of well-designed public spaces, paths and streets that support vibrant public life and high connectivity*
- *Require buildings and structures of high architectural quality and environmental performance*

The Suburban Land Agency (SLA) has prepared a *Gungahlin Town Centre East Design and Place Framework* to ensure the realisation of a vibrant and successful urban centre that fulfils the community aspirations expressed during recent community engagement program. The *Gungahlin Town Centre East centre* (Figure 2) is designed and developed as a distinctive, mixed-use precinct that embodies the best of contemporary Canberra, builds on its memorable landscape setting and incorporates spaces and activities that ensure its ongoing success.

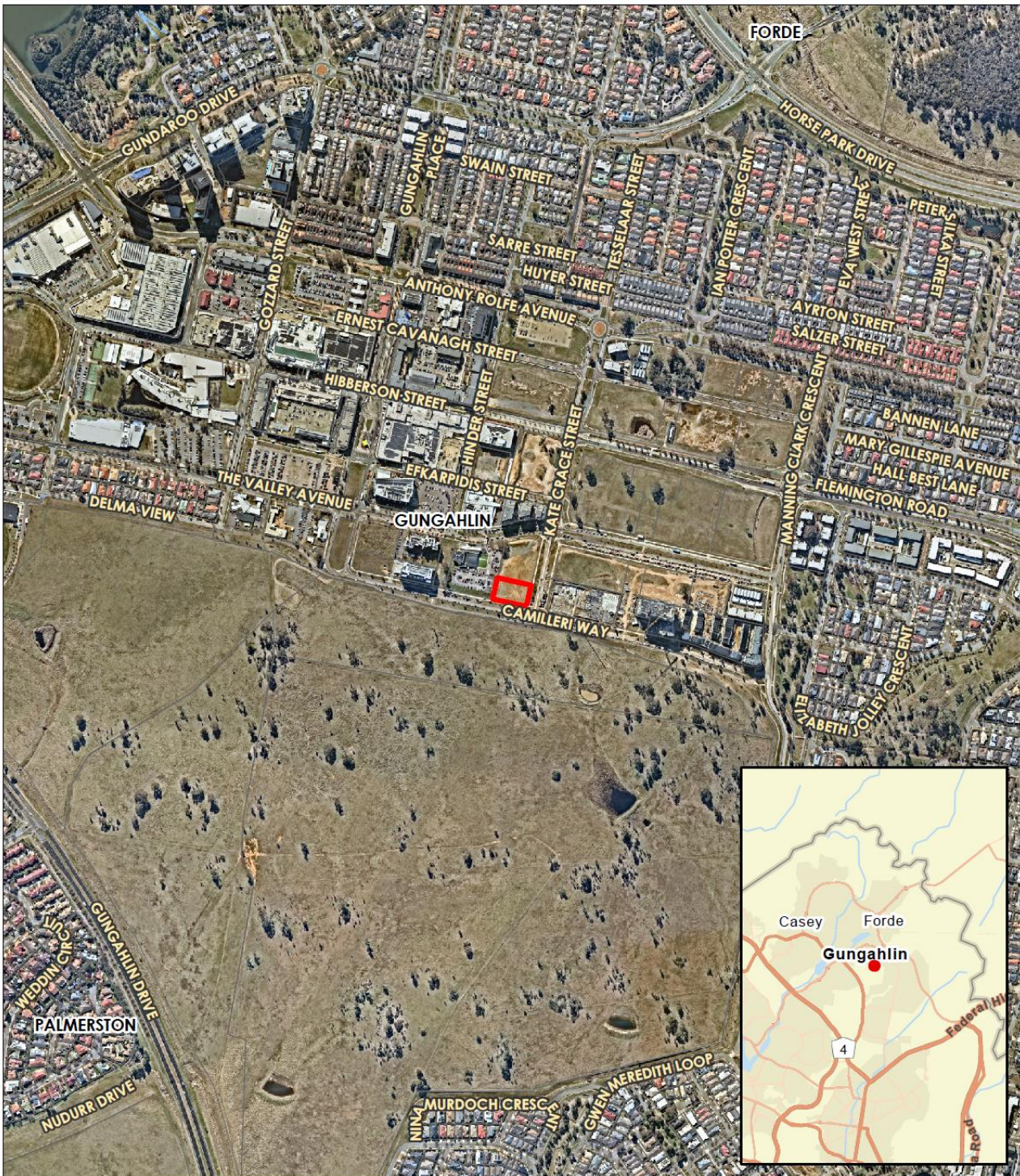
The site is affected by designated Prone Area map. The ACT *Bushfire Management Standards* (BMS) provide development standards for designing and building on bush fire prone land in the ACT. The site is in a rapidly developing area with existing roads and infrastructure in place. Land within the *Gungahlin Town Centre East centre* precinct is cleared for development with development underway or completed for some sites. The proposed residential development is infill development that relies on the existing infrastructure and is separated from grassland hazard areas to the south of Camilleri Way and the associated walking track/ bike path.

The ACT provides an integrated approach to new development in bushfire prone areas to reduce risk and build resilience. The ACT *Strategic Bushfire Management Plan* recognises the obligation of landholders to manage fuels and for new development to provide a degree of resilience from bushfire. Improved land use planning, building codes and maintenance of systems to reduce the impact of bushfire provide mechanisms to reduce the bushfire risk and enhance the resilience of communities exposed to bushfire.

The site is bound by existing development to the north along The Valley Avenue, to the east by Manning Clark Crescent, to the west by existing cleared land bound by Kate Crace Street and to the south by Camilleri Way. Camilleri Way provides an existing two-way perimeter road that has bike paths/ walking paths on either side of the road. Land to the south of Camilleri Way is designated as Bushfire Prone Land which is existing agricultural grassland with interspersed woodland trees.

No performance based or alternative solutions have been undertaken as part of this assessment. All outputs meet the acceptable solutions of the BMS.


This assessment has been completed by Lew Short who is a BPAD Level 3 certified practitioner (BPAD16373). The assessment has used the acceptable solutions within Planning for Bushfire Protection 2019. No alternative or performance-based assessment has been completed. A site inspection was completed by Lew Short on 14th September 2024.




Legend

 Subject Land

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Date: 10/09/2024

0 250 500
Meters

Coordinate System: GDA2020 MGA Zone 55
Imagery: ©Nearmap

Figure 1 Location

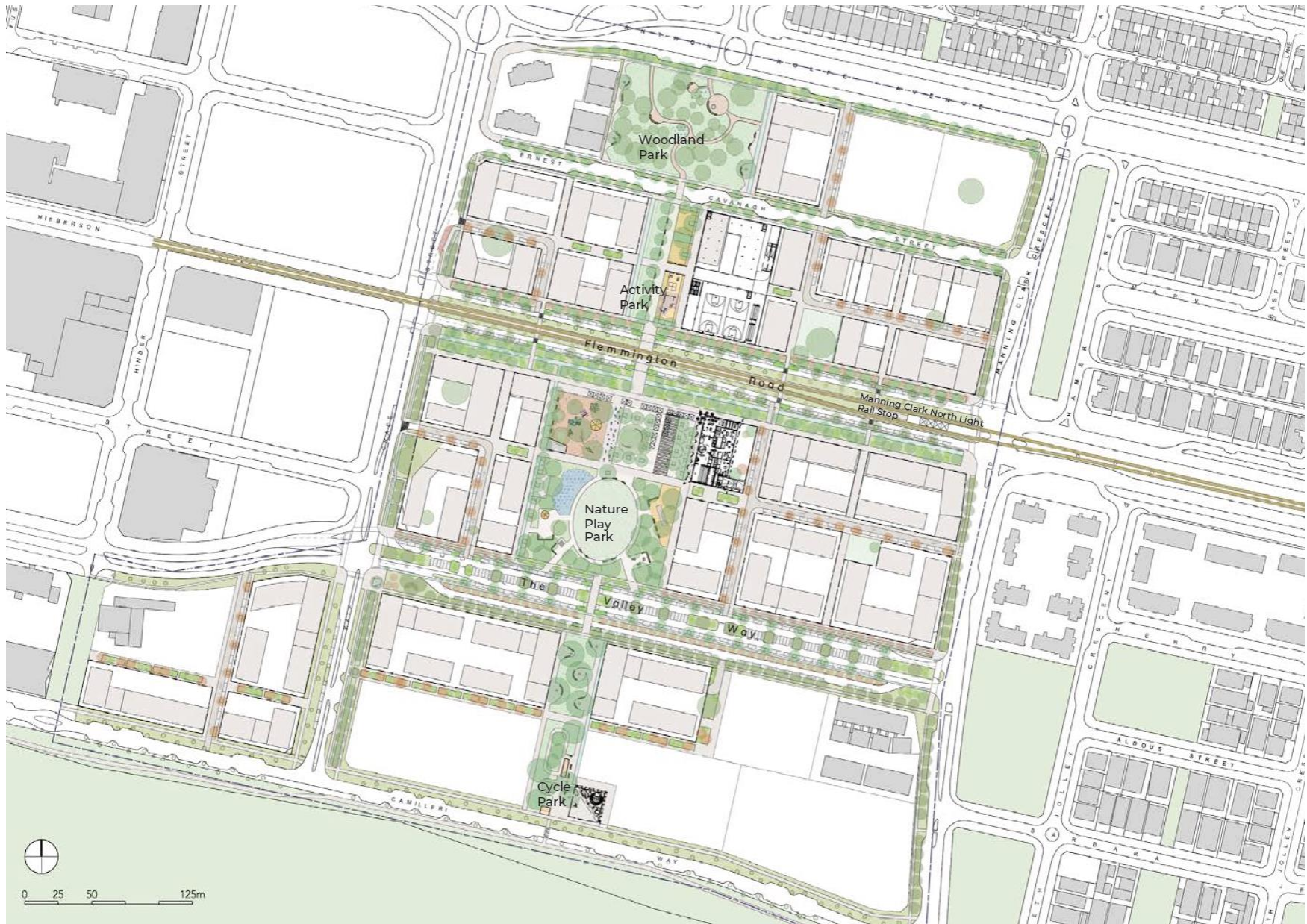


Figure 2 Gungahlin Town Centre East Centre

2. Proposal

The site is bound to the south by Camilleri Way including the bike path and walking track, to the east by Kate Crace Street and developed areas to the north and west.

The proposal seeks to enliven the *Gungahlin Town Centre East* centre (Figure 3) with mixed height commercial and residential development as shown in Figure 4.

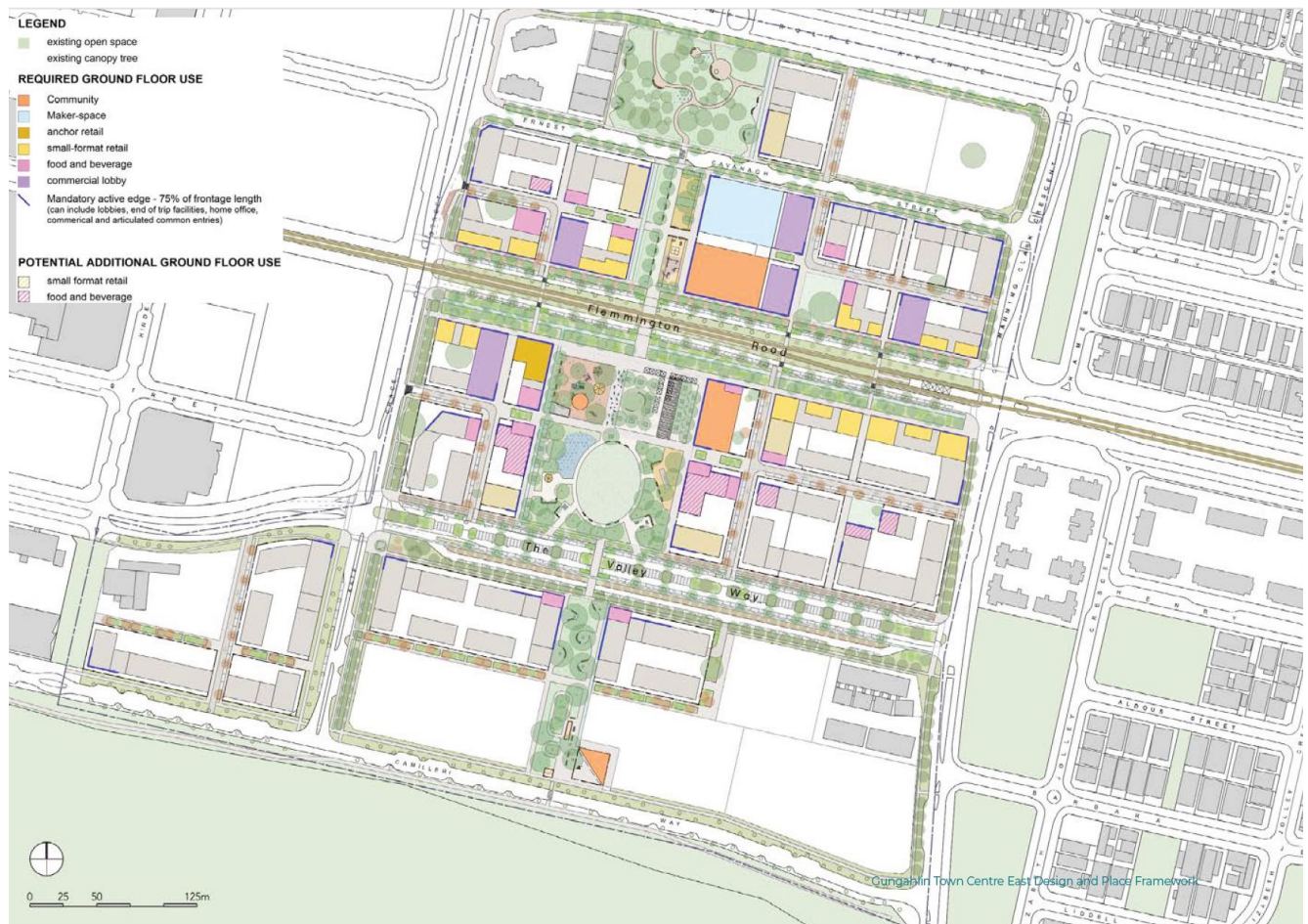


Figure 3 Section 235 development footprints – Gungahlin Town Centre East August 2024



Figure 4 Building height - Gungahlin Town Centre East August 2024

3. Territory Plan

Minor plan amendment 2024-i (MA2024-i) to the Territory Plan is a minor plan amendment (MA) prepared under section 84(1)(a) and section 84(2)(d) of the Planning Act 2023 (the Planning Act). The MA2024-i makes a number of changes including to Block 4 Section 235 Gungahlin which has been approved.

3.1. Gungahlin District Policy

This minor amendment allows community housing on Block 4 Section 23 Moncrieff and Block 4 Section 235 Gungahlin as a standalone use (that is, without needing to be in conjunction with a place of worship, religious associated use or supportive housing).

The proposed changes are not inconsistent with section 84 (2) (d) of the Planning Act 2023. The amendment to clarify the provision in the Territory Plan does not change the substance of the plan and is consistent with the policy intent of the provision.

The proposed use is facilitated by the MA2024-I (p. 11):

7A Where community housing is provided on Block 4 Section 235 Gungahlin it is not required to be in association with a place of worship, religious associated use or supportive housing.

4. Assessment Framework

the *Planning and Development Act 2007* and the Territory Plan set out the legal framework for the type of development permitted or prohibited within various land use zones as depicted in the Territory Plan.

The BMS provide development standards for designing and building on bush fire prone land in the ACT. The general principles (p. 10) underlying this document are that:

- *a suite of BPMs is required to reduce the impact of a bush fire*
- *protection measures are governed by the degree of threat posed to a development and the vulnerability of occupants*
- *minimising the interface of a development to the hazard reduces the bush fire risk to the development; and*
- *good practice in planning, building and management reduces the risk to developments and their occupants and increases their resilience.*

All development in Bushfire Prone Area (BPA) must satisfy the aim and objectives of the ACT BMS.

The aim of BMS 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.

The objectives are to:

- afford buildings and their occupants protection from exposure to a bush fire*
- provide for a defensible space to be located around buildings and infrastructure, including road reserves*
- 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*

Certain Development Applications, including development proposals on an infill or greenfield site (such as an Estate Development Plan) that have been lodged with the independent planning and land authority for assessment and determination will be formally referred to the ESA for advice and comments. Where relevant, ESA conditions may be imposed on a development application approval and are required to be met prior to any approved plans being released or any works commencing on site.

5. Bushfire Prone Land

The site is affected by Bushfire Prone Areas (Figure 5). The Mulanggari Grasslands Nature Reserve is to the south (Figure 5) of the site. The site has been cleared, ready for development (Appendix 2 Photograph 1).

The Bushfire Prone Area (BPA) map is a single risk-based map that defines areas of the ACT that have been assessed as being at high risk to life and property due to bushfires. BPA are designated on the ACT Government mapping portal actmapi.act.gov.au.

The BPA maps provide a trigger for new development and consideration of sites that are bushfire prone. Bushfire prone land (**BFPL**) is land which can support a bushfire or is subject to bushfire attack. The bushfire prone vegetation to the south The Mulanggari Grasslands Nature Reserve (Appendix 2 Photograph 4).

Canberra's built-up areas that are adjacent to forest, woodland and grassland are defined as BPAs. Identifying the at-risk areas on the BPA map requires assessment to determine mandatory construction standards for residential buildings under the *Australian Standards – Construction of buildings in bushfire prone areas 2018 (AS3959)*.



Legend

- Cadastre
- Subject Land
- Bushfire Prone Area

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Date: 10/09/2024

0 200 400
Meters

Coordinate System: GDA2020 MGA Zone 55
Imagery: ©Nearmap

Figure 5 Bushfire Prone Land Map

6. Bushfire Management Zones

In the State Bushfire Management Plan (SBMP), Fire Management Zones are identified as a subset of BPAs where measurable fuel management treatments are applied. The location and alignment of these zones reflect the risk of bushfires starting and spreading, and impacting on life, property and other assets.

The zones established include Asset Protection Zones, Strategic Firefighting Advantage Zones, Land Management Zones and Rural Land Management Zones. The widths and locations of the Zones shown on this map are indicative and the actual widths and location will be determined in consideration of the ACT Fire Management Standards and operational requirements, through the development of Regional Fire Management Plans and Bushfire Operational Plans (including Farm Firewise). Chapter 11 of the SBMP details considerations used in determining the location and extent of Asset Protection Zones adjacent to new and established urban areas.

Fire Management Zoning maps will be reviewed as required to reflect significant changes, which may include unplanned bushfires or changes to the location or extent of assets. The Commissioner is responsible for approval of these maps.

The land to the south is designated as a Bushfire Abatement Zone (see Figure 6). A Bushfire Abatement Zone will be declared and managed to protect the city from the possible impacts of major bushfire events. The Fire Management Zones are shown in Figure 7 with the area to the south being a Strategic Fire Advantage Zone (SFAZ) with an Inner Protection area extending from the boundary of the grassland areas to the south and over the Camilleri Way. The Bushfire Operational Plan (**BOP**) details the specific timing, type and location of fuel reduction, access and infrastructure activities proposed to be undertaken in the ACT. BOPs are required from ACT Government land managers, rural land managers as well as other property managers (ACT Government, 2014).

The *ACT Bushfire Management Standards* identify the fuel management standards for Strategic Firefighting Advantage Zones (SFAZs) which include the:

Application of broad-area hazard reduction burning that aims to reduce fuel across multiple landscape elements (ridges, side slopes, gullies) and treat at least 70% of the area identified. Where default standards cannot be achieved, the responsible land manager may identify alternative treatments to meet the overall objectives for the zone. Any significant variation on the default standards shall be approved by the ESA.



Legend

-  Cadastre
-  Subject Land
-  Bushfire Abatement Zone

N







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 Coordinate System: GDA2020 MGA Zone 55
 Imagery: ©Nearmap


Figure 6 Bushfire Abatement Zone



Legend

- | | |
|---|--|
|  Cadastre |  Outer Asset Protection Zone |
|  Subject Land |  SFAZ ACT Government |
| Fire Management Zone | |
|  Inner Asset Protection Zone |  Landscape Fire Management Zone |

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Date: 10/09/2024

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Meters

Coordinate System: GDA2020 MGA Zone 55
Imagery: ©Nearmap

Figure 7 Fire Management Zones

7. Site Assessment Methodology

This bushfire assessment is based on a desktop assessment of the site utilising the following resources:

- *ACTmapi*
- *ACT Bushfire Management Standards*
- Aerial mapping
- Site inspection

The methodology used in this assessment is in accordance with the BMS Appendix 1 Site Assessment methodology and is outlined in the following sections.

7.1. Bushfire Hazard

An assessment of the Bushfire Prone Land is necessary to determine the application of bushfire protection measures such as Asset Protection Zone (APZ) locations and future building construction levels. The vegetation formations (bushfire fuels) and the topography (effective slope) combine to create the bushfire threat that may affect bushfire behaviour at the site, and which determine the planning and building response of PBP.

7.2. Vegetation Assessment

The vegetation to the south of the development site is within the Mulanggari Grasslands Nature Reserve (Figure 8). Land to the east, north and west is managed land and is not Bushfire Prone.

BMS requires a classification of the vegetation on and surrounding the property. Predominant vegetation is classified by structure or formation using the system adopted by Keith (2004) and by the general description using the BMS. Vegetation types give rise to radiant heat and fire behaviour characteristics. The predominant vegetation is determined over a distance of at least 140 metres in all directions from the proposed site boundary or building footprint on the development site. Where a mix of vegetation types exist, the type providing the greater hazard is said to predominate.

Figure 8 shows the vegetation affecting the site. The vegetation within 140m of the site within the Mulanggari Grasslands Nature Reserve is grassland. Vegetation within the road reserve for Camilleri Way is low threat vegetation in accordance. The road reserve is highly modified with cycle path/footpath on the north and south of the road. As such, the APZ has been measured from the Mulanggari Grasslands Nature Reserve to the south.

The BMS (p. 34) provides the following for grassland areas:

The risk posed by grass fires is different to that of fires in other vegetation types. Grass fires spread more rapidly with a shorter residence time. Embers produced by grass fires are smaller and fewer in number than those produced from forest fires.

At residential subdivision stage, an assessment must be carried out to determine whether an APZ can be provided around the proposed development to avoid flame contact. Subdivision will not be supported where the development would be BAL-40 or BAL-FZ. The APZ distances identified in Table 19 provide the acceptable solutions for meeting this threshold.

For grassland areas, the BMS states (p. 75).

If the vegetation formation is grassland and a 20m-49m APZ can be provided, the Grassland Deeming Provisions may be applicable. There would be no need for further assessment (please refer to Section 7.8).

Where a 20m APZ cannot be provided, or a full site assessment methodology is required please refer to A1.4-A1.7 below.

Where 50m APZ can be provided, there are no further requirements

7.3. Slope Assessment

BMS requires an assessment of the slope of the land on and surrounding the property out to a distance of 100 metres from the boundaries of the property or from the proposed development footprint.

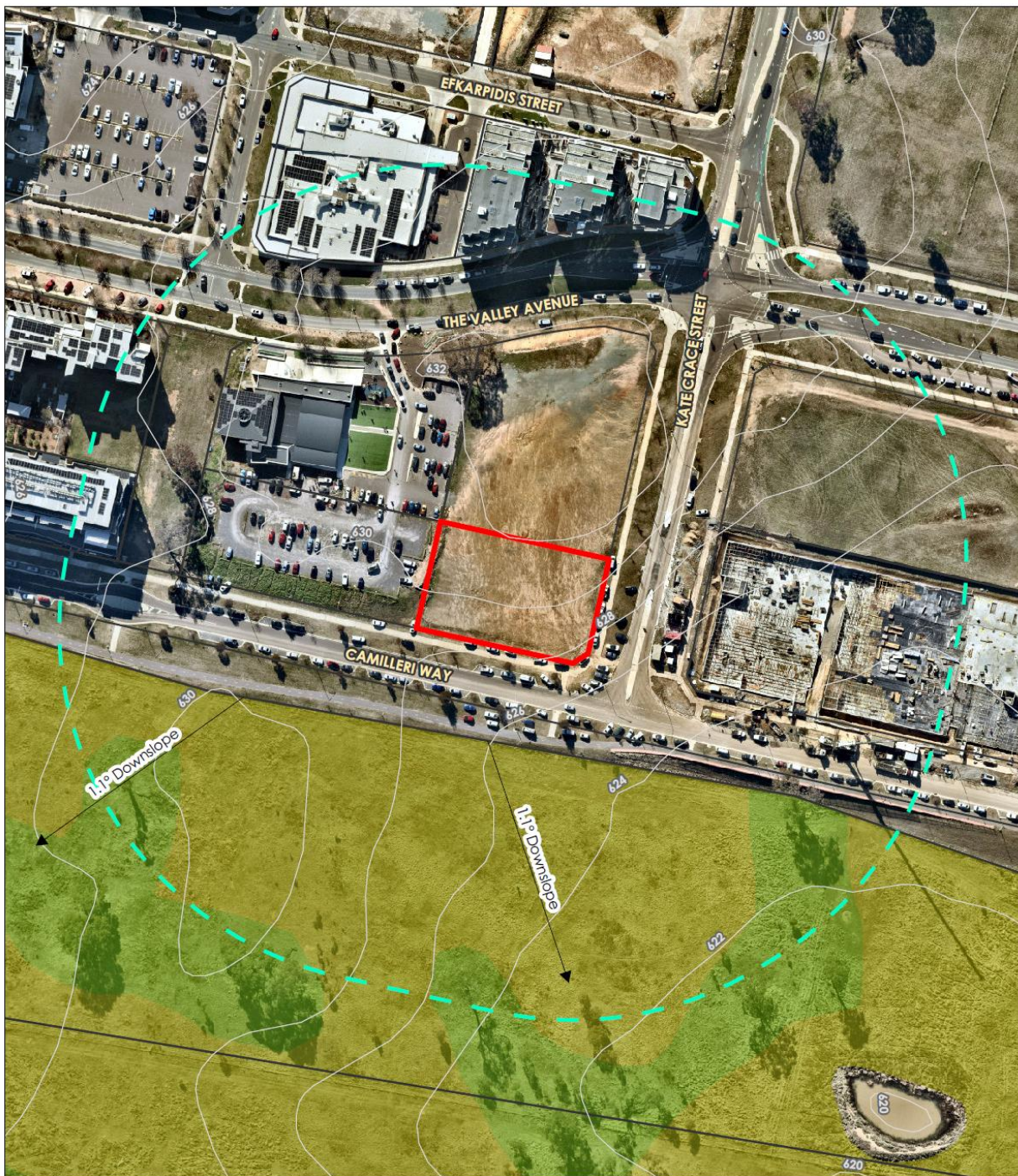
The 'effective slope' influencing fire behaviour approaching the sites has been assessed in accordance with the methodology specified within BMS. This is conducted by measuring the worst-case scenario slope where the vegetation occurs over a 100 m transect measured outwards from the development boundary or the existing/ proposed buildings. Figure 8 and Table 1 shows the effective slopes relevant to the proposal.

Table 1: Effective Slopes Influencing Bushfire Behaviour

Slope in degrees	Aspect			
	North	East	South	West
	NA Managed Land	NA Managed Land	1.1° downslope	NA Managed Land

7.4. Fire Weather

BMS and assumes a credible worst-case scenario for fire weather. The ACT FFDI is set at 100.



Legend

- Contour - 2m
- Cadastre
- Subject Land
- Assessment Buffer - 140m

Vegetation Class

- Grassland
- Southern Tableland Grassy Woodlands



Date: 10/09/2024

0 25 50

Meters

Coordinate System: GDA2020 MGA Zone 55

Imagery: ©Nearmap

Figure 8 Vegetation and Slope

8. Asset Protection Zones

An APZ is a fuel-reduced area surrounding a building or structure. It is located between the building or structure and the bushfire hazard. An APZ provides:

- a buffer zone between a bush fire hazard and an asset
- an area of reduced bush fire fuel that allows for suppression of fire
- an area from which backburning or hazard reduction can be conducted
- an area which allows emergency services access and provides a relatively safe area for firefighters and homeowners to defend their property

Bushfire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, either from the ground level or through the tree canopy. An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the building
- damage to the building asset from intense radiant heat
- ember attack

The methodology for calculating the required APZ distance is contained within Appendix 1 of BMS as an acceptable solution. APZs for the proposal have been determined in accordance with BMS.

The APZ is 12m based on Table 20 of the BMS (see Figure 9).

The extent of the required APZ is shown in Figure 10 which is contained within the Camilleri Way managed road reserve. This meets the requirements of the BMS.

Table 20 Minimum distances for APZs – residential development, FFDI 100 areas (<29kW/m2, 1090K)

KEITH VEGETATION FORMATION	EFFECTIVE SLOPE				
	Up slopes and flat	>0°-5°	>5°-10°	>10°-15°	>15°-20°
	Distance (m) from the asset to the predominant vegetation formation				
Rainforest	11	14	18	23	30
Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	24	29	36	45	56
Grassy and Semi-Arid Woodland (including Mallee)	12	16	20	25	32
Forested Wetland (excluding Coastal Swamp Forest)	10	12	16	20	26
Freshwater Wetlands	5	6	6	7	8
Grassland	10	12	13	15	17

Figure 9 Acceptable Solution APZ (BMS p. 83)



Legend

- Contour - 2m
- Subject Land
- Cadastre
- Vegetation Class**
- Grassland
- Asset Protection Zone**
- Asset Protection Zone - 12m

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Date: 10/09/2024

0 10 20
Meters

Coordinate System: GDA2020 MGA Zone 55
Imagery: ©Nearmap

Figure 10 Asset Protection Zone for residential development

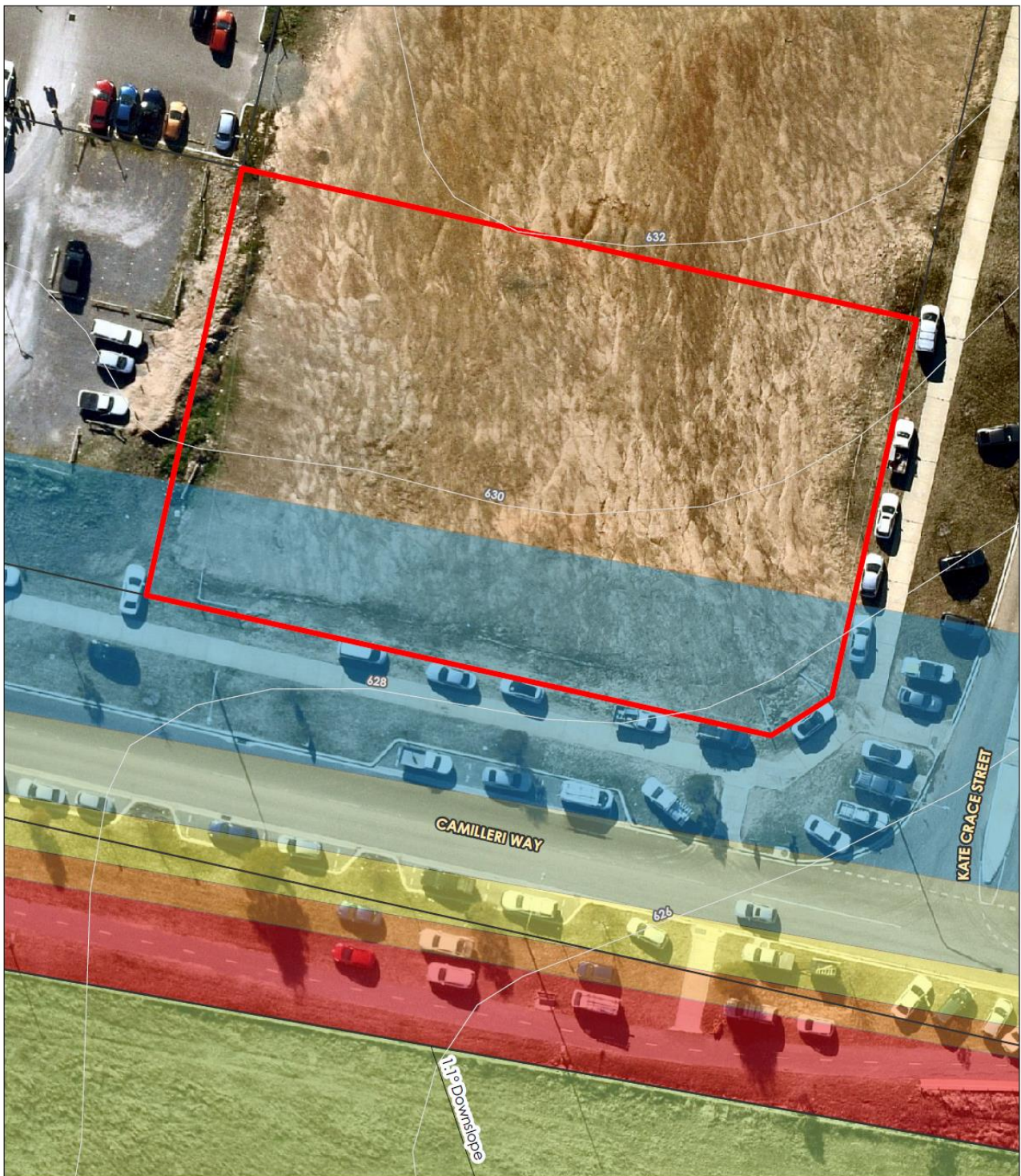
9. Bushfire Attack Levels & Construction Standards

The BAL is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact. In the NCC, the BAL is used as the basis for establishing the requirements for construction to improve protection of building elements.

The BAL is shown in Figure 11 and has BAL 12.5 affecting the southern portion of the site. The northern section of the site is greater than 50m from unmanaged vegetation and does not require any BALs. In relation to shielding and reduced BAL, the BMS states (p. 77) that:

The construction requirements for a shielded elevation shall not be less than that required for BAL-12.5.

As such, development within the BAL 12.5 area will need to comply with BAL 12.5 of AS3959.



Legend

- | | | |
|--------------|------------------------------------|------------|
| Contour - 2m | Vegetation Class | BAL - 40 |
| Subject Land | Grassland | BAL - 29 |
| Cadastral | Bushfire Attack Level (BAL) | BAL - 19 |
| | BAL - Flame Zone | BAL - 12.5 |

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Date: 11/09/2024

0 10 20
Meters

Coordinate System: GDA2020 MGA Zone 55
Imagery: ©Nearmap

Figure 11 Bushfire Attack Levels

10. Water Supplies and Services

The site is serviced by an existing ring main and hydrant points. Additional hydrant points within the site will be determined with detailed construction drawings. Adequate water supplies are provided for firefighting. Reticulated water is to be provided to the new development and an adequate water supply for firefighting purposes will be installed and maintained. The following requirements from PBP 2019 (p. 59 and p. 60) will be provided for the new development:

- *fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005.*
- *hydrants are not located within any road carriageway; and*
- *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.*

11. Access

The site is connected to surrounding public roads. Internal roads will be provided with detailed design. Camilleri Way provides public road access to the site which is two way with parking of the trafficable areas.

Camilleri Way provides a perimeter road which is in place (Appendix 2 Photographs 2 & 3). The road is sufficient for fire fighter access.

12. Fire Maintenance Plan and Emergency Procedures

It is recommended that the bush fire maintenance plan and fire emergency procedures for the site be provided prior to occupation to ensure appropriate management responses in the event of extreme or above fire danger ratings and fires in the vicinity of the site.

13. BMS Bushfire Protection Measures

The BPMs for residential subdivisions include measures relating to APZs, access to structures and water supply, fire trail access, and provision of water. Electricity and gas services should be provided so that they don't add to the bush fire risk to buildings. All requirements for BPMs that relate to the development must be provided, unless where specific circumstances apply to render a BPM irrelevant. Table 1 is an assessment and determination of compliance with the performance solutions and acceptable solutions for residential development in the BMS.

Table 1 Compliance with the BMS Requirements

Source	Performance Criteria	Acceptable Solution	Compliance
Asset Protection Zones BMS Table 3 p. 36	potential building footprints must not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with Table 20	<ul style="list-style-type: none"> 12m APZ is provided. See Figure 9 and Figure 10. Complies
	APZs are managed and maintained to prevent the spread of a fire towards the building.	APZs are managed in accordance with the requirements of Appendix 4.	<ul style="list-style-type: none"> The APZs are in place within the road reserve for Camilleri Way which includes bike path/ walkway which is managed land. See Appendix 2 Photo 3 and 4. Complies
	the APZs is provided in perpetuity	APZs are wholly within the boundaries of the development site	<ul style="list-style-type: none"> The APZs are in place within the road reserve for Camilleri Way which includes bike path/ walkway which is managed land. See Appendix 2 Photo 3 and 4. Complies
	APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	APZs are located on lands with a slope less than 14 degrees.	<ul style="list-style-type: none"> Slopes are less than 14° see Figure 8. APZs are in place and are being managed.
Landscaping BMS Table 3 p. 36	landscaping is designed and	landscaping is in accordance with	<ul style="list-style-type: none"> The APZs are in place within the road

	<p>managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.</p>	<p>Appendix 4</p>	<p>reserve for Camilleri Way which includes bike path/ walkway which is managed land. See Appendix 2 Photo 3 and 4.</p> <ul style="list-style-type: none"> Complies
<p>Access Table 4 p. 36</p>	<p>firefighting vehicles are provided with safe, all-weather access to structures.</p>	<p>property access roads are two-wheel drive, all-weather roads. perimeter roads are provided for residential subdivisions subdivisions have more than one access in and out of the development. traffic management devices are constructed to not prohibit access by emergency services vehicles.</p> <p>maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient. all roads are through roads. dead end roads are not recommended, but if unavoidable, incorporate a minimum 12 metres outer radius turning circle where kerb and guttering are provided on perimeter roads, roll top kerbing should</p>	<ul style="list-style-type: none"> Camilleri Way and Kate Crace Street are in place and provide access to the site. The roads are existing and used public roads. Camilleri Way provides a perimeter road to the grassland areas to the south. Parking is provided outside the road trafficable surface and access is unimpeded for vehicular use, including fire appliances. Complies

		<p>be used to the hazard side of the road.</p> <p>one way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.</p>	
Property access Table 4 p. 38	Property access will be provided in subsequent development applications.		
Water Table 5 p. 39	Property access will be provided in subsequent development applications.		
Electricity Table 5 p. 39	Property access will be provided in subsequent development applications.		
Gas Table 5 p. 39	Property access will be provided in subsequent development applications.		

14. Recommendations

The proposed development can meet the BMS requirements.

1. Any future buildings are built in accordance with the Australian Standards for Construction of Buildings in Bushfire Prone Areas 2018 as per BAL Figure 11
2. Any future development applications incorporate the Bushfire Protection Measures as required in the ACT Bushfire Management Standards 2023.

15. Conclusion

This report consists of a bushfire risk assessment for proposed residential at Block 4 Section 235 Gungahlin, ACT. The proposed development is well separated from Bushfire Prone land to the south of the site.

This report is a Bushfire Threat Assessment that provides the required information to assist the ACT ESA in determining compliance in accordance with the aims and objectives of *Planning for Bushfire Protection 2019*.



Lew Short | Principal

Blackash Bushfire Consulting

B.A., Grad. Dip. (Design for Bushfires), Grad. Cert. of Management (Macq), Grad. Cert. (Applied Management)

Fire Protection Association of Australia BPAD Level 3 BPD-PA 16373



Appendix 1 References

Australian Building Codes Board *Building Code of Australia Volumes 1&2*

ACT Government (2023) *ACT Bushfire Management Standards*

ACT Government (2014) *ACT Strategic Bushfire Management Plan ACT Bushfire Management Standards*



ACT Government & ACT Planning & Land Authority (2008) *Planning for Bushfire Risk Mitigation General Code*



Councils of Standards Australia AS3959 (2018) – *Australian Standard Construction of buildings in bushfire-prone areas*

Keith, David (2004) – *Ocean Shores to Desert Dunes – The Native Vegetation of New South Wales and the ACT*. The Department of Environment and Climate Change

Appendix 2 Site Photographs

site inspection by Lew Short on 14 September 2024

Number	Photograph	Comment
1		<ul style="list-style-type: none">• Looking north from Camilleri Way into the site showing the site is cleared with no bushfire hazard.
2		<ul style="list-style-type: none">• Looking from the southern boundary of the site across Camilleri Way, showing the road reserve, footpath and managed areas with the grassland areas further to the south.

3		<ul style="list-style-type: none">• Looking toward the east from the boundary of the grassland and managed areas of Camilleri Way. Approved residential development is evident to the east of the site.• The bike path and road reserve are well managed and meets the APZ requirements as managed land.
4		<ul style="list-style-type: none">• Looking toward the east from the boundary of the grassland and managed areas of Camilleri Way. Approved residential development is evident to the east of the site.• The bike path and road reserve are well managed and meets the APZ requirements as managed land.• The Mulanggari Grasslands Nature Reserve is to the south.• Grassland vegetation south of the fence is evident. This area is not managed and is a grassland hazard.