BAL Assessment Report

AS 3959 Bushfire Attack Level (BAL) Assessment Report

Site Details

Address:	508 Brookton Highway		
Suburb:	Roleystone	**State:**	WA
Local Government Area:	City of Armadale		
Description of Building Works:	Class 6 Retail Shop and Services		

Report Details

Report / Job Number:	00000562	**Report Version:**	1.0
Assessment Date:	25 Feb 2020	**Report Date:**	25 Feb 2020

Assessor(s) Details

Prepared By	Dwayne Griggs BPAD40466		
Company	WA Fire & Safety	**State:**	WA
Contact Details:	Mobile : 0415684681 Email : Admin@wafiresafety.com Web : www.WAFiresafety.com.au		

I hereby declare that I am a BPAD accredited bushfire practitioner

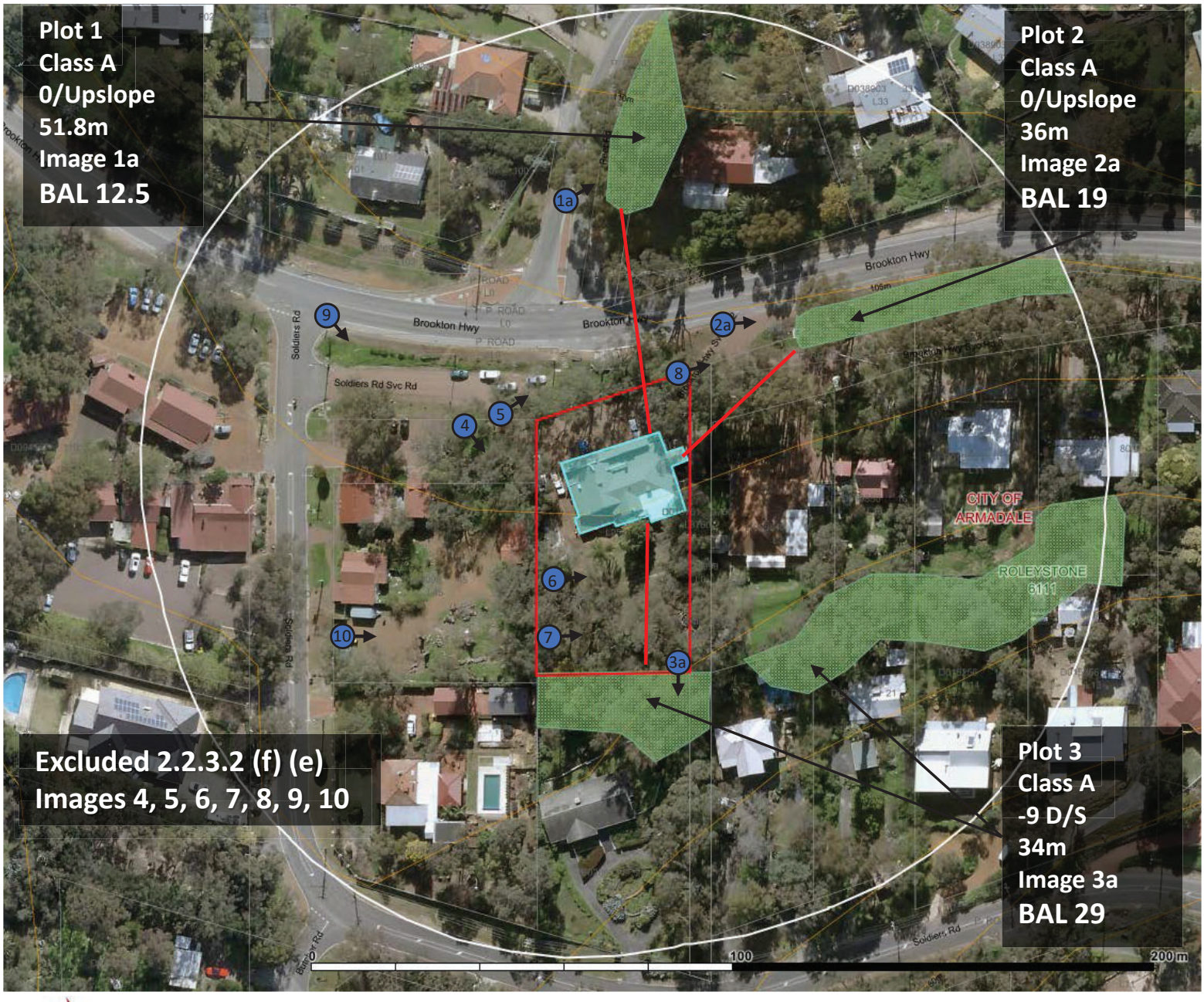
Accreditation No. **BPAD 40466**

Signature:

BAL Assessment Report

Site Assessment and Imagery

The assessment of this site / development was undertaken by Dwayne Griggs of WA Fire & Safety, a BPAD Accredited level 1 Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959 - 2018 Simplified Procedure (Method 1).



WAFIRESAFETY.COM.AU Residential / Non-vegetated areas excluded (f) or (e) are not plotted

Line Of Measure
Effective Angle / linear distance

Proposed Building

Asset Protection Zone (If Applicable)

Site Boundary

Vegetation Plot

Photo Location & Direction or

North

BAL Assessment Report

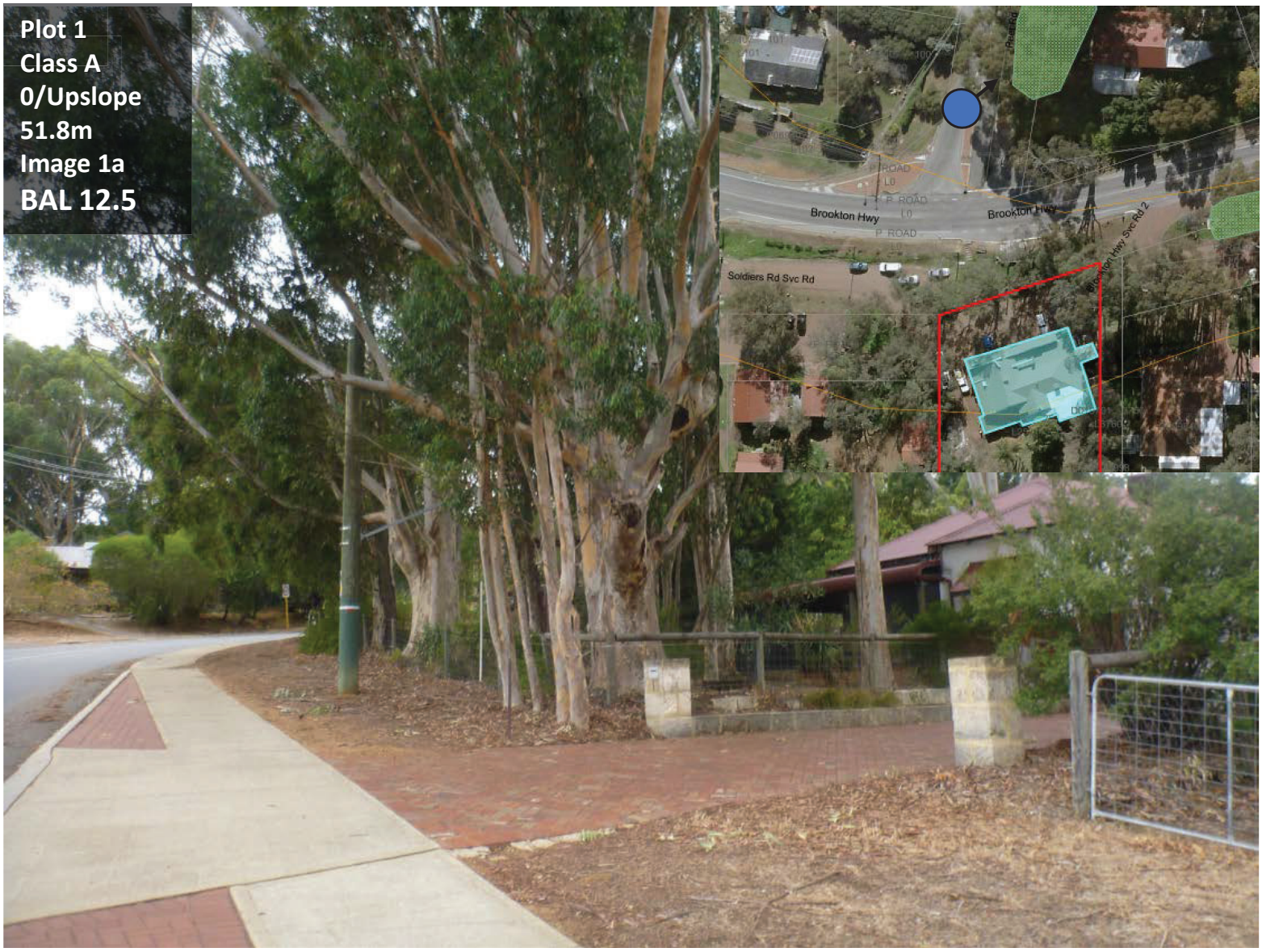
Site Plans & Provided Data

Plans not provided
BAL assessment done
to existing structure

BAL Assessment Report

Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3.2 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.



Justifications/Notes: Class A Forest

Average height of 14m with and understorey of Shrubs, small trees, scrub and Grasses.

Canopy cover of more than 30%

High fuels levels inside the plot

Narrow strip of fuels under tree line.

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Justifications/Notes: Class A Forest

Average height of 14m with and understorey of Shrubs, small trees and Grasses.

Canopy cover of more than 30%

Average fuels levels inside the plot

Bounded by bitumen and low risk

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Justifications/Notes: Class A Forest

Average height of 14m with and understorey of ground cover and Grasses.

Canopy cover of more than 30%

Average fuels levels inside the plot

Canopy cover and ground fuels are moderate

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Justifications/Notes:

Excluded 2.2.3.2 (f) and (e)

Non-vegetated areas

Irrigated gardens with low threat ground covers

All ground fuels removed, with bare dirt exposed.

Maintained to a very high standard

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Justifications/Notes:

Excluded 2.2.3.2 (f) and (e)

Non-vegetated areas/driveways,

Irrigated gardens with low threat ground covers

All ground fuels removed, with bare dirt exposed.

Gravel

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Justifications/Notes:

Excluded 2.2.3.2 (f) and (e)

Maintained grassland with an average height of less than 100mm

Non-vegetated areas

Irrigated gardens with low threat ground covers

Low threat, maintained to a very high standard

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Justifications/Notes:

Excluded 2.2.3.2 (f) and (e)

Maintained grassland with an average height of less than 100mm

canopy cover less than 10%

Non-vegetated areas/driveways

Irrigated gardens with low threat ground covers

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Justifications/Notes:

Excluded 2.2.3.2 (f) and (e)

Non-vegetated areas

Irrigated gardens with low threat ground covers

All ground fuels removed, with bare dirt exposed.

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Relevant Fire Danger Index

The fire danger index for this site has been determined in accordance with Table 2.1 or otherwise determined in accordance with a jurisdictional variation applicable to the site.

Fire Danger Index			
FDI 40 ☐	FDI 50 ☐	FDI 80 ■	FDI 100 ☐
Table 2.4.5	*Table 2.4.4*	*Table 2.4.3*	*Table 2.4.2*

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A Forest	Upslope	51.8m	12.5
2	Class A Forest	Upslope	36m	19
3	Class A Forest	-9 Downslope	34m	29

Determined Bushfire Attack Level (BAL)

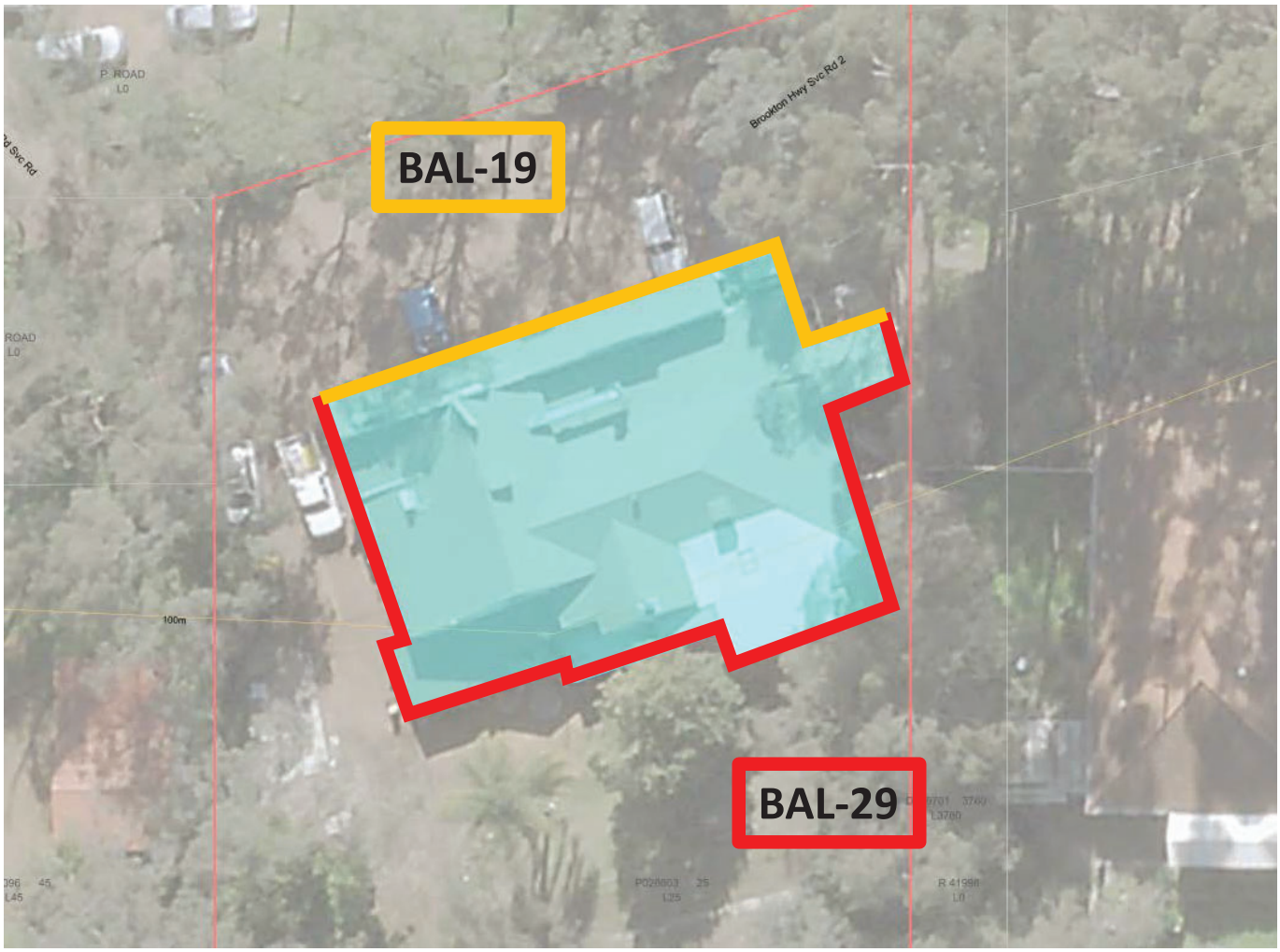
The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level	**BAL – 29**

Appendix 1: Application of Shielding Provisions

Reduction in construction requirements due to shielding

AS3959-2018 c3.5 Shielding Provision applies as described and illustrated below



Appendix 2: – Additional Information / Advisory Notes / Justifications Related to Assessment

Average vegetation height:

Plot 1	Plot 2	Plot 3
14m	15m	14

Fuels -

Moderate surface and near surface fuels in all plotted vegetation.

Excluded Vegetation (AS3959 clause 2.2.3.2) -

Area contains residential lots that are maintained and excludable 2.2.3.2 (f) And 2.2.3.2 (e) these areas have been assessed and are not plotted on site map. All surrounding lots have been assessed as Low risk managed areas with maintained APZ's to 20m+ or lots sizes.

Asset/Building protection zone –

The APZ/inside of lot is clear and free of fuels

Modified Vegetation Inside Lot –

Nil

Overall area topography -

Area depresses down hill to the south of site, where major native vegetation is 110m+ away to the SW

Recommendations for landowner –

Maintenance of the APZ to the size directed in this report and to the standard of the attached Schedule 1 (appendix 5)

Read and Comply Fully with the LGA firebreak / fuel notice.

Appendix 3: – SPP 3.7 Objectives and Application

SPP 3.7 Objectives and Application of Policy Measures

The intent of Western Australian Planning Commission (2017) Guidelines for Planning in Bushfire Prone Areas, v1.3 December 2017 is to ensure that bushfire risks are considered in a timely manner and that planning documents demonstrate the appropriate application of the various policy measures. Table 1 summarizes the intent and objectives of SPP 3.7 and provides evidence of how the Construction complies.

SPP Reference	Description	Evidence of Compliance
Intent	▪ Ensure that risks associated with bushfires are planned using a risk-based approach	▪ Undertaking a BAL-assessment and documenting in report that complies with SPP 3.7 ▪ BAL assessment indicates risks associated with bushland are manageable
Objective 1	▪ Avoid any increase in the threat of bushfire to people, property and infrastructure	▪ BAL assessment indicates risks associated with bushland are manageable ▪ The site is located within 100 m of vegetation, and has been assigned a BAL-rating as per AS-3959 – 2018
Objective 2	▪ Reduce vulnerability to bushfire	▪ BAL assessment indicates risks associated with bushland are manageable ▪ The proposed construction is located within 100 m of vegetation, and has been assigned a BAL-rating as per AS-3959 – 2018
Objective 3	▪ Ensure that higher order strategic planning documents and proposals consider bushfire protection requirements at an early stage	▪ The BAL-assessment applies to the Provided plans only ▪ The Assessment has be conducted post construction as the structure is already established
Objective 4	▪ Achieve an appropriate balance between bushfire risk management and biodiversity conservation	▪ The location of the building is within a cleared portion of the site. No clearing of vegetation will be required.

Table 1: Evidence of compliance with SPP 3.7 intent and objectives

Appendix 3: – SPP 3.7 Bushfire Protection Criteria

Bushfire Protection Criteria

As the proposed construction is an ancillary building on an existing Lot, the Table 2 demonstrates how the proposed construction complies with Bushfire Protection Criteria. No other bushfire protection mechanisms are required.

Intent	Performance Principle	Solution
Element 1: Location	• Bush fire hazard Assessment will indicate Moderate or Low • BAL Rating is BAL-29 or Lower	• BAL Assessment indicates risks • BAL 29
Ensure subdivision and development applications are located in areas with the least possible risk of bushfire		
Element 2: Siting and Design of Development		
Siting and design of development minimises the level of bushfire impact	- Siting and design is appropriate to the level of threat - Minimises the risk to people, property and infrastructure	▪ BAL assessment indicated that the risk is manageable
Element 3: Vehicular Access		
Vehicular access servicing a subdivision is available and safe during a bushfire event	▪ Internal layout, design and construction of public and private vehicular access and egress in the boundary(s) allow emergency and other vehicles to move easily and safely at all times	▪ Access will be via the existing road network, with no additional road construction planned
Element 4: Water		
Water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire	▪ Structure is provided with a permanent and secure water supply that is sufficient for firefighting purposes	▪ Water is available on site, with closest hydrant at 22.5m in carpark and second on soldiers road.

Table 2: Compliance with bushfire protection criteria

Appendix 4: – Advisory Statement

Construction Requirements Advisory Statement:
All information given regarding construction requirements for the appropriate BAL Level from AS3959, within and outside this report is advisory only.

Statement:
I Dwayne Griggs BPAD40466 of WA Fire & Safety, Maida Vale, have taken the appropriate steps to ensure that all the information provided in this Bushfire Attack Level Report is accurate and the correct determination of the site is given on the date of this assessment.

This report does not guarantee that a structure will not be damaged or destroyed from a bushfire. This assessment is made from the information provided and available to me the Bushfire Consultant on the day of the assessment. The Bushfire Consultant will not be liable for loss or other consequences following a fire whether or not due to negligence arising from the services conducted by the consultant, local government authority, the agent requesting and or the owner/occupier.

Any further vegetation planted after the date of this BAL Assessment or a failure to maintain the area within this BAL Report to the same standards can dramatically change the BAL rating. This will put the structure and close structures at a higher risk in the event of extreme bushfire behavior in the area.

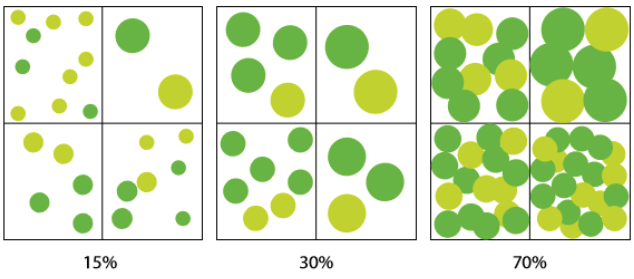
Very important information for landowner:
It is the responsibility of the landowner/proponent to maintain their APZ in accordance with Schedule 1 ‘Standards for Asset Protection Zones’ It is further recommended that maintenance of APZs and Property is addressed through the local government firebreak notice (LGA firebreak and fuel notice), issued under s33 of the Bushfires Act 1954

Appendix 5: – Standards for Asset Protection Zones

An APZ is an area surrounding a building that is managed to reduce the bushfire hazard to an acceptable level. The width of the required APZ varies with slope and vegetation. The APZ should at a minimum be of sufficient size to ensure the potential radiant heat impact of a fire does not exceed BAL-29

- **Fences**: within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 16: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m^2 in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less

END OF REPORT

Bushfire Attack Level (BAL) Certificate

Determined in accordance with AS 3959-2018

Site Details :

Address:	508 Brookton Highway		
Suburb:	Roleystone	**State:**	WA
Local Government Area:	City of Armadale		
Report / Job Number:	00000562	**Report Date:**	25 March 2020

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A Forest	-9 Downslope	34m	29

Practitioner Details:

Dwayne Griggs of WA Fire & Safety Ph: 0415684681 E-Mail: Admin@wafiresafety.com

I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018.

Name: Dwayne William Griggs (WA Fire & Safety) BPAD40466

I hereby declare that I am a BPAD accredited bushfire practitioner

Accreditation No. **BPAD 40466**

Signature:

Signature: _____

Certificate Date: 25 March 2020