Bushfire Management Plan / Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 89 (#11) Moores Road, Pinjarra

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day 12 Month Dec Year 2024

Report author or reviewer: Nathan Peart

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☒

If accredited, please provide the following.

BPAD accreditation number: 38808 Accreditation expiry: Month May Year 2025

Bushfire management plan version number: 1

Bushfire management plan date: Day 22 Month Jan Year 2025

If one or more of the following are selected, then these should be automatically referred to DFES	YES	NO
Strategic planning is required to address SPP 3.7 and the Guidelines	☐	☐
The application is a vulnerable land use	☐	☐

None of the Above ☒

If one or more of the following are selected, and the decision-maker requires input from DFES, then the application can be referred.	YES	NO
The BAL rating has been calculated by a method other than Method 1 as prescribed by AS 3959	☐	☐
An outcomes-based approach has been submitted to demonstrate compliance with the bushfire protection criteria	☐	☐

None of the Above ☒

Note: If a subdivision or development application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, seeking advice from DFES on SPP 3.7 or other matters is at the discretion of the decision-maker.

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer  Date 22 January 2025

Bushfire Management Plan (DA)

Proposed Commercial development at: Lot 89 (#11) Moores Road, Pinjarra

Client: Method Planning

Report Number: 24-18507

Assessment Date: 12 December 2024

Report Date: 22 January 2025

Prepared by a BPAD Accredited Practitioner

Document Control

Doc name:	Bushfire Management Plan (DA) - Lot 89 (#11) Moores Road, Pinjarra				
Version	Date	Author		Reviewer	
1	22/01/2025	Jess Calcutt	JC	Nathan Peart	NP
	Initial Report Issued				

Disclaimer and Limitation

This report is prepared solely for the client, any future landowners of the subject lot and is not for the benefit of any other person and may not be relied upon by any other person. Bushfire Smart accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

The mitigation strategies contained in this report are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that Bushfire Smart and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or destroyed by bushfire or that lives will not be lost in a bush fire. Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Bushfire Smart has no control.

This report does not negate the need to follow Local government authority requirements for Firebreak and Fuel Hazard Reduction. The client agrees that in submitting this report they approve of and will comply with all requirements detailed.

Insurance Coverage Statement

Bushfire Smart is covered by Professional Indemnity Insurance up to $2,000,000 and Public Liability Insurance valued at $20,000,000. These policies provide comprehensive coverage for bushfire attack level assessments, planning, design, and advisory services, in accordance with the FPA Australia Bushfire Planning and Design Accreditation Scheme for a BPAD-Level 3 practitioner.

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Executive Summary

The proposal is at Lot 89 (#11) Moores Road, Pinjarra regarding a commercial development on a lot with an existing building.

The proposal is in an area that has been designated as bushfire prone and must therefore comply with State Planning Policy 3.7 (SPP 3.7). Planning for Bushfire Guidelines Version: September 2024 (the Guidelines) has been used to determine the proposals compliance with SPP 3.7.

An assessment against the Bushfire Protection Criteria 6 is required to be undertaken. The following table summarises the outcome of this assessment.

Table A.1: Summary of assessment against Bushfire Protection Criteria 6

Element	Acceptable Solution	Compliance Method	Compliance notes.
1: Location	-	N/A	
2: Siting of development	A2.1a Siting and design	Acceptable Solution	The building can achieve BAL 29 as demonstrated within the potential bushfire impacts section of this report and A2.2 below.
	A2.1b Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ).	N/A	
	A2.2 Asset Protection Zone (APZ)	Acceptable Solution	An APZ can be achieved and contained within the lot boundaries. APZ dimensions to be: 13m in all directions.
	A2.3 Clearing of native vegetation	Acceptable Solution	The development does not require the clearing of native vegetation
	A2.4 Storage of hazardous, flammable and/or combustible materials	Acceptable Solution	The storage of hazardous, flammable and/or combustible materials (if any) to be within a BAL 29 area with suitable structure to shield the material and prevent the ignition of bushfire prone vegetation.
3: Vehicular Access	A3.1 Private driveways	Acceptable Solution	Private driveways can meet the requirements of the guidelines.
4: Water	A4.1 Water supply for residential habitable buildings	Acceptable Solution	Hydrants provided to comply with Water Corporation's No. 63 Water Reticulation Standard.

Bushfire hazards identified are:

Crown land to the west/northwest of the subject lot and adjoining lots boasts dense forest vegetation, with shrubland and grasses in between. The vegetation interconnects across neighbouring developed lots, with just 250 m separating the subject structure from the undeveloped vegetated lands. Firebreaks are limited and isolated, with no verification of their management or effectiveness, which could increase the bushfire risk. The most significant bushfire risk to the proposed development is the potential for ember attack.

Action Required:

Compliance with this BMP, and therefore SPP 3.7, will require action prior, during and after development. The items requiring implementation include:

- APZ to be established and maintained throughout the life of the proposal.
- Driveway to be constructed and maintained to the standard stated in this BMP.
- Structure around hazardous materials to comply with requirements of this BMP.
- Ongoing compliance with the local government's firebreak notice.

The entire report should be read in conjunction with the guidelines to ensure all requirements are understood.

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Table of Figures

1 Proposal and Site Details

1.1 Proposal Details

Lot 89 (#11) Moores Road, Pinjarra (subject lot) is a 18,042.16 m^2 parcel. The proposal is for the construction of a veterinary hospital on an existing lot.

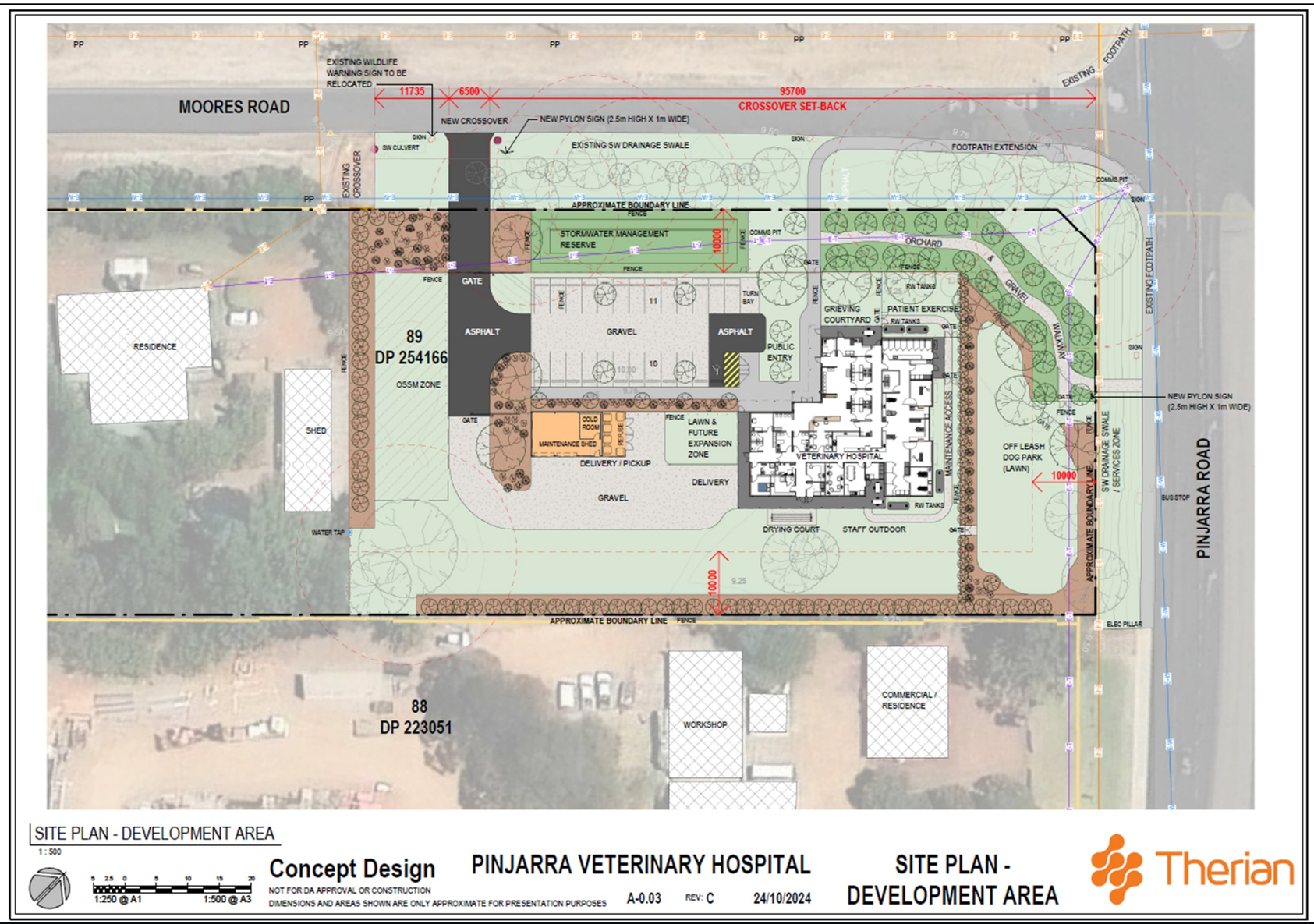


Figure: 1 Proposal Plan

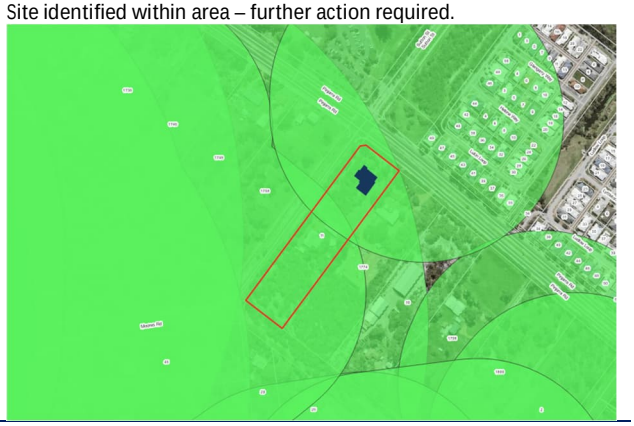
Figure: 2 Location

Figure: 3 Map of Bushfire Prone Area for Subject Site

2 Environmental Considerations

To identify environmental, biodiversity and conservation values on the subject site, the site has been examined against the following databases as shown in Table 1.

Table 1: Assessment against environmental considerations

Object	Database	Identified	Details
Geomorphic Wetlands: Swan Coastal Plain / Augusta to Walpole	DBCA-019 / DBCA-017	Yes	Site identified within area – further action required. 
Ramsar sites (Wetland areas designated under the Ramsar Convention)	DBCA-010	No	Site not identified within database.
Threatened and Priority Flora	DBCA-036	No	Site not identified within database.
Threatened and Priority Fauna	DBCA-037	No	Site not identified within database.
Threatened Ecological Communities	DBCA-038	Yes	Site identified within area – further action required. 
Bush Forever Areas - 2000	DPLH-019	No	Site not identified within database.
Clearing Regulations – Environmentally Sensitive Areas	DWER-046	No	Site not identified within database.
SWAN Bioplan Regionally Significant Natural Areas 2010	DWER-070	No	Site not identified within database.
Local government biodiversity/planning	-	No	-

The subject site has been identified by the Department of Biodiversity, Conservation and Attractions (DBCA) as being within the Geomorphic Wetlands: Swan Coastal Plain area, and is designated as a threatened ecological community.

The applicant will need to seek clarification from the appropriate authorities, which may include the preparation of reports from suitably qualified consultants, to ensure any clearing is appropriate for the area.

2.1 Native vegetation – modification and clearing

The site has been checked against the Native Vegetation mapping conducted by the Department of Primary Industries and Regional Development (DPIRD-005). This database shows native vegetation on the site, as seen in the image below. However, the asset protection zone, as required in this BMP, will not require the removal of native vegetation.

Figure: 4 Map of Native Vegetation Extents for Subject Site

2.2 Revegetation/landscape plans

Vegetation in the existing drainage swale will be retained. Additional replanting of isolated shade trees, grassed areas, and maintained shrubbery will be implemented per the plans supplied.

All future landscaping for the site may need to comply with the APZ requirements of this report.

3 Bushfire Assessment

3.1 Site Assessment

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

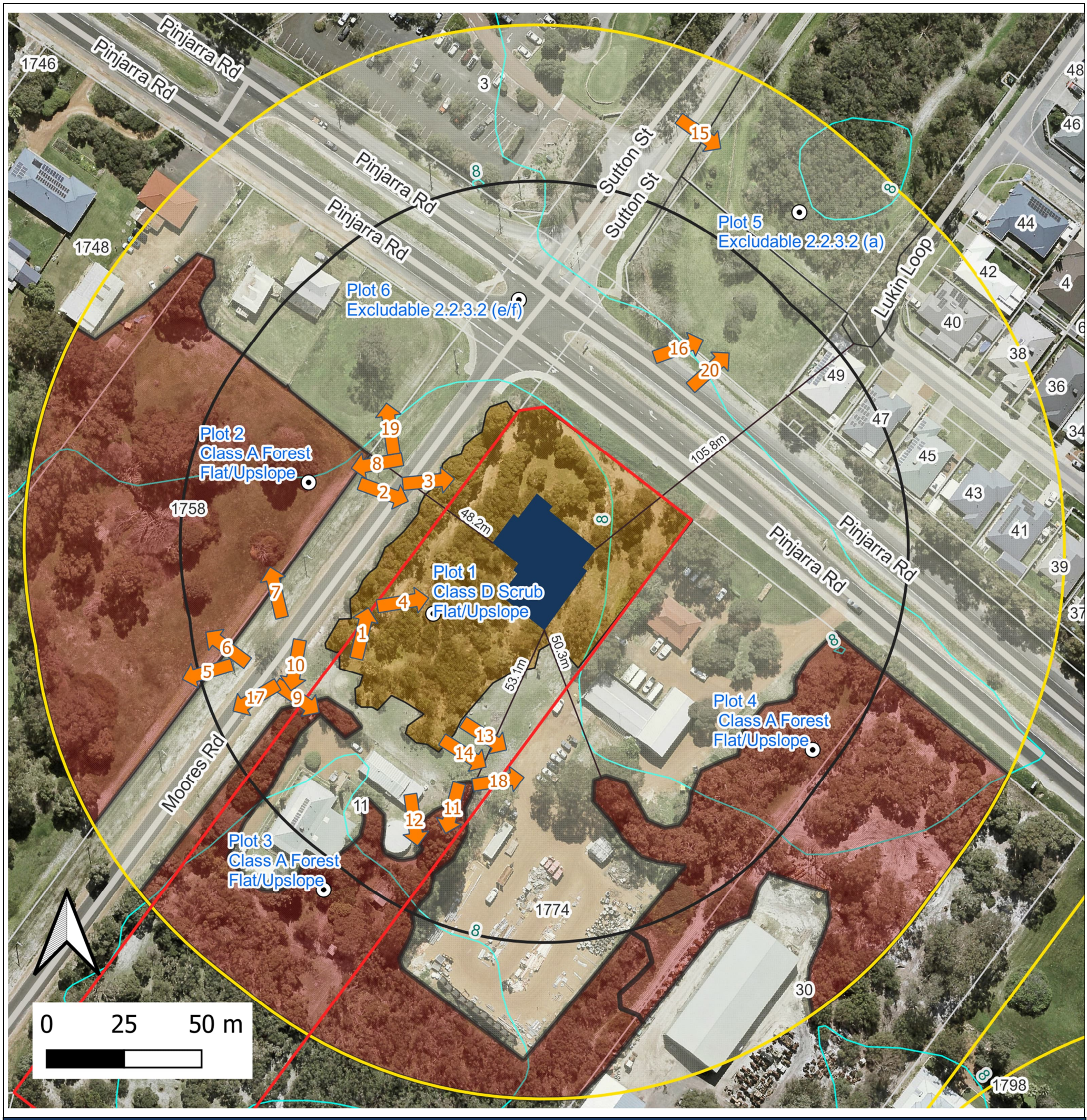


Figure: 5 *Vegetation Classification*

Lot 89 (#11) Moores Road, Pinjarra	Legend											
The aerial imagery used was the best available at the time of review; however, it may no longer reflect the most current conditions.	Proposed Structure	Subject Land	150m area assessment	100m area assessment	Photo point	A Forest	B Woodland	C Shrubland	D Scrub	G Grassland	Excluded	Other

3.2 Vegetation Classification

All vegetation within 150m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Table 2: BAL Analysis

Plot:	1	Effective Slope (°):	Flat/Upslope	Separation Distance (m):	0 m
Vegetation Classification or Exclusion Clause:			Class D Scrub - Closed scrub D-13		
Description / Justification for Classification:					
Tall scrub ~6 m, dominated by Melaleuca species (e.g., Moonah or Modong, and *M. systena*). Understorey consists of unmanaged grasses, high fine fuel loads, and numerous saplings throughout. Parts are separated by a firebreak, though the same structure persists across the subject lot. Foliage cover exceeds 30%.					

Photo ID: 1

Photo ID: 2

Photo ID: 3

Photo ID: 4

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Plot:	2	Effective Slope (°):	Flat/Upslope	Separation Distance (m):	48.2 m
Vegetation Classification or Exclusion Clause:			Class A Forest - Open forest A-03		

Description / Justification for Classification:

Open forest on private land west of the subject lot, with an estimated height of ~18 m. Some areas feature a shrubby/scrubby midstorey and unmanaged grasses in the understorey. Laddering of fuels is evident, and foliage cover exceeds 30%.

Photo ID: 5

Photo ID: 6

Photo ID: 7

Photo ID: 8

Plot:	3	Effective Slope (°):	Flat/Upslope	Separation Distance (m):	53.1 m
Vegetation Classification or Exclusion Clause:			Class A Forest - Open forest A-03		

Description / Justification for Classification:

Mixed vegetation consisting of introduced pines (possibly Cypress or Maritime species), ornamentals, and Eucalyptus trees, with an average height of ~17 m. Foliage cover exceeds 30%, with a high fine fuel load present. Some unmanaged grasses and scrub contribute to the midstorey.

Photo ID: 9

Photo ID: 10

Photo ID: 11

Photo ID: 12

Plot:	4	Effective Slope (°):	Flat/Upslope	Separation Distance (m):	50.3 m
Vegetation Classification or Exclusion Clause:			Class A Forest - Open forest A-03		
Description / Justification for Classification:					
Predominantly native forest dominated by Eucalyptus species, with an average height of ~22 m. Aerial imagery indicates a contiguous canopy throughout, with foliage cover exceeding 30%.					

Photo ID: 13

Photo ID: 14

Plot:	5	Effective Slope (°):	N/A	Separation Distance (m):	105.8 m
Vegetation Classification or Exclusion Clause:			Excludable - 2.2.3.2(a) >100m from site		
Description / Justification for Classification:					
Melaleuca scrub approximately 6 m in height, located on fenced land to the north of the subject lot. This vegetation lies beyond the 100 m buffer zone.					

Photo ID: 15

Photo ID: 16

Plot:	6	Effective Slope (°):	N/A	Separation Distance (m):	N/A
Vegetation Classification or Exclusion Clause:			Excludable - 2.2.3.2 (e/f) Non-Vegetated Areas & Low Threat Vegetation		
Description / Justification for Classification:					
Permanently non-vegetated areas include public roads, gravel verges, footpaths, and gravel parking areas in commercial lots nearby. Low threat vegetation consists of managed grasses and trees lacking understorey with no canopy connection, golf course areas, and managed urban/rural lots.					

Photo ID: 17

Photo ID: 18

Photo ID: 19

Photo ID: 20

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The Fire Danger Index (FDI) – 80-and table 2.4.3 AS3959-2018 applied.

Potential Bushfire Impacts

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

Table 3: BAL Analysis

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class D Scrub	Flat/Upslope	0	BAL – FZ
2	Class A - Forest	Flat/Upslope	48.2	BAL – 12.5
3	Class A - Forest	Flat/Upslope	53.1	BAL – 12.5
4	Class A - Forest	Flat/Upslope	50.3	BAL – 12.5
5	Excludable – Clause 2.2.3.2(a)	N/A	105.8	BAL – LOW
6	Excludable - 2.2.3.2 (e/f) Non-Vegetated Areas & Low Threat Vegetation	N/A	N/A	BAL – LOW

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 – FZ

Indicative Bushfire Attack Level (BAL)

The Bushfire Attack Level (highest BAL) for the site / proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Table 4: BAL Analysis with APZ requirements

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class D Scrub	Flat/Upslope	13	BAL – 29
2	Class A - Forest	Flat/Upslope	48.2	BAL – 12.5
3	Class A - Forest	Flat/Upslope	53.1	BAL – 12.5
4	Class A - Forest	Flat/Upslope	50.3	BAL – 12.5
5	Excludable – Clause 2.2.3.2(a)	N/A	105.8	BAL – LOW
6	Excludable - 2.2.3.2 (e/f) Non-Vegetated Areas & Low Threat Vegetation	N/A	N/A	BAL – LOW

Indicative Bushfire Attack Level	BAL – 29

4 Bushfire Hazard Issues

Crown land to the west/northwest of the subject lot and adjoining lots boasts dense forest vegetation, with shrubland and grasses in between. The vegetation interconnects across neighbouring developed lots, with just 250 m separating the subject structure from the undeveloped vegetated lands. Firebreaks are limited and isolated, with no verification of their management or effectiveness, which could increase the bushfire risk. The most significant bushfire risk to the proposed development is the potential for ember attack.

5 Assessment against the Bushfire Protection Criteria

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken for any strategic planning proposal, subdivision and development application for a site that has or will, on completion, have a bushfire hazard level above 'Low' or a BAL rating above BAL LOW. The following section details the measure to be taken so that this proposal complies with these.

Element 1: Location

Not Applicable

Element 2: Siting and design of development

A.2.1a: Siting and design

The building can achieve BAL 29 as demonstrated within the potential bushfire impacts section of this report and A2.2 below.

A2.1b Siting in an area with a radiant heat impact exceeding 29 kW/m² (BAL-40 or BAL-FZ)

N/A

A2.2 Asset Protection Zone (APZ)

Element 2.2 will be satisfied using an Asset Protection Zone (APZ) which will allow a radiant heat impact not exceeding 29 kW/m² (BAL-29).

The APZ required for this proposal is detailed in the following table, and visually depicted below.

APZ Requirement from:	Measurement (from any external wall or supporting post or column of the proposed building/s)
All directions	13 m

For further information, see Appendix A: Spatial Representation of proposed risk management measures of this report. The APZ is to be managed as per Table 9 of the guidelines, extract shown below.

A2.3 Clearing of native vegetation

The proposal does not require the clearing of native vegetation by ensuring all proposed development lies in the northern half of the subject lot, avoiding the native vegetation zone.

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A2.4 Storage of hazardous, flammable and/or combustible materials

The proposal is unlikely to include the storage of hazardous, flammable, and/or combustible materials. However, if the future use of the building will include the storage of such materials as part of its ongoing day-to-day operations, the materials are to be stored in an area that:

- is subject to a radiant heat impact not exceeding 29 kW/m2 (BAL-29);
- is non-combustible and shields the materials to reduce their exposure to radiant heat from the bushfire to levels significantly lower than
- 29 kW/m2 and prevents the entry of debris and embers; and
- limits to the degree necessary and practical, the escape of sources of ignition from the stored materials into bushfire prone vegetation.

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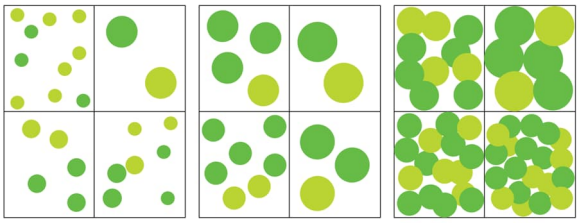
Extract from *Table 9: Asset Protection Zone (APZ) technical requirements* (WAPC 2024).

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (combustible, dead vegetation matter less than 6 mm in thickness)	• Should be managed and removed on a regular basis to be maintained as low threat vegetation • Should be maintained at less than two tonnes per hectare (on average) • Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch more than five millimetres in thickness.
Trees* (more than 6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building • Branches at maturity should not touch or overhang a building or powerline • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be less than 15 per cent of the total APZ area • Tree canopies at maturity should be at least 5 m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 per cent and is not connected to the tree canopy outside the APZ. Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to 6 m in height). Shrub and scrub more than 6 m in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps more than 5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 m in height. Ground covers more than 0.5 metres in height are to be treated as shrub)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if more than 100 millimetres in height.
Grass	• Grass should be maintained at a height of 100 mm or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

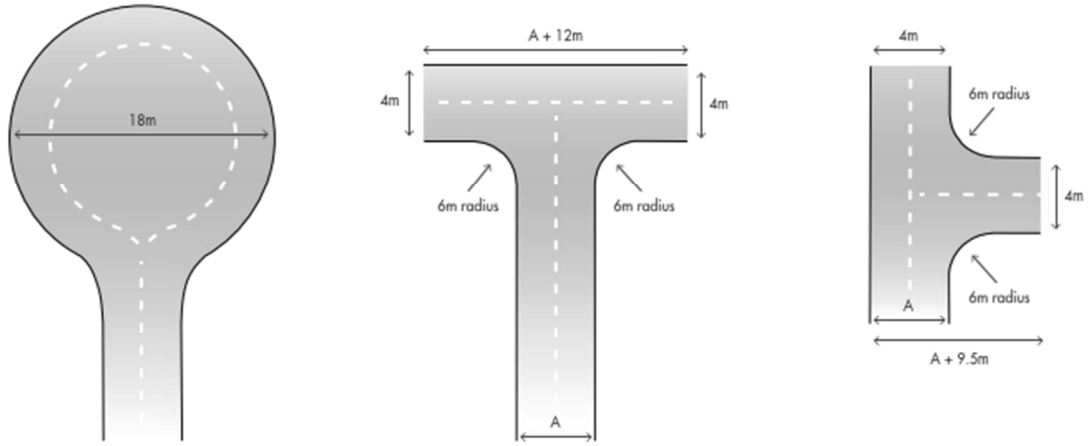
Element 3: Vehicular Access

A3.1 Private Driveways

Private driveways must meet the following requirements:

- Technical Requirements:
  - Minimum horizontal clearance: 6 metres
  - Minimum vertical clearance: 4.5 metres
  - Minimum weight capacity: 15 tonnes
  - Maximum unsealed road grade: 1:10 (10% or 6°)
  - Maximum sealed road grade: 1:7 (14.3% or 8°)
  - Maximum average grade sealed road: 1:10 (10% or 6°)
  - Minimum inner radius of road curves: 8.5 metres
    (See Guidelines Appendix B.3 Table 10, column 5 for full details)
- The driveway is less than 200 metres, therefore passing pays are not required.
- Turn-around area (Figure 30) and within 30 metres of the habitable building (Figure 38). Suitable option is indicated consistent with current plans in Figure 6 - Spatial.

Figure 30: Design requirements for a turn-around area



Element 4: Water

A4.1 Water supply

Water supply is via a reticulated system with hydrant connections provided in accordance with Water Corporation's Design Standard DS 63: Design and Construction Requirements for Water Reticulation Systems up to DN250. The hydrant is located along Pinjarra Road, approximately 80 m from the proposed structure (and 110m as the crow flies to the most distal part of the building).

6 Implementation

The following tables set out the responsibilities of the developer(s), landowner(s) and local government for the initial implementation and ongoing maintenance associated with this proposal.

Management Action	Timing
Proponent/Landowner	
Establish the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP	Prior to construction
Establish driveway to the required surface condition and clearances	Prior to occupancy
Occupants	
Maintain driveway to the required surface condition and clearances	Ongoing
Maintain the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP	Ongoing
Ongoing compliance with the local government's firebreak notice.	Ongoing

6.1 Acknowledgement - Proponent

The proponent acknowledges the responsibilities as listed above and the requirement to ensure that should the land transfer to a new owner, that the new owner is aware of the BMP and their ongoing responsibility.

7 General References

Office of Bushfire Risk Management (OBRM). (2020). *Bushfire risk management (BRM) plan guidelines*. Retrieved October 2020.

Standards Australia. (2024). *AS 3959-2018 construction of buildings in bushfire-prone areas*. Sydney.

WA Department of Planning. (2016). *Visual guide for bushfire risk assessment in Western Australia*.

Water Corporation. (2018). *Design standard DS 63: Water reticulation standard design and construction requirements for water reticulation systems up to DN250 (Version 3, Revision 14)*. Water Corporation.

Western Australian Planning Commission. (2024). *State planning policy 3.7 Bushfire*. State of Western Australia.

Western Australian Planning Commission. (2024). *Planning for bushfire guidelines*. State of Western Australia.

8 Online references

Landgate. (2024). Map Viewer Plus. Government of Western Australia. Retrieved from https://map-viewer-plus.app.landgate.wa.gov.au/index.html

Office of Bushfire Risk Management (OBRM). (2024). Map of Bush Fire Prone Areas. Retrieved from https://maps.slip.wa.gov.au/landgate/bushfireprone/

WA Local Government Association (WALGA). Environmental Planning Tool. Retrieved from https://pbp.walga.asn.au/Tools/EnvironmentalPlanningTool.html

9 Acknowledgement of Country

We acknowledge the traditional custodians of the land on which we operate, the Noongar people. We pay our respects to their elders, past, present, and emerging, and recognise their enduring connection to the land and environment. As we conduct our bushfire management and reporting, we honour their legacy and their stewardship of our natural landscapes.

10 Appendices

Appendix A: Spatial Representation of proposed risk management measures (Next Page)

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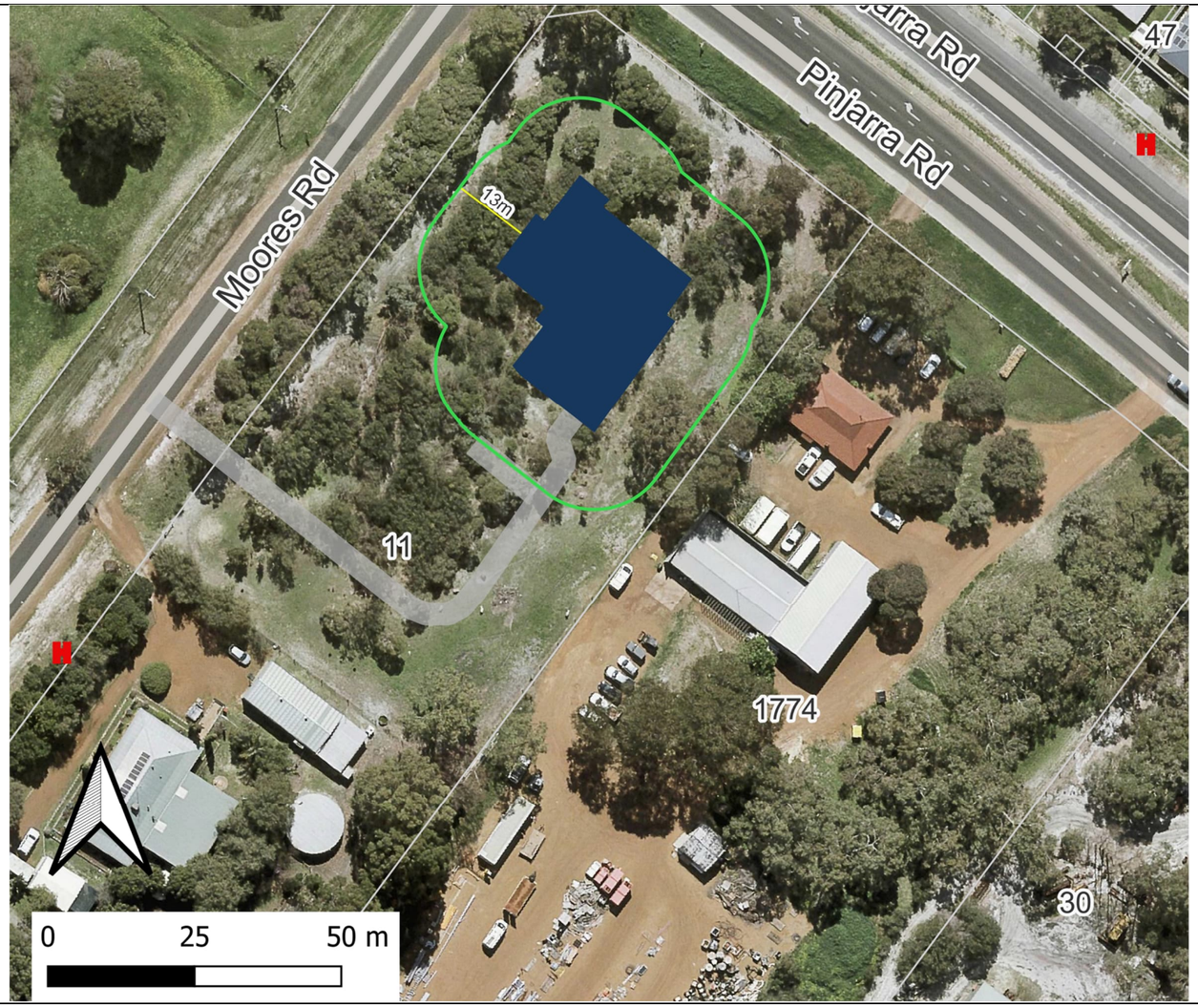

Figure: 6 *Spatial Representation of proposed risk management measures*

Legend

	Subject Lot		
	Indicative Building		Indicative Driveway with suitable turn-around bay
	13 m APZ	H	Hydrant

NOTES

Asset Protection Zone (APZ)

APZ requirements: 13 m in all directions.

The minimum width for the APZ is the distance required to meet the BAL-29 setback. The land between the development and the classified vegetation is to be maintained as an APZ (see *Appendix B: APZ technical requirements* for full details).

- Trees, shrub & scrub >6m in height are to be setback a minimum of 6m for the building with no branches overhanging
- Shrub & scrub <6m in height are to be setback a minimum of 3 m from the building and not planted in clumps greater than 5m2.
- Grass is to be maintained less than 100 mm in height

Water Supply

Water supply will be through reticulated water with hydrant connections provided in accordance with Water Corporation's No. 63 Water Reticulation Standard.

Access

The driveway access shall be suitable for a fire truck with a minimal 4m trafficable surface. A turn around will be provided within 30m of the structure. Refer to Figure 30 of the Guidelines for design requirements.

If an access gate is going to be installed along the driveway, then the gate shall have a minimum width of 3.6m.

The power dome is to be kept clear of vegetation.

Installation and upkeep of the asset protection zone, firebreaks, water supply and the driveway are the responsibility of the landowner. The measures listed above shall be implemented prior to the occupation of the proposal and shall continue to be maintained in perpetuity.

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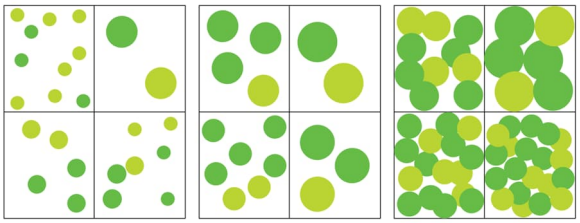
Appendix B: APZ technical requirements

The APZ is to be managed as per the extract from *Table 9: Asset Protection Zone (APZ) technical requirements* (WAPC 2024).

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (combustible, dead vegetation matter less than 6 mm in thickness)	• Should be managed and removed on a regular basis to be maintained as low threat vegetation • Should be maintained at less than two tonnes per hectare (on average) • Mulches should be non-combustible such as stone, gravel, shells, rock or crushed mineral earth or wood mulch more than five millimetres in thickness.
Trees* (more than 6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building • Branches at maturity should not touch or overhang a building or powerline • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be less than 15 per cent of the total APZ area • Tree canopies at maturity should be at least 5 m apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided the total canopy cover within the APZ does not exceed 15 per cent and is not connected to the tree canopy outside the APZ. Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to 6 m in height). Shrub and scrub more than 6 m in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps more than 5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 m in height. Ground covers more than 0.5 metres in height are to be treated as shrub)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if more than 100 millimetres in height.
Grass	• Grass should be maintained at a height of 100 mm or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house.

	• No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

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