



Guidelines for Planning in Bushfire Prone Areas



Department of **Planning,
Lands and Heritage**



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1.0	Dec 2015	As published	As published
1.1	Feb 2017	Performance Principle P1 - Deleted 'minor development' in areas of BAL-40 or BAL-FZ for referral to DFES.	Appendix 4, Element 1, P1 (page 55).
1.1	Feb 2017	Acceptable Solution A2.1 Asset Protection Zone – Clarification of APZ requirements.	Appendix 4, Element 2, A2.1 (page 56).
1.1	Feb 2017	Acceptable Solution A2.2 Hazard Separation Zone (HSZ) and Explanatory Notes E2.2 removed.	Appendix 4, Element 2, A2.2 and E2.2 (pages 56-61).
1.1	Feb 2017	Element 2 Explanatory Notes updated, including further guidance on APZ requirements.	Appendix 4, Element 2, E2 and E2.1 (pages 57-61).
1.2	Aug 2017	Clearer definitions provided on what constitutes a vulnerable land use and the information required to be provided in an emergency evacuation plan.	Section 5.5 Proposing a vulnerable land use in a bushfire prone area (page 33)
1.2	Aug 2017	Appendix two – Bushfire Hazard Level assessment amended to include an updated assessment methodology.	Appendix two – Bushfire Hazard Level assessment (pages 50 – 52)
1.2	Aug 2017	Appendix three – BAL Contour Map amended to include an updated assessment methodology.	Appendix three – BAL Contour Map (pages 53 – 54)
1.3	Dec 2017	Revised Appendix three – BAL Contour Map to clarify assessment methodology	Appendix three – BAL Contour Map (pages 53 – 54)
1.3	Dec 2017	Revised subsection 4.5.2 How to Apply the Criteria to provide further guidance on how to present a performance principle-based solution.	Subsection 4.5.2 How to Apply the Criteria (page 21)
1.3	Dec 2017	Revised section 4.6 Bushfire Management Plans to align with the revised appendix 5.	Section 4.6 Bushfire Management Plans (pages 22 – 24)
1.3	Dec 2017	Revised Appendix 5 Bushfire Management Plan to clarify the layout and information to be provided within a Bushfire Management Plan.	Appendix 5 Bushfire Management Plan Checklist
1.4	Dec 2021	Revised section 1.2 Where these guidelines apply, to include guidance for development applications where only part of a lot is designated bushfire prone.	Section 1.2 Where these guidelines apply
1.4	Dec 2021	Revised section 2.3 Bushfire risk management and environmental conservation, to remove the term "significant vegetation" and refer to State environmental policies more generally.	Section 2.3 Bushfire risk management and environmental conservation
1.4	Dec 2021	Incorporation of some of the provisions contained within Planning Bulletin 111/2016 into section 2.6 Discretionary decision-making (Note that Planning Bulletin 111/2016 is rescinded concurrently).	Section 2.5 Discretionary decision-making and the precautionary principle
1.4	Dec 2021	Inclusion of section 2.7 Legacy approvals and discretionary decision-making provides guidance on how to consider planning applications where previous approvals have been issued prior to SPP 3.7 (2015).	Section 2.5 Discretionary decision-making and the precautionary principle
1.4	Dec 2021	Table 2 revised to reflect AS 3959 (2018).	Section 4.3 Bushfire Attack Level (BAL) assessment
1.4	Dec 2021	Revised section 5.3 Subdivision in Bushfire Prone Areas, to reflect updated Model Subdivision Conditions.	Section 5.3 Subdivision in bushfire prone areas
1.4	Dec 2021	Revised section 5.5.1 Vulnerable land uses, to include guidance on requirements for tourism land uses and updated reference to the Department of Fire and Emergency Services endorsing bushfire management plans.	Section 5.5.1 Vulnerable land uses
1.4	Dec 2021	Further guidance on requirements for an emergency evacuation plan, moved to section 5.5.4.	Section 5.5.2 Developing a bushfire emergency evacuation plan

VERSION	DATE	DETAILS	LOCATION (IN DEC 2015 VERSION)
1.4	Dec 2021	Updated reference to the Department of Fire and Emergency Services endorsing bushfire management plans.	Section 5.6 High risk land use in a bushfire prone area
1.4	Dec 2021	Updated reference to the Department of Fire and Emergency Services endorsing bushfire management plans.	Section 5.7 Unavoidable development
1.4	Dec 2021	Revised Figure 8 to clarify approval process for single house or ancillary dwelling in the bushfire planning framework.	After Section 5.8.4 Sheds and Decks (Class 10A)
1.4	Dec 2021	Updated agency names and responsibilities.	Section 6 Roles and responsibilities
1.4	Dec 2021	Additional definitions.	Appendix one – Definitions
1.4	Dec 2021	Revised Schedule 1– Standards for asset protection zones and additional explanatory notes.	Appendix four – Element 2
1.4	Dec 2021	Revised Element 3: Vehicular access.	Appendix four – Element 3
1.4	Dec 2021	Revised Element 4: Water.	Appendix four – Element 4
1.4	Dec 2021	Inclusion of Element 5: Vulnerable tourism land uses	Section 4.5 Bushfire protection criteria, Appendix Four
1.4	Dec 2021	Removed the Department of Fire and Emergency Services logo as the Guidelines are no longer a co-badged document.	Coverpage
1.4	May 2022	Minor administrative updates	

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1. INTRODUCTION

These revised Guidelines replace the *Planning for Bush Fire Protection (Edition 2) Guidelines* (WAPC 2010) and the draft *Planning for Bushfire Risk Management Guidelines* (WAPC 2014). These Guidelines should be read in conjunction with *State Planning Policy 3.7: Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015) and the *Planning and Development (Local Planning Schemes) Regulations 2015* (LPS Regulations 2015).

1.1 PURPOSE OF THESE GUIDELINES

These Guidelines provide supporting information for decision-making authorities, planners, landowners/proponents, referral agencies, Level 1 Bushfire Attack Level (BAL) Assessors and Bushfire Planning Practitioners, to implement SPP 3.7. Specifically, they assist in:

- determining appropriate land use planning in relation to bushfire prone areas across the State of Western Australia;
- specifying the requirements to be met at each stage of the planning process; and
- ensuring that necessary bushfire protection measures are incorporated into development.

These Guidelines are designed to assist in the interpretation of SPP 3.7's objectives and policy measures. They provide advice on how bushfire risk is to be addressed when planning, designing or assessing a planning proposal within a bushfire prone area. It is intended that these Guidelines will be reviewed regularly to ensure they reflect best practice.

These Guidelines, in conjunction with SPP 3.7, are the predominant documents in the State for use by decision-making authorities and referral agencies, during the consideration of strategic planning proposals, subdivisions and development applications.

It is important to note that a bushfire's intensity and spread is dependent on a range of factors, including weather conditions, fuel loads and topography. Adherence to these Guidelines do not guarantee the survivability of a building that has incorporated the appropriate bushfire protection criteria; rather they reduce the risk of ignition by wind-borne embers, radiant heat and direct flame attack, in conjunction with ongoing site management.

1.2 WHERE THESE GUIDELINES APPLY

These Guidelines apply to all higher order strategic planning documents, strategic planning proposals, subdivisions and development applications located in designated bushfire prone areas. These Guidelines also apply where an area is not yet designated as bushfire prone but is proposed to be developed in a way that introduces a bushfire hazard (as outlined in section 3.2.2). For development applications where only part of a lot is designated as bushfire prone and the proposed development site is wholly outside of the designated area, the development application will not need to address SPP 3.7 or these Guidelines.

A designated bushfire prone area is an area that has been identified and designated by an order of the Fire and Emergency Services Commissioner under section 18P of the *Fire and Emergency Services Act 1998* (as amended). Such areas are identified on the *Map of Bush Fire Prone Areas*, which can be sourced on the Department of Fire and Emergency Services' website www.dfes.wa.gov.au/bushfireproneareas. Designation of an area as bushfire prone reflects the potential of bushfire to affect that site. It acts as a mechanism for initiating further assessment in the planning process.

1.3 HOW TO USE THESE GUIDELINES

These Guidelines have been developed to provide an overview of the Western Australian planning process as it relates to bushfire protection. As such, some sections will be more applicable than others depending on the user's requirements and the relevant stage of the planning process, as well as the type and scale of the planning proposal.

These Guidelines are available online to ensure that necessary changes or amendments can be made and the document is up to date. It is important to check the Department of Planning, Lands and Heritage's website to ensure the most up-to-date version of these Guidelines is being used to guide planning and decision-making processes.

Where there is a discrepancy between these Guidelines and *Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas* (AS 3959), AS 3959 prevails.



1.4 SUPPORTING FACT SHEETS AND TECHNICAL NOTES

The Western Australian Planning Commission may prepare fact sheets where supplementary information and advice is required on how to apply these Guidelines to specific scenarios. These fact sheets will be prepared and managed by the Department of Planning, Lands and Heritage and form part of these Guidelines where approved by the Western Australian Planning Commission. They can be found on the Department of Planning, Lands and Heritage's [website](#).

The Department of Fire and Emergency Services and the Department of Mines, Industry Regulation and Safety (Building and Energy Division) may prepare technical notes and industry bulletins on elements of bushfire risk management and construction standards that are complementary to the information contained in these Guidelines. Any technical notes will be owned and managed by the respective agencies and will not form part of these Guidelines, but should be considered where applicable to the planning process.

In addition, local governments may prepare supplementary fact sheets or local planning policies regarding locally specific matters to support the implementation of SPP 3.7 and these Guidelines.

1.5 DEEMED PROVISIONS RELATING TO BUSHFIRE RISK MANAGEMENT

The LPS Regulations 2015 have deemed provisions relating to bushfire risk management in Schedule 2 Part 10A. These provisions apply to all local planning schemes made under Part 5 of the *Planning and Development Act 2005*.

There are some areas of the State where the deemed provisions relating to bushfire risk management do not apply. This includes land where there is no existing local planning scheme, or where a local planning scheme has ceased to have legal effect (such as land under the *Metropolitan Redevelopment Authority Act 2011* or subject to the *Hope-Valley Wattleup Redevelopment Act 2000*). Adoption of the deemed provisions in these localities is at the discretion of the relevant authority.

The deemed provisions relating to bushfire risk management make reference to the Fire and Emergency Services Commissioner's power to make orders to designate bushfire prone areas of the State. This designation triggers the application of appropriate bushfire construction standards for applicable building classes (i.e. residential buildings) under the Building Code of Australia. Local governments may apply other bushfire risk management conditions for the site to any development approval granted for non-residential buildings.

The deemed provisions relating to bushfire risk management provide a mechanism to require development approval, and through this, the application of SPP 3.7, to development on sites with extreme bushfire risk (BAL-40 or BAL-Flame Zone). They specifically require a BAL assessment or BAL Contour Map be undertaken for any habitable or specified building (excluding single houses and ancillary dwellings on lots less than 1,100m²) within a designated bushfire prone area, and development approval obtained prior to commencing any applicable development where the BAL indicates BAL-40 or BAL-Flame Zone (BAL-FZ). The requirement for development approval applies even in circumstances where the need for development approval would otherwise be exempt under the relevant local planning scheme (for example, single houses that are compliant with the R-Codes do not require development approval in accordance with clause 61 of the LPS Regulations 2015).



This approach provides an opportunity to apply SPP 3.7 and these Guidelines to ensure that bushfire risk management measures are implemented holistically and are supported by a technical assessment of bushfire risk where required. The LPS Regulations 2015 only apply if an area has been designated as bushfire prone for more than four months. This is to ensure landowners/proponents and the development industry have time to adequately prepare for any additional requirements. However, SPP 3.7 and its requirements for development assessment, apply immediately.

If a landowner/proponent develops a building within a designated bushfire prone area without complying with the LPS Regulations 2015, the landowner would be liable to enforcement measures for unauthorised development under sections 162 and 223 of the *Planning and Development Act 2005*.

1.5.1 INTERACTION BETWEEN EXISTING LOCAL PLANNING SCHEME PROVISIONS RELATING TO BUSHFIRE AND DEEMED PROVISIONS

The deemed provisions relating to bushfire risk management override any existing local planning scheme provisions relating to bushfire, including any inconsistent provisions, apart from special control areas. In accordance with clause 78B (2) of the LPS Regulations 2015, the requirements of the deemed provisions relating to bushfire risk management are in addition to any provisions relating to development in a bushfire prone area that apply in a special control area.

Under section 73(2A) of the *Planning and Development Act 2005*, a local planning scheme may supplement the deemed provisions relating to bushfire risk management to address any special circumstances for which provisions have not been prescribed. The deemed provisions can be supplemented but not varied or exempted. Any new supplemental provisions require a special control area to be implemented under the scheme amendment process set out in the *Planning and Development Act 2005*.



2. POLICY FRAMEWORK OVERVIEW

2.1 BUSHFIRE IN THE PLANNING CONTEXT

Western Australia's planning system includes strategic and statutory planning functions and is set out in the *Planning and Development Act 2005*. The planning system is hierarchical, requiring increasing levels of detail as a proposal progresses through regional, district and local planning to subdivision and development of individual sites (Figures 1 and 2).

Figure 1: Western Australian planning hierarchy



Strategic planning focuses on long-term activities and integrates a wide range of issues from economic, social and environmental perspectives to provide context for statutory planning functions. Bushfire risk management should be addressed at the strategic planning stages to ensure bushfire risk management is incorporated into the development landscape where urban, rural and conservation land uses interface. Higher order strategic planning documents may include frameworks and sub-regional planning strategies, whilst strategic planning proposals may include region scheme amendments, local planning strategies and district or local structure plans.

At the regional and sub-regional scale, the planning assessment should consider the likely bushfire hazard in areas proposed for future development, and potential bushfire risk management of such areas.

At the district scale, the planning assessment should consider the appropriate use and zoning of land in areas proposed for future development. A Bushfire Hazard Level assessment should be used to inform how future development could be generally sited to ensure the bushfire protection criteria can be achieved at subsequent stages of the planning process. Approval of a proposal should be based on strong certainty that the bushfire risk can be reduced or managed to an appropriate level to support future development.

Statutory planning is founded on legislation and regulations and is guided by strategic planning documents. Statutory planning controls land uses and development through assessment and determination of subdivision applications, local development plans and development applications.

Planning proposals in designated bushfire prone areas must be consistent with bushfire considerations in strategic planning documents to ensure coordinated, holistic bushfire risk management measures are achieved. Bushfire risk management measures should not be left to the statutory planning stage.

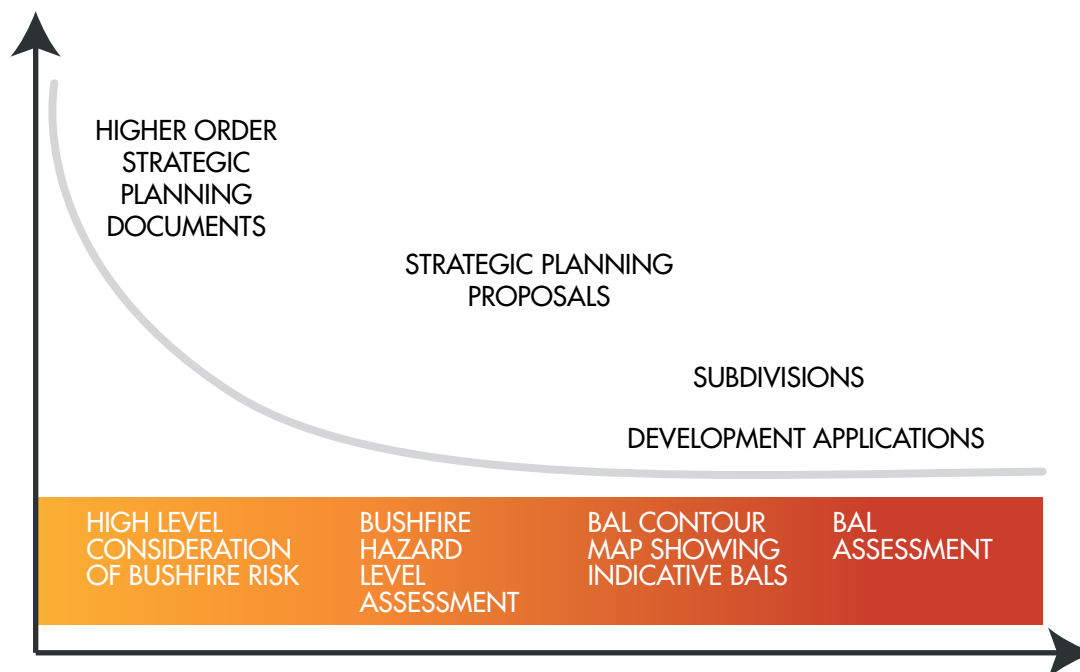


Figure 2: Applicability of bushfire assessment to stages of the planning process

2.2 PLANNING APPROVAL PROCESS IN BUSHFIRE PRONE AREAS

Section 5 of these Guidelines provides details of how SPP 3.7 is to be applied at each stage of the planning hierarchy, in alignment with Table 1.

The policy measures of SPP 3.7 and these Guidelines are not to be applied retrospectively. Existing approvals will not be subject to further bushfire planning requirements; however this should not preclude landowners/proponents from striving to achieve better outcomes.

Under the LPS Regulations 2015, a BAL assessment or BAL Contour Map, is required for the development of all habitable buildings or specified buildings (excluding single houses and ancillary dwellings on lots less than 1,100m²) if the development is located in a designated bushfire prone area (as identified on the *Map of Bush Fire Prone Areas*).

If a BAL Contour Map has been prepared for a previous subdivision approval, this may be used in place of a BAL assessment where the decision-maker is satisfied the BAL Contour Map is sufficient. If the BAL shown on the Contour Map and/or BAL assessment is BAL-40 or BAL-FZ, development approval is always required.

A BAL assessment or BAL Contour Map is also required under SPP 3.7 before commencing any other development (i.e. not a habitable or specified building) in a designated bushfire prone area (as identified on the *Map of Bush Fire Prone Areas*).

Under the Building Code of Australia, additional building construction requirements apply to residential buildings (Class 1, 2 and 3 buildings and associated Class 10a buildings and decks) in a designated bushfire prone area, regardless of the site area.



Table 1: SPP 3.7 in the planning process

PLANNING STAGE	SCALE	PURPOSE OF STAGE AND SCOPE TO ADDRESS BUSHFIRE RISK	POLICY REQUIREMENTS
Higher order strategic planning documents			
Frameworks Region schemes Sub-regional strategies Sub-regional structure plans	Multiple local government areas	<p>Frameworks and sub-regional structure plans are high-level strategic documents that guide land use and infrastructure planning at a regional scale for up to 50 years. They do not have statutory effect.</p> <p>Other State-initiated land use planning instruments include region schemes, planning control areas and Ministerial Orders under the <i>Planning and Development Act 2005</i>.</p> <p><i>High level consideration of bushfire risk when identifying potential land for future development.</i></p>	Application of SPP 3.7. Section 5.1
Strategic Planning Proposals			
Region scheme amendments	Multiple local government areas	<p>Region schemes coordinate land use and zoning across different local government areas. They facilitate the reservation of land for public purposes.</p> <p>Region schemes have statutory effect; however, much of the State is not covered by a region scheme.</p> <p><i>Strategic ability to address bushfire risk.</i></p>	<p>Application of SPP 3.7.</p> <p>Section 5.2.1</p> <p>Section 4.1 Section 4.2 Appendix 2 Appendix 3</p> <p>Section 4.5 Appendix 4</p>
District structure plans	Part of a sub region to show general pattern of development/ or Several suburbs and cross local government boundaries	<p>Structure plans act as a zoning overlay, providing an indicative design for future subdivision and development.</p> <p><i>Strategic ability to address bushfire risk.</i></p>	<p>Application of SPP 3.7.</p> <p>Section 5.2.2</p> <p>Section 4.1 Section 4.2 Appendix 2 Appendix 3</p> <p>Section 4.5 Section 4.6 Appendix 4 Appendix 5</p>



PLANNING STAGE	SCALE	PURPOSE OF STAGE AND SCOPE TO ADDRESS BUSHFIRE RISK	POLICY REQUIREMENTS
Local planning strategies	Single local government area	<p>Local planning strategies guide local land use planning over 10–15 years. They outline considerations that need to be addressed in order for land to be rezoned. Local planning strategies guide the preparation and review of statutory local planning schemes.</p> <p><i>Strategic ability to address bushfire risk.</i></p>	<p>Application of SPP 3.7.</p> <p>Bushfire Hazard Level assessment (new or updated).</p> <p>Consideration of bushfire protection criteria.</p> <p>Section 5.2.3 Section 4.1 Appendix 2 Section 4.5 Appendix 4</p>
Local planning schemes and amendments	Single local government area	<p>Local planning schemes provide overarching statutory basis for land use planning at the local government level. They provide for land use zoning, land use permissibilities, and include provisions for structure plans and special control areas.</p> <p>Special control areas are a zoning overlay which may set out an alternative planning process to follow, or specific provisions applying to an identified area. Generally required as part of a full-scheme review.</p> <p><i>Strategic ability to address bushfire risk.</i></p>	<p>Application of SPP 3.7.</p> <p>Bushfire Hazard Level assessment (new or updated) or BAL Contour Map (where the lot layout is already known).</p> <p>Consideration of bushfire protection criteria. This is to be in the form of a Bushfire Management Plan.</p> <p>Section 5.2.4 Section 4.1 Section 4.2 Appendix 2 Appendix 3 Section 4.5 Section 4.6 Appendix 4 Appendix 5</p>
Local structure plans and master plans	Generally cover a single residential estate or local area	<p>Non-statutory plans act as a zoning overlay and provide an indicative design for future subdivision and development. They identify matters that need to be addressed at subdivision and development stages.</p> <p>Local structure plans and master plans should make provision for all bushfire criteria to be met at the earliest stage of development.</p> <p><i>Strategic ability with localised scope to address bushfire risk.</i></p>	<p>Application of SPP 3.7.</p> <p>Bushfire Hazard Level assessment (new or updated) or BAL Contour Map (where the lot layout is already known).</p> <p>Consideration of bushfire protection criteria. This is to be in the form of a Bushfire Management Plan (new or updated).</p> <p>Section 5.2.5 Section 4.1 Section 4.2 Appendix 2 Appendix 3 Section 4.5 Section 4.6 Appendix 4 Appendix 5</p>



PLANNING STAGE	SCALE	PURPOSE OF STAGE AND SCOPE TO ADDRESS BUSHFIRE RISK	POLICY REQUIREMENTS
Subdivisions			
Subdivision applications	Varies from two lots to hundreds of lots	Subdivision applications enable the creation of new lots and reserves. <i>Localised scope to address bushfire risk.</i>	<p>Application of SPP 3.7.</p> <p>Section 5.3</p> <p>BAL Contour Map (new or updated) or BAL assessment for small-scale subdivision.</p> <p>Section 4.2 Section 5.3.1 Appendix 3</p> <p>Assessment against the bushfire protection criteria. This is to be in the form of a Bushfire Management Plan (new or updated) where required.</p> <p>Section 4.5 Section 4.6 Appendix 4 Appendix 5</p> <p>Notification on Title.</p> <p>Section 4.6.4 Section 5.3.2</p>
Development Applications			
Development applications (excludes single houses and ancillary dwellings on a lot less than 1,100m ²) (includes Local Development Plans)	Typically an individual lot but may cover more than one lot	Development applications provide for approval of land uses and development. <i>Site-specific scope to address bushfire risk.</i>	<p>Application of SPP 3.7.</p> <p>Section 5.4</p> <p>BAL Contour Map (new or updated) or BAL assessment.</p> <p>Section 4.2 Section 4.3 Appendix 3</p> <p>Assessment against bushfire protection criteria. This can be in the form of a Bushfire Management Plan (new or updated) where required.</p> <p>Section 4.5 Section 4.6 Appendix 4 Appendix 5</p> <p>Notification on Title.</p> <p>Section 4.6.4</p>



2.3 BUSHFIRE RISK MANAGEMENT AND ENVIRONMENTAL CONSERVATION

Many bushfire prone areas also have high biodiversity values. Policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values. Such areas may include wetlands, foreshores, Bush Forever sites, remnant vegetation, threatened species and ecological communities, nature reserves and coastal reserves. In implementing policy objective 5.4, planning assessments should consider:

- other Western Australian Planning Commission (WAPC) State Planning Policies and publications and any local government biodiversity strategies or similar;
- whether the site, or a portion of the site, has been identified as a vegetation corridor, as an environmentally-sensitive area or otherwise identified in a planning document as being, or proposed to be, reserved for a conservation or environmental protection purpose (such as an ecological linkage, local natural area, foreshore area or wetland buffer);
- any landscape issues, including any landscape plans that have been prepared over the site; and
- requirements of relevant environmental legislation and any relevant local planning scheme provisions.

Policy objective 5.4 is most effectively addressed at the strategic planning stage where biodiversity and bushfire concerns can be considered collectively to help determine the most appropriate location, type, form, scale and intensity of future development in an area.

Establishing development in bushfire prone areas can adversely affect the retention of native vegetation through clearing associated with the creation of Asset Protection Zones (APZ). Where loss of vegetation is not acceptable or causes conflict with landscape or environmental objectives then it may be necessary to reduce lot yield, cluster development, comply with the applicable bushfire construction requirements of the Building Code of Australia relevant to the BAL of the site (as set out in AS 3959), or modify the development location to minimise the removal or modification of vegetation (Figure 3).

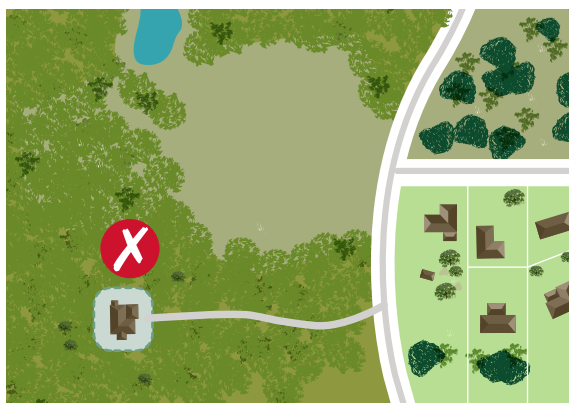
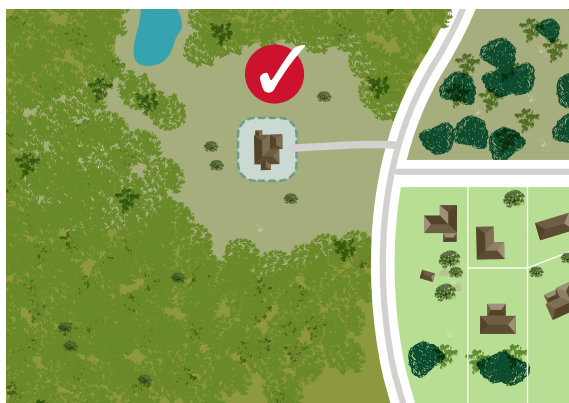
Planning proposals should satisfy bushfire protection requirements within the boundaries of the land being developed so as not to impact on the bushfire and environmental management of neighbouring reserves, properties or conservation covenants. Where revegetation of waterway foreshores, wetland or coastal buffers is necessary for their protection or management, it may be necessary to modify the development location or reduce lot yield to provide adequate hazard separation from the future vegetation boundary.

In instances where biodiversity management conflicts with bushfire risk management measures and significant clearing of native vegetation is the only means of managing bushfire risk, the proposal should generally not be supported.

Application of the precautionary principle and advice from the relevant agencies responsible for environmental protection and biodiversity conservation will be sought and considered as part of the decision-making process for applications proposing to clear or modify vegetation:

- within environmentally sensitive areas protected under State or Commonwealth legislation;
- within dedicated foreshore areas and wetland buffers;
- identified as significant under a relevant planning instrument; and/or
- where development is adjacent to vegetated land managed by those agencies.

The application may be refused if the value of the vegetation is high and the landowner/proponent proposes achieving an acceptable bushfire risk through vegetation clearing without consideration and inclusion of other management measures. Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management.



Where possible, development should be located in existing cleared areas and close to the property entrance.



CLASSIFIABLE VEGETATION

- Manicured Garden
- Grassland
- Woodland
- APZ

In addition to referrals to the relevant agency responsible for environmental protection and biodiversity conservation, the decision-maker is to seek the advice of the relevant agency responsible for water resource management when making decisions on applications where clearing of vegetation may adversely impact water resources, including waterway foreshore areas.

For proposals located within 100 metres of Kings Park or Bold Park, it is recommended that the decision-maker forward a copy of the application to the Botanic Gardens and Parks Authority for comment and advice.

Clearing of native vegetation in Western Australia requires a clearing permit under Part V, Division 2 of the *Environmental Protection Act 1986* unless the clearing is for an exempt purpose. Exemptions from requiring a clearing permit are contained in Schedule 6 of the *Environmental Protection Act 1986* or are prescribed in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. Clearing required for compliance with subdivision conditions of approval is one example of where an exemption applies. However, the exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* do not apply in environmentally sensitive areas.

Figure 3: Location of development should minimise environmental impact



2.4 CLIMATE CHANGE IMPACT

Climate change impacts on Western Australia during the last century have included a rise in average temperatures and rainfall across the State, except for the south-west which had a decrease in annual rainfall. Future projections indicate that across the State, rainfall will decrease by up to 20 per cent and summer temperatures will increase by up to 2.1°C by 2030, relative to 1960 – 1990 levels.

Significant likely impacts of climate change for the State include the increased risk of bushfire and drought and decreased average rainfall in south-west Western Australia.

2.5 THE PRECAUTIONARY PRINCIPLE

Planning decisions must be made on the merit of a proposal and include holistic consideration of a number of planning issues. For strategic planning proposals, subdivisions and development applications in bushfire prone areas, discretionary decision-making will involve the application of the precautionary principle contained in policy measure 6.11. The outcome of this policy measure means that the potentially serious threat of bushfire to people, property and infrastructure warrants a conservative approach to decision-making being taken.

The decision-maker is to exercise judgement when considering the merits of proposals that do not satisfy the policy objectives and measures of SPP 3.7 or the acceptable solutions in the bushfire protection criteria. Bushfire risk to people, property and infrastructure should be addressed at a scale that is consistent with the proposal being considered and based on appropriate levels of information. In exercising judgement, the decision-maker should consider:

- the intent, objectives and policy measures of SPP 3.7 and these Guidelines;
- the need to apply the precautionary principle;
- compliance with any provisions of the local planning scheme or local planning policy relating to bushfire;
- whether the bushfire hazard can be reduced to an acceptable level;
- whether the proposed measures can be practically implemented and maintained for the life of the development or land use;

- whether the proposal demonstrates an improvement or innovation in bushfire risk management that improves the bushfire outcome on the site and surrounds; and
- advice received from relevant referral agencies.

Achieving the objectives and measures set out in SPP 3.7 should not be at the expense of achieving consistency with other policies and publications, particularly in relation to environmental and biodiversity management and landscape amenity. Where, in order to preserve life, property or infrastructure, the objectives of other relevant planning policies or publications would be compromised, it may be the case that the proposal may not be suitable on planning grounds.

2.6 DISCRETIONARY DECISION-MAKING

Decision-makers can apply exemptions from the requirements of SPP 3.7 and these Guidelines where there is no intensification of land-use, and/or the proposal is not increasing the bushfire threat.

Intensification of land use and/or development may include planning proposals that:

- a) result in an increase of visitors, residents or employees; or
- b) involve the occupation of employees on site for more than three hours at a time for multiple periods during a week.

Examples of when exemptions may be considered by a decision-maker include, but are not limited to:

- A subdivision application where there is no increase in the development potential and therefore no intensification of land use, such as a boundary realignment that does not restrict the ability to establish or maintain an asset protection zone; and does not restrict vehicular access/egress to any existing or future habitable building.
- A development application for minor renovations, alterations, improvements or repair of a building, and incidental uses, including, but not limited to outbuildings, unenclosed swimming pools, fences, unenclosed carports and patios, and storage sheds.



- A development application for an extension where the proposal does not result in an increase in residents or employees onsite, and where there is no increase in the bushfire risk. For example, an extension to an existing habitable building which does not result in the development being closer to the bushfire hazard and does not restrict or limit compliance with vehicular access or the provision of water.
- A development application for an existing land use previously considered by SPP 3.7, where the material considerations have not changed, but requires renewal on a recurring basis.
- A development application for an extractive industry where the extraction is undertaken in an open cleared area (for example, quarries and open cut mining) and no habitable buildings are proposed.
- A development application for a home occupation or home office that will be located in an existing habitable building, in accordance with the definition contained within the LPS Regulations 2015.

A BAL assessment may still be required for certain developments under clause 78B, Part 10A of the LPS Regulations 2015.

2.7 LEGACY APPROVALS AND DISCRETIONARY DECISION MAKING

Subsequent planning applications for sites that received initial planning approval prior to the introduction of SPP 3.7 in 2015, are often unable to demonstrate compliance with SPP 3.7 or the Guidelines. Applications for these legacy sites may require a significant re-design in order to demonstrate that the bushfire risk can be mitigated to an acceptable level, in accordance with these Guidelines. A prior approval does not ensure a subsequent approval.

Legacy sites include, but are not limited to the following:

- Where a local planning scheme requires the preparation of a structure plan prior to subdivision or development, and the zoning of the land was approved prior to SPP 3.7.
- Amendments to structure plans where the structure plan was approved prior to SPP 3.7.
- New subdivision applications, with an approved structure plan or subdivision guide plan that was approved prior to SPP 3.7.
- Existing lots and/or existing habitable buildings created prior to SPP 3.7.

Legacy sites should demonstrate compliance with SPP 3.7 and these Guidelines and where necessary, the design should be modified to achieve compliance with the bushfire protection criteria. Where a performance principle solution or a re-design is not possible due to demonstrated site constraints (including waterways, gazetted road(s) or environmental constraints, the proponent should ensure the Bushfire Management Plan clearly:

- identifies the non-compliance with the bushfire protection criteria;
- addresses the bushfire protection criteria to the greatest extent possible;
- details how the design considers bushfire risk management and where additional bushfire mitigation measures have been included to minimise the risk;
- outlines how the objectives of SPP 3.7 have been achieved; and
- outlines why discretion is warranted by the decision-maker in this instance.

Additional bushfire mitigation measures may include, but are not limited to:

- improvements to the local and broader road network to facilitate improved access to and within the site
- provision of additional emergency access ways
- provision of additional strategic or private water tanks
- a reduction in the number of lots
- an increased area of public open space managed in a 'low-threat' state
- provision of additional hazard separation.

If the proponent is exploring options for improved access, they should discuss these options with the local government as they will be responsible for the management of any new public roads or public emergency access ways.



3. BUSHFIRE PRONE AREAS

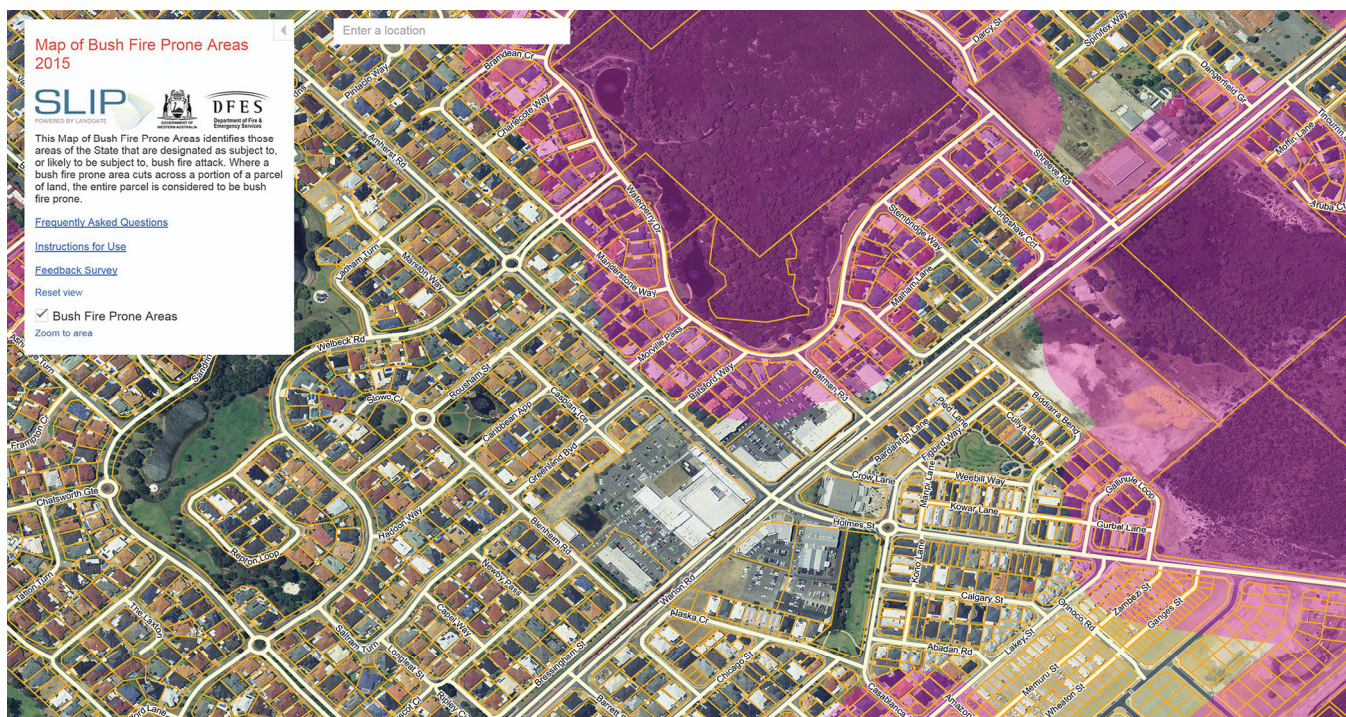
3.1 IDENTIFICATION AND REVIEW OF BUSHFIRE PRONE AREAS

SPP 3.7 applies to land which has been designated as being bushfire prone by the Fire and Emergency Services Commissioner under powers provided in the *Fire and Emergency Services Act 1998*. This designation is made in the form of an order published in the *Government Gazette* that refers to the *Map of Bush Fire Prone Areas*. Areas identified as being bushfire prone to which SPP 3.7 and these Guidelines apply are coloured 'pink' on the map. The remaining areas are not considered bushfire prone for the purpose of implementing additional development requirements; however SPP 3.7 also applies to areas not yet designated bushfire prone when they are proposed to be developed in a way that introduces a bushfire hazard, as outlined in section 3.2.2. A sample of the Map is provided in Figure 4.

The *Map of Bush Fire Prone Areas* has been developed by the Office of Bushfire Risk Management in consultation with local governments to incorporate localised information. The Office of Bushfire Risk Management (OBRM) forms part of the Rural Fire Division of the Department of Fire and Emergency Services. The Office of Bushfire Risk Management is responsible for preparing, maintaining and administering the *Map of Bush Fire Prone Areas*. Local governments have a role in the ongoing review of bushfire prone areas within their administrative boundaries to inform the accuracy of the *Map of Bush Fire Prone Areas* through the annual review process.

Designated areas as shown on the *Map of Bush Fire Prone Areas* are referenced in the deemed provisions relating to bushfire risk management. However, the *Map of Bush Fire Prone Areas* should not be adopted

Figure 4: Extract from *Map of Bush Fire Prone Areas*





as a local planning scheme map under section 4 of the *Planning and Development Act 2005* as it will be updated annually to reflect when development has taken place or new information has become available.

The *Map of Bush Fire Prone Areas* provides a single means of identifying whether a site is designated under law as being bushfire prone at the state level. This means that land identified as being within a bushfire prone area on the *Map of Bush Fire Prone Areas* is subject to, or likely to be subject to, bushfire attack. The *Map of Bush Fire Prone Areas* acts as a trigger to determine whether bushfire protection planning and building requirements apply. Individual local planning schemes may also contain special control areas that designate areas as bushfire prone which may have more detailed hazard mapping and additional planning requirements.

In accordance with SPP 3.7, all strategic planning proposals, subdivisions and development applications¹ within a designated bushfire prone area will need to be accompanied by either a Bushfire Hazard Level assessment, a BAL Contour Map and/or a BAL assessment.

Under the LPS Regulations 2015, if a single house or ancillary dwelling on a lot or lots of 1,100m² or greater is proposed in a designated bushfire prone area, a BAL assessment is required. This also applies to any other habitable or specified buildings, regardless of lot size, in a designated bushfire prone area. In each case, where a BAL Contour Map has been prepared for previous subdivision approval in relation to the subject site, this may be used in place of a site-specific BAL assessment.

If the BAL Contour Map or BAL assessment indicate a rating of BAL-40 or BAL-FZ, development approval is required before applying for a building permit, despite any exemption that would normally exist. The BAL rating of a site can also be used to determine the level of bushfire resistant construction that may apply to the building under the Building Code of Australia.

The LPS Regulations 2015 include a four month transitional period from the date the area is designated, unless there are existing special control areas, scheme provisions, existing maps and/or policies that are consistent with the *Map of Bush Fire Prone Areas*.

This transitional period will also occur to newly designated areas following every update of the *Map of Bush Fire Prone Areas*. Once the transitional provisions have expired, existing local government bushfire maps will no longer provide for the designation of areas as being bushfire prone, unless the area is identified in a special control area. Any inconsistencies between the *Map of Bush Fire Prone Areas* and local government bushfire mapping must be identified to the Office of Bushfire Risk Management by local governments for consideration in their annual map review as per the review procedures outlined in the *Mapping Standard for Bush Fire Prone Areas* (OBRM 2015, as amended).

Bushfire prone vegetation is determined according to the criteria outlined in the *Mapping Standard for Bush Fire Prone Areas* and is identified on the *Map of Bush Fire Prone Areas* prepared by the Office of Bushfire Risk Management. Further information on how the map is prepared and updated can be found in the *Mapping Standard for Bush Fire Prone Areas*.

The *Map of Bush Fire Prone Areas* is available on the Department of Fire and Emergency Services' website www.dfes.wa.gov.au/bushfireproneareas using the Shared Location Information Platform (SLIP) managed by Landgate. While the map should not be made to form part of a local planning scheme, local governments will be able to include the mapping of their current bushfire prone areas within their geospatial information systems (GIS) to inform their planning decisions. When a State map is released, local governments will be able to access the new layer from SLIP.

¹ Development applications exclude applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².



3.2 AREAS WHERE THERE IS NO APPARENT HAZARD

If a proposal is in a designated bushfire prone area and the relevant assessment results in a property having either a Bushfire Hazard Level classification of 'Low', or achieves a BAL-LOW rating across the entire portion of developable land, then the planning proposal or development application does not require application of SPP 3.7 or these Guidelines despite the fact that it is designated within the *Map of Bush Fire Prone Areas*.

3.2.1 BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT (BASIC) FOR DESIGNATED AREAS WHERE THERE IS NO CURRENT HAZARD

A BAL assessment (basic) is a BAL assessment prepared where there is no apparent bushfire hazard. Circumstances where these may be prepared would be limited to instances where:

- land has been cleared since the *Map of Bush Fire Prone Areas* was released and the site no longer contains, or is within 100 metres of bushfire prone vegetation²; or
- the site is of a significant enough size that the building envelope to which the proposal relates is not within 100 metres of bushfire prone vegetation.

In these instances, the decision-maker may choose to accept the BAL assessment (basic) prepared by the landowner/proponent. Evidence such as aerial photography demonstrating the absence of vegetation should be submitted with the BAL assessment (basic) to assist the decision-maker. Where the decision-maker is not satisfied that the proposal is outside 100 metres of bushfire prone vegetation, they may require a BAL assessment to form part of the planning proposal.

Where local government is satisfied that the subject land has been cleared since the *Map of Bush Fire Prone Areas* was released, local government should contact the Office of Bushfire Risk Management to request that the area be reconsidered and the *Map of Bush Fire Prone Areas* amended on the next revised version, as per the annual review procedures outlined in the *Mapping Standard for Bush Fire Prone Areas*.

Where there is no apparent hazard the landowner/proponent may utilise the information contained in the Department of Planning, Lands and Heritage's fact sheets to assist in completion of a BAL assessment (basic). For residential buildings (Class 1, 2 and 3 buildings and Class 10a buildings and decks associated with Class 1, 2 and 3 buildings), a registered building surveyor will need to be satisfied that the BAL assessment (basic) is correct prior to signing the relevant certificate of compliance for the building.

3.2.2 AREAS THAT POSE A FUTURE HAZARD BUT ARE NOT YET DESIGNATED

Where a site is not yet identified as a designated bushfire prone area but is proposed to be developed in a way that introduces a bushfire hazard, for example it incorporates the revegetation of wetlands or foreshores, then the decision-maker will need to inform the Office of Bushfire Risk Management to reconsider this area so it is reflected in the next revised version of the map, as per the review procedures outlined in the *Mapping Standard for Bush Fire Prone Areas*.

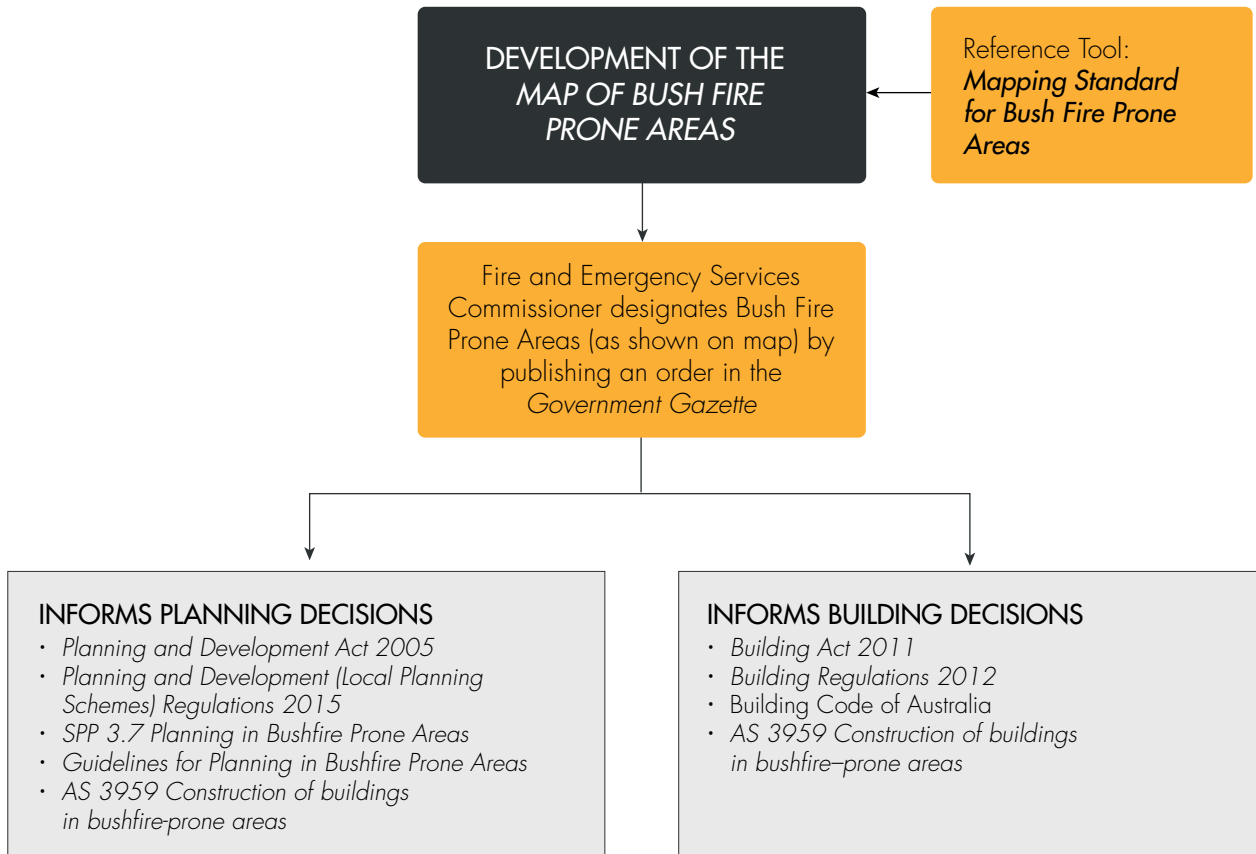
Any such planning approval should identify proposed new bushfire prone areas and address the hazard as if it currently existed. A Notification on Title to the effect that the land is within a bushfire prone area and may be subject to a Bushfire Management Plan should be a condition of approval. It should be noted that any future building permit applications in these areas will potentially have a higher BAL than when the planning approval was granted.

In this situation, as there is no formal designation in effect on the site, the relevant registered building surveyor is not required to assess the building for compliance with the Building Code of Australia's bushfire requirements. However, where planning approval is required, the landowner/proponent will need to demonstrate that they have complied, or are complying with, the requirements of their planning approval under the *Planning and Development Act 2005*, where relevant. In these circumstances, the voluntary application of bushfire construction standards is recommended to ensure the future bushfire risk is addressed.

² Sites where the surrounding area is consistent with the exclusions contained within AS 3959 at section 2.2.3.2 are not considered to contain bushfire prone vegetation.



Figure 5: The Western Australian Bushfire Prone Areas statutory and policy framework flowchart





4. ASSESSING BUSHFIRE RISK IN THE PLANNING CONTEXT

In SPP 3.7, 'bushfire risk' is defined as "the chance of a bushfire igniting, spreading and causing damage to people, property and infrastructure" and in this context, 'bushfire risk management' is "the application of the bushfire protection criteria contained in these Guidelines".

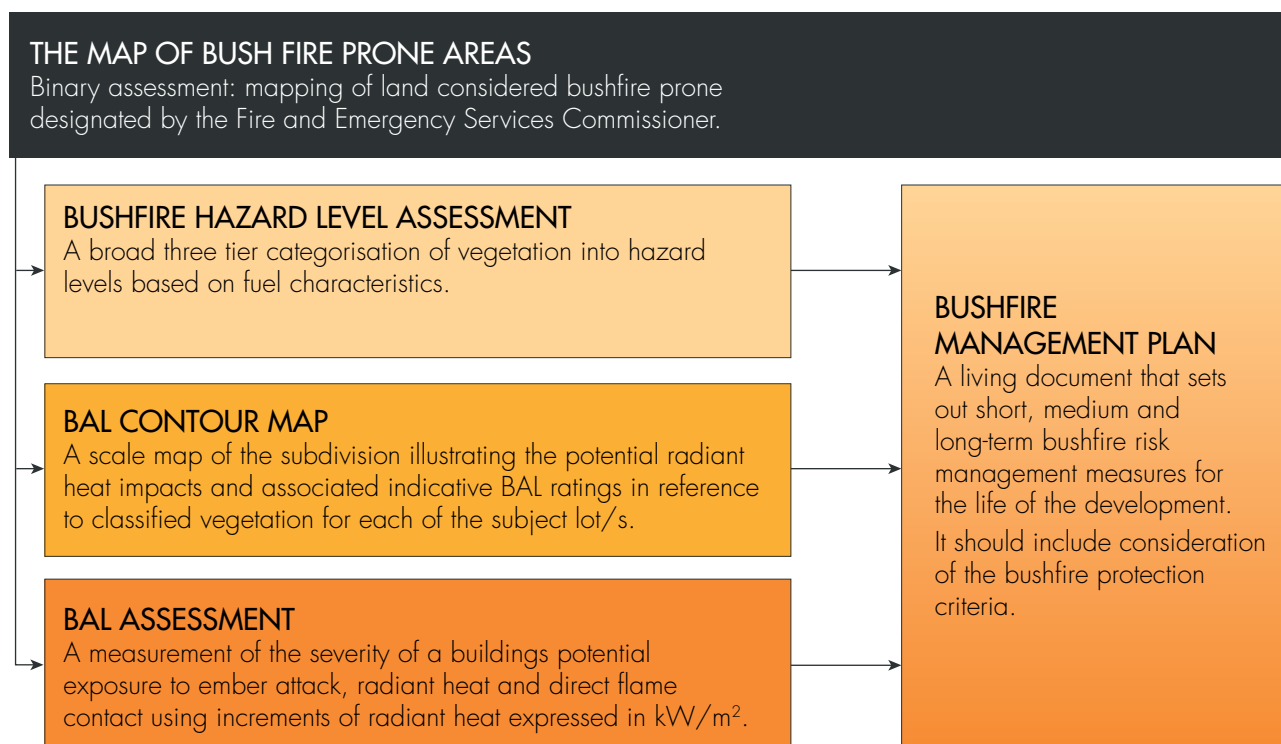
Before a strategic planning proposal, subdivision or development application can be considered, it is necessary to understand the extent of the bushfire hazard and its potential to affect people, property and infrastructure. An assessment of bushfire risk is a key component of deciding whether a strategic planning proposal, subdivision or development application should be approved in an area with potential bushfire threat. Planning for, and assessing bushfire risk, is most effective when properly addressed at the earliest stage in the planning process.

This section sets out the interrelationships between, and requirements for, various assessment tools used to assess bushfire risk in the planning context, as prescribed by SPP 3.7 (Figure 6):

- Bushfire Hazard Level assessment;
- Bushfire Attack Level (BAL) Contour Map;
- Bushfire Attack Level (BAL) assessment;
- Bushfire protection criteria; and
- Bushfire Management Plan.

The level of detail required as part of these assessments will depend on the planning stage for which it has been prepared. For example, for a strategic planning proposal, a Bushfire Management Plan would apply broad consideration of the bushfire protection criteria such as locating development nodes away from extreme areas. At the structure plan stage the Bushfire Management Plan would need to include more specific

Figure 6: Assessing bushfire risk in the planning context





consideration to ensure Asset Protection Zones can be established at subdivision and development. Information is successively more detailed at each planning stage.

Additionally, the decision-maker has the discretion to consider site-specific conditions that may preclude the requirement for a full Bushfire Management Plan for an individual development. A simplified Plan may be acceptable in these isolated incidents. If the documents are prepared by an individual accredited at the level appropriate to the work required, the decision-maker should have confidence that they are consistent with SPP 3.7 and these Guidelines. However, this does not prevent the decision-maker from querying the Bushfire Management Plan or assessment if it has reason to believe that it does not adequately address SPP 3.7 and these Guidelines.

All landowners/proponents, irrespective of tenure, will be responsible for the ongoing management of any bushfire risk.

4.1 BUSHFIRE HAZARD LEVEL ASSESSMENT

A Bushfire Hazard Level assessment provides a 'broad-brush' means of determining the potential intensity of a bushfire for a particular area. The Bushfire Hazard Level assessment assists in informing the suitability of land contained within strategic planning proposals for future subdivision and development.

The Bushfire Hazard Level assessment categorises land within a designated bushfire prone area as having a low, moderate or extreme bushfire hazard level (Appendix 2). Different hazard levels may be assigned to different parts of individual lots. Bushfire Hazard Level assessments are required to accompany all strategic planning proposals, including:

- region planning scheme amendments;
- local planning strategies;
- local planning schemes and amendments; and
- structure plans (district, local and activity centre scales) and master plans.

Bushfire Hazard Level assessments allow for early strategic consideration of bushfire risk which can then be used to inform the more detailed stages that follow, ensuring all issues are considered, identified and properly addressed at the earliest possible time. When the design of the strategic planning proposal contains sufficient detail to determine the future lot layout, a BAL Contour Map will be more appropriate, as this is more useful in demonstrating the potential site risks.

Bushfire Hazard Level assessments may form part of a Bushfire Management Plan that includes consideration of how the bushfire protection criteria will be met at subsequent stages of the planning process. It is strongly recommended that both the Bushfire Hazard Level assessment and the Bushfire Management Plan are prepared by an accredited Bushfire Planning Practitioner on behalf of the landowner/proponent and should be provided upfront with all strategic planning proposals.

A Bushfire Hazard Level assessment may indicate that the site currently contains a moderate or extreme hazard level. In such instances, the proposal should contain information in the form of a Bushfire Management Plan as to how the hazard level will be initially reduced and maintained for the life of the development. This will enable the decision-maker to ensure that appropriate bushfire risk management measures are in place to achieve and maintain a low or moderate hazard level.

Where a site's hazard level cannot be reduced to a low or moderate level, the application should only be considered if it is to include 'unavoidable development' (refer section 5.7). Conversely, if the proposal seeks to create a site where the future hazard level would be low, then a Bushfire Management Plan may not be required.

Strategic planning proposals that are to be developed in a staged approach are to be considered using the current bushfire risk for each individual stage. This ensures that the bushfire risk is taken into account throughout the planning process, should subsequent stages not be completed or be affected by an amended plan.

A landowner/proponent, including government agencies is strongly recommended to use an accredited Bushfire Planning Practitioner to undertake a Bushfire Hazard Level assessment. Decision-makers may have confidence that Bushfire Hazard Level assessments prepared by a Bushfire Planning Practitioner are consistent with the endorsed methodology of SPP 3.7 and these Guidelines.



4.2 BUSHFIRE ATTACK LEVEL (BAL) CONTOUR MAP

A BAL Contour Map is a scale map of the subject lot/s illustrating the potential radiant heat impacts and associated indicative BAL ratings in reference to any vegetation remaining within 150 metres of the assessment area after subdivision works are complete. It is typically used for bushfire risk assessment at the subdivision stage of the planning process, but is also appropriate for strategic planning proposals where the lot layout of a proposal is already determined.

As with all assessments, where a strategic planning proposal or subdivision is proposed to be developed with a staged approach, a new BAL Contour Map should be prepared for each stage and the hazard addressed appropriately for each stage.

In accordance with SPP 3.7 and the LPS Regulations 2015, where a BAL Contour Map exists for a previous subdivision approval, the BAL Contour Map may be used in place of a site-specific BAL assessment at the development application stage. They may also be used at the building permit stage. Notwithstanding this, the decision-maker and/or registered building surveyor have the discretion to request a new BAL Contour Map or a site-specific BAL assessment if they are of the opinion the existing BAL Contour Map is inappropriate. This may include instances where there has been a significant time delay since the original assessment was done, the proposal design has altered, the site conditions have changed or where they consider there to be an error in the original BAL Contour Map.

A BAL rating needs to be allocated to all areas identified as being bushfire prone on the *Map of Bush Fire Prone Areas*. Where a BAL-LOW applies, the decision-maker should notify the Office of Bushfire Risk Management of the requirement to update the Map as part of their annual review process, in accordance with the *Mapping Standard for Bush Fire Prone Areas*. Further guidance and a sample map are provided at Appendix 3. An accompanying Fact Sheet has been developed and will provide more detailed methodology. This can be found on the Department of Planning, Lands and Heritage's website.

A landowner/proponent should engage a Bushfire Planning Practitioner to complete a compliance certificate or report for the BAL Contour Map relating to the approved subdivision. This would generally occur after the subdivisions works have been completed and before the issuing of titles. A compliance certificate or report will allow any future decision-makers to have confidence that

the BAL Contour Map, prepared prior to the approval of a subdivision application, is still valid for use at future development or building permit application stages. If the subdivision layout and design has been altered, the site conditions have changed or the Bushfire Planning Practitioner considers there was an error in the original BAL Contour Map, a new BAL Contour Map may be required before a compliance certificate or report will be issued.

Landowners/proponents, including government agencies, are strongly recommended to use an accredited Bushfire Planning Practitioner to prepare a BAL Contour Map. Decision-makers may have confidence that BAL Contour Maps prepared by a Bushfire Planning Practitioner are consistent with the principles of AS 3959, SPP 3.7 and these Guidelines.

4.3 BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

A BAL assessment is the means of measuring the severity of a buildings' potential exposure to ember attack, radiant heat and direct flame contact using increments of radiant heat expressed in kW/m². They form the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.

A BAL assessment classifies an area of land into one of six categories (Table 2 and Figure 7). BAL assessments are a point in time assessment and are used at the development application and building permit stage to determine whether a site will require additional bushfire risk management measures in order to respond to a potential bushfire hazard. For planning purposes, a BAL assessment is usually undertaken for land in a bushfire prone area after a Bushfire Hazard Level assessment or BAL Contour Map has been prepared and/or where the plans are at a scale where lots and building envelopes are identified. Land capability and suitability for development should already be determined through the strategic planning stage prior to a BAL assessment being prepared.

The BAL descriptions and assessment methodologies are located in AS 3959, referenced in the Building Code of Australia and reprinted in Table 2. The BAL may be used to determine the construction standard required.



Table 2: BAL and corresponding descriptions of the predicted levels of exposure and heat flux exposure thresholds

BAL DESCRIPTION OF PREDICTED BUSHFIRE ATTACK AND LEVELS OF EXPOSURE	
Source: AS 3959-2018, Table 3.1	
BAL-LOW	There is insufficient risk to warrant specific construction requirements, but there is still some risk.
BAL-12.5	There is a risk of ember attack. The construction elements are expected to be exposed to a heat flux not greater than 12.5kW/m ² .
BAL-19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux. The construction elements are expected to be exposed to a heat flux not greater than 19kW/m ² .
BAL-29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux. The construction elements are expected to be exposed to a heat flux not greater than 29kW/m ² .
BAL-40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood of direct contact with flames. The construction elements are expected to be exposed to a heat flux not greater than 40kW/m ² .
BAL-Flame Zone (FZ)	Direct exposure to flames from fire front in addition to heat flux and ember attack. The construction elements are expected to be exposed to a heat flux greater than 40kW/m ² .

Figure 7: BAL construction levels in context





Landowners/proponents, including government agencies, are strongly recommended to use an accredited Level 1 BAL Assessor or an accredited Bushfire Planning Practitioner to undertake a BAL assessment. Decision-makers may have confidence that BAL assessments prepared by a Level 1 BAL Assessor or Bushfire Planning Practitioner are consistent with SPP 3.7 and these Guidelines.

A BAL assessment completed by an individual other than an accredited person in accordance with AS 3959, may be approved if the development is for a single house or ancillary dwelling on land that is located more than 50 kilometres from the boundary of a gazetted town site, as identified by the Department of Planning, Lands and Heritage. A map showing the designated town sites is provided on the Department of Planning, Lands and Heritage's website. The decision-maker will need to be satisfied that the BAL assessment is appropriate.

AS 3959 Construction of Buildings in Bushfire-Prone Areas (2018, as amended) is developed and maintained by Standards Australia. Copies of the standard can be obtained from the SAI Global website at:
<https://www.saiglobal.com/Standards>

AS 3959 is not free of charge. In order to make it accessible to members of the community, the Department of Mining, Industry Regulations and Safety (Building and Energy Division) has provided local governments a reference copy of AS 3959 for viewing by the public.

4.4. BUSHFIRE ATTACK LEVEL (BAL) CONTOUR MAPS AND BAL ASSESSMENTS IN THE BUILDING CONTEXT

The Building Code of Australia contains bushfire construction requirements that are applied to most residential classes of buildings (being Class 1, 2 and 3 buildings and Class 10a buildings or decks associated with Class 1, 2 or 3 buildings) in designated bushfire prone areas. When lodging a building permit for these buildings in designated bushfire prone areas, a BAL assessment or existing BAL Contour Map should be lodged with the building permit application (refer to Section 5.8.1 of these Guidelines for more information).

Generally, a BAL assessment or BAL Contour Map prepared for planning purposes would be suitable for use as part of the building approval process, if prepared using the methodology set out in AS 3959. However, the registered building surveyor has the discretion to request a new BAL assessment if they are of the opinion that the site conditions have changed or where they consider there to be an error in the original BAL Contour Map or BAL assessment.

4.5 BUSHFIRE PROTECTION CRITERIA

4.5.1 HOW THE CRITERIA ARE TO BE READ

The bushfire protection criteria (Appendix Four) are a performance-based system of assessing bushfire risk management measures. An assessment against the criteria is 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 bushfire protection criteria are divided across five elements:

- **Element 1:** Location
- **Element 2:** Siting and design of development
- **Element 3:** Vehicular access
- **Element 4:** Water
- **Element 5:** Vulnerable tourism land uses



All strategic planning proposals, subdivision and development applications should address Elements 1 – 4, except for tourism land uses which should address Element 5. Element 5 incorporates the bushfire protection criteria in Elements 1 – 4, but caters them specifically to vulnerable tourism land uses.

Each element has the following components:

- an intent, which outlines the desired outcome for the element, and reflects identified planning and policy requirements in respect of each issue;
- acceptable solutions, which provide one way of meeting the element's intent. Examples are provided as potential solutions of acceptable design outcomes. Acceptable solutions contained within this document are intended to provide a straightforward pathway to assessment and approval. Compliance with the acceptable solutions contained within this document automatically achieves the intent of the relevant bushfire protection element; and
- a performance principle, which is a general statement of how best to achieve the intent of the relevant bushfire element. Performance principles provide landowners/proponents with an opportunity to develop a variety of design responses to address each bushfire protection element outside those specified in the acceptable solutions contained within this document.

4.5.2 HOW TO APPLY THE CRITERIA

For a proposal to be considered compliant with SPP 3.7, the intent of each element of the bushfire protection criteria, as listed in Appendix 4 of these Guidelines must be satisfied. To satisfy compliance with the 'intent', either the acceptable solutions or the performance principles must be demonstrated. This assessment should be in the form of a Bushfire Management Plan or a statement addressing the bushfire protection criteria (refer to section 4.6) and must be provided upfront with any planning proposal that has, or will, on approval, have a bushfire hazard level above 'Low' or a BAL rating above BAL-LOW.

4.5.2.1 ACCEPTABLE SOLUTIONS

An acceptable solution prescribes the minimum requirements that a planning proposal should adhere to achieve compliance with SPP 3.7. If all applicable acceptable solutions have been utilised to address the bushfire protection criteria element, then it may be presumed that the proposal has achieved compliance with that element.

4.5.2.2 PERFORMANCE PRINCIPLE-BASED SOLUTIONS

The performance principles have been designed so they may be used where a proposal cannot comply with the acceptable solution(s) or it may be inappropriate to do so, to achieve the intent of each element. Where a solution is provided to demonstrate compliance with the performance principle, it should be labelled a performance principle-based solution. Performance principle-based solution(s) propose an alternative to those set out in the acceptable solution(s); it is not a justification for non-compliance. They provide for flexibility and innovative, evidence-based solutions for bushfire risk management. All performance principle-based solution(s) require discretion on the part of the decision-maker, informed by advice from the Department of Fire and Emergency Services (refer to section 2.5: Precautionary principle, and section 6.5).

To demonstrate compliance, the performance principle-based solution(s) must provide substantiated evidence and clearly demonstrate/document how the proposal, product, design or material can meet or exceed the intent and performance principle of the element, and more broadly, the objectives of the SPP 3.7. The following submission requirements apply for all performance principle-based solution(s):

- a statement of the extent to which the proposed principle based solution(s) conforms with, or deviates from the acceptable solution(s);
- evidence including calculations and diagrams to support how the use of a material, form of construction or design achieves the performance principle(s); and
- verification methods such as a test, inspection, calculation or other method that determines whether a principle-based solution(s) complies with the relevant performance principle(s). All verification methods must be acceptable to the Department of Fire and Emergency Services.



4.5.3 LOCAL OR REGIONAL VARIATIONS TO BUSHFIRE PROTECTION CRITERIA

Local governments may seek to add to or modify the acceptable solutions to recognise special local or regional circumstances (e.g. topography/vegetation/climate) which reinforce the intent of a particular bushfire protection element and apply across a defined locality.

These additional acceptable solutions are to be endorsed in writing by both the Western Australian Planning Commission and the Department of Fire and Emergency Services before they can be considered in planning assessments. Such requests will be assessed on a case-by-case basis and will need to be supported by a justification that clearly:

- explains the reasons why the modification is required; and
- demonstrates to the satisfaction of both the Western Australian Planning Commission and the Department of Fire and Emergency Services that the modifications comply with the corresponding performance principles.

Endorsed regional or local variations should form part of a planning instrument, such as a scheme amendment or special control area, as opposed to being included in a local planning policy or similar.

Regional and local variations to the bushfire protection criteria are to be used where a particular acceptable solution is required across a locality. Such variations are not the same as site-specific alternative solutions that may be approved by the decision-maker as part of considering a strategic planning proposal, subdivision or development application.

4.6 BUSHFIRE MANAGEMENT PLANS

4.6.1 PURPOSE

A Bushfire Management Plan (BMP) is required to accompany strategic planning proposals, subdivision and development applications³ in areas above BAL-Low or areas with a bushfire hazard level above low (refer to clause 6.2b). A BMP includes the bushfire assessment, identification of the bushfire hazard issues arising from the relevant assessment and a clear demonstration that compliance with the bushfire protection criteria contained within Appendix 4 of these Guidelines, is or can be achieved.

4.6.2 PREPARING THE BMP

It is strongly recommended BMPs are prepared by an accredited Bushfire Planning Practitioner at the level appropriate to the information required. Level 2 and 3 Bushfire Planning Practitioner capabilities are outlined at section 6.12 of these Guidelines.

The BMP should be prepared as early as possible in the planning process and progressively refined or reviewed as the level of detail increases. The level of detail provided within a BMP should be commensurate with the applicable planning stage and scale of the proposal or application. Clauses 6.3, 6.4, 6.5, 6.6 and 6.7 of SPP 3.7, detail the information to be included within a BMP for each stage of the planning process. Further guidance on the information to be included in a BMP is contained within Appendix 5 of these Guidelines.

Planning approval will be informed by the BMP, including the demonstration of compliance with the bushfire protection criteria. As the BMP is a document that should apply for the life of the development, the decision-maker should require modifications to the document in the event there are discrepancies, prior to endorsement and/or approval of the planning application being granted. Conditional approval should not be granted prior to the BMP being prepared and endorsed.

³ Excluding development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².



4.6.3 IMPLEMENTING THE BMP

The BMP should include an implementation table that clearly identifies the bushfire risk management measures necessary to achieve compliance with the bushfire protection criteria. The table should identify roles and responsibilities and at what stage of the planning process the measures should be undertaken.

For strategic planning proposals, it is acknowledged details may not be known and so it may be more appropriate to identify the risk management measures that will need to be considered at subsequent stages of the planning process.

BMPs prepared for development applications must consider the ongoing responsibility of the landowner/occupier in maintaining the bushfire risk management measures for the life of the development.

Subdivision and development applications accompanied by a BMP may be conditionally approved, subject to the placement of a notification on the title of the property advising that the land is in a designated bushfire prone area and is subject to a BMP. This ensures potential purchasers are aware of the BMP and requirement for ongoing management of the property.

Local governments should ensure annual Fire Break Notices (section 33 notice) clearly reference the need for owners to comply with any existing BMPs on their land, and not simply refer to the need to maintain a generic asset protection zone, as this may not meet the requirements of the BMP.

Local governments should keep a register or record of sites that have an existing BMP, to identify servicing and infrastructure gaps and help inform district-level bushfire risk management planning. Local governments are also encouraged to make the BMPs readily available for landowners and to publish all BMPs online.

4.6.4 REVIEWING AN EXISTING BMP

When submitting a new application for a strategic planning proposal, subdivision or development application, a landowner/proponent may use an existing BMP if it remains relevant.

Circumstances where a BMP may require updating include:

- where the original BMP was prepared prior to the release of SPP 3.7 in December 2015
- where site conditions have changed
- where further details are available at subsequent stages of the planning process
- to reflect new methodologies or practice as identified in revisions of these Guidelines.

The decision-maker retains the right to request the landowner/proponent to update the BMP if it has reason to believe that the site conditions have substantially changed.

4.7 BUSHFIRE RISK MANAGEMENT PLANS

Bushfire Risk Management Plans are high-level documents prepared outside of the planning process for a particular local government, in collaboration with the Department of Fire and Emergency Services. Bushfire Risk Management Plans have a broader scope and are tenure-blind, providing an overview of the bushfire hazards and risk treatment strategies across a locality to determine wider impacts.

They differ from BMPs in that the latter provide more specific information relating to a particular precinct or lot under development. They are typically prepared by the landowner/proponent to support a planning proposal in a bushfire prone area.

Bushfire Risk Management Plans may be referred to as part of the preparation or review of strategic planning documents, with the intention of establishing synergies between planning proposals and known infrastructure gaps, such as improving road access or the location of evacuation centres through incentivising development in under-resourced areas.



5. APPLYING STATE PLANNING POLICY 3.7

SPP 3.7 and these Guidelines are applicable to every stage of the planning process. It is intended that bushfire planning and management measures be addressed as early as possible in the planning process, with the level of information provided being progressively more detailed.

Table 1 in Section 2.2 provides an overview of how bushfire risk should be addressed at each stage of the planning process, which is addressed in further detail below. The process for developing in bushfire prone areas is outlined in Section 5.4-5.8.

5.1 HIGHER ORDER STRATEGIC PLANNING DOCUMENTS IN BUSHFIRE PRONE AREAS

Higher order strategic planning documents such as frameworks, region schemes, sub-regional strategies and sub-regional structure plans should include high level consideration of bushfire risk when identifying land for future investigation and/or potential development. A broad consideration of the potential bushfire risk is required in order to appropriately plan for future urban expansion and essential state infrastructure networks.

These documents are typically the Western Australian Planning Commission's highest level of strategic plans and prepared at a state or regional scale, often for the Perth metropolitan area and large urban centres. They provide a coordinated direction for application of land uses, reserves and infrastructure over more than one local government area in the medium to long term. They are also used as a guide for local planning scheme zones and reservations.

Consideration of bushfire at this level may include the identification of development nodes away from bushfire prone areas, the retention of significant vegetation for conservation purposes or rural areas not suitable for urban development. Such areas will require Bushfire Hazard Level assessments during future strategic planning proposal stages.

5.2 STRATEGIC PLANNING PROPOSALS IN BUSHFIRE PRONE AREAS

All bushfire prone areas that exist within the boundary of a strategic planning proposal should be identified to flag where further assessment of a bushfire hazard will be required and highlight the potential for land use conflicts. Existing and proposed land uses within bushfire prone areas, as well as surrounding areas, should also be considered as well as the provision of the appropriate separation distances to bushfire prone vegetation.

5.2.1 REGION PLANNING SCHEME AMENDMENTS

Region schemes outline objectives for regional development and provide a statutory mechanism to assist strategic planning. They also set out broad land use zones. There are currently three region schemes in Western Australia.

When a region scheme is proposed to be amended, it is referred to the Environmental Protection Authority and undergoes public consultation. At this level, it provides one of the most effective means to prevent inappropriate development in unsuitable locations where extreme bushfire hazards exist. A Bushfire Hazard Level assessment is required at this stage to inform the suitability of the area for rezoning and the suitability of proposed future land uses.

Where the Bushfire Hazard Level assessment includes areas that are identified as extreme, the amendment should be referred to the Department of Fire and Emergency Services in relation to bushfire risk management measures. If vegetation removal is proposed to manage the threat, the advice of the Department of Water and Environment Regulation, Department of Biodiversity, Conservation and Attractions and the local government should also be sought.

If the planning for the proposed amendment area is advanced to the stage where the future lot layout has already been determined, a BAL Contour Map showing the indicative BAL ratings for each lot should be prepared instead of a Bushfire Hazard Level assessment. In this



context a BAL Contour Map provides more detailed information with respect to the extent of the potential impacts on individual lots.

The supporting documentation for the scheme amendment should identify any issues arising from the bushfire risk assessment/s and consider how compliance with the bushfire protection criteria (Appendix 4) can be achieved in subsequent planning stages. This can be in the form of a BMP.

5.2.2 DISTRICT STRUCTURE PLANS

District structure plans are usually prepared over land that is either not yet zoned for urban land use or development, or on land that requires a guiding framework to ensure coordination is achieved in subsequent stages of the planning process.

A district structure plan shows a more detailed general pattern of development in a particular part of a sub-region. It may include the location of specific land uses such as activity centres, schools and regional or district open spaces as well as district water management requirements, movement networks, and the coordination of regional and district infrastructure provision.

At this level a Bushfire Hazard Level assessment provides the opportunity to prevent inappropriate development in areas where extreme bushfire hazards exist. The Bushfire Hazard Level assessment allows for the identification of potential areas of land use conflict, especially in relation to residential, vulnerable or high-risk land uses. It also identifies bushfire hazard areas which will require further investigation in subsequent planning stages. Where the future lot layout has already been determined, a BAL Contour Map showing the indicative BAL ratings should be prepared, instead of a Bushfire Hazard Level assessment, to provide more detailed information with respect to the extent of the potential impacts on individual lots.

With consideration given to how compliance with the bushfire protection criteria can be achieved in subsequent planning stages, the following issues should be specifically addressed (preferably within a BMP) as part of the preparation of a district level structure plan that includes bushfire prone areas:

- the location of bushfire prone areas within and adjacent to the structure plan area and the need for further assessment of the risk in such areas;
- the avoidance of land use and development intensification in any areas likely to maintain or generate a hazard level of extreme;

- existing fire fighting infrastructure such as response or suppression capacity, water tanks, brigades etc.;
- the existing and proposed road network and its likely effectiveness in a bushfire emergency;
- biodiversity issues and their interrelationships with bushfire prone areas;
- means of protection for areas with high conservation values to accommodate biodiversity objectives such as, adequate separation from existing or proposed buffers for wetlands and foreshores; and
- the location of any vulnerable or high-risk land uses within identified bushfire prone areas and whether such uses may require management strategies to be prepared.

5.2.3 LOCAL PLANNING STRATEGIES

Local planning strategies are required to be prepared under the LPS Regulations 2015 as part of the process of a local planning scheme review, and therefore influence land use and development controls. Local planning strategies link to frameworks, sub-regional structure plans and region planning schemes where they exist providing the foundation for land use decisions for a particular local government area, usually for a period of 10 to 15 years.

Local planning strategies provide the rationale for land use planning decisions at the local level by identifying development constraints and opportunities in a local government area, and balancing these with broader planning considerations as well as the aspirations of the local community.

Local planning strategies should assess bushfire risk alongside other relevant planning matters including environmental, economic and social considerations to holistically inform and shape future expansion, as a precursor to local planning scheme zoning and reservations.

When preparing or reviewing a local planning strategy, local government should refer to the *Map of Bush Fire Prone Areas* to help determine any areas of land use conflict. Where these exist, a Bushfire Hazard Level assessment should be undertaken to inform the suitability of the area for future development. Broad objectives for bushfire risk management should be identified with recommendations and actions to achieve these objectives.



If a Bushfire Hazard Level assessment has already been prepared at a higher stage of planning, it may be used and updated with more locally specific content at this stage.

The Bushfire Hazard Level assessment should be used to allocate permissible land uses away from extreme hazard areas and flag where further assessment of the bushfire risk is required. Areas where a hazard level of extreme exists or is expected should generally not be identified for further development, intensification or rezoning. Should such an area be identified for development, it should be clearly stated that further bushfire risk management planning is required to reduce the hazard level before development, intensification or rezoning may be considered.

Where relevant, local planning strategies should identify areas where, due to the age and/or general nature of existing development, non-compliance with SPP 3.7 is expected if future development occurs. Enhanced bushfire risk management measures should be incorporated at future planning and development stages to provide improved community protection in the form of improved access, water infrastructure, emergency services and vegetation management.

With consideration given to how compliance with the bushfire protection criteria can be achieved in subsequent planning stages, a local planning strategy should specifically address the following issues:

- the location of bushfire prone areas and the need for further assessment of the hazard in such areas;
- the avoidance of land use and development intensification in any areas likely to maintain or generate a hazard level of extreme;
- fire-fighting infrastructure;
- the existing and proposed road network, and its likely effectiveness in a bushfire emergency;
- biodiversity issues, their interrelationships with bushfire prone areas and means of protection for areas with high conservation values; and
- the location of any vulnerable or high-risk land uses within identified bushfire prone areas and whether such uses may require management strategies to be prepared.

5.2.4 LOCAL PLANNING SCHEMES AND AMENDMENTS

Local planning schemes provide a mechanism to prevent development in inappropriate locations through suitable zoning and land use permissibility controls, consistent with strategic-level planning documents.

All local planning schemes include the deemed provisions relating to bushfire risk management as set out in the LPS Regulations 2015 at Schedule 2, Part 10A, Clauses 61(3) 78A–78G. Where considered appropriate, local planning schemes may include additional subdivision and development requirements related to bushfire risk management in line with the policy measures in SPP 3.7. Clause 78B (2) of the LPS Regulations 2015 specifically acknowledges that requirements relating to development in a bushfire prone area contained within a special control area will apply, in addition to the provisions contained within the LPS Regulations 2015.

When reviewing a local planning scheme, the zoning tables should be reviewed to ensure that the type of development permissible through the zoning table is compatible with the level of risk associated with any identified bushfire hazard in the local planning strategy. Vulnerable and high-risk land uses within bushfire prone areas should be given special consideration. The locations where these types of uses are not permitted may be listed in a schedule of the local planning scheme in order to establish strengthened bushfire risk management measures. These should form part of a special control area. Where a use is likely to have a hazard level of extreme that cannot be addressed through an amended planning proposal or approval conditions, there may be a need to establish it as a restricted use area.

New local planning schemes and scheme reviews containing bushfire prone areas are to be accompanied by a Bushfire Hazard Level assessment and, where there are areas identified as moderate or extreme, a BMP. The scheme should be referred to the Department of Fire and Emergency Services for advice as well as the Department of Water and Environment Regulation and the Department of Biodiversity, Conservation and Attractions if any vegetation removal is proposed.



5.2.4.1 LOCAL SCHEME AMENDMENTS WITHIN BUSHFIRE PRONE AREAS

For scheme amendments proposing the rezoning of an area, consideration should be given to whether the rezoning will increase the bushfire risk in that area. Bushfire risk may be increased by introducing higher fuel loads or changing the land use intensity or vulnerability, particularly through increased residential development and settlement.

Land use intensification in bushfire prone areas refers to proposals that would expose a greater number of individuals to a bushfire. Land use intensification in extreme bushfire hazard areas is strongly discouraged.

A conservative approach should be taken in relation to any proposed local planning scheme or amendment which proposes to facilitate intensified settlement or development; in particular rural residential subdivisions within a bushfire prone area. All rezoning amendments in bushfire prone areas should be accompanied by a Bushfire Hazard Level assessment. The rezoning proposal should demonstrate that the land proposed to be rezoned has, or can be made to have, a low to moderate bushfire hazard level. For scheme amendments where the potential lot layout is already proposed, a BAL Contour Map showing the indicative BAL ratings is required, instead of a Bushfire Hazard Level assessment, to provide more detailed information with respect to the extent of the potential impacts on individual lots.

The supporting documentation for the scheme amendment should identify any issues arising from the bushfire risk assessment/s and consider how compliance with the bushfire protection criteria can be achieved in subsequent planning stages. This is to be in the form of a BMP.

Where a local planning scheme amendment has been approved by the Minister for Planning prior to the publication of SPP 3.7 and does not contain bushfire risk management measures, discretion may be required for subsequent determinations based on the precautionary principle in such instances, as the SPP is not intended to be retrospectively applied.

5.2.4.2 SPECIAL CONTROL AREAS WITHIN BUSHFIRE PRONE AREAS

Special control areas are a tool used by local government to identify areas which are significant for a particular reason and where special provisions may need to apply. They are shown on the scheme map in addition to the zones and reserves that apply to the land, essentially creating a layer that operates as an overlay to the scheme map. In this regard, a local planning scheme amendment may be initiated to create special control areas that provide for special consideration of bushfire-related issues within specific locations.

This might include the provision of:

- more detailed bushfire hazard mapping where it exists, to the extent it is consistent with the *Map of Bush Fire Prone Areas*; and/or
- additional requirements in relation to bushfire risk assessment and management, for instance, the provisions could require that all BMPs, Bushfire Hazard Level and BAL assessments are prepared by an accredited individual.

The special control area provisions should set out the purpose and objectives of the special control area, any specific development requirements, the process for referring applications to relevant agencies and matters to be taken into account in determining development proposals. Local governments proposing to initiate a special control area for bushfire purposes are encouraged to liaise with the Western Australian Planning Commission and the Department of Fire and Emergency Services prior to lodging their scheme amendment.

5.2.4.3 USING LOCAL PLANNING POLICIES TO ADDRESS BUSHFIRE

Local planning policies are prepared by local governments to help inform and guide the preparation, assessment and discretionary decision-making of planning applications at the local government level. Local planning policies relating to bushfire risk management can complement a local planning scheme's bushfire provisions. This includes the deemed provisions relating to bushfire risk management and may be used as a means of clarifying the application of SPP 3.7 and the Department of Fire and Emergency Services requirements for a particular locality.



Local planning policies do not form part of a local planning scheme and have no statutory weight. As such, they cannot be used to establish mandatory development requirements or override scheme provisions. However, they may be given 'due regard' in planning decision-making. Local governments may choose to adopt additional bushfire scheme provisions if they wish to impose mandatory development requirements to strengthen bushfire protection measures within their locality.

In a bushfire planning context it is recognised that carefully drafted local planning policies may be useful to provide additional guidance or locally specific acceptable solutions in addition to those contained in the bushfire protection criteria (Appendix 4). For example, they may include particular fuel loads and fire break requirements that are not appropriate for inclusion in a mandatory scheme provision.

Local governments are encouraged to refer their local planning policies that address bushfire issues to the Western Australian Planning Commission and the Department of Fire and Emergency Services for advice prior to being adopted and implemented. In finalising the draft local planning policy, the local government is to consider any advice received and incorporate it into the final document. If advice is not incorporated and the local planning policy is made inconsistent with SPP 3.7 or these Guidelines, then SPP 3.7 and these Guidelines will prevail in any areas of conflict or interpretation. In such instances, the local planning policy will be open to legal challenge in addition to any right of review as provided for under Part 14 of the *Planning and Development Act 2005*.

5.2.5 LOCAL STRUCTURE PLANS AND MASTER PLANS

Local structure plans are non-statutory documents that are to be given 'due regard' in decision-making. Structure plans are approved by the Western Australian Planning Commission. Any subdivision or development application is generally required to be in accordance with an approved structure plan.

Structure plans are to be accompanied by a BMP, which includes a Bushfire Hazard Level assessment or BAL Contour Map. In most cases, as the lot layout will be already determined, a BAL Contour Map showing the indicative BAL ratings will be more appropriate as this can provide more detailed information with respect to the extent of the potential impacts on individual lots. It is strongly recommended that the BMP is prepared

by an accredited Bushfire Planning Practitioner. It is important that structure plans consider the requirements of the bushfire protection criteria at this level, to ensure that Asset Protection Zones can be established at a subsequent planning stage.

Specifically, the following issues should be addressed in the BMP as part of the preparation of a structure plan that includes bushfire prone areas:

- location of bushfire prone areas within and adjacent to the structure plan area and the need for further assessment of the risk in such areas;
- avoidance of land use and development intensification in any areas likely to maintain or generate a hazard level of extreme;
- existing fire-fighting infrastructure such as response or suppression capacity, water tanks, brigades etc.;
- existing and proposed road network, its' likely effectiveness in a bushfire emergency, and any gaps in the local access network from a bushfire safety perspective;
- biodiversity issues and their interrelationships with bushfire prone areas;
- means of protection for areas with high conservation values to accommodate biodiversity objectives such as, adequate separation from existing or proposed buffers for wetlands and foreshores;
- accommodation of biodiversity objectives such as, adequate separation from existing or proposed buffers for wetlands and foreshores; and
- location of any vulnerable or high-risk land uses within identified bushfire prone areas and whether such uses may require management strategies to be prepared.

Where staged development is proposed, structure plans should make provision for all bushfire protection criteria to be met during all stages of development. That is, bushfire risk management should not be conditional to a subsequent stage being developed. Any applicable staging plan, as well as local development plan, should ensure that development can be logically progressed and the overall bushfire risk managed. Specifically, the structure plan should identify and avoid pockets of development within unmanaged bushland, include the location of all access roads in and out of the development, and allow sufficient vegetation modification and/or clearing to ensure all lots within the approved stages are reasonably protected from bushfire hazards.



Where the opportunity arises, bushfire risk management measures could be established to enhance community resilience for surrounding development, such as the provision of an additional access road or increased water availability for fire-fighting.

Where a structure plan has been endorsed by the Western Australian Planning Commission prior to the publication of SPP 3.7 and does not contain bushfire risk management measures, discretion may be required for subsequent approvals based on the precautionary principle. Where little or no subdivision has taken place and/or the majority of the area is yet to be developed, the local government are advised to work with the proponent to consider best practice in bushfire risk management and amend the designs to achieve outcomes that align with policy objectives of SPP 3.7 and these Guidelines where possible.

5.3 SUBDIVISION IN BUSHFIRE PRONE AREAS

A well-designed subdivision can greatly reduce the exposure of people, property and infrastructure to bushfire hazard and assist in bushfire mitigation activities, suppression operations and community recovery before and during a bushfire event.

Subdivision proposals should be used as an opportunity to consider the location, siting and design, vehicular access and water infrastructure available to the lots to achieve a combination of bushfire protection measures.

Subdivisions in bushfire prone areas should:

- be located within close proximity to existing settlements;
- minimise the interface between the subdivision area and the bushfire hazard;
- avoid placing development on steep slopes;
- provide for at least two safe access and egress routes at the local and district level;
- consider landscape plans to ensure public open space and reserves avoid increasing the threat of bushfire to new and existing properties;
- carefully consider the creation and location of vegetation corridors where they may enable a passage of fire to enter the subdivision area;
- have access to adequate water and vehicular access infrastructure; and
- new development should be located in and surrounded by existing cleared areas wherever possible to minimise exposure to the bushfire hazard and avoid the need for further vegetation clearing.

Lot layout should provide for adequate separation from areas of environment value including existing or proposed buffers for wetlands, foreshores or other conservation areas. Where revegetation is required, consideration should be given to the bushfire threat posed by the vegetation in its mature state.

Non-binding agreements between neighbouring landowners and proponents regarding the on-going management of vegetation on the adjoining property in order to achieve a reduced BAL rating are not supported, as there is no legal basis for the decision-maker or any other public agency to enforce compliance by the adjoining landowner/proponent. Exceptional circumstances will be considered where hazard separation areas are already in place (such as maintained parks and gardens or low threat vegetation as defined in AS 3959, or land subject to and compliant with a fire break notice). Formal agreements between proponents and owners of adjoining land in perpetuity, may be considered where evidence of a legally enforceable agreement that is tied to the land, is provided to support the application.

Lot layout should consider access and egress suitable for the safe and efficient egress of residents simultaneous with the access and operation of fire appliances.

In a staged subdivision, at least two access routes (public roads) providing safe access or egress to two different destinations and all emergency access ways should be constructed in the first stage. Each stage of the subdivision should be assessed at the time of development. The BAL rating will be determined on the existing hazards. This applies regardless of whether the adjoining land is to be developed at a later time and/or as a subsequent stage of the subdivision approval. Lots should either include a 100 metre buffer to bushfire prone vegetation or comply with the bushfire construction requirements of the Building Code of Australia appropriate to the current BAL rating (with the exception of BAL-40 or BAL-FZ which are not acceptable on planning grounds).



5.3.1 APPLYING FOR SUBDIVISION

All subdivision applications in bushfire prone areas are to be lodged with a Western Australian Planning Commission Application Form 1A. The box 'bushfire prone area' must be ticked and the application is to be accompanied by a BAL Contour Map or BAL assessment (as appropriate). If a BAL Contour Map has been previously approved this should be reviewed to ensure it is still accurate. If a Bushfire Hazard Level assessment was prepared at an earlier stage, this should also be included.

If all of the proposed lots have a BAL-LOW indicated, a BMP is not required. If the BAL Contour Map or BAL assessment indicates any lots will have BAL-12.5 and above, a BMP is required to be submitted with the subdivision application. If a BMP, was prepared at a prior planning stage, it may be used if current (refer to section 4.6) and updated with the appropriate level of detail.

Where subdivision proposals contain measures that do not comply with the acceptable solutions in the bushfire protection criteria (i.e. performance principle based solutions), the proposal should be referred to Department of Fire and Emergency Services for their assessment. Subdivision applications that propose to create lots where construction levels of BAL-40 or BAL-FZ would be necessary are unlikely to be supported.

When a subdivision has been designed in accordance with an endorsed structure plan that did not include consideration of bushfire risk, the decision-maker will need to apply the precautionary principle in determining the application, having regard to SPP 3.7 and the bushfire protection criteria contained in these Guidelines. The proponent should prepare a BMP to address bushfire risk and amend the design to achieve better outcomes, where possible. Where little or no subdivision has occurred, the decision-maker may determine that a revised structure plan is necessary.

5.3.2 BUSHFIRE SUBDIVISION CONDITIONS

Policy measure 6.3 refers to the Western Australian Planning Commission's ability to impose conditions relating to bushfire risk management on subdivision applications. The Western Australian Planning Commission has a set of model subdivision conditions and advice notes that are applied consistently across the state.

The following type of condition may be imposed:

- **Information is to be provided to demonstrate that the measures contained in Section 6 Table X DEVELOPER IMPLEMENTATION RESPONSIBILITIES of the BMP have been implemented during subdivisional works. This information should include a completed 'Certificate of Compliance' from the BMP.** Where an approval is contingent on measures being carried out to address the bushfire protection criteria in these Guidelines, these should be identified within an implementation table. Once the works have been completed, a Certificate of Compliance should be completed by the bushfire consultant and/or the local government. Refer to Section 6 of the BMP template.
- **That a notification be placed on the certificate of title of proposed lots that are in a designated bushfire prone area and (where appropriate) is subject to a BMP.** This condition ensures that landowners/proponents (and prospective purchasers) are aware that their lot is in a designated bushfire prone area. The notification on title is only required for new lots created where BAL-12.5 or above is indicated on the BAL Contour Map.
- **A restrictive covenant should be placed on the certificates of title advising of a restriction on the use of the land within these BAL-40 or BAL-FZ areas.** This condition should be used where a portion of the lot has a BAL rating of BAL-FZ or BAL-40, is not unavoidable or minor development, and only in instances where the development site is significantly compromised. The decision-maker may also want to consider placing an advice note to advise that the restrictive covenant is placed on the certificate of title and applies to the affected lot(s) as a whole. A spatial representation of the area of BAL-40 or BAL-FZ is not required to be shown on the Deposited Plan.

It should be noted that the Western Australian Planning Commission has the discretion to include additional bushfire risk management related conditions in addition to the types listed above.



5.3.3 CLEARING OF CONDITIONS FOR AN APPROVED SUBDIVISION

This stage of the planning process involves clearing subdivision conditions applied by the Western Australian Planning Commission. Local government plays an important role in this process as the clearing agency for the majority of subdivision conditions.

The local government or relevant decision-maker is responsible for contacting the Office of Bushfire Risk Management to advise of any changes to the *Map of Bush Fire Prone Areas* arising as a result of the development, as per the annual review procedures outlined in the *Mapping Standard for Bush Fire Prone Areas*.

5.4 DEVELOPMENT APPLICATIONS IN BUSHFIRE PRONE AREAS

All development applications⁴ in bushfire prone areas are to be accompanied by a BAL assessment. Where a BAL Contour Map has been prepared for the subject site for a previous subdivision approval, this may be used in place of a BAL assessment providing it is at a scale that is appropriate for the development (refer to Appendix 3). BAL Contour Maps should be prepared by an accredited Bushfire Planning Practitioner, while BAL assessments should be completed by an accredited Level 1 BAL Assessor or an accredited Bushfire Planning Practitioner. A BAL assessment completed by an individual other than an accredited person in accordance with AS 3959, may be approved if the development is for a single house or ancillary dwelling on land that is located more than 50 kilometres from a gazetted town site or in accordance with section 3.2.1, at the discretion of the decision-maker.

The LPS Regulations 2015 and SPP 3.7 specifically exclude development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m² from requiring further assessment. In these situations, planning can only play a limited role in reducing the bushfire risk to those properties. Where lots of less than 1,100m² have already been created, the application of the appropriate construction standard at the building permit stage is the instrument used to reduce the residual

bushfire risk to those properties. In all instances, the assessment of future planning proposals will aim to ensure that lots are not created in areas that pose an unacceptable risk to property.

The development application is to include:

- a BAL Contour Map or a BAL assessment;
- the identification of any issues arising from the BAL Contour Map or BAL assessment; and
- an assessment against the bushfire protection criteria contained within these Guidelines demonstrating compliance within the boundary of the development application.

When assessing development applications in bushfire prone areas decision-makers are to consider:

- the existing requirements of the relevant scheme;
- the objectives and policy measures contained in SPP 3.7 and these Guidelines, including the bushfire protection criteria;
- any existing Bushfire Hazard Level assessment, BAL Contour Map, BAL assessment or similar existing document in relation to the subject site;
- any applicable or indicative BAL for the subject site;
- the vulnerability or high-risk nature of the land use;
- the proximity of the site to existing settlement areas;
- the capacity of existing fire fighting infrastructure; and
- any existing local biodiversity strategy or conservation plan.

Where all bushfire protection criteria contained in these Guidelines have been met, the development application is considered to be compliant with the requirements of SPP 3.7. Compliance with the bushfire protection criteria will be required in all instances, unless the proposal is considered to be minor development or unavoidable development in accordance with policy measure 6.7.

⁴ Excluding development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².



5.4.1 MINOR DEVELOPMENT IN AREAS WHERE BAL-40 OR BAL-FZ APPLIES

Minor development⁵ as outlined in policy measure 6.7.1 of SPP 3.7 refers to the development of land on an existing lot in a predominantly residential built-out area, that may or may not have been subject to consideration of bushfire threat in the past, and for which compliance with SPP 3.7 cannot be achieved. In most cases, this type of development will be constrained by pre-existing lot layout and nearby existing land uses. Consequently, each proposal should be given a merit-based assessment based on the principles outlined in policy measure 6.7.1.

In addition to the requirements for development applications, an application should demonstrate to the fullest extent possible how the bushfire protection criteria have been addressed and provide justification for any criteria that cannot be fully met. It is not sufficient to simply state that the criteria cannot be met. The desire for views or privacy may also conflict with the objectives of SPP 3.7; however, the siting of buildings should always be optimised to reduce the impact of bushfire.

The precautionary principle remains applicable to minor development applications. It may be that some sites have poor access, inadequate water supply, are in a remote location or on sloping topography which would pose an unacceptable risk even if the development was constructed to AS 3959. In these instances, there is a strong argument for refusal of the proposal even when it meets the definition of minor development. However, each case will be assessed on its merit.

Over time, existing developments may be re-purposed to accommodate another land use. Applications for a change of land use in bushfire prone areas requires consideration of whether land use intensification will occur and therefore require upgrades to water infrastructure or access routes, and so on. The precautionary principle should be applied in such instances to ensure that a change of land use does not increase the risk of bushfire impacting on people or property.

5.5 PROPOSING A VULNERABLE LAND USE IN A BUSHFIRE PRONE AREA

5.5.1 VULNERABLE LAND USES

Policy measure 6.6 of SPP 3.7 applies to vulnerable land uses and refers specifically to subdivision and development applications. However, if a scheme amendment or structure plan identifies a site for a future vulnerable land use, then the policy requirements should be addressed. It should be noted that DFES will provide advice, but do not 'endorse' BMPs, or emergency evacuation plans. SPP 3.7 will be amended to reflect this.

Vulnerable land uses include, but are not limited to:

- land uses designed to accommodate people who are less physically or mentally able and are likely to present evacuation challenges. Examples may include the elderly, children (under 18 years of age), and the sick or injured, in dedicated facilities such as aged or assisted care, nursing homes, education centres, education establishments, schools, child care centres, hospitals and rehabilitation centres.
- facilities that, due to the building design or use, or the number of people accommodated, are likely to present evacuation challenges. Examples include corrective institutions (prisons), large community purpose centres or large places of worship.
- tourism or recreational land uses which involve visitors who are unfamiliar with the surroundings and/or where they present evacuation challenges.

The identification of a proposal as vulnerable is at the discretion of the decision-maker. Where the decision-maker determines that, based on the capabilities of the occupants, the number of potential occupants, the development type or location, the proposal would benefit from an emergency evacuation plan to manage the safety of the occupants in a bushfire event, then the application should be treated as 'vulnerable'.

5.5.2 VULNERABLE TOURISM LAND USES

Tourism land uses are considered vulnerable land uses where they involve visitors who are unfamiliar with the surroundings and/or where they present evacuation challenges. The preparation of a BMP to demonstrate compliance with the acceptable solutions in Element 5 and an emergency evacuation plan should be undertaken.

⁵ LPS Regulations 2015 exclude development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².



Protection of life is the priority for tourism land uses. The protection of structures associated with the development, is at the discretion of the landowner/developer. There is currently no legislated requirement for commercial buildings to be built to bushfire construction standards and for some tourism land uses such as tents, caravans and cabins, construction under AS 3959 may be impossible. The bushfire planning practitioner should discuss options such as asset protection zones and construction methods or materials for buildings to improve resilience to bushfire, over and above the requirements contained within the bushfire protection measures and AS3959. Where a landowner/developer makes the economic decision that some or all of the built structures is a tolerable risk/loss, then this should be clearly documented.

In limited circumstances, where the acceptable solutions for vehicular access within Element 5 cannot be achieved for short-term accommodation, remote camping grounds or accommodation associated with nature based parks, an on-site shelter can be proposed as an acceptable solution. This is also contingent on the proposed development having a maximum capacity of 100 guests and staff on the site at any one time. In these instances, the relevant siting and design acceptable solutions should be demonstrated.

Where more than 100 persons are proposed and vehicular access cannot be achieved, or where the bushfire planning practitioner considers it can be demonstrated through other mitigation measures that the risk can be managed without the use of an on-site shelter and/or full compliance with the vehicular access requirements, then a performance principle-based solution should be developed.

For tourism proposals in bushfire prone areas that require the preparation of a risk assessment, local governments are encouraged to amend or require the proponent to initiate an amendment to their local planning scheme for the specific tourism land use (if applicable). This will enable strategic consideration of the proposal by WAPC.

Different tourism land uses demonstrate different characteristics and may require different levels of risk management. Reasons for setting bushfire acceptable solutions specific to the type of tourism land use include, but are not limited to:

- the presence of a resident/manager on site, thereby improving the potential for informed emergency evacuation decisions;

- construction under AS 3959 may be impossible, including tents, caravans and cabins, or the building may already exist and is not constructed in accordance with AS 3959;
- variations between the vegetation and hazard classification of both the subject site and adjoining land;
- whether the proposal is remote or located in an existing residential built-out area;
- whether the operation will occur during bushfire season or not; and
- whether the land use involves overnight stay.

The acceptable solutions are grouped with the above criteria in mind and are 'use classes' as defined in the LPS Regulations 2015 and referenced within Element 5 of these Guidelines.

5.5.2.1 BED AND BREAKFAST AND HOLIDAY HOUSE

The acceptable solutions recognise that:

- the maximum number of persons are restricted to that of a residential dwelling; and
- residential built-out areas do not generally present the same evacuation challenges to those developments outside of residential built-out areas.

For those applications within a residential built-out area, a simplified emergency evacuation plan should be provided. The on-going implementation of the emergency evacuation plan should be a condition of development approval. In addition, an information brochure and a site map should be prepared for any visitors, that provides advice on what to do in the event of a bushfire, identifies the subject property, the access routes and suitable destinations. The [Simple Development Application BMP template](#) should be used.

5.5.2.2 OTHER SHORT-TERM ACCOMMODATION (INCLUDING CAMPING GROUNDS)

There are numerous tourism land uses, as defined within the LPS Regulations 2015, that could be considered under this section of the acceptable solutions. Each tourism land use will present different evacuation challenges and different risk profiles, dependant on locational characteristics, number of patrons and management arrangements. It is important that bushfire planning practitioners consider these differences and provide suitable protection measures that respond to the unique nature of the tourism land use. The acceptable solutions provided should be treated as a minimum



requirement and if deemed necessary by the bushfire planning practitioner, or decision-maker, additional mitigation measures should be included.

Caravans, motor homes, holiday cabins and tents (including eco tents) used for short-term accommodation within caravan parks, often cannot achieve any level of construction under AS 3959. Consideration should be given to whether, in the event of a bushfire, the loss of these structures is a tolerable loss. If not, then an APZ should be provided to minimise likelihood of loss of these structures during a bushfire event. This should be clearly detailed within the BMP.

This section provides for the preparation of a risk assessment, where vehicular access cannot be achieved in accordance with the acceptable solutions of Element 5.

5.5.2.3 REMOTE CAMPING GROUNDS AND NATURE BASED PARKS

Nature based parks, although not a 'use class' as defined in the LPS Regulations 2015, means a facility in an area that:

- a) is not in close proximity to an area that is built up with structures used for business, industry or dwelling-houses at intervals of less than 100 metres for a distance of 500 metres or more;
- b) has been predominantly formed by nature; and
- c) has limited or controlled artificial light and noise intrusion.⁶

These nature-based parks are remote from townsites and often remote from emergency services, therefore require special consideration. These nature-based parks are low-cost, small-scale tourism uses, with the key aim of having minimal or no impact on the environment. They are often located on Crown reserves, unallocated Crown land or pastoral stations, although some may be located on private property. Some may provide limited facilities, such as a manager's house, toilets, washing up facilities and camper's kitchen, but often there will be no facilities with campers expected to be fully self-contained.

Bushfire is an inherent risk in many of these areas, and it is the responsibility of the owner/operator to inform visitors of the risk and the options available in the event of a bushfire. It is also the responsibility of those visiting these areas to understand and prepare for the risk. Vehicular access may be limited to a four-wheel drive. Drinking water and water for firefighting may not be available.

The BMP and the emergency evacuation plan should identify risks and propose bushfire management measures to reduce risk. This could include improvements to vehicular access, signage and options for on-site and off-site shelter.

Where vehicular access is not available to at least two different suitable destinations, traffic management, including the ability of vehicles to quickly evacuate the site in the event of a bushfire, will be an important consideration. Every site should allow immediate egress, without the need to move other vehicles. Directional signage and advice on what to do and where to go in the event of a bushfire, should be provided. This section provides for the preparation of a risk assessment where vehicular access cannot be achieved in accordance with the acceptable solutions of Element 5.

5.5.2.4 TOURISM DAY USES

This refers to tourism land uses that involve no overnight stay and may include, art galleries, breweries, exhibition centres, hotels, reception centres, restaurants/café, small bars, taverns, and wineries. Not all tourism day uses are vulnerable land uses. Vulnerability should be determined on a case by case basis by the decision-maker, with consideration being given to criteria including, but not limited to:

- options for egress and access in the event of a bushfire, to a suitable destination(s);
- the maximum number of visitors and staff on-site at any one time; and
- whether the visitors are likely to be tourists who are unfamiliar with the area, or visitors from the local area.

Many day uses can rely on closure in response to a pre-determined fire danger rating and/or on the issue of a total fire ban on any given day. Most of these uses would have a manager and/or staff member on site, who is able to activate emergency procedures. In most cases, visitors to the site would have travelled in their own or shared vehicle or tourist bus and would be able to evacuate the premises in the manner they came. Details on emergency procedures for occupants of the facility should be detailed in an emergency evacuation plan.

⁶ Government of WA and Department of Local government and Communities. 2015 *Nature Based Parks. Licensing guidelines for developers and local governments.*



5.5.3 RISK ASSESSMENT

Developing tourism land uses within remote and/or heavily vegetated areas comes with an inherent risk of bushfire, which can be reduced but never completely eliminated. Such risks must be understood to anticipate and manage them, in order to foster a culture of resilience at all levels.

A risk assessment can be undertaken as a performance principle-based solution, to demonstrate that the risk can be mitigated through various contingency measures to an agreed tolerable level. A risk assessment is not considered appropriate for small scale tourism land use development.

Who should prepare a risk assessment?

A suitably qualified Level 3 Bushfire Planning Practitioner should undertake the risk assessment, in collaboration with relevant stakeholders including the landowner/developer and the local government.

5.5.3.1 CONTINGENCY MEASURES TO MITIGATE RISK

5.5.3.1.1 Closure of a tourism land use

Consideration should be given to the closure of a tourism land use in response to a pre-determined fire danger rating and/or the issue of a total fire ban on any given day. It is acknowledged that closure may not be realistic for overnight facilities, however could apply where there are incidental day uses. This option would be reliant on a caretaker or staff member residing on-site and able to activate the approved emergency evacuation plan.

Closure requires adoption of a trigger point. The Department of Fire and Emergency Services (DFES) generally recommends leaving an area when the fire danger rating is 'catastrophic' or 'extreme'. In some situations, such as remote tourism land uses, it may be a safer option to require all staff and guests to remain on-site for the day as opposed to undertaking day visits, where communication may be more difficult.

Closure could also relate to closure of a facility during the bushfire season, which may provide the decision-maker confidence to exercise discretion to approve tourism land uses that are unable to satisfy the bushfire protection measures. This would need to be a condition of the development approval.

The closure of a tourism development should be mandated through the emergency evacuation plan and a condition of the development approval.

5.5.3.1.2 Sheltering off-site (evacuation)

Early evacuation in response to DFES alerts during a bushfire event should be reinforced through an emergency evacuation plan.

Advice – there is a bushfire in the area, but there is no known risk.

Watch and act – there is a possible risk to lives or homes; you need to leave or get ready to defend.

Emergency warning – you are in danger and need to take immediate action to survive; there is a threat to lives or homes.

The emergency evacuation plan should identify a suitable destination that will provide somewhere to evacuate to in the event of a bushfire, that is not bushfire prone, or is greater than 100 metres from classified vegetation. The suitable destination is generally not on the subject site, is accessible and in reasonable proximity to the tourism land use.

5.5.3.1.3 Sheltering on-site

In most instances early evacuation of visitors and staff based on an imminent bushfire threat should be the first consideration and will form the basis of a successful emergency evacuation plan. It should be emphasised that sheltering on-site is not a standalone contingency to managing risk to life and safety. The on-site shelter should be provided with sufficient space for the maximum number of employees and visitors that could be on-site at any given time and should be within easy walking distance from the tourism land use, with a designated and sign-posted footpath. The *ABCB Design and Construction of Community Bushfire Refuges Handbook* (2014) recommends 0.75 m² per person, however it is recommended that a minimum of 1.0 m² per person be considered.

Shelter on-site in a nominated building

The building nominated to be used as an on-site shelter, should be designed to withstand bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact.

A building proposed for this purpose needs to have a sufficient separation distance from the predominant bushfire prone vegetation, including a safety factor that correlates to the level of risk for the site and the



vulnerability of the inhabitants. The highest level of protection will be achieved when the on-site bushfire shelter is designed and constructed by a suitably qualified fire engineer in accordance with the Building Code of Australia and the *ABC Design and Construction of Community Bushfire Refuges Handbook* (2014).

Other options include the incorporation of an on-site bushfire shelter constructed to a construction standard that is higher than that required by AS 3959 and incorporates an APZ which limits radiant heat exposure to 10kW/m².

The ongoing maintenance of the building and the surrounding separation distances from the bushfire prone vegetation will be the responsibility of the owner/operator. A 'maintenance plan' should detail the maintenance and annual testing requirements.

Shelter on-site in a nominated open space area

Where a tourism land use provides no facilities or built structures that could be utilised for on-site shelter, such as a camping ground, an open space area is acceptable for on-site shelter, as a last resort.

Where an open space area is being proposed, the site and surrounding site vegetation modification and management should seek to achieve a radiant heat flux of 2kW/m² or less (with an assumed flame temperature of 1200K).

While the separation distances from bushfire prone vegetation to achieve 2kW/m² are likely to be considerable, some remote coastal camping sites may be able to utilise the beach as an open space area to shelter. Consideration will need to be given to the anticipated duration of the bushfire event, including the recovery period. Any ability to provide some shelter, such as a roofed area or shielding, would be beneficial.

The ongoing maintenance of the separation distances from the bushfire prone vegetation will be the responsibility of the owner/operator.

5.5.4 DEVELOPING A BUSHFIRE EMERGENCY EVACUATION PLAN

In the event of an emergency, many buildings have procedures to assist in the evacuation of occupants to an assembly point in the immediate vicinity of the building. Emergency evacuation plans prepared in accordance with Australian Standard 3745-2010 'Planning for Emergencies in Facilities' (AS 3745-

2010) and Australian Standard 4083-1997 'Planning for Emergencies – Health Care Facilities' (AS 4083-1997) generally provide for an emergency assembly area reachable by pedestrians. They do not address situations where, in the event of a bushfire, it may be more practicable to relocate by vehicle to a safe area beyond the immediate vicinity or to remain in the building as a last resort. Emergency procedures in response to a bushfire that are realistic for the capabilities of the staff, evacuees and the site conditions should form part of an emergency evacuation plan.

SPP 3.7 policy measure 6.6.1 states that development applications for vulnerable land uses should include an emergency evacuation plan. The purpose of this is to improve the preparedness of vulnerable land uses by identifying the steps to be followed before, during and after a bushfire event for occupants, staff and visitors, and assigning responsibilities and resources that may be required.

SPP 3.7 states "provision for emergency evacuation should be provided at the subdivision stage and an Emergency Evacuation Plan should be prepared at the development application stage".

At the subdivision stage, there is likely to be limited detail on the occupancy arrangement for the proposed development. However, it should be demonstrated that in the event of a bushfire, the resources and infrastructure necessary to support emergency evacuation will be provided. This may include consideration of the wider road network and the remoteness of the development.

At the development application stage, an emergency evacuation plan should provide detailed site-specific information. The bushfire risk will include an assessment of the vulnerability of the development and location, and the extent of the hazard. This includes consideration of the bushfire risk beyond the immediate site.

The emergency evacuation plan should be concise and consider:

- the number of people at the facility;
- whether the occupants are permanent or transient;
- whether there is a caretaker onsite;
- whether there are people with disability, medically dependent, young children or the elderly;
- effective warning and communication methods for persons on site;
- the potential level of exposure of evacuees to untenable conditions including air temperature, radiant heat and smoke at the facility, and assembly and evacuation locations;



- identification of a safe alternative location if there is a need for evacuation/relocation;
- pre-planned and agreed resources, responsibilities and procedures for the movement of occupants to safe location(s);
- details of suitable access/egress routes for the expected type/volume of traffic, including alternatives routes in the case of obstructions;
- transport options for those without access to private vehicles;
- locations for vehicle control points to assist with traffic management including the rerouting of private traffic away from the emergency;
- options to shelter in place as a last resort;
- provision and location of medical supplies and services;
- pre-planned and agreed responsibilities and resources for assistance to those that shelter in place; and
- roles and responsibilities of facility personnel and emergency services.

The emergency evacuation plan should consider if actions will change based on a series of triggers, such as:

- effective warning methods appropriate for the occupants (including consideration of at risk persons and the demographics of the occupants);
- closure of facility and early relocation of occupants appropriate to the fire danger rating, total fire bans and bushfire warnings; and
- any local government bushfire requirements (for example, harvest and vehicle movement bans).

It is strongly recommended that an accredited Level 3 bushfire planning practitioner or suitably qualified emergency management professional should prepare the emergency evacuation plan in collaboration with relevant stakeholders including the landowner/developer and the local government (refer to section 6 of these Guidelines).

5.6 PROPOSING A HIGH-RISK LAND USE IN A BUSHFIRE PRONE AREA

SPP 3.7 recognises that vegetation is not necessarily the only fuel in a bushfire event and that certain land uses may potentially ignite a bushfire, prolong its duration, or increase its intensity. Such uses may also expose the community, fire fighters and the environment to dangerous, uncontrolled substances during a bushfire event. High-risk land uses may include, but are not limited to: service stations, landfill sites, bulk storage of hazardous materials, fuel depots and certain heavy industries as well as military bases, power generating land uses, saw-mills, highways and railways, among other uses meeting the definition.

Proposals for non-residential, high-risk land uses in bushfire prone areas are to comply with policy measure 6.6. It should be noted that DFES will provide advice, but do not 'endorse' BMPs, or high-risk management plans. SPP 3.7 will be amended to reflect this. This may include establishing an appropriate APZ and should be supported by a risk management plan that addresses bushfire risk management measures for any flammable on-site hazards. It may determine that a reduction in on-site flammable material or appropriate storage of such material, would be required to reduce the threat, among other considerations.

Local governments should consider identifying high-risk land uses as restricted uses in a schedule of a special control area in order to establish strengthened bushfire risk management measures for such uses.

The bushfire construction requirements of the Building Code of Australia only apply to certain types of residential buildings (being Class 1, 2 or 3 buildings and/or Class 10a buildings or decks associated with a Class 1, 2 or 3 building) in designated bushfire prone areas. As such, AS 3959 does not apply to all buildings. Only vulnerable or high-risk land uses that fall within the relevant classes of buildings as set out in the Building Code of Australia will be required to comply with the bushfire construction requirements of the Building Code of Australia. As such, the planning process focuses on the location and siting of vulnerable and high risk land uses rather than the application of bushfire construction requirements.



5.7 UNAVOIDABLE DEVELOPMENT IN A BUSHFIRE PRONE AREA

SPP 3.7 policy measure 6.7.2 states there is a presumption against approving any strategic planning proposal, subdivision or development application⁷ that will result in the introduction or intensification of development or land use in an area that has or will, on completion, have an extreme bushfire hazard level and/or where BAL-40 or BAL-FZ applies unless it meets the definition of unavoidable development.

For the purposes of this policy, unavoidable development is defined as *“development that in the opinion of the decision-maker represents exceptional circumstances where full compliance with SPP 3.7 would be unreasonable as no alternative location exists and it can be proven that it is not contrary to the public interest”*. In all instances, the intent of the bushfire protection criteria, as outlined in these Guidelines, should be met.

There would be an extremely limited number of proposals deemed unavoidable development. For example, proposals for intensification of development or land uses, such as rural-residential development or an increase in residential densities would not be considered unavoidable development.

Unavoidable development may include critical State infrastructure such as railway lines, telecommunication facilities, electricity infrastructure and associated development, development associated with the preservation of historical or cultural sites, or emergency services such as evacuation centres, fire stations/brigades, police or ambulance facilities.

Applications for unavoidable development will only be supported where they meet the policy requirements of SPP3.7. It is the landowner/proponent's responsibility to justify why their proposal should be considered as unavoidable development. In such cases the proponent must also identify how significant reductions in the bushfire risk level to the community can be achieved. In addition, provide a clear indication of the benefits and how these outweigh the costs to adjacent landowners/proponents, government and the general community. The application must also be accompanied by a BMP. It should be noted that DFES will provide advice, but do not 'endorse' BMPs. SPP 3.7 will be amended to reflect this. In the absence of sufficient justification the proposal will not be supported.

5.8 PLANNING APPROVALS AND BUILDING PERMITS IN WESTERN AUSTRALIA

Given the strong relationship between planning and building to development in bushfire prone areas, this section identifies the operational stages of the planning process as it relates to development applications on individual lots. Specific enquiries on the building permit stage should be directed towards the relevant local government's building department.

Under the *Building Act 2011* and its associated *Building Regulations 2012*, the majority of development in Western Australia requires a building permit before construction can commence. This process typically occurs after the planning process. The building legislation also adopts the Building Code of Australia as the minimum technical requirements for the design and construction of buildings and certain other structures in Western Australia. The Building Code of Australia references a number of other documents, such as Australian Standards, as ways of demonstrating compliance with the mandatory performance requirements.

5.8.1 HABITABLE BUILDINGS AND SPECIFIED BUILDINGS

The LPS Regulations 2015 specifically require development involving single houses or ancillary dwellings on sites of 1,100m² or greater, and any other habitable and specified buildings regardless of lot size, to undertake a BAL assessment where a BAL Contour Map does not exist. Development approval is required where the BAL is BAL-40 or BAL-FZ (Figures 8 and 9). This applies regardless of whether any existing exemptions under the scheme exist. If planning approval is required it should be obtained prior to submitting the building permit application.

The LPS Regulations 2015 specifically exempt alterations, extensions and additions from requiring planning approval.

⁷ Excluding development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².



5.8.2 RESIDENTIAL BUILDINGS (CLASS 1, 2 OR 3 BUILDINGS AND ASSOCIATED CLASS 10A BUILDINGS AND DECKS) IN BUSHFIRE PRONE AREAS

The Building Code of Australia contains bushfire construction requirements that are applied to residential classes of development, being Class 1, 2, 3 buildings in designated bushfire prone areas, or Class 10a buildings or decks associated with Class 1, 2 or 3 buildings in designated bushfire prone areas. In general, the Building Code of Australia requires these buildings to be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the potential for ignition from burning embers, radiant heat and flame, and the intensity of the bushfire attack on the building.

The Building Code of Australia references AS 3959 as a deemed to satisfy solution that provides one way of demonstrating compliance with the Building Code of Australia's bushfire performance requirements. AS 3959 provides specific construction requirements for buildings in bushfire prone areas to improve resistance to bushfire attack setting out:

- the process of assessing and determining a BAL; and
- applicable construction requirements for a building, based on the assigned BAL.

The bushfire construction requirements of the Building Code of Australia are only triggered for applicable classes of buildings when those buildings are located in a bushfire prone area designated under law (refer to Part 3: Identifying bushfire prone areas). Once an area is identified as being a designated bushfire prone area, the person responsible for building works (i.e. the builder named on the building permit) is responsible for ensuring that the building complies with the bushfire construction requirements of the Building Code of Australia. The local government has the necessary statutory power to enforce these requirements.

The registered building surveyor for a Class 1, 2 or 3 building in designated bushfire prone area, or 10a building or deck associated with Class 1, 2 or 3 building in designated bushfire prone area, may require the preparation of a BAL assessment under the requirements of the Building Code of Australia to determine relevant construction provisions as part of the building approval process. Where a BAL Contour Map exists for a previous subdivision approval, this may be used in place of a site-specific BAL assessment at the discretion of the registered building surveyor.

An accredited Level 1 BAL Assessor or Bushfire Planning Practitioner may only provide general advice on the bushfire construction requirements contained in AS 3959. Specific queries regarding bushfire construction requirements should be directed to a registered building surveyor, who is required to certify compliance with the Building Code of Australia, including any bushfire construction requirements. The relevant local government's building department or the Department of Mines, Industry Regulation and Safety (Building and Energy Division) may be contacted for general information on the application of AS 3959.

For development of Class 1, 2 or 3 buildings or Class 10a buildings or decks associated with Class 1, 2 or 3 buildings in a bushfire prone area, the bushfire construction requirements of the Building Code of Australia will be applied at the building permit stage irrespective of the planning assessment process.

5.8.3 ALL OTHER BUILDINGS (CLASS 4 TO CLASS 9 BUILDINGS)

In the local planning scheme, Class 4 to Class 9 buildings usually require planning approval. The planning process will apply the bushfire protection criteria to ensure that the optimal outcome is achieved for bushfire protection, such as appropriate siting of the building on the lots/s, the provision of water tanks and passing bays, and so on.

The bushfire construction provisions of the Building Code of Australia do not apply to Class 4 to Class 9 buildings. In these instances the applicant has the discretion to utilise any or all of the elements of AS 3959 in the construction of the building that they deem appropriate.

5.8.4 SHEDS AND DECKS (CLASS 10A)

Under the LPS Regulations 2015, unless a shed is a specified building or is used for a habitable purpose, planning approval in BAL-40 or BAL-FZ is not required.

Typically, when a shed is associated with a dwelling it may be classed as a Class 10a structure under the Building Code of Australia. This requires the bushfire



construction requirements of the Building Code of Australia to be applied through the building permit process.

For a non-habitable shed not associated with a dwelling, no planning approval is required unless the scheme requires it. Similarly, the bushfire construction requirements under the Building Code of Australia do not apply if the shed is not associated with the main dwelling. Therefore, an Asset Protection Zone is not required in these instances.



Figure 8: Application process for single houses and ancillary dwellings in designated bushfire prone areas

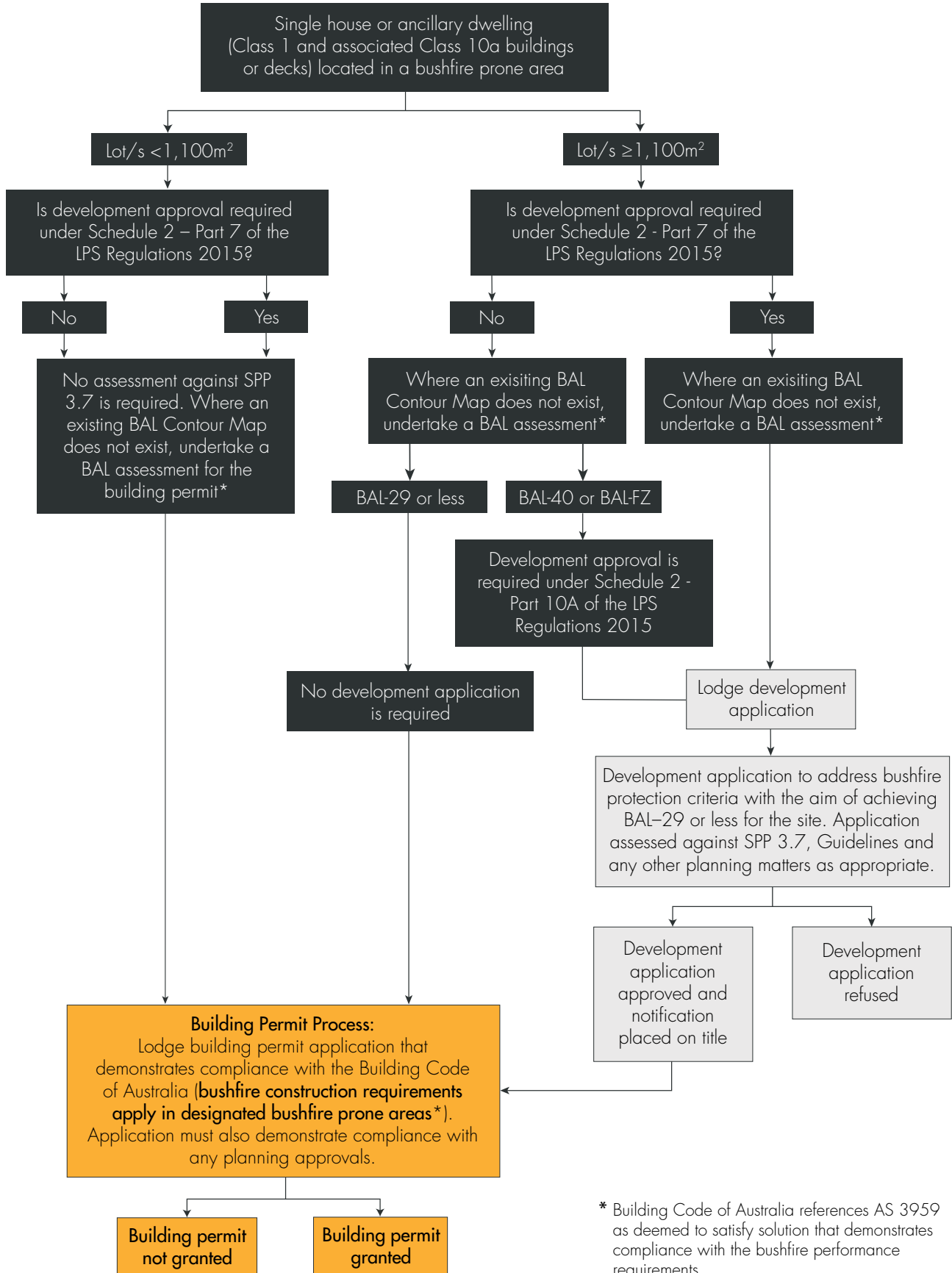
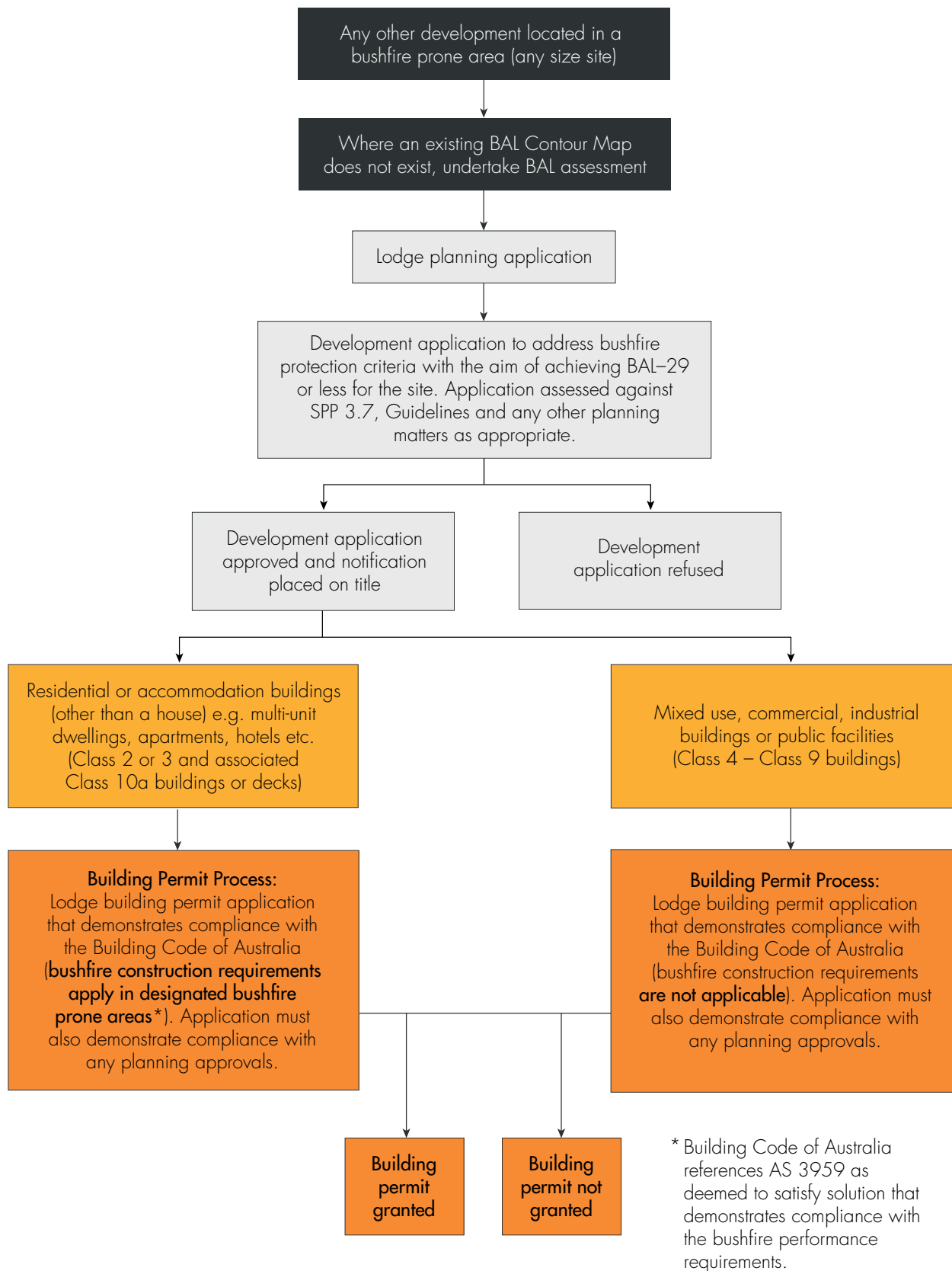




Figure 9: Application processes for all other buildings in designated bushfire prone areas





5.9 OTHER BUSHFIRE PROTECTION MEASURES NOT COVERED IN THE BUSHFIRE PROTECTION CRITERIA

5.9.1 PRIVATE BUSHFIRE SHELTERS (BUSHFIRE BUNKERS)

The installation of a well-designed and constructed private bushfire shelter has the potential to provide a level of protection from a bushfire while the fire front passes. However, private bushfire shelters are not a stand-alone solution and they will not guarantee elimination of the risk of serious injury or fatality, and their use should be considered with extreme caution. The existence of a private bushfire shelter does not remove the need for the policy objectives and measures of SPP 3.7, these Guidelines or building construction standards to be applied to the site.

The 2009 Victorian Bushfires Royal Commission stated that *“extreme caution should be taken in the use of bushfire bunkers as part of a household’s fire plan. While a well-designed and constructed bunker may provide a temporary place of refuge during the passage of the fire front, bunkers are not a panacea. Misplaced reliance on a bunker can be life threatening”*.

Currently, the Building Code of Australia classifies private bushfire shelters as a non-habitable Class 10c structure and contains performance requirements that apply to the construction of private bushfire shelters. Where a private bushfire shelter is installed, it must comply with the requirements of the Building Code of Australia. The construction of a private bushfire shelter would generally require the granting of a building permit.

5.9.2 ADDITIONAL MITIGATION MEASURES

Some landowners/proponents may wish to consider additional mitigation measures. Such systems may reduce the chances of ignition of the building during a bushfire. If a landowner/proponent chooses to consider additional mitigation measures, they should be manufactured and installed in accordance with appropriate standards. These measures are not considered to be an alternative solution on their own and would be in addition to the requirements set out in SPP 3.7 and these Guidelines.



6. ROLES AND RESPONSIBILITIES

The management of bushfire risk is a shared responsibility of landowners/proponents, government, industry and the community. This section summarises the key responsible authorities and stakeholders, and their respective responsibilities in implementing SPP 3.7.

6.1 LANDOWNERS/PROponents

Landowners/proponents responsibilities in addressing SPP 3.7 and these Guidelines include:

- awareness of the bushfire threat to their life and property, and understanding that the bushfire risk in most circumstances cannot be fully removed;
- preparing a Bushfire Hazard Level assessment, BAL Contour Map and/or BAL assessment to support their application where required;
- providing applications that are supported by sufficient technical analysis of the site's bushfire risk in the form of a BMP;
- if there are environmental issues, seeking the services of a planning or environmental consultant to adequately address these issues and inform the BMP, including:
 - identifying Environmentally Sensitive Areas (ESAs) with significant environmental conservation values
 - identifying vegetation that requires clearing and where necessary providing a flora assessment to support the application
 - consulting with local government about locally significant native vegetation
 - providing an appropriate buffer for proposals abutting waterways
- ensuring the ongoing implementation of a BMP, including the ongoing management of any Asset Protection Zone, maintenance of a water source for firefighting (if applicable) and ensuring internal access provisions are provided (including trimming tree branches back that overhang a driveway);
- preparing and implementing contingency measures in case a bushfire occurs onsite or nearby; and
- responding to and complying with fire protection or hazard management notices issued by the local government.

6.2 LOCAL GOVERNMENTS

Local governments have the following responsibilities in implementing SPP 3.7 and these Guidelines:

- ensuring strategic planning proposals, structure plans and development applications located in designated bushfire prone areas address SPP 3.7 and these Guidelines;
- ensuring related documents, such as biodiversity strategies or environmental management plans, consider and address SPP 3.7 and these Guidelines;
- administering development controls in accordance with the local planning scheme, with due regard to SPP 3.7 and other policies and publications outlined in these Guidelines;
- seeking the advice of the Department of Planning, Lands and Heritage and DFES on bushfire local planning policies and supplementary provisions to the deemed provisions relating to bushfire risk management contained in the LPS Regulations 2015;
- seeking comments and advice from DFES in relation to section 6.5 of these Guidelines;
- seeking advice from the appropriate agency if the BMP proposes modification or impacts on an environmentally-sensitive area including a waterway/wetland, coastal foreshore or proposes clearing native vegetation;
- providing advice where the clearing of locally significant vegetation is proposed;
- advising DFES of recommended amendments to the *Map of Bush Fire Prone Areas* in accordance with the *Mapping Standard for Bush Fire Prone Areas* where:
 - there is no apparent bushfire prone vegetation (for example, where a BAL Contour Map or BAL assessment indicates a section of land as BAL-LOW, or a Bushfire Hazard Level Assessment classifies a section as 'low')
 - clearing has been undertaken in accordance with a subdivision or development application
 - there are inconsistencies between the *Map of Bush Fire Prone Areas* and local government mapping
 - an area is proposed to be developed in a way that introduces a bushfire hazard (for example, it incorporates the revegetation of cleared land, wetlands or foreshores)



- ensuring a final compliance check against the implementation table within the BMP has been prepared by the Bushfire Planning Practitioner and/or local government, and issue the 'clearance' of subdivision conditions, upon completion of subdivisional works;
- ensuring landowners/occupiers comply with the ongoing management actions within the BMP implementation table;
- ensuring buildings are constructed in accordance with the determined BAL rating and associated construction standard contained in AS 3959;
- reviewing the local government's Firebreak Notice under section 33 of the *Bush Fires Act 1954* to provide for improved management and include reference to endorsed BMPs; and
- certifying building permit applications.

6.3 WESTERN AUSTRALIAN PLANNING COMMISSION

The Western Australian Planning Commission (WAPC) is responsible for:

- assessing and determining strategic planning proposals, subdivision and development applications in accordance with SPP 3.7 and these Guidelines;
- applying the precautionary principle to all strategic planning proposals, subdivision and development applications in bushfire prone areas;
- ensuring a Bushfire Planning Practitioner undertakes Bushfire Hazard Level assessments, BAL Contour Mapping and/or BAL assessments where land subject to a planning proposal is vested in the control of the WAPC; and
- monitoring the implementation and effectiveness of SPP 3.7 and these Guidelines.

6.4 DEPARTMENT OF PLANNING, LANDS AND HERITAGE

The Department of Planning, Lands and Heritage is responsible for:

- ensuring all planning proposals, including local planning strategies and schemes, within bushfire prone areas consider and address SPP 3.7 and these Guidelines;
- make recommendations to the WAPC to determine those applications that are inconsistent with the advice of DFES and/or do not satisfy the bushfire protection criteria contained within Appendix 4 of these Guidelines;
- assessing proposed local government supplementary provisions to the deemed provisions relating to bushfire risk management contained in the LPS Regulations 2015, in consultation with DFES, as required;
- assessing local government requests for local variations to the bushfire protection criteria;
- seeking DFES' comments and advice in relation to:
 - bushfire local planning policies
 - where a local government seeks to make local variations to the bushfire protection criteria
 - BMPs that propose performance principle-based solutions to the bushfire protection criteria contained in Appendix 4 of these Guidelines
 - where a Method 2 assessment has been undertaken in accordance with AS 3959
 - strategic planning proposals, including structure plans, where SPP 3.7 and these Guidelines apply and where a BMP has been prepared
- referring BMPs that are close to waterways/wetlands or significant vegetation to the appropriate agency for comments;
- advising DFES of recommended amendments to the *Map of Bush Fire Prone Areas* in accordance with the *Mapping Standard for Bush Fire Prone Areas* where an area is proposed to be developed in a way that introduces a bushfire hazard (for example, it incorporates the revegetation of cleared areas, wetlands or foreshores); and
- reviewing SPP 3.7 and these Guidelines, as necessary.



6.5 DEPARTMENT OF FIRE AND EMERGENCY SERVICES

The Fire and Emergency Services Commissioner is responsible for designating bushfire prone areas to trigger planning and building requirements under the *Fire and Emergency Services Act 1998* (as amended). DFES is responsible for fire management across the State. Decision-makers rely on DFES to provide formal, technical advice specifically against the provisions of SPP 3.7 and these Guidelines to help guide decision-making on planning proposals and development applications. The Land Use Planning directorate within the Rural Fire Division (RFD) of DFES, together with other divisions of DFES as required, is responsible for providing formal advice to the decision-maker within statutory timeframes, where:

- strategic planning proposals are required to address SPP 3.7 and these Guidelines apply and where a BMP has been prepared;
- a BMP proposes a performance principle-based solution to the bushfire protection criteria contained in Appendix 4 of these Guidelines;
- a Method 2 assessment has been undertaken in accordance with AS 3959;
- a proposal contains unavoidable development, a vulnerable or high-risk land use as specified in SPP 3.7 and these Guidelines;
- local government seek to make local variations to the bushfire protection criteria;
- a local government proposes a local planning scheme amendment containing supplementary provisions in addition to the deemed provisions relating to bushfire risk management contained in the LPS Regulations 2015;
- a local government bushfire local planning policy is proposed;
- there is a conflict of opinion between the decision-maker and/or the landowner/proponent concerning a BMP or bushfire assessment;
- expert technical advice to decision-makers in cases where refusal of the planning application is recommended;
- expert technical evidence, including representation of DFES, is required for the State Administrative Tribunal on bushfire risk and its consequences to planning decisions;

- expert technical evidence, including representation of DFES, is required for Development Assessment Panels on bushfire risk and its consequences to planning decisions;
- on other occasions where bushfire safety expert advice is required to support planning decision-making; and
- preparation of BHL assessments, BAL Contour Maps or BAL assessments in accordance with the Guidelines.

If an application meets all the acceptable solutions and does not otherwise trigger a referral as listed above, the advice of DFES is not required.

DFES officers are not required to be accredited under the Western Australian Bushfire Accreditation Framework as outlined in section 6.12 of these Guidelines to provide advice, technical evidence or representation.

6.6 OFFICE OF BUSHFIRE RISK MANAGEMENT

The Office of Bushfire Risk Management sits within the RFD of DFES and reports to the Executive Director RFD. It is responsible for:

- setting standards addressing bushfire risk management, including the development of the *Map of Bush Fire Prone Areas* and the *Mapping Standard for Bush Fire Prone Areas*;
- reviewing the Map of Bush Fire Prone Areas and associated standards; and
- facilitating the coordination of key authorities on the management, auditing and reporting of bushfire-related risk matters.

6.7 DEPARTMENT OF MINES, INDUSTRY REGULATION AND SAFETY (BUILDING AND ENERGY DIVISION)

The Department of Mines, Industry Regulation and Safety is responsible for:

- administering the *Building Act 2011* and *Building Regulations 2012* that set out the building approval process for Western Australia, including the requirement to obtain a building permit to carry out building work;



- administering and applying the Building Code of Australia in Western Australia;
- responding to general enquiries about the application of the Building Code of Australia;
- registering builders and building surveyors;
- auditing building work and registered practitioners (such as builders and building surveyors); and
- providing a dispute resolution process for complaints about registered practitioners.

6.8 DEPARTMENT OF ENVIRONMENT AND ENERGY (AUSTRALIAN GOVERNMENT)

The Australian Government's Department of Environment and Energy administers the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999). Under the EPBC Act 1999, a proposal requires referral to the Department of Environment and Energy for assessment if it has, or is likely to have, a significant impact on matters of national environmental significance, such as nationally and internationally important flora, fauna, ecological communities and heritage places.

6.9 DEPARTMENT OF WATER AND ENVIRONMENTAL REGULATION

The Department of Water and Environmental Regulation (DWER) is responsible for:

- assessing vegetation clearing proposals associated with land development
- providing referral advice on the management of water resources in accordance with Better Urban Water Management (WAPC 2008) and water resource management legislation, policies and guidelines
- determining whether to assess schemes, scheme amendments and development proposals in order to protect the environment.

Clearing native vegetation in Western Australia is an offence under Part V, Division 2 of the *Environmental Protection Act 1986* unless it is carried out in accordance with a clearing permit, or if an exemption applies. Exemptions are contained in Schedule 6 of that Act or are prescribed in the *Environmental Protection (Clearing*

of Native Vegetation) Regulations 2004. The exemptions do not apply in environmentally sensitive areas. Clearing for permanent hazard reduction may not be exempt and a clearing permit may be required. Clearing permit enquiries should be directed to DWER. Referrals to DWER should also be undertaken for planning applications in bushfire prone areas which affect water resources, including waterways and their foreshore reserves.

6.10 DEPARTMENT OF BIODIVERSITY, CONSERVATION AND ATTRACTIONS

The Department of Biodiversity, Conservation and Attractions (DBCA) is responsible for providing referral advice on applications abutting reserves and land under its management, including State land that is managed by agreement with the Department of Planning, Lands and Heritage. DBCA considers biodiversity, flora and fauna, wetlands and ecological communities as well as nature conservation covenants on freehold land and fire management issues within adjoining reserves. General conservation enquiries should be directed to DBCA.

6.11 STATE ADMINISTRATIVE TRIBUNAL

The State Administrative Tribunal reviews decisions made by government where it is empowered to do so by State legislation. The *Planning and Development Act 2005* and local planning schemes give power to State Administrative Tribunal to review decisions made pursuant to the *Planning and Development Act 2005*, local and regional planning schemes and the *Metropolitan Redevelopment Authority Act 2011*.

6.12 WESTERN AUSTRALIAN BUSHFIRE ACCREDITATION FRAMEWORK

The Western Australian Bushfire Accreditation Framework (the Framework) has been established by the Western Australian government to enable effective, professional and consistent advice for land use planning and building decision processes. It aims to improve bushfire risk management measures being applied to land uses and development.



The Framework will provide individuals with a professional standing and expertise at three different levels to ultimately improve the safety of local communities and strengthen community resilience to bushfire events. The establishment of a recognised professional industry will provide developers, landowners/proponents and decision-makers, such as local government and State government agencies, with the confidence that the service provider has met certain professional standards and has the skills and knowledge to provide consistent and professional services. Further information on the different levels of accreditation is located in the *Guidelines for organisations seeking to become accrediting bodies in Western Australia: Level 1 Bushfire Attack Level Assessor, Level 2 Bushfire Planning Practitioner – Prescriptive and Level 3 Bushfire Planning Practitioner – Performance* (Department of Planning 2015).

Government approved accrediting bodies are required to maintain a list of all individuals accredited under the Framework.

6.12.1 LEVEL 1 BAL ASSESSOR

Level 1 BAL Assessors are accredited to provide services limited to:

- determining the appropriate BAL using Method 1 (simplified method) of AS 3959 as referenced by the Building Code of Australia; and
- providing general advice on the design and construction requirements of AS 3959.

6.12.2 LEVEL 2 BUSHFIRE PLANNING

PRACTITIONER – PRESCRIPTIVE

Level 2 Bushfire Planning Practitioners – Prescriptive are accredited to provide services limited to:

- Bushfire Hazard Level assessments for strategic planning proposals according to these Guidelines;
- developing BAL Contour Maps where the lot layout is known for strategic planning proposals and subdivision applications according to these Guidelines and relevant practice notes issued by the Department of Planning, Lands and Heritage and the Department of Mines, Industry Regulation and Safety (Building and Energy Division);
- application of bushfire protection criteria to develop acceptable solutions for planning designs according to these Guidelines;

- development of BMPs according to these Guidelines but **excluding** those for:
 - vulnerable land use
 - high-risk land use
 - unavoidable development
 - minor development in areas where BAL-40 or BAL-FZ applies;
- provision of advice for planning proposals and development applications;
- the activities described for an Accredited Level 1 BAL Assessor, which includes determining the appropriate BAL using only Method 1 (simplified method) of AS3959; and
- other limited activities prescribed in practice notes issued by the Department of Planning, Lands and Heritage from time to time.

6.12.3 LEVEL 3 BUSHFIRE PLANNING

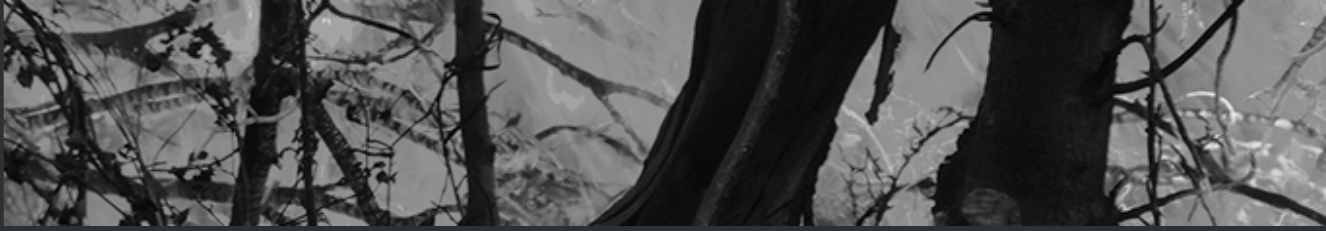
PRACTITIONER – PERFORMANCE

Level 3 Bushfire Practitioners – Performance are accredited to provide services limited to:

- determining the appropriate BAL using Method 2 (detailed method) of AS 3959, as referenced by the Building Code of Australia;
- application of the bushfire protection criteria to develop designs that are outside of those specified in the acceptable solutions⁸ within these guidelines;
- development of BMPs for planning proposals and development applications that involve:
 - vulnerable land use
 - high-risk land use
 - unavoidable development
 - minor development in areas where BAL-40 or BAL-FZ, in accordance with SPP 3.7 and these Guidelines;
- development of Emergency Evacuation Plans for vulnerable land uses;
- development of risk assessments for high-risk land uses;
- development of BMPs and provision of advice for ‘unavoidable development’ applications in accordance with SPP 3.7 and these Guidelines;
- where required, provision of advice for Bushfire Risk Management Plans; and
- the activities described for a Level 1 BAL Assessor and Level 2 Bushfire Planning Practitioner – Prescriptive.

⁸ Note this reference to ‘alternative solutions’ is not a reference to those developed under the Building Code of Australia.

APPENDICES





APPENDIX ONE DEFINITIONS

These definitions apply in the context of SPP 3.7 and these Guidelines.

All weather surface: Compacted gravel surface to the standard prescribed in the Austroads Guide to Pavement Technology as a minimum. An all-weather surface does not need to be sealed.

AS 3959: Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas.

Asset Protection Zone: A low fuel area immediately surrounding a building.

BAL: Bushfire Attack Level (BAL) as set out in the Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas (AS 3959), as referenced in the Building Code of Australia (as amended).

BAL assessment: An assessment prepared in a manner and form set out in AS 3959 to determine a BAL. It is strongly recommended that BAL assessments are prepared by accredited Level 1 BAL Assessors, unless otherwise exempted in these Guidelines.

BAL Contour Map: A BAL Contour Map is a scale map of the subject lot/s illustrating the potential radiant heat impacts and associated indicative BAL ratings in reference to any classified vegetation remaining within 100 metres of the assessment area after the development is complete. The intent of the BAL Contour Map is to identify land suitable for development based on the indicative BAL rating. It is strongly recommended that BAL Contour Maps are prepared by an accredited Bushfire Planning Practitioner.

Bed and breakfast: Means a dwelling used by a resident of the dwelling to provide short-term accommodation, including breakfast, on a commercial basis for not more than four adults or one family and containing not more than two guest bedrooms.

Bushfire: An unplanned fire burning in vegetation. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective.

Bushfire hazard: The potential or existing flammability of vegetation that, in association with topography and slope, when ignited may cause harm to people and/or damage property and/or infrastructure.

Bushfire Hazard Level assessment: A Bushfire Hazard Level assessment provides a measure of the likely intensity of a bushfire and the likely level of bushfire attack on a site determined by categorising and mapping land

as having a low, moderate or extreme Bushfire Hazard Level in accordance with the methodology set out in these Guidelines. It is strongly recommended that Bushfire Hazard Level assessments are prepared by an accredited Bushfire Planning Practitioner.

Bushfire Management Plan: A document that sets out short, medium and long-term risk management strategies for the life of the development. It is strongly recommended that Bushfire Management Plans are prepared by accredited Bushfire Planning Practitioners in accordance with the requirements set out in these Guidelines on behalf of the landowner/proponent with the assistance of the responsible authority for emergency services where required.

Bushfire Planning Practitioner: A person who holds, Level Two or Level Three accreditation under the Western Australian Bushfire Accreditation Framework.

Bushfire prone area: An area that has been designated by the Fire and Emergency Services Commissioner under s. 18P of the *Fire and Emergency Services Act 1998* as an area that is subject, or likely to be subject, to bushfires. Such areas are identified on the *Map of Bush Fire Prone Areas* and can be found on the Department of Fire and Emergency Services website.

Bushfire protection criteria: A performance-based system of assessing bushfire risk management measures contained in these Guidelines and applied to all strategic planning proposals, subdivisions and development applications.

Bushfire risk: The chance of a bushfire igniting, spreading and causing damage to people, property and infrastructure.

Bushfire risk management: Means the application of the bushfire protection criteria contained in these Guidelines.

Caravan park: As defined in the *Caravan Parks and Camping Grounds Act 1995* section 5.1, means an area of land on which caravans, or caravans and camps are situated for habitation.

Carriageway: Means a portion of a road that is improved, designed or ordinarily used for vehicular traffic, and includes the shoulders, and areas, including embayments, at the side or centre of the carriageway, used for the stopping or parking of vehicles; and, where a road has 2 or more of those portions divided by a median strip, the expression means each of those portions, separately.



Decision-maker: The Minister for Planning, State Administrative Tribunal, Western Australian Planning Commission, Development Assessment Panel, any other State decision-making authorities, and/or the relevant local government and their delegates that make decisions regarding the application these Guidelines.

Defendable space: A three-metre-wide area adjacent to a building that is kept free from vegetation (excluding ground covers and grass) and provides a relatively safe space from which firefighters and appropriately prepared homeowners may defend the property.

Development application: An application for approval to carry out development or change a land use under either a local planning scheme or region planning scheme, this includes local development plans but excludes applications for single houses and ancillary dwellings on a lot or lots less than 1,100m².

Development site: Means that part of a lot on which a building that is the subject of development stands or is to be constructed.

Guidelines: Refers to the *Guidelines for Planning in Bushfire Prone Areas* (WAPC 2015, as amended).

Habitable building: Means a permanent or temporary structure on land that –

- a. is fully or partially enclosed; and
- b. has at least one wall of solid material and a roof of solid material; and
- c. is used for a purpose that involves the use of the interior of the structure by people for living, working, studying or being entertained.

Higher order strategic planning documents: Any higher order strategic planning documents including frameworks, region schemes, sub-regional strategies and sub-regional structure plans.

High-risk land use: A land use which may lead to the potential ignition, prolonged duration and/or increased intensity of a bushfire. Such uses may also expose the community, fire fighters and the surrounding environment to dangerous, uncontrolled substances during a bushfire event. Examples of what constitutes a high-risk land use are provided in the Guidelines.

Holiday house: Means a single dwelling on one lot used to provide short-term accommodation but does not include a bed and breakfast.

IPWEA Subdivision Guidelines: Refers to the Local Government Guidelines for Subdivisional Development (Institute of Public Works Engineering Australasia; WAPC, 2017).

Level 1 BAL Assessor: A person who holds Level 1 BAL Assessor accreditation under the Western Australian Bushfire Accreditation Framework.

Minor development: Refers to applications in residential built-out areas at a scale which may not require full compliance with the relevant policy measures. Classes of development considered under this definition, with the exclusion of applications for unavoidable development, are:

- a single house on an existing lot 1,100m² or greater;
- an ancillary dwelling on a lot of 1,100m² or greater; and
- change to a vulnerable land use in an existing residential development.

On-site shelter: An on-site location where people facing an immediate threat to their personal safety or property can gather and seek shelter from the impact of a bushfire.

Precautionary principle: The presumption against approving further strategic planning proposals, subdivision and development applications or intensification of land uses, where there is a lack of certainty that the potential for significant adverse impacts can be adequately reduced or managed in the opinion of the decision-maker.

Residential built-out area: A locality serviced with reticulated water and is within or contiguous with an urban area or town (or similar), which incorporates a suitable destination.

Road pavement: The paved area within a street reserve which is provided for the movement or parking of vehicles and bikes, and does not include the shoulders.

Short-term accommodation: Temporary accommodation provided either continuously or from time to time with no guest accommodated for more than three months in any 12-month period.

Site: The entirety of the land subject to the planning proposal. This includes all lot(s) affected by the proposal.

Strategic planning proposal: Any strategic-level planning proposal including: region scheme amendments; district structure plans; local planning strategies; local planning schemes and amendments; and structure plans and master plans - but does not include subdivision and development applications.

Suitable destination: An area that can provide shelter during a bushfire event and is either:

- not classified as bushfire prone on the Map of Bushfire Prone Areas; or
- greater than 100m from classifiable vegetation



Tolerable: The willingness to live with a risk to secure benefits and achieve objectives, on the understanding that it is being properly controlled. 'Tolerability' does not mean 'acceptability'. Tolerating a risk does not mean that it is regarded as negligible, or something we may ignore, but rather as something that needs to be kept under review and reduced further.

Trafficable: Can be travelled upon by vehicles at the posted speed limit.

Traversable: Means can be moved over safely by a vehicle.

Two-way access: Vehicular access from a site in two different directions to at least two suitable destinations.

Type 3.4 firefighting appliance: A 4x4 tanker with a 3000-litre water tank capacity used for firefighting.

Unavoidable development: Development that, in the opinion of the decision-maker, represents exceptional circumstances where full compliance with this policy would be unreasonable; no alternative location exists; it is not minor development; and it is not contrary to the public interest. Examples of what constitutes unavoidable development are provided in these Guidelines.

Vertical clearance: The vertical clearance needed by an emergency services vehicle to operate.

Vulnerable land use: A land use where persons may be less able to respond in a bushfire emergency. Examples of what constitutes a vulnerable land use are provided in these Guidelines.

WAPC: Western Australian Planning Commission.

Weight capacity: Applies to the trafficable surface construction, including all bridges or culverts on the site and access routes.



APPENDIX TWO BUSHFIRE HAZARD LEVEL (BHL) ASSESSMENT METHODOLOGY

What is a BHL assessment

A Bushfire Hazard Level (BHL) assessment provides a 'broad brush' means of determining the potential intensity of a bushfire in a particular area. The BHL assessment is a pre-development decision-making tool used to inform the suitability of strategic planning proposals for future subdivision and development.

When should a BHL assessment be used

A BHL assessment should be undertaken for any area identified for intensification of land use in a strategic planning proposal where lot layout is not yet known.

Who can conduct a BHL assessment

It is recommended landowners/proponents seek the assistance of an accredited Level 2 or Level 3 Bushfire Planning Practitioner to conduct a BHL assessment.

BHL assessment methodology

A BHL assessment should be prepared in accordance with this Appendix with consideration for the predominant classified vegetation for a site as per Australian Standard (AS) 3959.

The assessment methodology categorises the bushfire hazard level as low, moderate or extreme based on the vegetation and slope within 150 metres of a site. This provides an indication of the likely impact of a bushfire event as it interacts with the bushfire hazard on and close to a site. It provides a measure of the likely intensity of a bushfire and the likely level of bushfire attack on a site by categorising the hazard.

Table 3: BHL and classified vegetation (as per AS3959)

HAZARD LEVEL	CHARACTERISTICS
Extreme	<ul style="list-style-type: none"> • Class A: Forest • Class B: Woodland (05) • Class D: Scrub • Any classified vegetation with a greater than 10 degree slope
Moderate	<ul style="list-style-type: none"> • Class B: Low woodland (07) • Class C: Shrubland • Class E: Mallee/Mulga • Class G: Grassland, including sown pasture and crops • Vegetation that has a low hazard level but is within 100 metres of vegetation classified as a moderate or extreme hazard, is to adopt a moderate hazard level.
Low	<ul style="list-style-type: none"> • Low threat vegetation may include areas of maintained lawns, golf courses, public recreation reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks. • Managed grassland in a minimal fuel condition (insufficient fuel is available to significantly increase the severity of the bushfire attack). For example, short-cropped grass to a nominal height of 100 millimetres. • Non-vegetated areas including waterways, roads, footpaths, buildings and rock outcrops.



Step One: Determine the area to be assessed

- The BHL assessment area is the defined subject site and all land within 150 metres of the external boundary of the subject site.
- Use an appropriate aerial image (where available) to define the area that is the subject of the BHL assessment. The aerial image should be as current as possible and scaled to clearly show the vegetation density and structure.

Step Two: Identify vegetation type(s) and slope

- Classify all vegetation within the BHL assessment area, preferably through a site inspection and in accordance with Table 3 to identify the predominant vegetation type(s) on the site.
- Provide photographic evidence in addition to aerial imagery and/or vegetation mapping data to verify low or moderate BHL areas. Where evidence of the vegetation height is required (i.e. shrubland), a height stick or other appropriate indicator of height should be included in the images.
- Further evidence may be required if the decision-maker is not satisfied with the photographic evidence provided.
- All slopes within the BHL assessment area need to be defined with land contour information.

Step Three: Map the BHL results

Information to include in a Vegetation Classification Map

- An aerial image of the BHL assessment area should form the base map and be overlaid with the following information:
 - areas of classified vegetation and excluded vegetation (if any) in the form of plots
 - land contours for slope calculation
 - areas where vegetation is proposed to be cleared or revegetated (if applicable)

- photo points to indicate where images of vegetation have been taken
- any other features of the assessment area that are relevant bushfire considerations
- canopy crown density information should be provided for vegetation classifications that do not apply the worst case scenario.
- The Vegetation Classification Map should be presented separately to the BHL Assessment Map to ensure the information is legible.
- The 'broad brush' vegetation classification accepted at a BHL level will require further analysis and supporting evidence for the preparation of a BAL Contour Map and/or BAL assessment, particularly in relation to extreme BHL areas.

Information to include in a BHL Assessment Map

- Create a BHL assessment based on an analysis of the results.
- The assessment should be appropriately scaled (maximum 1:25,000).
- An aerial image of the BHL assessment area should form the base map and be overlaid with the following information:
 - boundaries of the subject site and surrounding 150 metre area
 - assigned hazard levels for vegetation in the assessment area based on the vegetation classification and slope.

BHL Assessment Map specifications

The colour code for each hazard level is shown in Table 4.

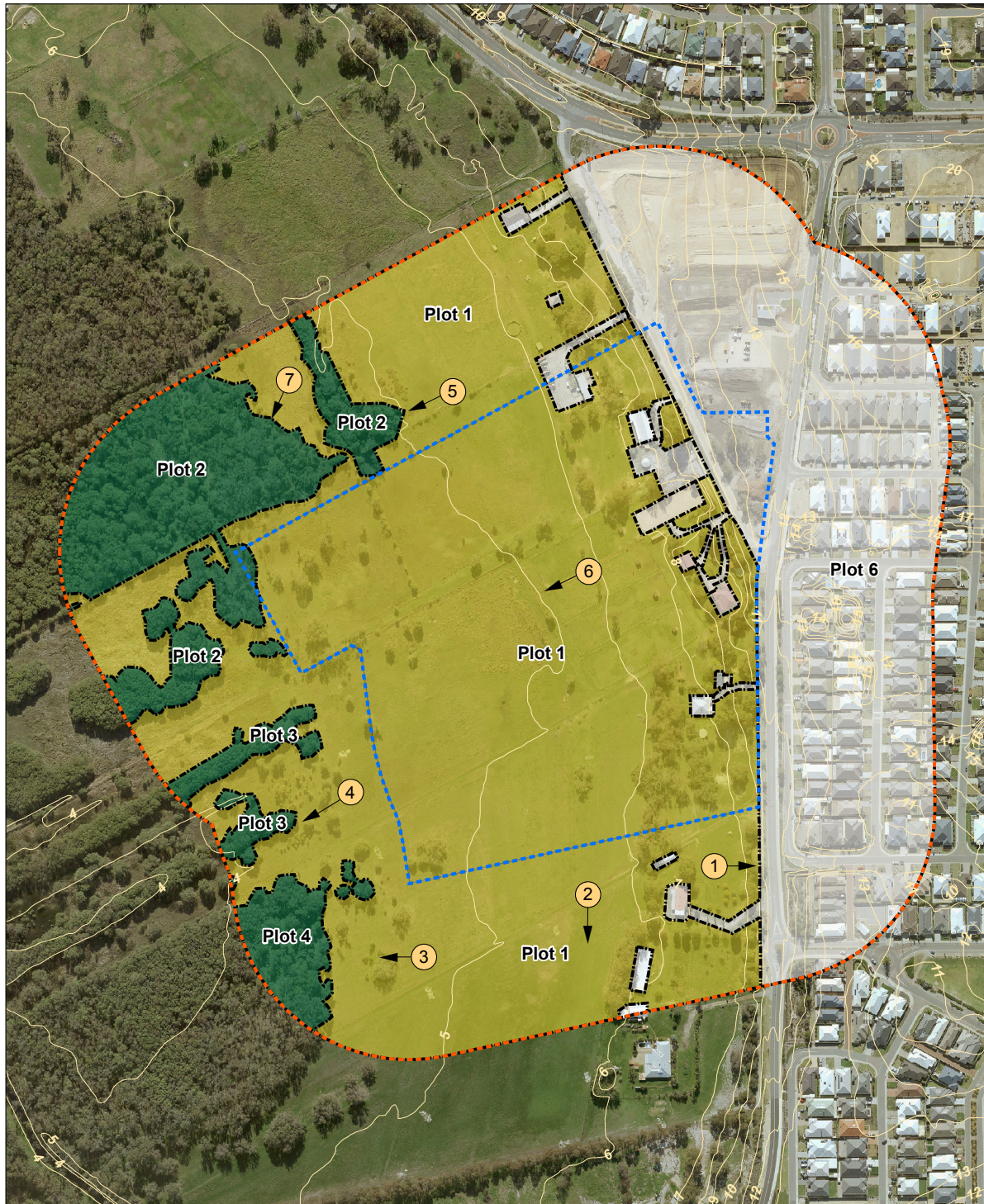
The bushfire hazard level colours should be displayed at a transparency level of 25 per cent and no more than 35 per cent, as the colour boundary differentiation is compromised. This provides for clear distinction between the hazard levels; and for the vegetation on the underlying aerial image to be 'visible', allowing for informed decision making as the vegetation can be 'seen' in its context.

Table 4: BHL Assessment Map colour codes

Hazard level	Colour	RGB Code	Hex Code	Colour Patch
Extreme	Red	R=238, G=50, B=36	EE3224	
Moderate	Yellow	R=255, G=238, B=0	FFEE00	
Low	Light Blue	R=206, G=237, B=255	CEEDFF	



Figure 10: Sample Vegetation Classification Map (BHL assessment)



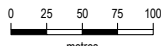









<p>Location details: Assessment date: Prepared by: Accreditation level: Accreditation number: Accreditation expiry date: Date aerial photo: May 2016</p>	<p>Vegetation Classification Map (BHL assessment)</p>  	<p>Legend</p> <ul style="list-style-type: none">  Assessment area (150m from the external boundary of the subject site)  Subject land  Proposed cadastre  Photo point  Vegetation/plot boundary <p>Vegetation Class</p> <ul style="list-style-type: none">  A Forest  G Grassland  Excluded as per 2.2.3.2 (e)
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Figure 11: Sample BHL Assessment Map



<p>Location details: Assessment date: Prepared by: Accreditation level: Accreditation number: Accreditation expiry date: Date aerial photo: May 2016</p>	<p style="text-align: center;">Bushfire Hazard Level Assessment Map</p> <div style="text-align: center;"> </div>	<p>Legend</p> <ul style="list-style-type: none"> Assessment area (150m from the external boundary of the subject site) Subject land Proposed cadastre <table border="0" style="margin-top: 10px;"> <tr> <td></td> <td>Extreme</td> </tr> <tr> <td></td> <td>Moderate</td> </tr> <tr> <td></td> <td>Low</td> </tr> </table>		Extreme		Moderate		Low
	Extreme							
	Moderate							
	Low							



APPENDIX THREE BAL CONTOUR MAP

What is a BAL Contour Map

A Bushfire Attack Level (BAL) Contour Map is a scale map of the subject lot/s showing the potential radiant heat impacts and associated indicative BAL ratings in reference to any classified vegetation remaining within the assessment area.

The BAL Contour Map sets a range of indicative BAL ratings that are determined on the intended end state of the subject site once earthworks, clearing and/or landscaping have been completed.

When a BAL Contour Map should be used

A BAL Contour Map should be used for strategic planning proposals where appropriate and at the subdivision stage. The BAL contours will assist by identifying:

- land suitable for development; and
- bushfire risk management measures to reduce the potential bushfire impact to an acceptable level, such as BAL-29 or below.

The BAL Contour Map should be revised for each stage of a subdivision; and where a strategic planning proposal or subdivision design is modified in a way that would affect the indicative BAL ratings.

Who can prepare a BAL Contour Map

A BAL Contour Map should be prepared by an accredited Level 2 or Level 3 Bushfire Planning Practitioner as appropriate in accordance with this Appendix.

BAL Contour Map Assessment Methodology

A BAL Contour Map should be prepared in accordance with this Appendix and the principles of Australian Standard (AS) 3959.

Step One: Identify vegetation type(s) and slope (Output: Vegetation Classification Map)

How to create a Vegetation Classification Map

- Include the subject site and all land within 150 metres of the external boundary of the subject site in the vegetation assessment area.
- Use an appropriate aerial photo (where available) to define the vegetation assessment area that is to be the subject of the Vegetation Classification Map. The aerial photo should be as current as possible and at a scale that clearly shows the vegetation density and structure.

- Classify all vegetation within the vegetation assessment area through a site inspection and provide photographic evidence for all relevant locations on the BAL Contour Map area. The vegetation should be classified in accordance with Table 2.3 and figures 2.4 (A) to 2.4 (H) of AS 3959, to identify which vegetation type(s) predominate the site.
- Analyse land contour information and define the slope for each assessment transect.
- Record the inputs for classified vegetation (in the form of plots) and defined slope in a table format.

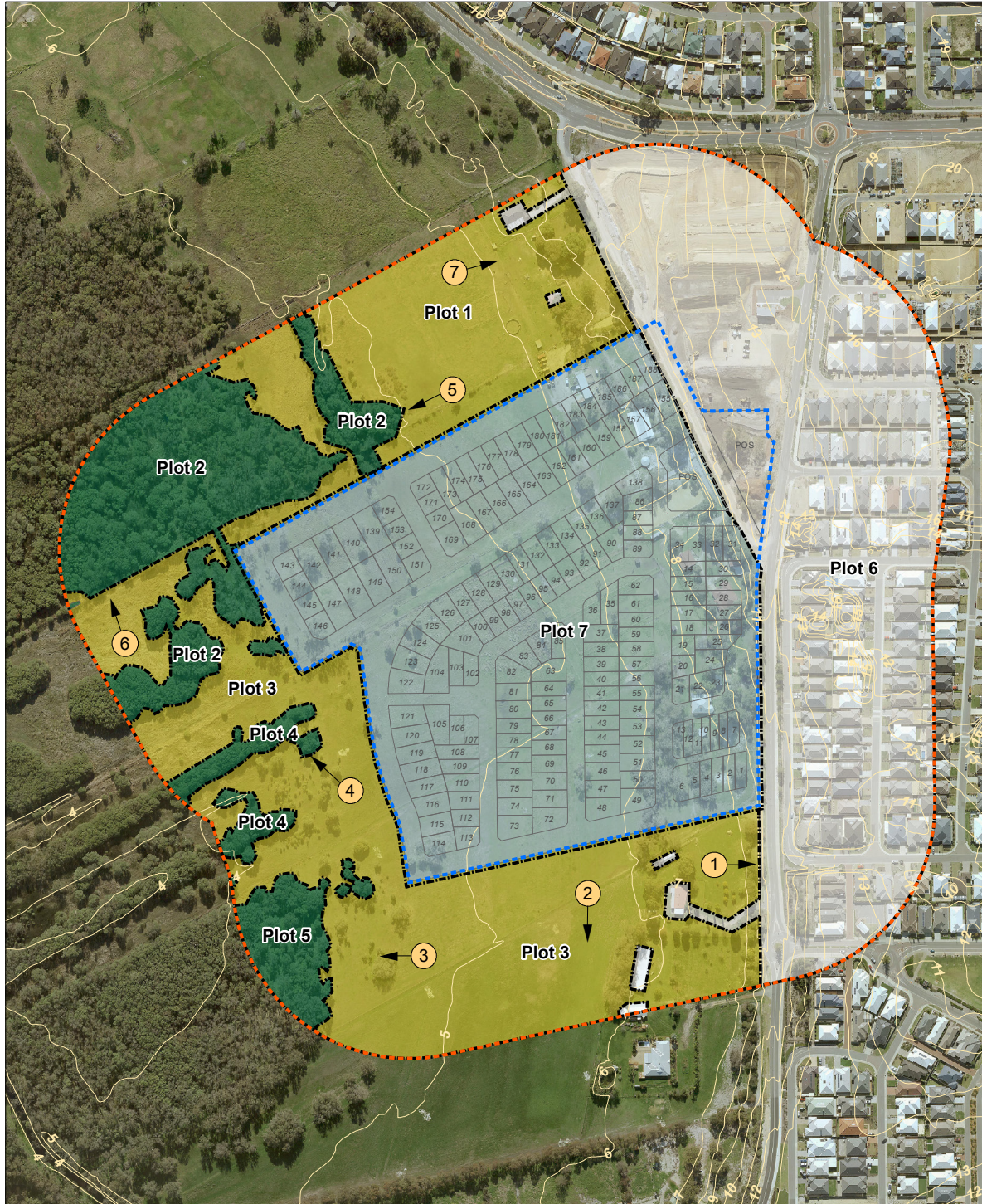
Information to include in a Vegetation Classification Map

- A Vegetation Classification Map should be at a scale where individual lots can be clearly identified.
- An aerial image of the vegetation assessment area should form the base map and be overlaid with the following information:
 - areas of classified vegetation and excluded vegetation (if any) in the form of plots
 - land contours for slope calculation
 - areas where vegetation is proposed to be cleared or revegetated (if applicable)
 - photo points to indicate where images of vegetation have been taken
 - any other features of the subject site that are relevant bushfire considerations
 - canopy crown density information should be provided for vegetation classifications that do not apply the worst case scenario.

The Vegetation Classification Map should be presented separately from the BAL Contour Map to ensure the information is legible.



Figure 12: Sample Vegetation Classification Map (BAL Contour Map)



<p>Location details: Assessment date: Prepared by: Accreditation level: Accreditation number: Accreditation expiry date: Date aerial photo: May 2016</p>	<p style="text-align: center;">Vegetation Classification Map (BAL Contour Map)</p> <div style="text-align: center;"> <p>0 25 50 75 100 metres</p> <p>N</p> </div>	<p>Legend</p> <table border="0"> <tr> <td> Assessment area (150m from the external boundary of the subject site)</td> <td> Vegetation Class A Forest</td> </tr> <tr> <td> Subject land</td> <td> G Grassland</td> </tr> <tr> <td> Proposed cadastre</td> <td> Area to be modified to low threat state</td> </tr> <tr> <td> Photo point</td> <td> Excluded as per 2.2.3.2 (e)</td> </tr> <tr> <td> Vegetation/plot boundary</td> <td></td> </tr> </table>	Assessment area (150m from the external boundary of the subject site)	Vegetation Class A Forest	Subject land	G Grassland	Proposed cadastre	Area to be modified to low threat state	Photo point	Excluded as per 2.2.3.2 (e)	Vegetation/plot boundary	
Assessment area (150m from the external boundary of the subject site)	Vegetation Class A Forest											
Subject land	G Grassland											
Proposed cadastre	Area to be modified to low threat state											
Photo point	Excluded as per 2.2.3.2 (e)											
Vegetation/plot boundary												



Step Two: Map the BAL contours (Output: BAL Contour Map)

How to create a BAL Contour Map based on analysis of the resultant BAL ratings

- Use an appropriate aerial photo (where available) out to 150 metres from the subject site and indicate this as the vegetation assessment area. The aerial photo should be as current as possible and at a scale that clearly shows the vegetation density and structure.
- Define the BAL Contour assessment area that is to be the subject of the BAL Contour Map by indicating the area within 100 metres of the external boundary of the subject site.
- When determining the BAL rating for each assessment transect, identify the slope of the land under the classified vegetation, predominate vegetation type(s) and apply the worst case combination scenario.
- The contour measurements need to be done at the frequency and locations dictated by site conditions to represent the worst case scenario. This is typically where the slope or vegetation changes.
- Where there are no changes to vegetation or slope, the contour measurements should be at intervals to provide a worst case scenario measurement for each lot, or of no more than 50 metres for large lots.
- The BAL contours will be formed by combining the BAL assessment at each of the assessment transects. An indicative BAL rating should be allocated to all areas within the BAL Contour Map area, even when these areas fall outside the mapped extent of the BAL contours (i.e. areas of BAL-LOW).
- Where multiple BAL ratings apply to an area, the higher BAL rating should apply.

- Assessment should be on the future state of the site (i.e. when the land has been cleared and subdivision works have been undertaken) including any vegetation that will remain or will be introduced when the works are complete.
- The inputs used to determine the BAL contours (i.e. lot number, vegetation classification, effective slope, actual separation distance, indicative BAL rating-output) should be included in the Bushfire Management Plan (BMP) in a table format with a row matched to each BAL assessment transect along the contour.

Information to include in a BAL Contour Map

- A BAL Contour Map should be at a scale where individual lots can be clearly identified.
- An aerial image of the subject site and surrounding area should form the base map and be overlaid with the following information:
 - boundaries of the subject site, the surrounding 150 metre vegetation assessment area and 100 metre BAL Contour assessment area
 - the proposed lot layout, including proposed lot numbers, building envelope and building footprint (if appropriate)
 - BAL contours and proposed BAL ratings.

The colour code for each BAL is shown in Table 5. The BAL Contour Map colours should be displayed at a transparency level of 25 per cent and no more than 35 per cent, as the colour boundary differentiation is compromised. This provides for clearer distinction between the BAL contours; and for the vegetation on the underlying aerial image to be 'visible', providing for informed decision making as the vegetation can be 'seen' in its context.

Table 5: BAL Contour Map colour codes

Hazard level	Colour	RGB Code	Hex Code	Colour Patch
BAL-FZ	Red	R=238, G=50, B=36	EE3224	
BAL-40	Orange	R=248, G=152, B=40	F89828	
BAL-29	Yellow	R=255, G=238, B=0	FFEE00	
BAL-19	Blue	R=0, G=174, B=239	00AEEF	
BAL-12.5	Light Blue	R=206, G=237, B=255	CEEDFF	
BAL-LOW	Beige	R=245, G=245, B=220	F5F5DC	



Figure 13: Sample BAL Contour Map



<p>Location details: Assessment date: Prepared by: Accreditation level: Accreditation number: Accreditation expiry date: Date aerial photo: May 2016</p>	<h2>BAL Contour Map</h2>	<p>Legend</p> <ul style="list-style-type: none"> BAL Contour Assessment area (100m from the external boundary of the subject site) Vegetation Assessment Area (150m from the external boundary of the subject site) Subject land Proposed cadastre Vegetation/plot boundary <p>Indicative bushfire attack levels:</p> <ul style="list-style-type: none"> BAL-LOW BAL-12.5 BAL-19 BAL-29 BAL-40 BAL-FZ
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Compliance certification

Where a BAL Contour Map has been prepared to support a subdivision application, certification that the indicative BAL ratings are still accurate should be provided after the subdivision works or stage of works have been completed.

An 'implementation table' should form part of the statement addressing the bushfire protection criteria (Statement) or BMP (refer to Appendix 5 of these Guidelines). The 'implementation table' should list the bushfire measures to be undertaken at each stage of the development including at the subdivision stage. The local government should request a condition of subdivision approval be the implementation of the endorsed Statement or BMP. The compliance certification will essentially be a tick box check that these measures have been completed. The relevant local government will be responsible for the 'clearance' of the condition.

The compliance certification should be undertaken by the Bushfire Planning Practitioner who prepared the original BAL Contour Map. Alternatively, an accredited Level 2 or Level 3 Bushfire Planning Practitioner or the relevant local government is able to undertake this compliance check.

Certification will ensure prospective purchasers are aware of the identified BAL rating at which the lot can be developed.

At the development application or building permit stage

Where a BAL Contour Map has been prepared at a preceding planning stage, it may be used in place of a site-specific BAL assessment at the development application stage and/or building permit stage.

Where the indicative BAL ratings identified as part of a BAL Contour Map have not been certified subsequent to the subdivision having been completed, this should be undertaken prior to issue of the building permit or development application.

The compliance certification should be undertaken by the Bushfire Planning Practitioner who prepared the original BAL Contour Map. Alternatively, an accredited Level 2 or Level 3 Bushfire Planning Practitioner or the local government is able to undertake this compliance check.

The decision-maker retains the discretion to request a site-specific BAL assessment.



APPENDIX FOUR BUSHFIRE PROTECTION CRITERIA

The bushfire protection criteria have been provided to assist in the assessment of proposed bushfire risk management measures required for strategic planning proposals, subdivision or development applications in bushfire prone areas. The depth of information required to demonstrate compliance with the bushfire protection criteria should be commensurate with the applicable stage in the planning process. For example, a strategic planning proposal will only need to demonstrate that compliance with the criteria can be achieved in subsequent stages in the planning process.

The criteria are divided into five elements – location, siting and design, vehicular access, water and tourism land uses. Elements 1 – 4 should be applied for all strategic planning proposals, subdivision or development

applications, except for vulnerable tourism land uses which should refer to Element 5. Element 5 incorporates the bushfire protection criteria in Elements 1 – 4, but caters them specifically to vulnerable tourism land uses.

Each element has an intent outlining the overall aim. The acceptable solutions provide examples of how that intent may be met. The performance principle allows for ‘alternative solutions’ to be developed where the acceptable solutions cannot be achieved.

ELEMENT 1: LOCATION

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

PERFORMANCE PRINCIPLE

The intent may be achieved where:

P1

The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL-29 or below, and the risk can be managed. For unavoidable development in areas where BAL-40 or BAL-FZ applies, demonstrating that the risk can be managed to the satisfaction of the decision-maker.

ACCEPTABLE SOLUTIONS

To achieve compliance with this Element using an acceptable solution, the following acceptable solution (A1.1) must be met

A1.1 Development location

The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL-29 or below.

EXPLANATORY NOTES

Land is most suitable for land use intensification where hazard levels are low. Where there is an extreme bushfire hazard or requirement for use of BAL-40 or BAL-FZ construction standards, the land is not considered suitable for development unless it meets the definition of minor or unavoidable development.



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

Intent: To ensure that the siting and design of development minimises the level of bushfire impact.

PERFORMANCE PRINCIPLE

The intent may be achieved where:

P2

The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. The proposal incorporates a defensible space and significantly reduces the heat intensities at the building surface thereby minimising the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

ACCEPTABLE SOLUTIONS

To achieve compliance with this Element the following acceptable solution must be met.

A2.1 Asset Protection Zone (APZ)

Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements:

- **Width:** Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29) in all circumstances.
- **Location:** the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes).
- **Management:** the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones' (see Schedule 1).



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

E2 Subdivision and development design

Identification and consideration of bushfire risks in decision-making should occur at all stages of the planning and development process and should influence siting and design of subdivision and development. Once a subdivision and related development has been designed or established, experience has shown that incorporating bushfire protection measures is generally harder to achieve.

Land is most suitable for new subdivisions and related development where hazard levels are low. Where residents and buildings cannot be protected from a bushfire hazard the land may not be suitable for development.

The design and layout of subdivision and development can reduce the vulnerability of dwellings and residents from the impact of a bushfire. Appropriate design will greatly assist with bushfire prevention and suppression operations. Hazard separation should be considered and integrated during initial planning stages. Public roads, including footpaths and verges, can be combined to increase separation between buildings and bushfire prone vegetation.

Separation may also be needed where a bushfire hazard exists within a subdivision area. The hazard may be a wetland and the wetland buffer, gullies, waterways and their foreshore areas, public open space with remnant vegetation or where revegetation is proposed.

Undeveloped future stages of the subdivision, containing bushfire prone vegetation, will also need to be taken into consideration. Even if the hazard will be cleared at a subsequent stage, until this occurs, subdivision of adjoining lots must address this risk in its current state.

Figure 14: Subdivision and development design



Design components and areas of minimal fuel within a subdivision can be used to help reduce the intensity of a bushfire



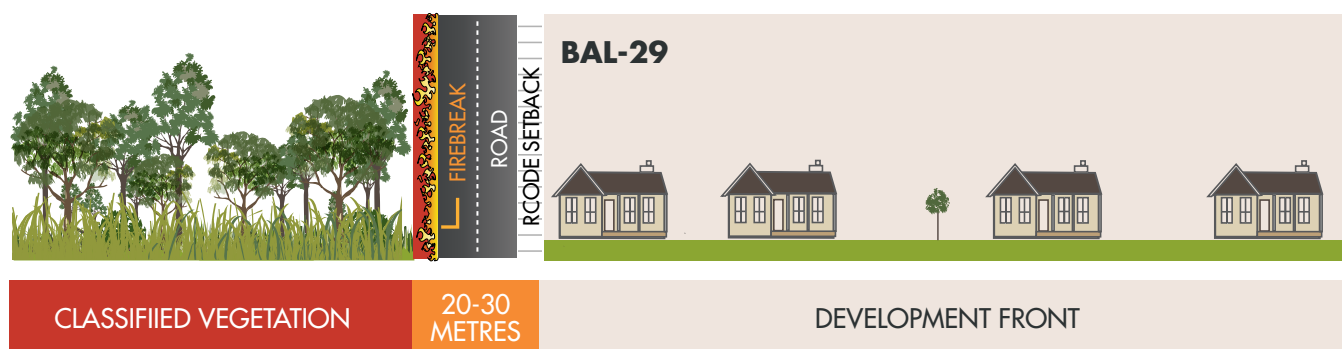
ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

Figure 15: Separation distance required where no additional construction standards are proposed
In the absence of additional construction standards a minimum separation distance of 100 metres between buildings and the hazard must be provided in order to protect them from burning debris, radiant heat and direct flame contact



Figure 16: A reduced separation distance may necessitate increased construction standards
It may be possible to reduce the minimum distances, for example by increasing the construction standard of the building – in this example the building would need to be constructed to BAL-29





ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

E2 Managing an Asset Protection Zone (APZ) to a low threat state

An APZ is a low fuel area maintained around a habitable building to increase the likelihood that it will survive a bushfire, by providing a defensible space and reducing the potential for direct flame contact, radiant heat exposure and ember attack.

Vegetation management within an APZ should provide defensible space and be maintained to a low threat state, in perpetuity, in accordance with the requirements outlined in Schedule 1.

The width of an APZ varies with slope and vegetation type, however it should only be as wide as needed to ensure the potential radiant heat impact of a bushfire does not exceed $29\text{kW}/\text{m}^2$ (BAL-29), or $10\text{kW}/\text{m}^2$ where a building is identified for use as an on-site shelter. An APZ is generally not required where a building or development site achieves $29\text{kW}/\text{m}^2$ (BAL-29) or lower in its pre-development state (prior to any vegetation clearing or modification).

An APZ should include an area of defensible space immediately adjoining a building, that is kept free from combustible items and obstructions, within which firefighting operations can be undertaken to defend the structure. Where a lot contains a building envelope, it may not be necessary for the entire building envelope to achieve $29\text{kW}/\text{m}^2$ (BAL-29) as this may result in significant unnecessary clearing. It is recommended that the BMP identifies that a sufficient APZ can be accommodated within the building envelope, with the development site and associated APZ to be determined at the development approval stage.

An APZ should be contained within the boundaries of the lot on which the building is situated, except in instances where it is demonstrated that the vegetation on the adjoining land is managed in a low threat state, as per cl. 2.2.3.2 of AS 3959, such as a road, managed park, rocky outcrop or a water body.

The siting of a habitable building and associated APZ should aim to minimise the clearing of vegetation. The BMP should demonstrate that the proposed APZ has minimised the unnecessary loss of vegetation or potential for conflict with landscape or environmental objectives; and complies with environmental approvals/exemptions (where necessary). A re-design or reduction in lot yield may be necessary to minimise the removal and modification of remnant vegetation.

It is recommended that development be located on flat areas or slopes less than 20 degrees (especially where classified vegetation is located downslope to a building) and away from ridge tops, crests or narrow gullies, as bushfire can spread rapidly in these areas. Circumstances where these locations may be suitable for development to occur include where the land is already cleared, and $29\text{kW}/\text{m}^2$ (BAL-29) or lower can be achieved for the whole development site without the use of an APZ. To ensure soil stability within an APZ, vegetation removal on slopes exceeding 18 degrees is discouraged.



Figure 17: Topography considerations for building locations



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

Fine fuel load should be maintained to less than two tonnes per hectare, however this is often a subjective assessment. Reducing fuel load levels does not necessarily require the removal of existing vegetation. A combination of methods can be utilised to reduce fuel load such as raking, weed removal, pruning, mulching and/or the removal of plant material.

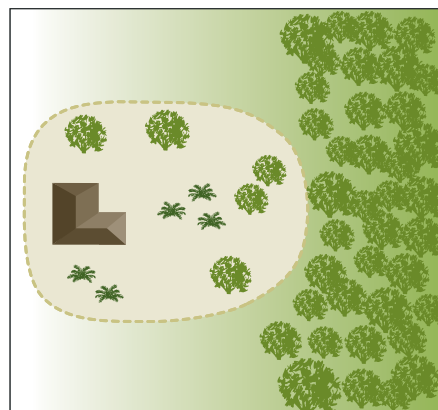
A simple method to estimate fuel load is to roughly equate one tonne of fuel load per hectare as 100 grams per square metre. For example, two tonnes per hectare of leaf litter is roughly 200 grams of leaf litter per square metre and eight tonnes per hectare is roughly 800 grams. Eucalyptus leaf litter is approximately 100 grams per handful, so two handfuls of litter per square metre will roughly equate to two tonnes per hectare. Different types of fine fuel, like mulch or pine needles may be more or less than a handful, however the 100 grams per square metre rule of thumb can still be used.

The landowner or proponent is responsible for maintaining an APZ in accordance with Schedule 1 - Standards for Asset Protection Zones. Ongoing maintenance of an APZ is usually enforced through the local government firebreak notice issued under section 33 of the *Bushfires Act 1954*, and/or through a condition of a development approval, which requires the implementation of measures identified within a BMP.

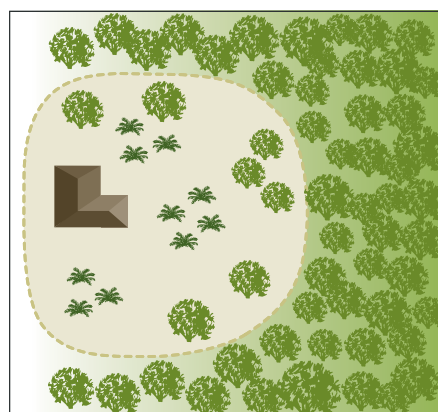
A copy of the firebreak notice and Schedule 1 should be included in a BMP specifically as a how-to guide for the landowner, and to demonstrate to decision-makers that the measures outlined in the BMP to achieve the appropriate BAL rating through provision and ongoing management of an APZ, can be implemented.

Regardless of whether an Asset Protection Zone exists in accordance with the acceptable solutions and is appropriately maintained, it should be noted that fire fighters are not obliged to protect an asset if they think the separation distance between the dwelling and vegetation is unsafe.

Hazard on one side



Hazard on three sides



Legend

-  APZ
-  trees
-  shrubs

Figure 18: Design of Asset Protection Zone

Refer to Schedule 1: Standards for Asset Protection Zones



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

E2 Landscaping and design of an asset protection zone

Landscaping, design, and maintenance of an APZ in a bushfire prone area can significantly improve the bushfire resilience of a building. An APZ should not be seen as an area entirely cleared of vegetation, but as a strategically designed space that gives holistic consideration to how existing or proposed vegetation or non-combustible features interact with, or affect the building's bushfire resilience.

A well designed APZ provides a greater level of vegetation management within the first few metres of a building with, for example, less vegetation or inclusion of non-combustible materials. The vegetation within the remainder of an APZ can increase further away from the building with carefully considered plant selection and landscaping techniques.

Strategic landscaping measures can be applied, such as replacing weeds with low flammability vegetation (refer to E2 Plant Flammability) to create horizontal and vertical separations between the retained vegetation. The accumulation of fine fuel load from different plants is an important consideration for ongoing maintenance in accordance with Schedule 1. For example, when planting ground covers under deciduous trees within an APZ, the total fine fuel load prescribed in Schedule 1 will include any dead plant material from ground covers and leaf litter from the trees.

Plant density and final structure and form of mature vegetation should be considered in the initial landscaping stages. For example, clumps of sapling shrubs planted at a density without consideration of future growth, may increase the bushfire risk as a clump will quickly grow to exceed 5m². It should be noted that in some cases, a single shrub in a mature state may be so dense as to fill a 5m² clump alone.

The location of plants within an APZ is a key design technique. Separation of garden beds with areas of low fuel or non-combustible material, will break up fuel continuity and reduce the likelihood of a bushfire running through an APZ and subjecting a dwelling to radiant heat or direct flame contact. It is important to note, where mature trees are separated from a building by six metres, but the canopy has grown to extend or overhang a building, maintenance and pruning to remove the overhanging branches should be undertaken without the entirety of the tree being removed.

Mulches used within the APZ should be non-combustible. The use of stone, gravel, rock and crushed mineral earth is encouraged. Wood mulch >6mm in thickness may be used, however it is recommended that it is used in garden beds or areas where the moisture level is higher by regular irrigation. These materials could be sourced from non-toxic construction and demolition waste giving the added benefit of reducing the environmental impact of any 'hard landscaping' actions.

Combustible objects, plants, garden supplies such as mulches, fences made from combustible material, should be avoided within 10 metres of a building. Vines or climbing plants on pergolas, posts or beams, should be located away from vulnerable parts of the building, such as windows and doors. Non-flammable features can be used to provide hazard separation from classified vegetation, such as tennis courts, pools, lawns and driveways or paths that use inorganic mulches (gravel or crushed rock). Consider locating firewood stacks away from trees and habitable buildings.

Incorporation of landscaping features, such as masonry feature walls can provide habitable buildings with barriers to wind, radiant heat and embers. These features can include noise walls or wind breaks. Use of Appendix F of AS 3959 for bushfire resistant timber selection within areas of 29kW/m² (BAL-29) or below, or the use of non-combustible fencing materials such as iron, brick, limestone, metal post and wire is encouraged.

In addition to regular maintenance of an APZ, further bushfire protection can be provided at any time by:

- ensuring gutters are free from vegetation;
- installing gutter guards or plugs;
- regular cleaning of underfloor spaces, or enclosing them to prevent gaps;
- trimming and removing dead plants or leaf litter;
- pruning climbing vegetation (such as vines) on a trellis, to ensure it does not connect to a building, particularly near windows and doors;
- removing vegetation in close proximity to a water tank to ensure it is not touching the sides of a tank; and/or
- following the requirements of the relevant local government section 33 fire break notice, which may include additional provisions such as locating wood piles more than 10 metres from a building.



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

EXPLANATORY NOTES

Preparation of a property prior to the bushfire season and/or in anticipation of a bushfire is beneficial even if your plan is to evacuate. As embers can travel up to several kilometres from a bushfire and fall into small spaces and crevices or land against the external walls of a building, best practice recommends that objects within the APZ are moved away from the building prior to any bushfire event. Objects may include, but are not limited to:

- door mats;
- outdoor furniture;
- potted plants;
- shade sails or umbrellas;
- plastic garbage bins;
- firewood stacks;
- flammable sculptures; and/or
- playground equipment and children's toys.

E2 Plant flammability

There are certain plant characteristics that are known to influence flammability, such as moisture or oil content and the presence and type of bark. Plants with lower flammability properties may still burn during a bushfire event, but may be more resistant to burning and some may regenerate faster post-bushfire.

There are many terms for plant flammability that should not be confused, including:

- Fire resistant – plant species that survive being burnt and will regrow after a bushfire and therefore may be highly flammable and inappropriate for a garden in areas of high bushfire risk.
- Fire retardant – plants that may not burn readily or may slow the passage of a bushfire.
- Fire wise – plants that have been identified and selected based on their flammability properties and linked to maintenance advice and planting location within a garden.

Although not a requirement of these Guidelines, local governments may develop their own list of fire wise or fire-retardant plant species that suit the environmental characteristics of an area. When developing a recommended plant species list, local governments should consult with ecologists, land care officers or environmental authorities to ensure the plants do not present a risk to endangered ecological communities, threatened, or endangered species or their habitat.

When selecting plants, private landholders and developers should aim for plants within the APZ that have the following characteristics:

- grow in a predicted structure, shape and height;
- are open and loose branching with leaves that are thinly spread;
- have a coarse texture and low surface-area-to-volume ratio;
- will not drop large amounts of leaves or limbs, that require regular maintenance;
- have wide, flat, and thick or succulent leaves;
- trees that have bark attached tightly to their trunk or have smooth bark;
- have low amounts of oils, waxes, and resins (which will often have a strong scent when crushed);
- do not produce or hold large amounts of fine dead material in their crowns; and/or
- will not become a weed in the area.

Refer to the WAPC Bushfire and Vegetation Fact Sheet for further information on clearing and vegetation management and APZ landscaping, design and plant selection reference material.



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Fences within the APZ	<ul style="list-style-type: none"> 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 <6 millimetres in thickness)	<ul style="list-style-type: none"> Should be managed and removed on a regular basis to maintain a low threat state. Should be maintained at <2 tonnes per hectare (on average). Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	<ul style="list-style-type: none"> 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 <15 per cent of the total APZ area. Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ.
<p>Figure 19: Tree canopy cover – ranging from 15 to 70 per cent at maturity</p>	
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	<ul style="list-style-type: none"> Should not be located under trees or within three metres of buildings. Should not be planted in clumps >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 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	<ul style="list-style-type: none"> 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 >100 millimetres in height.



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Grass	<ul style="list-style-type: none"> • Grass should be maintained at a height of 100 millimetres 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

* Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes



ELEMENT 3: VEHICULAR ACCESS

Intent: To ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event.

PERFORMANCE PRINCIPLE

The intent may be achieved where:

P3i

The design and capacity of vehicular access and egress is to provide for the community to evacuate to a suitable destination before a bushfire arrives at the site, allowing emergency services personnel to attend the site and/or hazard vegetation.

ACCEPTABLE SOLUTIONS

To achieve the intent, all applicable 'acceptable solutions' must be addressed:

* The acceptable solutions do not apply at every stage of the planning process. Refer to the annotations next to each acceptable solution to determine if they apply. The annotations are outlined below.

- SP** – Strategic planning proposal and structure plan where the lot layout is not known
- Sb** – Structure plan where the lot layout is known and subdivision application
- Dd** – Development application for a single dwelling, ancillary dwelling or minor development
- Do** – Development application for any other development

A3.1 Public roads

SP Sb Do

The minimum requirements under this acceptable solution are applicable to all proposed and existing public roads.

Public roads are to meet the minimum technical requirements in Table 6, Column 1.

The trafficable (carriageway/pavement) width is to be in accordance with the relevant class of road in the Local Government Guidelines for Subdivisional Development (IPWEA Subdivision Guidelines), Liveable Neighbourhoods, Austroad standards and/or any applicable standards for the local government area.

A3.2a Multiple access routes

SP Sb Do

Public road access is to be provided in two different directions to at least two different suitable destinations with an all-weather surface (two-way access).

If the public road access to the subject site is via a no-through road which cannot be avoided due to demonstrated site constraints, the road access is to be a maximum of 200 metres from the subject lot(s) boundary to an intersection where two-way access is provided.

The no-through road may exceed 200 metres if it is demonstrated that an alternative access, including an emergency access way, cannot be provided due to site constraints and the following requirements are met:

- the no-through road travels towards a suitable destination; and
- the balance of the no-through road, that is greater than 200 metres from the subject site, is wholly within BAL-LOW, or is within a residential built-out area – Figure 23.

A3.2b Emergency access way

SP Sb Do

Where it is demonstrated that A3.2a cannot be achieved due to site constraints, or where an alternative design option does not exist, an emergency access way can be considered as an acceptable solution.

An emergency access way is to meet all the following requirements:

- requirements in Table 6, Column 2;
- provides a through connection to a public road;
- be no more than 500 metres in length; and
- must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.



ELEMENT 3: VEHICULAR ACCESS

PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
	<p>A3.3 Through-roads SP Sb</p> <p>All public roads should be through-roads. No-through roads should be avoided and should only be considered as an acceptable solution where:</p> <ul style="list-style-type: none"> • it is demonstrated that no alternative road layout exists due to site constraints; and • the no-through road is a maximum length of 200 metres to an intersection providing two-way access, unless it satisfies the exemption provisions in A3.2a of this table. <p>A no-through road is to meet all the following requirements:</p> <ul style="list-style-type: none"> • requirements of a public road (Table 6, Column 1); and • turn-around area as shown in Figure 24
<p>P3ii</p> <p>The design of vehicular access and egress provides:</p> <ul style="list-style-type: none"> • access and egress for emergency service vehicles while allowing the community to evacuate; • a defensible space for emergency services personnel on the interface between classified vegetation and development site; and • hazard separation between classified vegetation and the subject site to reduce the potential radiant heat that may impact a lot(s). 	<p>A3.4a Perimeter roads SP Sb</p> <p>A perimeter road is a public road and should be provided for greenfield or infill development where 10 or more lots are being proposed (including as part of a staged subdivision) with the aim of:</p> <ul style="list-style-type: none"> • separating areas of classified vegetation under AS3959, which adjoin the subject site, from the proposed lot(s); and • removing the need for battle-axe lots that back onto areas of classified vegetation. <p>A perimeter road is to meet the requirements contained in Table 6, Column 1.</p> <p>A perimeter road may not be required where:</p> <ul style="list-style-type: none"> • the adjoining classified vegetation is Class G Grassland; • lots are zoned for rural living or equivalent; • it is demonstrated that it cannot be provided due to site constraints; or • all lots have frontage to an existing public road
<p>P3iii</p> <p>Vehicular access is provided which allows:</p> <ul style="list-style-type: none"> • access and egress for emergency service vehicles; • defensible space for emergency services personnel on the interface between classified vegetation and development; and • hazard separation between classified vegetation and the site to reduce the potential radiant heat that may impact a lot(s). 	<p>A3.4b Fire service access route SP Sb</p> <p><i>Where proposed lots adjoin classified vegetation under AS3959 (excluding Class G Grassland)', and a perimeter road is not required in accordance with A3.4a, a fire service access route can be considered as an acceptable solution to provide firefighter access, where access is not available, to the classified vegetation.</i></p> <p>A fire service access route is to meet all the following requirements:</p> <ul style="list-style-type: none"> • requirements in Table 6, Column 3; • be through-routes with no dead-ends; • linked to the internal road system at regular intervals, every 500 metres; • must be signposted; • no further than 500 metres from a public road; • if gated, gates must open the required trafficable width and can be locked by the local government and/or emergency services, if keys are provided for each gate; and • turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres.



ELEMENT 3: VEHICULAR ACCESS

PERFORMANCE PRINCIPLE

P3iv

Vehicular access is provided which allows emergency service vehicles to directly access all habitable buildings and water supplies and exit the lot without entrapment.

ACCEPTABLE SOLUTIONS

A3.5 Battle-axe access legs

Sb

Where it is demonstrated that a battle-axe access leg cannot be avoided due to site constraints, it can be considered as an acceptable solution.

There are no battle-axe technical requirements where the point of the battle-axe access leg joins the effective area of the battle-axe lot, is less than 50 metres from a public road in a reticulated water area.

In circumstances where the above condition is not met, or the battle-axe lot is in a non-reticulated water area, the battle-axe access leg is to meet all the following requirements:

- requirements in Table 6, Column 4; and
- passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres).

A3.6 Private driveways

Dd Do

There are no private driveway technical requirements where the private driveway is:

- within a lot serviced by reticulated water;
- no greater than 70 metres in length between the most distant external part of the development site and the public road measured as a hose lay; and
- accessed by a public road where the road speed limit is not greater than 70 km/h.

In circumstances where all of the above conditions are not met, or the private driveway is in a non-reticulated water area, the private driveway is to meet all the following requirements:

- requirements in Table 6, Column 4;
- passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and
- turn-around area as shown in Figure 28 and within 30 metres of the habitable building.



Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public roads	2 Emergency access way¹	3 Fire service access route¹	4 Battle-axe and private driveways²
Minimum trafficable surface (metres)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (metres)	N/A	6	6	6
Minimum vertical clearance (metres)	4.5			
Minimum weight capacity (tonnes)	15			
Maximum grade unsealed road ³	As outlined in the IPVEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road ³		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves (metres)		8.5		

Notes:

¹ To have crossfalls between 3 and 6%.

² Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

³ Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

EXPLANATORY NOTES

E3A Applicability of acceptable solutions at different stages of the planning process

Strategic planning proposals, scheme amendments and structure plans (where lot layout is not known)

These stages of the planning process provide opportunities to consider the integration of the existing road network to achieve the intent of Element 3 and to address any deficiencies in the local road network. It is critical to identify suitable public and emergency services two-way access and egress to the site, and to incorporate perimeter roads as required under A3.4a.

Identification of public road and/or easement construction or upgrade requirements will ensure the local government is aware and supportive of the requirements, as most public roads and easements will become the local government's responsibility following construction.

At this stage, the internal road design is generally not known. The Bushfire Management Plan should identify that full compliance with the acceptable solutions can be addressed and will need to be detailed at subsequent planning stages.

Subdivision and structure Plans (where lot layout is known)

A well-designed structure plan or subdivision can greatly reduce the exposure of people, property and infrastructure to bushfire hazard areas, assist in bushfire risk management and emergency response during a bushfire event.

Subdivision applications lodged with an approved structure plan or subdivision guide plan or subdivision applications lodged as a re-approval of an application, that was not previously assessed against SPP 3.7, should demonstrate compliance with these Guidelines and the design should be modified to achieve compliance. Where re-design is not possible due to site constraints, including where road(s) are already gazetted, and where it is demonstrated a performance principle or acceptable solution cannot be met, the Bushfire Management Plan should acknowledge the non-compliance, detail how the design minimises the risk, how the SPP 3.7 intent has been achieved and why the decision maker should consider exercising discretion in this instance.

It is expected that the indicative location of future habitable buildings and appropriate APZs are identified (as per element 2 siting and design). This allows for demonstration of A3.5 and A3.6.



EXPLANATORY NOTES

Development applications

There is often little scope to improve the public road design at the development application stage, and in these instances, acceptable solution A3.2a is not applicable for a single dwelling, ancillary dwelling or minor development. Consideration should be given to any reductions to the level of exposure to bushfire risks that can be achieved through additional design elements, which could include improved hazard separation/defendable space and/or provision of alternative access solutions to facilitate improved access and egress from site (A3.2b).

However, where a development application is for a new vulnerable or high-risk land use, the existing public road network and the internal property access will be an important consideration in determining the suitability of the location.

For all land uses, the siting of the building to ensure the safest internal property access and egress from the site by the resident(s), visitors and emergency services will be an important consideration.

Acceptable solutions

E3.1 Public roads

These Guidelines do not prescribe values for the trafficable (carriageway/pavement) width of public roads as they should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area.

The IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards do not prescribe a horizontal clearance. However, it is recommended that a traversable verge is provided to allow for emergency services vehicles to stop and operate on the side of the public road, specifically where the public road may traverse large areas of classified vegetation.

Where local government roads are proposed to be widened by the proponent, they must obtain approval from the local government.

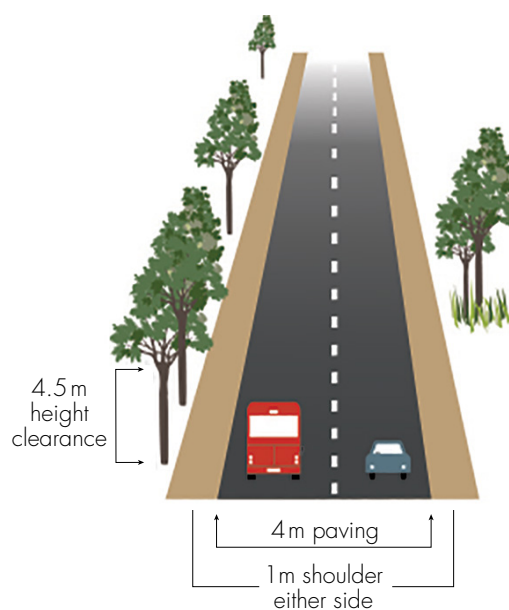


Figure 20: Example of a public road



EXPLANATORY NOTES

E3.2a Multiple access routes

Two-way public road access is public road access from a lot in at least two different directions to two suitable destinations, and provides residents and the community, as well as emergency services, with access and egress from both the subdivision and individual habitable buildings/development in the event of a bushfire emergency. A single road provides no alternative route if the access becomes congested or is unable to be traversed due to smoke and/or fallen trees during a bushfire.

Two-way public road access applies to access/egress routes leading into a subdivision, as well as those within a subdivision. A road that loops back onto itself does not constitute the option of two different directions.

Two-way public road access should always be the first option. Where the site is not able to achieve two-way access within 200 metres of the lot boundary, due to demonstrated site or environmental constraints, the proponent should identify options for an emergency access way from the subject site to a suitable destination. Where an emergency access way cannot be provided, the proponent should demonstrate compliance with the performance principle.

Subject sites or proposed lots greater than 200 metres from an intersection, which provides two-way access, do not satisfy the requirement for two-way access unless they meet the provisions which allow for no-through roads greater than 200 metres in A3.2a.

To demonstrate compliance with the performance principle for two-way access, the bushfire planning practitioner may have regard to:

- the extent of the bushfire hazard, location and vegetation classification, the likelihood, potential severity and impact of bushfire to the subject site and the road network;
- time between fire detection and the onset of conditions in comparison to travel time for the community to evacuate to a suitable destination;
- available access route(s) travelling towards a suitable destination; and
- turn-around area for a fire appliance for no-through roads.

A3.3 where cul-de-sacs are used, the maximum length should be no greater than 200 metres. For the lots coloured green, two way access is provided once a vehicle reaches this intersection. Any lot that is coloured grey beyond 200 metres from this intersection is not compliant with A3.3.



- compliant
- not compliant

Figure 21: Example of compliant and non-compliant two-way



EXPLANATORY NOTES

E3.2b Emergency access way

An emergency access way is not a preferred alternative to through public road access and should only be considered acceptable where it has been demonstrated that it will provide the safety and performance needs of emergency services and the community, including consideration for future needs, and that public road access to satisfy A3.2a cannot be achieved due to site constraints, such as an established road network with no opportunity to provide a public road for secondary access. Acceptance of an emergency access way should also consider the ability to accommodate reasonable worst-case vehicle volumes.

The principle function of the emergency access way is to provide a contingency (second) community evacuation route and simultaneously provide access for emergency services, in the event of a bushfire emergency. Where an emergency access way traverses classified vegetation, which has the potential to create a bushfire hazard, an emergency access way performs the secondary function of providing access by emergency services to this vegetation.

Emergency access ways should connect to a public road to allow alternative two-way through access. An emergency access way should not exceed 500 metres in length as they may not be as safe for road-use due to not being designed or constructed to the full requirements of a public road and may present uncertainties to emergency service personnel and the public as they are not part of the daily road network and not identified on Maps.

Permanent public emergency access way

An emergency access way can be provided as either a public easement in gross or a right-of-way. In both approaches, the management of the emergency access way is by the local government as the grantee of the easement or management body of the right-of-way. The proponent must obtain written consent from the local government that the local government will accept care, control and management of the easement or right-of-way; this must be provided to the decision-maker prior to granting planning approval. The approach taken is at the discretion of the decision-maker and/or the local government and is also dependent on whether the land is to remain in private ownership or be ceded to the Crown. Consultation with Land Use Management at the Department of Planning, Lands and Heritage should also be considered if the land is to be ceded to the Crown or if the local government is uncertain of which approach to take.

If the emergency access way is provided as an easement, it should be provided as a public easement in gross under sections 195 and 196 of the *Land Administration Act 1997* in favour of the local government and/or public authority, to ensure accessibility for emergency services and the public at all times. To be provided as a right-of-way the emergency access way should be vested in the Crown under section 152 of the *Planning and Development Act 2005* as a right-of-way and such land to be ceded free of cost and without any payment or compensation by the Crown. If gates are used to control traffic flow during non-emergency periods, these will be managed by the local government and must not be locked. Gates should be double gates wide enough to access the trafficable width and accommodate Type 3.4 fire appliances with the design and construction to be approved by the relevant local government.

Temporary public emergency access way

A temporary emergency access way may be proposed to facilitate the staging arrangements of a subdivision. The provision of two public roads may not be possible in the first stage of the subdivision and an emergency access way can be provided as an interim access route until the second public road is developed and gazetted in a subsequent stage of the subdivision (see figure 22). The emergency access way should be provided in the same manner as a permanent emergency access way, but it should be removed from the certificate of title once the public road is developed and gazetted. Where an emergency access way is proposed as an alternative to a public road, the Bushfire Management Plan should provide thorough justification for its use.

Restricted public emergency access way

There may be some instances where a restricted emergency access way is proposed as a performance principle-based solution where access is only available to the public in the event of a bushfire emergency. This option can only be considered where the local government or Main Roads WA have advised that vehicular access on the emergency access way is not allowed during non-emergency periods, as it provides an additional thoroughfare and entry point on a local or State road. In this scenario, the emergency access way can be provided as an easement under section 195 of the *Land Administration Act 1997*, as public access in the event of a bushfire emergency or vested in the Crown as a reserve under section 152 of the *Planning and Development Act 2005*. Such land is to be ceded free of cost without any payment or compensation by the Crown. The proponent must obtain written consent from the local government that



EXPLANATORY NOTES

the local government will accept care, control and management of the proposed reserve and agree to the terms of the Management Order Conditions (if applicable); this must be provided to the decision-maker prior to granting planning approval.

The purpose of the reserve should be for a public purpose specified in the condition related to the subdivision, for example for emergency access only, or for emergency access and recreation. A reserve for emergency access and recreation can optimise the land-use as a dual purpose where it provides vehicular access in the event of a bushfire emergency, but can be accessed by the public (on foot) on a day-to-day basis as a recreation link. Appropriate signage can ensure the general public is aware of the purpose of the reserve. The approach taken is at the discretion of the decision-maker and/or local government.

Right-of-carriageway emergency access way

There may be some instances where a right-of-carriageway easement is proposed as a performance principle-based solution. This may be where particular landowner(s) and emergency services, but not the public, require access over a neighbouring lot(s). A right-of-carriageway easement should be provided under section 195 of the *Land Administration Act 1997*. The easement is to provide alternative access for the particular landowner(s) in the event of a bushfire emergency and not for use by the public. In this scenario, support will be necessary from the adjoining lot owner(s). The easement is to be granted to the local government and it is to agree with the landowner on the arrangements of the management of the easement area by deed. These management arrangements will be at the discretion of the local government. If gated, the easement area can be locked to restrict day-to-day vehicular access.

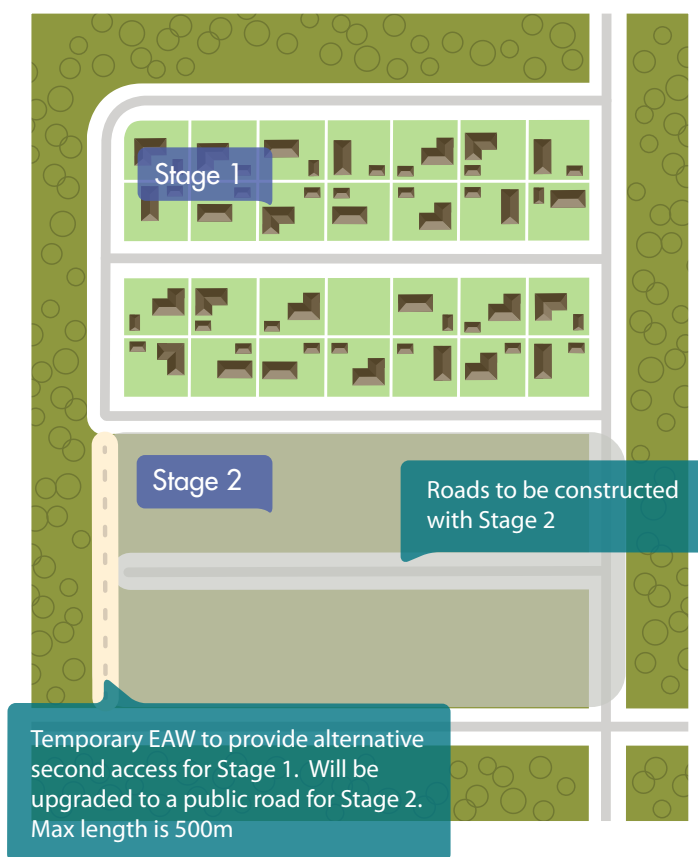


Figure 22: Example of an emergency access way



EXPLANATORY NOTES

E3.3 Through-roads

In bushfire prone areas, a proposed structure plan or subdivision that incorporates no-through roads should be avoided because they do not provide a connected and legible design that allows for easy access and egress by the community, residents and emergency services in the event of a bushfire. No-through roads also reduce the options available for access and egress in the event of a bushfire emergency.

There will however be situations where a subject site is accessed via an existing or proposed no-through road and alternative access cannot be provided. In these situations, the proponent should demonstrate to the decision-maker, that all efforts have been made with the local government and/or adjoining landowners to secure alternative public road access or an emergency access way and that a redesign has been explored. The bushfire planning practitioner may need to develop a performance principle-based solution or address the non-compliance and demonstrate to the decision-maker why discretion should be exercised in accordance with section 2.6 of these Guidelines.

No-through roads will only be considered an acceptable solution where it is demonstrated by the proponent, to the satisfaction of the decision maker, that a no through-road cannot be avoided due to site constraints. For example, the internal road design of a structure plan or subdivision where site constraints, such as a water body or Bush Forever, prevent the ability to create a through-road and a no-through road may be a more appropriate road layout.

No-through roads should be a maximum of 200 metres from the lot(s) boundary to an intersection where two-way access is provided and may only exceed 200 metres if it meets the provisions which allow for no-through roads greater than 200 metres in A3.2a.

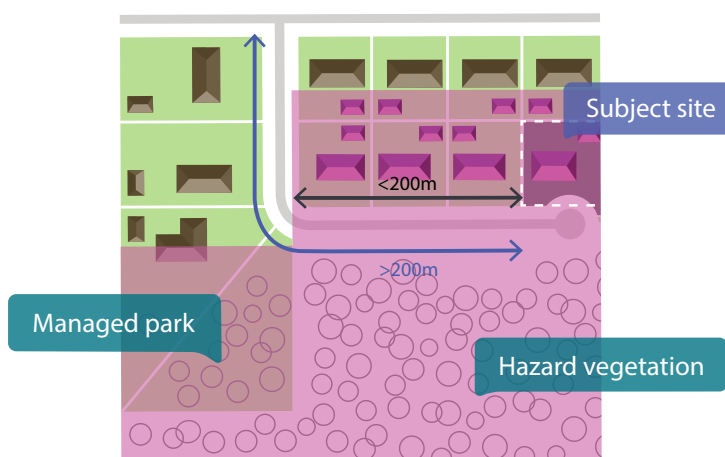


Figure 23: Example of a site on a no-through road greater than 200 metres from the intersection, but within 200 metres of BAL-LOW

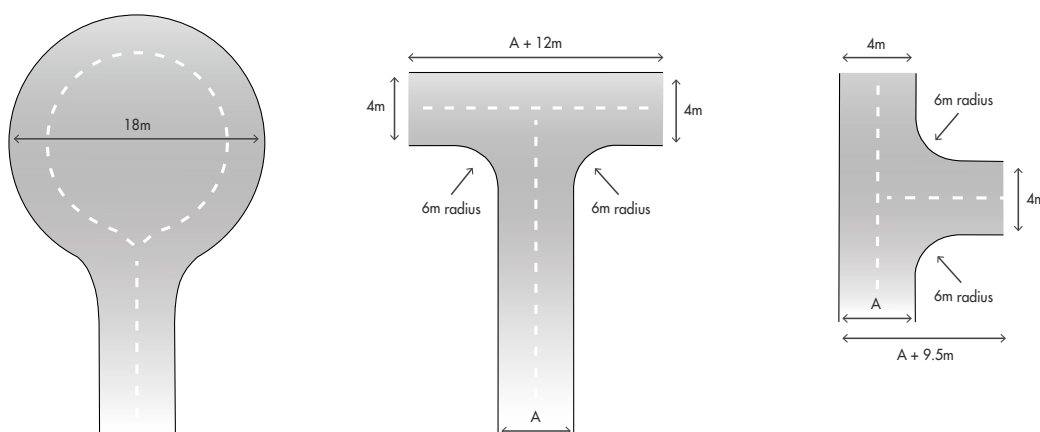


Figure 24: Turn-around area dimensions for a no-through road



EXPLANATORY NOTES

E3.4a Perimeter roads

Where a planning proposal includes the creation of 10 or more lots adjacent to each other, which adjoin classified vegetation under AS 3959 with the exception of Class G Grassland, as part of a greenfield development or large urban infill site, hazard separation and defendable space should be provided in the form of a perimeter road. Greenfield is 'undeveloped or minimally developed areas that have been identified for urban development'; and urban infill is 'the redevelopment of existing urban areas at a higher density than currently exists'. The creation of 10 or more lots includes cumulative subdivision applications where the subdivision application may be part of a staged subdivision.

A perimeter road should be in accordance with the class of road as specified in the IPWEA Subdivision Guidelines, Liveable Neighbourhoods, Austroad Standards and/or any applicable standard in the local government area as per the requirements of a public road in Table 6, Column 1.

As the road is likely to function as a key neighbourhood distributor, or similar, consideration should be given to the provision of additional width to allow for emergency services vehicles to stop and operate on the side of the perimeter road, whilst simultaneously providing for the evacuation of the community (Figure 20).

When designing a strategic planning proposal and/or subdivision, creating a large setback between classified vegetation and proposed lots with a perimeter road, and orientating habitable buildings to front onto (rather than back onto) areas of vegetation has many benefits, including:

- passive surveillance;
- defendable space for firefighting and emergency management purposes;
- reducing the potential radiant heat that may impact a habitable building in a bushfire event;
- reducing the need for battle-axe lots; and
- unconstrained public access/egress for the community in the event of a bushfire.

In developments where no perimeter road exists, property defence in a bushfire event is difficult and can be impossible.

Where proposed lots have frontage to an existing public road and abut the hazard at the rear or side, it may be an undesirable planning outcome to create lots which front the existing public road and back onto a perimeter road. In this instance, consideration should be given to a fire service access route. Refer to E3.4b below.

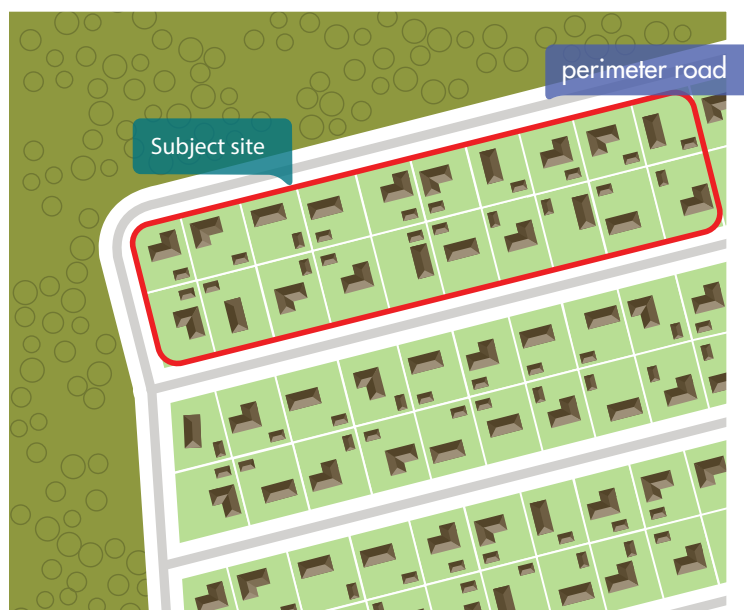


Figure 25: Example of a perimeter road



EXPLANATORY NOTES

E3.4b Fire service access route

Where a subdivision adjoins classified vegetation and where A3.2a has been satisfied, hazard separation and defensible space across multiple lots may be required in the form of a fire service access route.

A fire service access route is not intended to provide residents and the general public with emergency egress and therefore is not a suitable second access or substitute for a public road. A fire service access route is to provide access for emergency services to classified vegetation for firefighting and fire management purposes.

A fire service access route can be provided as either an easement in gross over private or Crown land, or ceded to the Crown as a reserve. In both approaches, the management of the fire service access route is by the local government as the grantee of the easement or management body of the reserve. Determining which approach to take is dependent on what the intended tenure of the fire service access route is, which is explained further below. The proponent must obtain written consent from the local government that the local government will accept care, control and management of the easement or reserve and agree to the terms of the Management Order Conditions (if applicable); this must be provided to the decision-maker prior to granting planning approval. The approach taken is at the discretion of the decision-maker and/or the local government. Consultation with Land Use Management at the Department of Planning, Lands and Heritage should also be considered if the land is to be ceded to the Crown or if the local government is uncertain of which approach to take.

Where gates are used, these should be double gates wide enough to access the whole trafficable width and accommodate type 3.4 fire appliances with the design and construction to be approved by the relevant local government. Gates on fire service access routes may be locked to restrict access, provided a common key system is used, and such keys are made available for emergency services and designated fire officers within the local government area and/or surrounding district. Gates should be installed where fences cross fire service access routes. If an easement in gross is proposed, such arrangements for gates should be included in the deed of easement and be agreed to by the local government.

Fire service access route to remain in private ownership of multiple landowners

Where a fire service access route is proposed to traverse multiple private lots and they are intended to remain in the private ownership of the multiple landowners, it should be provided as an easement in gross under section 196 of the *Land Administration Act 1997*, to ensure accessibility for fire emergency services and not for use by the public. The easement is to be granted to the local government and/or public authority for firefighting and emergency management purposes.

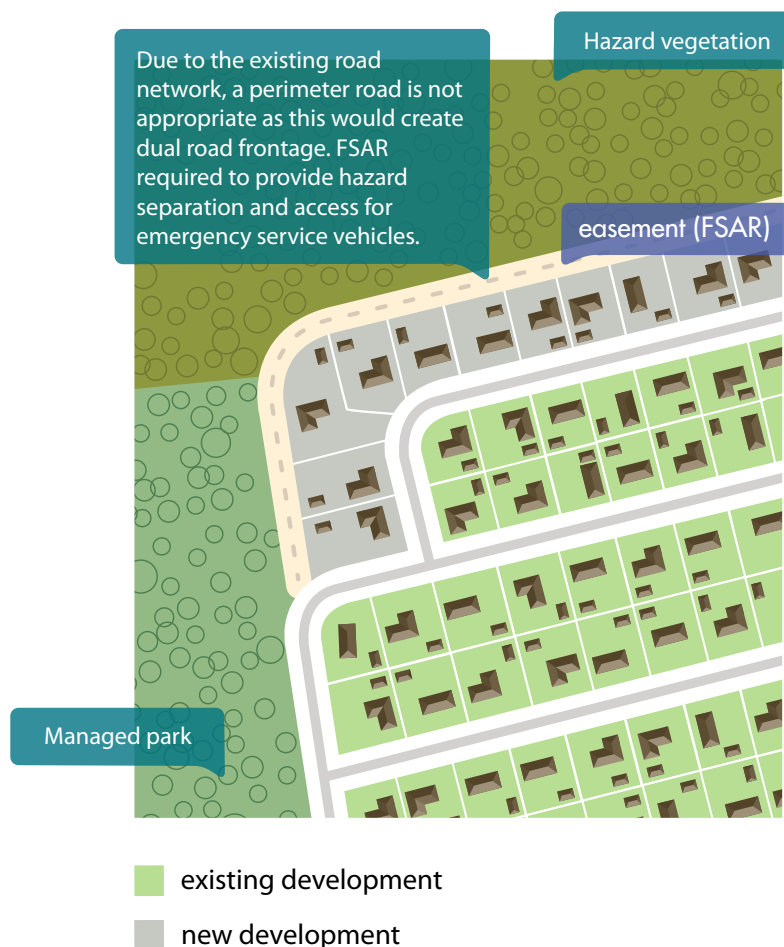


Figure 26: Example of a fire service access route



EXPLANATORY NOTES

Fire service access route to be created under State ownership

Where a fire service access route is proposed to traverse multiple private lots, but the decision-maker and/or local government prefer for the fire service access route to remain in one ownership under the State for management purposes, the fire service access route can be vested in the Crown under section 152 of the *Planning and Development Act 2005* as a reserve, such land to be ceded free of cost without any payment or compensation by the Crown. The purpose of the reserve should be for a public purpose specified in the condition related to the subdivision, for example for vehicular access for emergency services and the local government only, or for vehicular access for emergency services and the local government and recreation. A reserve for emergency services access and recreation can optimise the land-use as a dual purpose, where it provides vehicular access for emergency services, but can be accessed by the public (on foot) on a day-to-day basis as a recreation link. Appropriate signage will ensure the general public is aware of the purpose of the reserve. The approach taken is at the discretion of the decision-maker and/or local government.



EXPLANATORY NOTES

E3.5 Battle-axe access legs

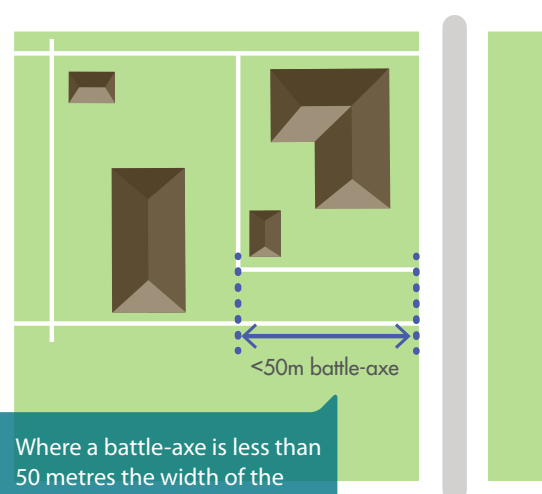
In bushfire prone areas, lots with battle-axe access legs should be avoided because they:

- do not enable the habitable building to be located close to a public road where it is visible to emergency services;
- result in longer than necessary access routes for evacuation and the response of emergency services;
- may be blocked by falling trees or debris; and
- may not provide certainty for emergency services regarding the width, length and ability to turn emergency services vehicle around.

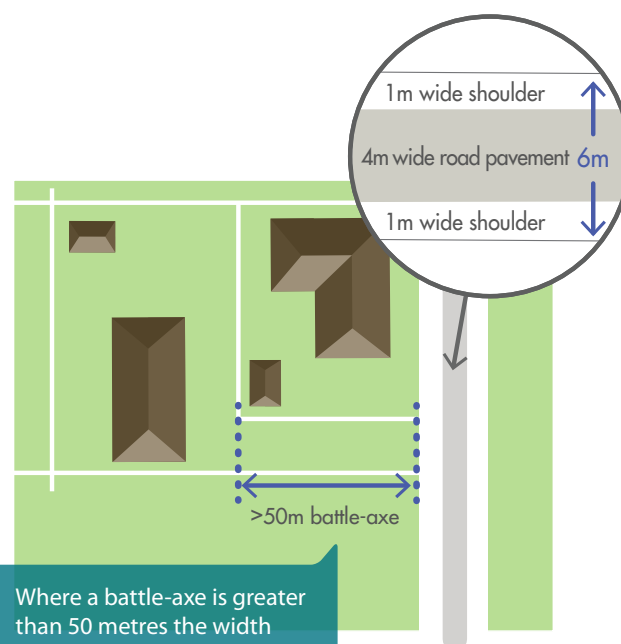
In some instances, it may be appropriate for battle-axe access legs to be used to overcome specific site or design constraints created by the existing road networks or lot layout. The Bushfire Management Plan should provide justification for proposed battle-axe access leg(s), including exploration of a redesign of the proposal, and the decision-maker should determine whether the justification is valid.

The measurement of the battle-axe access leg should be from the edge of the public road to where the access leg joins the effective area of the battle-axe lot. Effective lot area means that part of the battle-axe lot that is capable of development and excludes the access leg and associated truncations for vehicle maneuverability. Where a proposed battle-axe lot has an existing habitable building that will be retained, the private driveway requirements and/or the battle-axe access leg requirements (as appropriate) should be satisfied.

Battle-axe access leg should be 6 metres in width where the battle-axe is more than 50m in length or for lots serviced by a water source within the property, such as a water tank. It is acceptable for a single battle-axe access leg to have a trafficable width of 4 metres with a traversable edge of 1 metre on either side of the carriageway.



Where a battle-axe is less than 50 metres the width of the battle-axe is determined by other applicable standards



Where a battle-axe is greater than 50 metres the width should be 6m to provide for access/egress by emergency service vehicles.

Figure 27: Battle-axe design requirements where required under A3.5



EXPLANATORY NOTES

E3.6 Private driveways

In areas serviced by reticulated water, where the road speed limit is not greater than 70 km/h, and where the distance from the public road to the further part of the habitable building is no greater than 70 metres, emergency service vehicles typically operate from the street frontage.

In the event the habitable building cannot be reached by hose reel from the public road, then emergency service vehicles will need to gain access within the property. Emergency service vehicles will also need to gain access within the property, where access to reticulated water (fire hydrants) is not possible. In these situations, the driveway and battle-axe (if applicable) will need to be wide enough for access for an emergency service vehicle and a vehicle to evacuate.

Turnaround areas should be available for both conventional two-wheel drive vehicles of residents and Type 3.4 fire appliances. Turn-around areas should be located within 30 metres of habitable buildings. Circular and loop driveway design may also be considered.

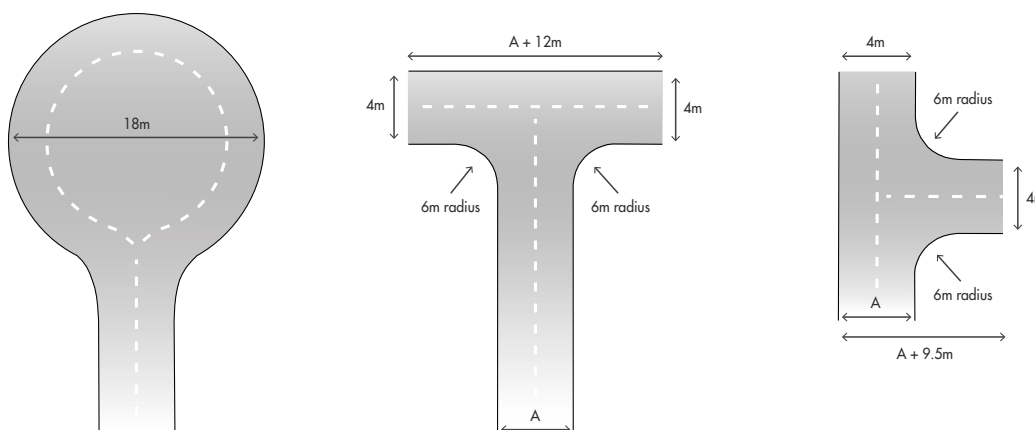


Figure 28: Design requirements for a turn-around area for a private driveway or battle-axe

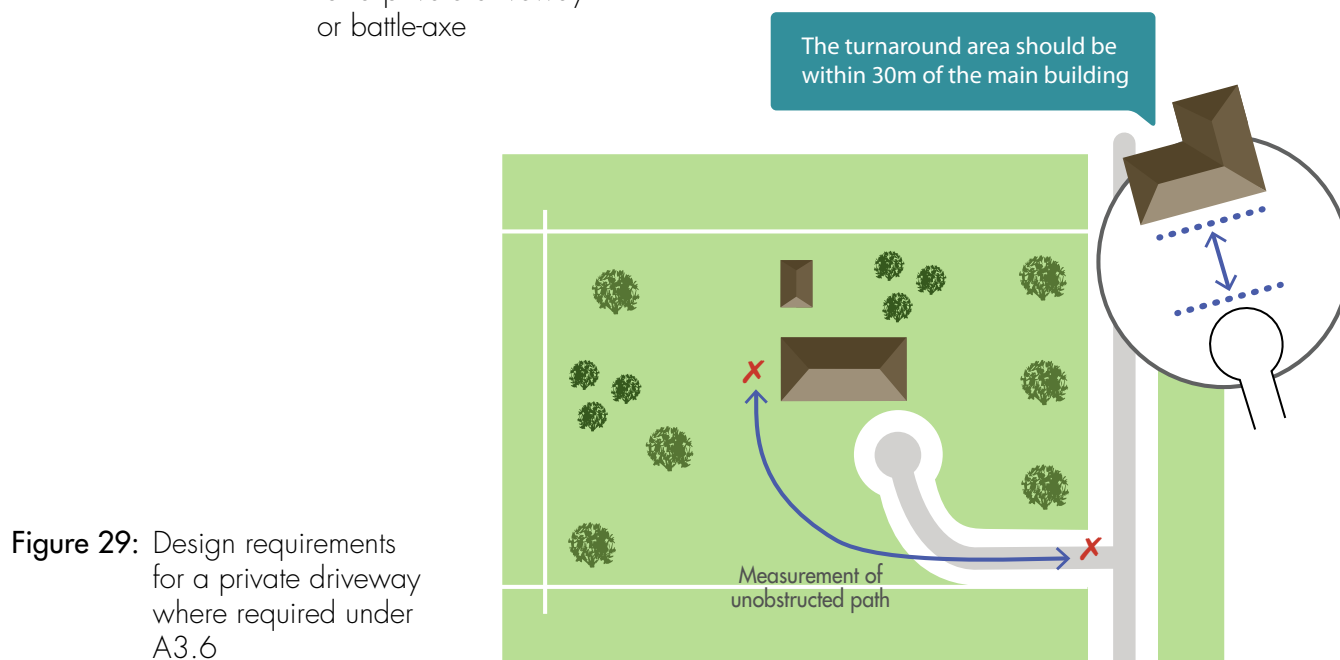


Figure 29: Design requirements for a private driveway where required under A3.6



ELEMENT 4: WATER

Intent: To ensure that water is available to enable people, property and infrastructure to be defended from bushfire.

PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
<p><i>The intent may be achieved where:</i></p>	<p><i>To achieve the intent, all applicable 'acceptable solutions' must be addressed:</i></p> <ul style="list-style-type: none"> SP – Strategic planning proposal and structure plan where the lot layout is not known Sb – Structure plan where the lot layout is known and subdivision application Dd – Development application for a single dwelling, ancillary dwelling or minor development Do – Development application for any other development that is not a single dwelling, ancillary dwelling or minor development
<p>No performance principle applies</p>	<p>A4.1 Identification of future water supply SP</p> <p>Evidence that a reticulated or sufficient non-reticulated water supply for bushfire fighting can be provided at the subdivision and/or development application stage, in accordance with the specifications of the relevant water supply authority or the requirements of Schedule 2.</p> <p>Where the provision of a strategic water tank(s) is required a suitable area within a road reserve or a dedicated lot the location should be identified, should be identified on the structure plan, to the satisfaction of the local government.</p>
<p>P4</p> <p>Provide a permanent water supply that is:</p> <ul style="list-style-type: none"> – sufficient and available for firefighting purposes; – constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and – accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles. 	<p>A4.2 Provision of water for firefighting purposes Sb Dd Do</p> <p>Where a reticulated water supply is existing or proposed, hydrant connection(s) should be provided in accordance with the specifications of the relevant water supply authority. Where these specifications cannot be met, then the following applies:</p> <ul style="list-style-type: none"> • The provision of a water tank(s), in accordance with the requirements of Schedule 2; and • Where the provision of a strategic water tank(s) is applicable, then the following requirements apply: <ul style="list-style-type: none"> – land to be ceded free of cost to the local government for the placement of the tank(s); – the lot or road reserve where the tank is to be located is identified on the plan of subdivision; – tank capacity, construction, and fittings, provided in accordance with the requirements of Schedule 2; and – a strategic water tank is to be located no more than 10 minutes from the subject site (at legal road speeds). <p>Where a subdivision includes an existing habitable building(s) that is to be retained, a water supply should be provided to this existing habitable building(s), in accordance with the requirements listed above.</p>



EXPLANATORY NOTES

E4 Use of water supply

Water supply for firefighting in the event of a bushfire can be provided on a lot for use by emergency services or for use by the landowner, if their [Bushfire Survival Plan](#) is to stay and defend their property. Water supply in the form of a dedicated standalone tank may be provided solely for use by emergency services, and/or a water supply may be provided for use by the landowner in the form of non-drinking water (garden or grey water for firefighting) or drinking water. It is important to note, that a combined tank of drinking water and water for firefighting purposes is not recommended. It is required to be separated in accordance with section 4.2.3 of AS/NZS 3500.1:2018. This requirement is necessary, as stagnant water may alter the quality of the drinking water and the emergency services, by law, may not be able to take water from the water supply to suppress a bushfire.

E4 Independent water and power supply

Bushfires can directly impact a water service provider's equipment or pipes. As such, a reticulated water supply may not be reliable due to a reduction in water pressure or loss of supply. Where development is in a bushfire prone area (even if there is access to reticulated water), it is recommended that the landowner consider providing an additional water supply for use by emergency services.

Where a landowner intends on staying to defend their property during a bushfire event, as identified in their [Bushfire Survival Plan](#), it is recommended that pumping equipment separate to the electricity network be provided. The pumping equipment could be a diesel or petrol powered pump, or an electric pump if there is an onsite generator or backup power supply independent from electricity network grid.

It is recommended that combustion pumps should be a minimum 5hp or 3kW diesel or petrol powered pump and should be shielded against bushfire attack. Where an electric pump is used, a backup power supply independent from electricity network grid should be provided. A 3.7kw/12kw-h sized battery (14.8kw-h reserved solely for bushfire will power a 3.7kw system for 4 hours) with blackout protection or a generator should be provided.

E4 Strategic water supplies

Many local governments have a well-developed network of strategic water tanks for firefighting within their local government area. Given this, it is at the discretion of the local government to determine if the water supply within a locality, is sufficient to cater for an increasing population when a subdivision is proposed. Local governments are encouraged to work with their local emergency services to ensure the water needs for firefighting is understood.

Where a structure plan or subdivision proposes to create three to 24 lots, it is optional as to whether each lot is provided with a 10,000 litre tank or a strategic water tank is provided for the entire development. If 25 or more lots are proposed, then it is recommended that a 50,000 litre strategic water tank (for every 25 lots) is provided. For every lot additional to the 25, it is at the discretion of the local government whether they require an additional strategic water tank or for each lot to be provided with a 10,000 litre tank. For example, 37 proposed lots require two strategic water tanks, or a 10,000 litre tank on each lot, or a combination of both with a strategic water tank and 12 proposed lots with a 10,000 litre tank on each lot. Where the local government, following consultation with the local emergency services, is of the opinion that a strategic water tank is unnecessary, a 10,000 litre standalone tank per lot can be provided.

A strategic water tank should be located no more than 10 minutes from the subject site (20-minute turnaround time). The turnaround time is the time it takes from a lot, to the water supply and return back to the lot, at legal road speeds. Where a strategic water tank has been provided at the subdivision stage and a development application is located within the 20-minute turnaround time of that (or another) strategic water source, then the decision-maker could remove the requirement for the provision of an additional water supply at the development application stage. Local government will need to consider whether the strategic water tank has the capacity to serve the lot identified in the development application i.e. what lots were identified at subdivision stage to be serviced by the strategic water tank. A landowner should enquire with their local government to determine whether a water supply on their lot will be required.



EXPLANATORY NOTES

When there is fragmented ownership of a structure plan area, or when staging of a subdivision is to occur and the local government has determined that a strategic water tank is required, then the first stage should include arrangements for the installation of a water tank and the identification of land to be ceded to the local government authority (if applicable).

Where local planning scheme provisions provide for developer contributions for public infrastructure and the local government is supportive, then a cash-in lieu arrangement may be established for the provision of a strategic water tank.

Grouped dwellings may provide dedicated firefighting water supply in one standalone tank per lot or may provide one shared standalone tank with the accumulative amount of water needed, for the number of lots it will serve. For example, a development proposing three lots may either have three tanks of 10,000L (one per lot) or one tank with 30,000L (shared between three lots).

E4 Alternative water sources

A dam, river or other source may be considered a firefighting water source if it complies with DFES guidelines and it can be demonstrated that the water level will be maintained above the top of the highest fire brigade suction point in perpetuity, if it is expected that the water supply will be used by emergency services. Approval for the use of these types of water supplies are on a case by case basis and at the discretion of the decision maker, in consultation with emergency services and local government.

E4 Location of water tanks

A water tank should be located with consideration to surrounding vegetation and should avoid locations where the tank will be situated underneath existing vegetation or where vegetation will grow against or overhang the tank, as shown in Figure 30 below. Where a tank is located on the bushfire hazard side of a building, sufficient shielding for the protection of firefighters should be provided. In addition to the tank location, the fitting should be positioned and/or shielded from the bushfire hazard to allow access by emergency services. It is recommended that the fitting face away from the bushfire hazard and be within four metres of a hardstand area.



Figure 30: A good and bad example of landscaping around a water tank



SCHEDULE 2: WATER SUPPLY DEDICATED FOR BUSHFIRE FIREFIGHTING PURPOSES

2.1 Water supply requirements

Water dedicated for firefighting should be provided in accordance with Table 7 below, and be in addition to water required for drinking purposes.

Table 7: Water supply dedicated for bushfire firefighting purposes

PLANNING APPLICATION	NON-RETICULATED AREAS
Development application	10,000L per habitable building
Structure Plan / Subdivision: Creation of 1 additional lot	10,000L per lot
Structure Plan / Subdivision: Creation of 3 to 24 lots	10,000L tank per lot or 50,000L strategic water tank
Structure Plan / Subdivision: Creation of 25 lots or more	50,000L per 25 lots or part thereof Provided as a strategic water tank(s) or 10,000L tank per lot

2.2 Technical requirements

2.2.1 Construction and design

An above-ground tank and associated stand should be constructed of non-combustible material. The tank may need to comply with AS/NZS 3500.1:2018.

Below ground tanks should have a 200mm diameter access hole to allow tankers or emergency service vehicles to refill direct from the tank, with the outlet location clearly marked at the surface. The tank may need to comply with AS/NZS 3500.1:2018. An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018. If the tank is required under the BCA as part of fire hydrant installation, then the tank will also need to comply with AS 2419.

Where an outlet for an emergency service vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.

2.2.2 Pipes and fittings

All above-ground, exposed water supply pipes and fittings should be metal. Fittings should be located away from the source of bushfire attack and be in accordance with the applicable section below, unless otherwise specified by the local government.

2.2.2.1 Fittings for above-ground water tanks:

- Commercial land uses: 125mm Storz fitting; or
- Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or
- Standalone water tanks: 50mm male camlock coupling with full flow valve; or
- Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

2.2.2.2 Remote outlets

In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In such instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.



ELEMENT 5: VULNERABLE TOURISM LAND USES

Intent: To provide bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure.

PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
Bed and Breakfast and Holiday House – where the development is <u>within</u> a residential built out area.	
<p><i>The intent may be achieved where:</i></p> <p>P5i Habitable buildings are sited and designed to:</p> <ul style="list-style-type: none"> – minimise clearing of existing vegetation; and – provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to protect life, prevent the spread of, and manage the impacts of, fire. 	<p><i>To achieve the intent, <u>all applicable</u> ‘acceptable solutions’ must be addressed:</i></p> <p>A5.1 Siting and Design</p> <p>A5.1a Every habitable building is surrounded by an Asset Protection Zone (APZ) in accordance with Element 2: Siting and Design of Development - A2.1 Asset Protection Zone.</p>
<p>P5ii The design and capacity of vehicular access and egress is to adequately provide for the occupants to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site.</p>	<p>A5.2 Vehicular access</p> <p>A5.2a Private driveways longer than 70 metres are to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • Turn-around areas as shown in Figure 28. <p>A5.2b Signage is to be provided within the site, advising of where each access route travels to and the distance; and general information signs on what to do in the event of a bushfire.</p>
<p>P5iii Provide a permanent water supply that is sufficient and available for firefighting purposes.</p>	<p>A5.3 Provision of water</p> <p>A5.3a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority.</p>



PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
<p>Bed and Breakfast and Holiday House – where the development is <u>outside</u> a residential built-out area.</p>	
<p>P5iv Habitable buildings are sited and designed to:</p> <ul style="list-style-type: none"> – minimise clearing of existing vegetation; and – provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to protect life, prevent the spread of, and manage the impacts of, fire. 	<p>A5.4 Siting and design A5.4a Every habitable building is surrounded by an Asset Protection Zone (APZ) in accordance with Element 2: Siting and Design of Development - A2.1 Asset Protection Zone.</p>
<p>P5v The design and capacity of vehicular access and egress is to adequately provide for the occupants to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site.</p>	<p>A5.5 Vehicular access A5.5a Public road access is to be provided in two different directions to at least two different suitable destinations, except in the following circumstance:</p> <ul style="list-style-type: none"> • Where it is demonstrated the public vehicular access provides access to a suitable destination, and leads away from the source of the hazard; and • Where it is demonstrated that secondary access (including an emergency access way) cannot be achieved. <p>A5.5b All public roads to be through roads. No-through roads are not recommended, but if unavoidable, or they are existing, the following requirements apply:</p> <ul style="list-style-type: none"> • No more than 200 metres in length, where the adjoining classified vegetation, excluding the road reserve, has an extreme BHL; or • No more than 500 metres in length, where the adjoining classified vegetation, excluding the road reserve, has a moderate BHL; or • No limitation, where the adjoining classified vegetation, excluding the road reserve, has a low BHL or is not identified as bushfire prone. <p>A5.5c Where it is demonstrated that A5.5a and A5.5b cannot be achieved, an emergency access way can be considered as an acceptable solution. An emergency access way is to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 2; • Provide a through connection to a public road; • Be no more than 500 metres in length; and • Must be signposted and if gated, gates must remain unlocked. <p>A5.5d A public road is to meet the requirements in Table 6, Column 1.</p> <p>A5.5e Private driveways longer than 70 metres are to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • Turn-around areas as shown in Figure 28.



PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
<p>P5vi</p> <p>Provide a permanent water supply that is:</p> <ul style="list-style-type: none"> – sufficient and available for firefighting purposes; – constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and – accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles. 	<p>A5.5f Signage to be provided within the site, advising of where each access route travels to and the distance and general information signs on what to do in the event of a bushfire.</p> <hr/> <p>A5.6 Provision of water</p> <p>A5.6a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority; or</p> <p>A5.6b Provision of a water tanks(s) in accordance with the requirements of Element 4, Schedule 2, Schedule 2 requirements.</p>
<p>Other short-term accommodation – including motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park (which incorporates camping grounds)</p>	
<p>P5vii</p> <p>Habitable buildings are sited and designed to:</p> <ul style="list-style-type: none"> – minimise clearing of existing vegetation; and – provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to protect life, prevent the spread of, and manage the impacts of, fire. 	<p>A5.7 Siting and design</p> <p>A5.7a For caravan parks, the provision of an APZ to achieve BAL-29 (29kW/m²) around the campground facilities, which may include the office, manager’s residence, camper’s kitchen, and shower/laundry.</p> <p>A5.7b Where the BMP identifies accommodation structures, including, but not limited to, caravan and camping sites, eco tents and cabins, as a tolerable loss in the event of a bushfire, these accommodation structures can be sited in areas above BAL-29 (29kW/m²).</p> <p>A5.7c For all other short-term accommodation, an APZ to be provided in accordance with Element 2: Siting and Design of Development A2.1 Asset Protection Zone.</p> <p>A5.7d A landscape management plan is to be prepared to identify on-going onsite vegetation management (where appropriate).</p> <p>Where an on-site shelter is proposed, to comply with A5.8.2e, it is to meet all the following requirements:</p> <p>A5.7e Pedestrian paths to any on-site shelter are to be provided on-site and be clearly signposted.</p> <p>A5.7f Where a building is to function as an on-site shelter, there is to be sufficient separation distance from the predominant bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 10kW/m² (with an assumed flame temperature of 1200K); or where an open space area is to function as an onsite shelter, there is to be sufficient separation distance from the bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2kW/m² (with an assumed flame temperature of 1200K).</p> <p>A5.7g Buildings identified as suitable for on-site shelter be designed and constructed in accordance with National Construction Code and the ABCB Community Shelter Handbook.</p>



**PERFORMANCE
PRINCIPLE**

P5viii

The design and capacity of vehicular access and egress allows the occupants to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site; or it is demonstrated through a risk assessment that the risk can be managed.

ACCEPTABLE SOLUTIONS

A5.8.1 Vehicular access for all proposals

A5.8.1a Internal vehicular access/private driveway is to provide emergency egress/access for all patrons and staff, in the event of a bushfire. Where possible, this is to include the provision of at least two internal access/egress points to the public road network.

A5.8.1b Internal vehicular access/private driveways longer than 70 metres are to meet all the following requirements:

- Requirements in Table 6, Column 4;
- Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and
- Turn-around areas as shown in Figure 28.

A5.8.1c Signage to be provided within the site, advising of where each access route travels to and the distance and general information signs on what to do in the event of a bushfire.

A5.8.2 Vehicular access for short-term accommodation outside of a residential built-out area

A5.8.2a Public road access is to be provided in two different directions to at least two different suitable destinations.

A5.8.2b All public roads to be through roads. No-through roads are not recommended but if unavoidable, or they are existing, the following requirements apply:

- No more than 200 metres in length, where the adjoining classified vegetation, excluding the road reserve, has an extreme BHL; or
- No more than 500 metres in length, where the adjoining classified vegetation, excluding the road reserve, has a moderate BHL; or
- No limitation, where the adjoining classified vegetation, excluding the road reserve, has a low BHL or is not identified as bushfire prone.

A5.8.2c Where it is demonstrated that A5.8.2a and A5.8.2b cannot be achieved, an emergency access way can be considered as an acceptable solution.

An emergency access way is to meet all of the following requirements:

- Requirements in Table 6, Column 2;
- Provide a through connection to a public road;
- Be no more than 500 metres in length; and
- Must be signposted and if gated, gates must remain unlocked.

A5.8.2d A public road is to meet the requirements in Table 6, Column 1.

A5.8.2e Where A5.8.2a, A5.8.2b and A5.8.2c (if required), cannot be achieved, and the proposed development has a capacity of up to a maximum of 100 guests and staff at any one time, an on-site shelter is to be provided in accordance with A5.7e, A5.7f and A5.7g Siting and Design.



PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
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P5ix

Provide a permanent water supply that is:

- sufficient and available for firefighting purposes;
- constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and
- accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles.

A5.9 Provision of water

A5.9a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority; or

A5.9b Provision of a water tank(s) in accordance with the requirements of Element 4, Schedule 2, Schedule 2 requirements.

Camping ground only (remote) or nature-based park

P5x

Habitable buildings are sited and designed to:

- minimise clearing of existing vegetation; and
- provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to protect life, prevent the spread of, and manage the impacts of, fire.

A5.10 Siting and design

A5.10a Siting and design to reduce levels of radiant heat, on the camping ground area, to meet the following criteria:

- Where the BMP identifies camping sites as a tolerable loss in the event of a bushfire, then these can be sited in areas above 29kW/m²; and
- Consideration to be given to clustering of camp sites and the provision of hazard separation, between areas of classified vegetation and the camping ground.

A5.10b Fire pits are to be used at all times to ensure the fire is contained, in accordance with the *Bush Fires Act 1954*.

Where an on-site shelter is proposed, to comply with **A5.11d**, it is to meet all the following requirements:

A5.10c Pedestrian paths to any on-site shelter are to be provided on-site and be clearly signposted.

A5.10d Where an open space area is to function as an on-site shelter, there is to be sufficient separation distance from the predominant bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2kW/m² (with an assumed flame temperature of 1200K).

P5xi

The design and capacity of vehicular access and egress allows the community to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site; or it is demonstrated through a risk assessment that the risk can be managed.

A5.11 Vehicular access

A5.11a Vehicular access to be provided in two different directions to at least two different suitable destinations.

A5.11b All public roads to be through roads. No-through roads are not recommended but if unavoidable, or they are existing, the following requirements apply:

- No more than 200 metres in length, where the adjoining classified vegetation, excluding the road reserve, has an extreme BHL; or
- No more than 500 metres in length, where the adjoining classified vegetation, excluding the road reserve, has a moderate BHL; or
- No limitation, where the adjoining classified vegetation, excluding the road reserve, has a low BHL or is not identified as bushfire prone.



PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
	<p>A5.11c Where it is demonstrated that A5.11a and A5.11b cannot be achieved, an emergency access way can be considered as an acceptable solution.</p> <p>An emergency access way to meet all of the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 2; • Provide a through connection to a public road; • Be no more than 500 metres in length; and • Must be signposted and if gated, gates must open the whole trafficable width and remain unlocked. <p>A5.11d Where A5.11a, A5.11b and A5.11c cannot be achieved, and the proposed development has a capacity of up to a maximum of 100 guests and staff at any one time, an on-site shelter is to be provided in accordance with A5.10c and A5.10d Siting and Design.</p> <p>A5.11e Internal vehicular access/private driveway is to provide emergency egress/access for all patrons and staff, in the event of a bushfire. Where possible, this is to include the provision of at least two internal access/egress points to the public road network.</p> <p>A5.11f Internal access/private driveway longer than 70 metres are to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed access to be a minimum six metres); • Turn-around area as shown in Figure 28. <p>A5.11g Signage to be provided advising of:</p> <ul style="list-style-type: none"> • Where each access route travels to and the distance; • Where vehicular access is 4-wheel drive only; and • What to do in the event of a bushfire.
<p>P5xii</p> <p>Where drinking water is provided on-site and the intention is to actively defend the site in the event of a bushfire, a permanent water supply is to be provided that is:</p> <ul style="list-style-type: none"> – sufficient and available for firefighting purposes; – constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and – accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles. 	<p>A5.12 Provision of water</p> <p>A5.12a Where drinking water is not provided on-site, there is no requirement for a water tank for firefighting purposes, unless specifically requested by the local government.</p> <p>A5.12b Where drinking water is provided on-site and the intention is to actively defend the site in the event of a bushfire, provision of at least 20,000 litres of static water supply for firefighting purposes, to the satisfaction of the local government; and</p> <p>A5.12c Provision of a water tank(s) in accordance with Element 4, Schedule 2, 2.2 Technical requirements.</p>



PERFORMANCE PRINCIPLE

ACCEPTABLE SOLUTIONS

Day uses (with no overnight accommodation) – including art gallery, brewery, exhibition centre, hotel, reception centre, restaurant/cafe, small bar, tavern, winery

P5xiii

Habitable buildings are sited and designed to:

- minimise clearing of existing vegetation; and
- provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to protect life, prevent the spread of, and manage the impacts of, fire.

A5.13 Siting and design

A5.13a An APZ to be provided in accordance with Element 2: Siting and Design of Development A2.1 Asset Protection Zone.

Where an on-site shelter is proposed, to comply with **A5.14d**, it is to meet all the following requirements:

A5.13b Pedestrian paths to any on-site shelter are to be provided on-site and be clearly signposted.

A5.13c Where a building is to function as an on-site shelter, there to be sufficient separation distance from the predominant bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 10kW/m² (with an assumed flame temperature of 1200K); or where an open space area is to function as an on-site shelter, there is to be sufficient separation distance from the predominant bushfire prone vegetation to avoid exposure to a radiant heat flux exceeding 2kW/m² (with an assumed flame temperature of 1200K).

A5.13d Buildings identified as suitable for on-site shelter be designed and constructed in accordance with National Construction Code and the ABCB Community Shelter Handbook; or constructed to a minimum BAL-29 construction standard (and within an area of 10kW/m²).

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The design and capacity of vehicular access and egress allows the community to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site.

A5.14 Vehicular access

A5.14a Public vehicular access in two different directions to two different suitable destinations to be provided, except in the following circumstances:

- Where the tourism land use is within a residential built-out area; or
- Where a bushfire emergency evacuation plan provides for closure during days forecasted to be an extreme or catastrophic fire danger rating and a total fire ban; and for the early evacuation of patrons and staff; or
- Where a bushfire emergency evacuation plan provides for non-operation during the bushfire season; and
- Where it is demonstrated that secondary access (including an emergency access way) cannot be achieved.

A5.14b All public roads to be through roads. No-through roads are not recommended, but if unavoidable, or they are existing, the following requirements apply:

- No more than 200 metres in length, where the adjoining classified vegetation, excluding the road reserve, has an extreme BHL; or
- No more than 500 metres in length, where the adjoining classified vegetation, excluding the road reserve, has a moderate BHL; or
- No limitation, where the adjoining classified vegetation, excluding the road reserve, has a low BHL or is not identified as bushfire prone.

A5.14c Where it is demonstrated that A5.14a and A5.14b cannot be achieved, an emergency access way can be considered as an acceptable solution.

An emergency access way is to meet all of the following requirements:

- Requirements in Table 6, Column 2;
- Provide a through connection to a public road;
- Be no more than 500 metres in length; and
- Must be signposted and if gated, gates must open the whole trafficable width and remain unlocked.



PERFORMANCE PRINCIPLE	ACCEPTABLE SOLUTIONS
	<p>A5.14d Where A5.14a, A5.14b and A5.14c (if required), cannot be achieved and the proposed development has a capacity of up to a maximum of 100 guests and staff at any one time, an on-site shelter be provided in accordance with A5.13b, A5.13c and A5.13d Siting and Design.</p> <p>A5.14e A public road is to meet the requirements in Table 6, Column 1.</p> <p>A5.14f Internal vehicular access/private driveways longer than 70 metres are to meet all the following requirements:</p> <ul style="list-style-type: none"> • Requirements in Table 6, Column 4; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • Turn-around areas as shown in Figure 28. <p>A5.14g Internal vehicular access/private driveway is to provide emergency egress/access for all patrons and staff, in the event of a bushfire. Where possible, this is to include the provision of at least two internal access/egress points to the public road network.</p> <p>A5.14h Signage to be provided within the site, advising of where each access route travels to and the distance; and general information signs on what to do in the event of a bushfire.</p>
<p>P5xv Provide a permanent water supply that is:</p> <ul style="list-style-type: none"> – sufficient and available for firefighting purposes; – constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and – accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles. 	<p>A5.15 Provisions of water</p> <p>A5.15a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority; or</p> <p>A5.15b Provision of a water tanks(s) with a minimum capacity of 10,000 litres per 500 m² of habitable floor space, up to 50,000 litres; and</p> <p>A5.15c The water tank(s) to be constructed in accordance with Element 4, Schedule 2, 2.2 Technical requirements.</p>



APPENDIX FIVE BUSHFIRE MANAGEMENT PLANS

Purpose

A Bushfire Management Plan (BMP) is required to accompany strategic planning proposals, subdivision and development applications⁹ in areas above BAL – Low or areas with a bushfire hazard level above low. In accordance with *SPP 3.7: Planning in bushfire prone areas*, a BMP should include the bushfire assessment; identification of the bushfire hazard issues arising from the relevant assessment; and demonstration that compliance with the bushfire protection criteria contained within Appendix 4 of these Guidelines can be achieved. Further guidance is included in section 4.6 of these Guidelines.

Level of detail

The level of detail provided within a BMP should be commensurate with the applicable planning stage and scale of the proposal or application.

The primary sections 1-6 included in the BMP templates should always retain the stated section numbering. If a primary section is not relevant to an application then state N/A (and a reason, if applicable) but leave the section in the plan. The sub-sections can be modified as required, with best practice being to adhere to them as closely as possible, and add further detail if required.

Table 8 provides a checklist to outline the requirements for land use planning proposals and development applications in bushfire prone areas.

Table 8: Bushfire Management Plan Section Checklist

SECTIONS		Local planning strategies	Schemes and amendments	Structure plans	Subdivision	Development approval
Coversheet		✓	✓	✓	✓	✓
Executive summary		optional	optional	optional	optional	optional
1.	Proposal details	✓	✓	✓	✓	✓
2.	Environmental considerations	✓	✓	✓	✓	✓
3.	Bushfire assessment results					
3.1	Assessment inputs	✓	✓	✓	✓	✓
3.2	Assessment outputs					
	BHL assessment	✓	✓	✓		
			or	or		
	BAL contour map		✓	✓	✓	
					or	
	BAL assessment				✓	✓
4.	Bushfire hazard issues	✓	✓	✓	✓	✓
5.	Assessment against the bushfire protection criteria	✓	✓	✓	✓	✓
6.	Implementation	✓	✓	✓	✓	✓

If future lot layout has been determined, a BAL contour map showing the BAL ratings for each lot should be prepared instead of a BHL assessment.

⁹ Excluding development applications for single houses and ancillary dwellings on a lot or lots less than 1,100m²



Bushfire Management Plan sections

Section 1: Proposal details

Include a brief explanation of the planning proposal and resulting intensification of land use.

Section 2: Environmental considerations

SPP 3.7 policy objective 5.4 recognises the need to consider bushfire risk management measures alongside environmental, biodiversity and conservation values.

The BMP should identify whether onsite clearing or modification of native vegetation will be required; and whether areas are proposed to be revegetated as part of the planning proposal.

The BMP should provide evidence (from relevant agencies, the environmental or planning consultant and/or the local government) that the vegetation clearing and/or modification can be achieved. If evidence is unavailable, it may be satisfactory to identify the need to seek these approvals at a subsequent stage of the planning process and to acknowledge that if approval is not forthcoming there may be a need to revise the BMP.

Where revegetation is proposed, written evidence and/or an approved landscape plan should be provided to demonstrate that the agency responsible for the ongoing management (i.e. local government and/or Department of Biodiversity, Conservation and Attractions), understands and supports the vegetation classification assigned to the subject area.

Section 3: Bushfire assessment results

The assessment inputs and outputs will be dependent on the type of planning proposal. Assessments should be undertaken in accordance with the relevant methodology contained within these Guidelines.

Section 4: Identification of bushfire hazard issues

Identify any bushfire hazard issues identified through examination of the environmental considerations and the bushfire risk assessment. This may include access constraints both within and outside of the site, the location of significant and remaining bushfire hazards (e.g. Regional reserves, National Parks, etc.) and other relevant bushfire hazards. This will assist in the understanding of whether the proposal is likely to be able to comply with the bushfire protection criteria.

This is particularly relevant to support strategic planning proposals where consideration of issues may assist in determining the suitability of areas for development; and issues that need to be considered at subsequent stages of the planning process.

Section 5: Assessment against the bushfire protection criteria

For each of the elements listed in Appendix 4 of these Guidelines, the 'intent' must be demonstrated by either addressing the relevant acceptable solutions; or where these acceptable solutions cannot be fully met, performance-based solutions can be developed to achieve the 'intent'.

Acceptable solutions should be provided within a table and not duplicated in the body of the BMP.

Section 6: Responsibilities for implementation and management of the bushfire measures

This section should be set out in a table and list separately the responsibilities of the developer/s, landowner/s and local government for the initial implementation and ongoing maintenance of the required bushfire risk mitigation measures.

Best practice examples

Best practice examples have been prepared for:

1. Local planning strategies – using a BHL assessment
2. Strategic planning proposals – using a BHL assessment
3. Structure plan / subdivision where lot layout is known – using a BAL contour map
4. Development application (complex) – using a BAL assessment
5. Development application (simple) – using a BAL assessment

The BMP templates can be found at www.dplh.wa.gov.au under bushfire planning publications. The standardisation of BMPs improves efficiencies in decision-making at both local and State government level. The BMP templates promote the clear and succinct presentation of information required under SPP 3.7 and within these Guidelines. It is strongly recommended that these BMP templates are used.



APPENDIX SIX RELATED PUBLICATIONS AND FURTHER READING

The following list of publications may be helpful to read in conjunction with SPP 3.7 and these Guidelines. The designation of bushfire prone areas, compliance with the objectives and policy measures of SPP 3.7, and the application of bushfire construction requirements are complemented by bushfire risk management measures that fall outside the planning process. This includes, but is not limited to, maintaining reduced fuel loads, public education and consultation, provision and maintenance of firefighting services and infrastructure, and up-to-date evacuation plans.

Planning policies and publications

- State Planning Policy 2: Environment and Natural Resources Policy* (WAPC, 2003)
- State Planning Policy 2.5: Rural Planning* (WAPC, 2016)
- State Planning Policy 2.6: State Coastal Planning Policy* (WAPC, 2013)
- State Planning Policy 2.8: Bushland Policy for the Perth Metropolitan Region* (WAPC, 2010)
- State Planning Policy 2.9: Water Resources* (WAPC, 2006)
- State Planning Policy 3: Urban Growth and Settlement* (WAPC, 2006)
- State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7)* (WAPC, 2015)
- Introduction to the Western Australian Planning System* (WAPC, 2014)
- Liveable Neighbourhoods* (WAPC 2009, as amended)
- Local Planning Manual* (WAPC, 2010)

Legislation

- Building Act 2011*
- Building Regulations 2012*
- Environmental Protection Act 1986*
- Environmental Protection and Biodiversity Conservation Act 1999* (Cwth)
- Environmental Protection (Clearing of Native Vegetation) Regulations 2004*
- Planning and Development Act 2005*
- Planning and Development (Local Planning Schemes) Regulations 2015*

Building approval publications

- Building Code of Australia (Australian Building Codes Board, as amended)
- Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas* (Standards Australia 2018, as referenced by the Building Code of Australia) (Published by SAI Global)
- Performance Standards for Private Bushfire Shelters (Australian Building Codes Board, 2010)

Fire protection publications

- Standards for building protection zones for buildings and critical infrastructure in bushfire prone areas* (DFES, 2013)
- Prepare. Act. Survive* (DFES, 2012)
- Guidelines for Plantation Fire Protection* (Fire and Emergency Services Authority, 2011)
- The Homeowner's Bushfire Survival Manual – 6th edition* (Department of Fire and Emergency Services, 2015)
- Mapping Standard for Bush Fire Prone Areas* (OBRM, 2015)

Other related publications

- Adapting to our Changing Climate* (Department of Environment and Conservation, 2012)
- Austrroads Guide to Pavement Technology (Austrroads, 2018)
- Austrroads Guide to Road Design (Austrroads, 2015)
- Building for Better Protection in Bushfire Areas: A Homeowner's Guide* (Department of Commerce, 2014)
- Design Standard 63 (Water Corporation, 2012)
- Evacuation Planning' Handbook 4, 3rd Edition (2013), produced by the Australian Emergency Management Institute of the Commonwealth Attorney Generals Department.
- Guidelines for Organisations Seeking to Become Accrediting Bodies in Western Australia: Level 1 Bushfire Attack Level Assessor, Level 2 Bushfire Planning Practitioner – Prescriptive and Level 3 Bushfire Planning Practitioner – Performance* (Department of Planning, 2015)
- Local Government Guidelines for Subdivisional Development (Institute of Public Works Engineering Australasia; WAPC, 2017)
- Regional and Local Fire Prevention and Response Plans and Fire Equipment Strategies, Where They Exist (refer relevant local government)