



Yarrimbah Heights Stage 7 Lot 77

Detailed Bushfire Design Guide

22 May 2026



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Introduction

This Detailed Bushfire Design Guide has been prepared to assist the landowner/s of Lot 77 in mitigating bushfire risk to people, property and the environment. This guide captures bushfire management requirements specific to Lot 77 that are to be implemented by the landowner/s to comply with their legal bushfire management obligations in accordance with the approved subdivision stage Bushfire Management Plan (BMP) and City of Swan Fire Hazard Reduction Notice.

This guide includes:

- results of a Bushfire Attack Level (BAL) contour assessment to demonstrate the indicative BAL impacts across the lot to inform future Development Application (DA) and building stage requirements
- indicative Asset Protection Zone (APZ) location to inform future DA stage and building requirements
- bushfire management obligations of the City of Swan Fire Hazard Reduction Notice specific to Lot 77, including firebreak and fuel management requirements
- requirements for private driveways
- requirements for fire-fighting water supply
- general bushfire safety information.

Bushfire Attack Level (BAL) contour assessment

A Bushfire Attack Level (BAL) contour assessment has been undertaken for Lot 77 in accordance with Method 1 of AS 3959–2018. The Method 1 procedure incorporates the following factors:

- state-adopted Fire Danger Index (FDI) 80 rating
- vegetation classification
- effective slope
- distance maintained between proposed habitable development and the classified vegetation.

The BAL rating gives an indication of the level of bushfire attack (i.e. the radiant heat flux) that may be received by the proposed building envelope and subsequently informs the width of the APZ and standard of building construction required for proposed buildings.

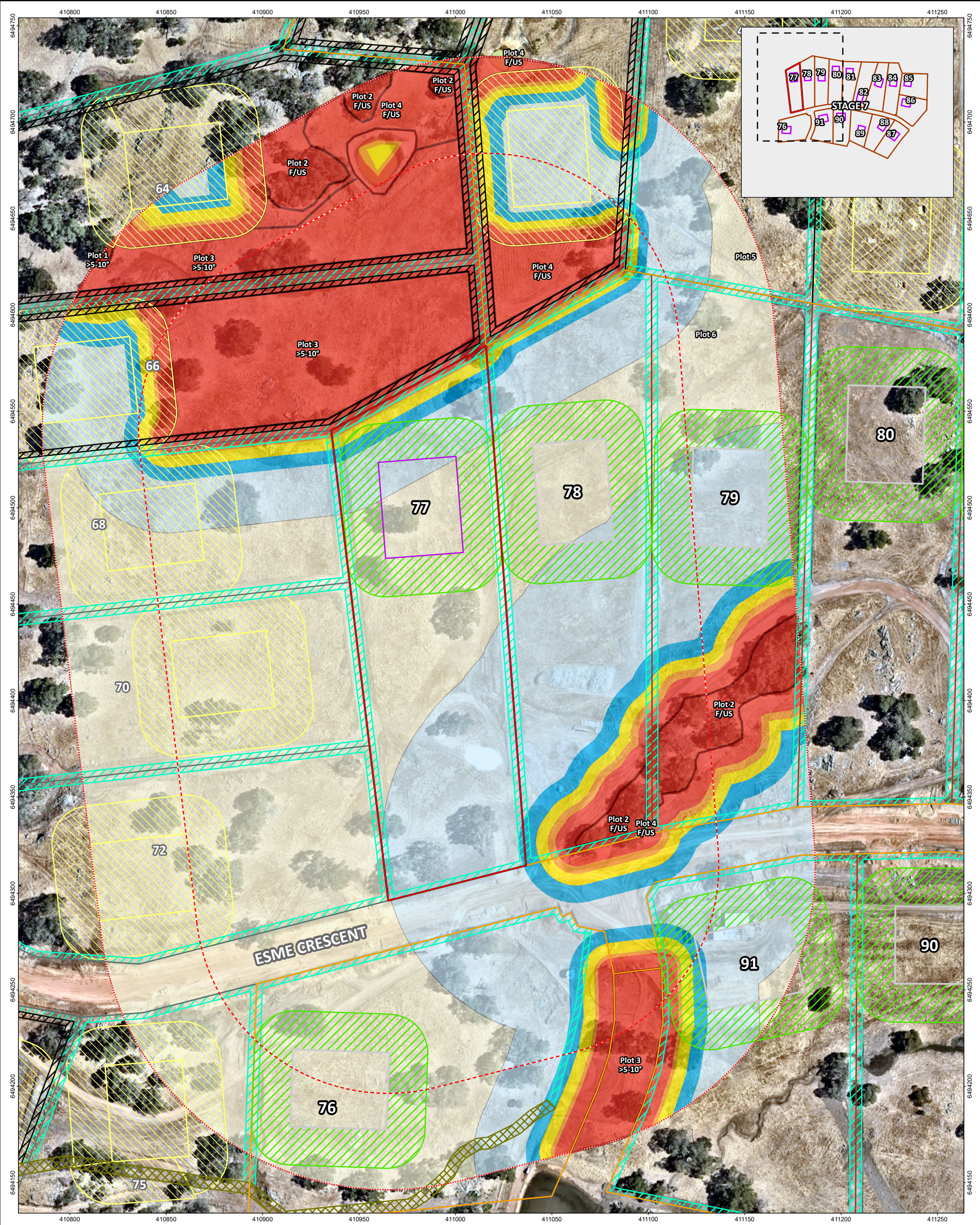
The BAL contour assessment and APZ location are indicative at this stage and should be used to inform future DA and building stage requirements. Final BAL assessment and APZ location will be dependent on final building location, to be confirmed as part of future DA/building stages.

BAL Contour assessment results

Figure 1 illustrates the anticipated post-development vegetation classifications and exclusions within Lot 77 and the surrounding 150 m. Results of the BAL contour assessment are detailed in Figure 2 and Table 1. The highest indicative BAL applicable to the proposed building envelope is BAL–12.5, subject to provision of a 20 m wide APZ.

Table 1: BAL contour assessment results

Plot	Vegetation classification	Effective slope	Separation distance to building envelope boundary (including APZ)	Highest BAL rating to building envelope boundary	Potential to achieve lower BAL (subject to final siting of buildings)
1	Class B Woodland	Downslope >5–10°	>100 m	BAL–Low	N/A
2	Class B Woodland	Flat/upslope (0°)	>100 m	BAL–Low	N/A
3	Class G Grassland	Downslope >5–10°	32 m	BAL–12.5	Yes
4	Class G Grassland	Flat/upslope (0°)	>50 m	BAL–Low	N/A
5	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	N/A	N/A	N/A
6	Modified to non-vegetated and/or low threat (Clauses 2.2.3.2 [e] and/or [f])	N/A	N/A	N/A	N/A
Indicative worst case BAL rating to building envelope boundary				BAL–12.5	Yes, BAL–Low is achievable subject to final dwelling location



Legend Project area 100m assessment area 150m assessment area Cadastral boundary (LGATE-002) Building envelope Building envelopes not subject to this assessment Proposed lots Indicative future subdivisions on adjacent stages 3m wide firebreak as per firebreak notice provision 3m wide slashed grass buffer as per firebreak notice 6m wide strategic firebreak 20m wide APZ Stage 1, 2, 3, 4 and 6 development design Stage boundaries Classified vegetation BAL contours BAL FZ BAL 40 BAL 29 BAL 19 BAL 12.5 BAL Low	JBS&G Job Number: 71539 Client: Qube Property Group Drawn By: jcrute Checked By: ZCockerill 0 50 metres Scale 1:1,800 at A3 Coord. Sys. GDA2020 MGA Zone 50 Version: Rev A Date: 13-May-2026	Stage 7 Yarrimbah Heights, Bullsbrook WA BAL CONTOUR MAP (LOT 77) FIGURE: 2
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Lot 77 bushfire management requirements

Table 2 summarises the bushfire management requirements applicable to Lot 77 (i.e. land greater than 5000 sqm [0.5 ha or 1.2 acres]), which the landowner is obligated to comply with under the approved BMP and City of Swan Fire Hazard Reduction Notice (see Appendix A).

Table 2: Bushfire management requirements

Bushfire management requirement	Action required
20 m wide Asset Protection Zone (APZ)	Install and maintain APZ in accordance with APZ standards (see Appendix B and Section 8 of Appendix A). The final location of the APZ may vary dependent on final location of buildings and final BAL assessment.
Firebreaks	Install firebreaks as close as practicable inside of, but no more than 10 m from the property's external boundaries. Firebreaks need to be 3 m wide with 4 m vertical height clearance, free from flammable materials and overhanging branches (refer to Sections 2b and 7 of Appendix A).
Fuel management outside of APZ	Maintain all grass to a height no greater than 10 cm (refer to Section 2ci of Appendix A). Maintain areas of natural vegetation within 100 m of relevant buildings to at or below 8 tonnes per hectare fuel load by passive methods of fuel reduction (refer to Section 2d of Appendix A). Any replanting/revegetation within 100 m of buildings including attached and adjacent structures and essential infrastructure shall be undertaken and maintained in accordance with APZ standards (refer to Appendix B).
BAL rated construction	Construct Class 1, 2, 3 and associated 10a buildings in accordance with the final BAL rating assessment under AS3959–2018 (to be confirmed at DA/building stage).
Private driveway	Comply with requirements in Appendix C. If required, construct passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of 2 metres (i.e. the combined trafficable width of the passing bay and constructed private driveway is to be a minimum 6 metres). Construct a turn-around area within 30 m of the habitable building.
On-site fire-fighting water supply	Provide 10,000 litres of firefighting water through a dedicated tank or by incorporating it into the domestic water supply. If incorporated into the domestic supply, the domestic outlet must be offset above the fire water outlet to ensure domestic use does not impede on the 10,000 litres reserved for firefighting (refer to Appendix D).

General bushfire safety advice

Know your risk

Lot 77 is situated within a designated bushfire prone area, as per the WA State Map of Bush Fire Prone Areas. There is a bushfire risk to life and property due to the extent of vegetation within the lot and surrounding area.

Prioritise your and your community's safety

It is recommended that early evacuation is adopted as best practice. Firefighters cannot be guaranteed to defend your home and property, so it is your responsibility to be prepared to give your home and property the best possible chance of surviving a bushfire. BAL-rated construction in accordance with AS3959 (where required), ongoing compliance with the City of Swan Fire Hazard Reduction Notice and implementation of APZ standards are minimum bushfire management obligations on your property.

In addition, every household should have their own Bushfire Survival Plan. DFES has published a Bushfire Preparation Toolkit that provides useful information on developing a Bushfire Survival Plan, equipment required to stay and defend, pets and livestock and travelling in a bushfire. This information can be accessed here:

- <https://www.dfes.wa.gov.au/hazard-information/bushfire/prepare>

Know your warnings

Understanding the Bushfire Warning Systems before a fire threatens your property is crucial. The alerts give information on how severe a bushfire is once it has started. Alerts have three warning levels indicating the increasing risk to your life or property, and the decreasing amount of time you have until the fire arrives. For all current bushfire alerts and warnings visit:

- <https://www.emergency.wa.gov.au/>

Appendix A City of Swan Fire Hazard Reduction Notice

Bush Fires Act 1954

Fire Hazard Reduction Notice (Firebreak Notice)

Notice to Owners and/or Occupiers of land situated within the City of Swan.

To assist in the control of bushfires, and pursuant to Section 33 of the Bush Fires Act 1954, all owners and occupiers of land within the City of Swan are required on or before November 1, 2025, or within 14 days of becoming an owner or occupier of land after that date, to meet the fire hazard reduction conditions described in this notice and maintain these conditions up to and including April 30, 2026.

1. All land equal to or less than 5,000 sqm (0.5 ha or 1.2 acres)

- a. Install and maintain an asset protection zone in accordance with the requirements specified in clause 8
- b. Maintain all grass to a height of no greater than 10cm
- c. Maintain areas of natural vegetation to at or below eight tonnes per hectare.

2. All land greater than 5,000 sqm (0.5 ha or 1.2 acres)

- a. Install and maintain an asset protection zone in accordance with the requirements specified in clause 8
- b. Install firebreaks as close as practicable inside of, but no more than 10m from, the property's external boundaries. Firebreaks need to be 3m wide with 4m vertical height clearance free from flammable materials and overhanging branches (see clause 7 for further details):
 - i. A boundary firebreak is not required where the land is 90 per cent or more covered by buildings, other non-vegetated areas, and/or irrigated orchards/vineyards. All grass must be maintained to 10cm or less
 - ii. Properties over 100 ha require additional firebreaks to divide the land into areas not exceeding 100 ha.
- c. Maintain all grass:
 - i. On land between 5,000 sqm and 25,000 sqm (0.5-2.5 ha) or (1.2-6.2 acres) all grass must be reduced to a height no greater than 10cm
 - ii. On land greater than 25,000 sqm (2.5 ha or 6.2 acres) all grass immediately adjacent to any firebreak must be reduced to a height of no greater than 10cm for a minimum width of 3m
 - iii. If the land is stocked, compliance with conditions 2.c(i) and 2.c(ii) may be postponed until December 1.
- d. Maintain areas of natural vegetation within 100m of relevant buildings at or below eight tonnes per hectare fuel load, by passive methods of fuel reduction.

3. Bushfire management plans

- a. Where a property is affected by an approved bushfire management plan, property owners must still comply with all requirements in this notice and with any additional requirements outlined within that plan.

4. Fuel storage areas/haystacks/stockpiled flammable material

- a. Remove all flammable material within 10m of the storage area
- b. Install a firebreak (to the specifications outlined in clause 7) immediately adjacent to any haystacks or stockpiled flammable material.

5. Fire service access routes (strategic firebreaks) and emergency access ways

Where under a written agreement with the City, or where depicted on an approved bushfire management plan, fire service access routes (FSARs) or emergency access ways (EAWs) are required on the land, you are required to:

- a. Clear and maintain the FSAR/EAW to 6m wide free from flammable material with a 4m vertical height clearance above the full 6m width
- b. The FSAR/EAW must remain unimpeded by obstructions at all times, including boundary fences and gates unless approved in writing by the City
 - i. Approved gates on FSARs may be secured with a City of Swan fire service padlock. Private padlocks may be added if approved in writing by the City
 - ii. Approved gates on EAWs must always remain unlocked
- c. FSARs must provide a continuous 4-wheel drive trafficable surface for the full 6m width
- d. EAWs must provide a continuous 2-wheel drive trafficable surface for the full 6m width.

6. Driveways

Where a dwelling is situated more than 70m from a public road

- a. Driveways must be maintained clear of all obstacles and flammable materials to create a minimum 3m wide trafficable surface suitable for all types of 2-wheel drive vehicles
- b. Overhanging branches must be pruned to provide 4m vertical clearance above the driveway.

7. Firebreak specification

- a. Firebreaks are to be installed and maintained clear of all obstacles and flammable materials (e.g. maintained to mineral earth, gravel, limestone, bitumen, or green lawn to a height no greater than 25mm) to create a minimum 3m wide trafficable surface suitable for 4-wheel drive vehicles
- b. Overhanging branches must be pruned to provide 4m vertical clearance above the full width of the firebreak
- c. Install firebreaks as close as practicable inside of, but no more than 10m from, the property's external boundaries
- d. Firebreaks must not terminate in a dead-end
- e. Firebreaks may be constructed by ploughing, grading, raking, burning, chemical spraying or any other method that achieves the required standard.

8. Asset protection zone specification

Asset protection zones must be installed around relevant buildings (see section 12) and must meet the following requirements:

- a. Extend 20m out from the external walls of the relevant building. Note: Asset protection zone requirements only apply within the boundaries of the lot on which the relevant building is located
- b. The average fuel loads must be reduced and maintained at two tonnes per hectare or lower
- c. All grass is maintained to under 10cm
- d. Tree canopy coverage is no greater than 15 per cent. The crowns of trees must have clear separation distance between one another

- e. A small group of trees within proximity to one another may be treated as one crown provided the combined crowns do not exceed the area of a large or mature crown size for that species
- f. Trees must be low-pruned (or under-pruned) to at least a height of 2m from the ground
- g. No tree or shrub over 2m high is planted within 3m of a building
- h. There are no tree crowns or branches hanging over buildings
- i. Scrub is reduced to a sparse density (able to walk through vegetation with relative ease and minimal deviation)
- j. Install paths or clear flammable or dry vegetation, debris, and materials immediately adjacent to the building
- k. Wood piles and flammable materials are stored a safe distance from buildings.

9. Application to vary firebreak and hazard reduction requirements

- a. If it is considered impractical for any reason to clear firebreaks in a manner or location required by this notice, or to carry out any fire hazard reduction work or measures required by this notice, you may apply in writing on or before November 1 for approval to provide firebreaks in alternative positions or to take alternative measures to abate fire hazards on the land
- b. If permission is not granted in writing by the City prior to December 1, you shall comply with the requirements of this notice
- c. When permission for alternative firebreaks or fire hazard reduction measures has been granted, you shall comply with all conditions on the approved plan and maintain the land to the required standard throughout the period specified by this notice.

10. Environmental and heritage considerations

It is the responsibility of the landowner to ensure appropriate environmental and heritage due diligence relating to any works required by this notice is undertaken. Please refer to the Department of Water and Environmental Regulation (DWER), the Department of Planning, Lands and Heritage, and/or the Department of Fire and Emergency Services (DFES) websites for further information.

11. Compliance

- a. In addition to the requirements of this notice, further works which are considered necessary by an authorised officer of the City may be required as specified in writing in a subsequent notice addressed to the landowner
- b. Where the owner or occupier of the land fails or neglects to comply with the requirements of this notice or a subsequent notice addressed to the landowner, the City of Swan may enter onto the land with workers, contractors, vehicles, and machinery to carry out the requisitions of the notice at the expense of the landowner
- c. Failure to comply with this notice and subsequent written notices may result in a penalty not exceeding \$5,000, or the issue of a \$250 infringement notice and liability for any costs incurred by the City in relation to works undertaken on behalf of the landowner.

12. Definitions

‘Alternative firebreak’ is a firebreak that is in an alternative position or alignment to the requirement specified in paragraphs 2 and 3 of this notice.

‘Asset protection zone (APZ)’ is a low fuel area that is reduced of flammable vegetation and materials surrounding relevant buildings to minimise the likelihood and impact that direct flame contact, radiant heat or ember attack may have on buildings and assets in the event of a bushfire.

‘Bushfire management plan’ or **‘fire management plan’** is a plan that may be placed on the certificate of title(s) of land that has been developed as a condition of development or subdivision.

‘Emergency access way’ is a two-wheel drive trafficable, 6m wide access route to provide local residents, general public and emergency services alternative links to road networks at the end of cul-de-sacs or areas where access is limited during an emergency incident.

‘Firebreak’ is an area of land cleared of flammable material to minimise the spread of a bushfire and to provide access for firefighting vehicles.

‘Fire service access route (strategic firebreaks)’ is a firebreak that is 6m wide established to provide strategic access and links to road networks whilst providing a wider control/ containment line for emergency services use only.

‘Flammable material’ is anything that is easily able to catch on fire including, but not limited to, grasses, leaves, branches, scrub and trees.

‘Irrigated’ means an area that is watered and maintained, with all vegetation in an alive, green, and non-flammable state.

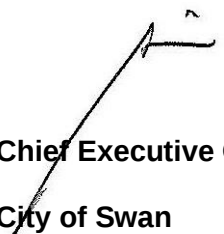
‘Natural vegetation’ means natural areas of forest, woodland, shrubland, scrub, mallee, or mulga.

‘Passive fuel reduction’ means lowering the amount of available fuel that will burn under prevailing conditions by means that will not permanently reduce or modify the structure or life cycle of plant, shrub, scrub, or tree communities within a treated area.

‘Relevant building’ is classified under the building code as one of the following:

- i. Single dwelling such as a detached house, duplex, villa or townhouse (class 1a)
- ii. Small boarding house, guest house or hostel (class 1b)
- iii. Dwellings such as apartments and flats in a building containing two or more units (class 2)
- iv. Accommodation for unrelated people such as a hotel, motel, residential part of a school, accommodation for the aged, children or people with disabilities (class 3)
- v. Building of a public nature such as a health care building (9a), an assembly building such as a school (9b) or an aged care building (9c)
- vi. Private bushfire shelters associated with a single dwelling (class 10c) or
- vii. Non-habitable buildings including sheds, carports, and private garages (class 10a) when within 6m of a class 1a, 1b, 2, 3 or 9 building.

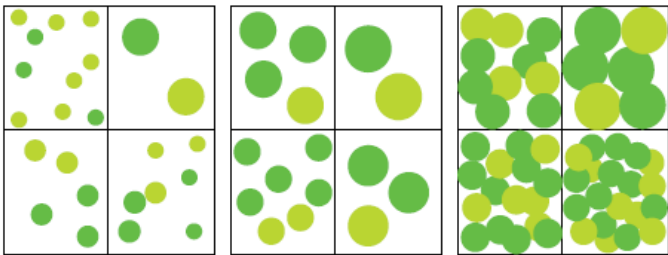
By order of the Council,



Chief Executive Officer
City of Swan

Appendix B APZ standards

Appendix B.2, Table 9: Asset Protection Zones technical requirements

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 m 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 m 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 five square metres in area. - Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground cover* (less than 0.5 m in height. Ground cover more than 0.5 m in height is 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 mm 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 cover, grass and non-combustible mulches as prescribed above.

Appendix B.2, Table 9: Asset Protection Zones technical requirements

Object	Requirement
Liquid petroleum gas cylinders	• Should be located on the side of a building farthest 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.

Source: *Planning for Bushfire Guidelines (WAPC 2024)*

Appendix C Private driveway technical standards

Appendix B.3, Table 10: Vehicular access technical requirements

Technical requirements	Private driveways
Minimum horizontal clearance (m)	6
Minimum vertical clearance (m)	4.5
Minimum weight capacity (t)	15
Maximum grade unsealed road ³	1:10 (10% or 6°)
Maximum grade sealed road ³	1:7 (14.3% or 8°)
Maximum average grade sealed road	1:10 (10% or 6°)
Minimum inner radius of road curves (m)	8.5

Source: *Planning for Bushfire Guidelines (WAPC 2024)*

Appendix D Water supply technical standards

Appendix B.4, Table 11: Water supply for bushfire fighting purposes**Section 6 Development - Residential**

10,000 litre water tank per habitable building

Source: *Planning for Bushfire Guidelines (WAPC 2024)*