

**REPORT INTO THE
BUSH FIRE HAZARD ASSESSMENT
COVERING THE
SHIRE OF BODDINGTON**

Prepared by FirePlan WA

**The Boddington Shire Council endorsed the report and maps at its meeting on
21 August 2012**



1.0 Introduction

FirePlan WA was contracted by the Shire of Boddington to carry out a Bush Fire Hazard Assessment for the whole of the municipality in accordance with the guidelines detailed in Appendix 1 of "Planning for Bush Fire Protection" Edition 2 (WAPC/FESA 2010).

The requirement for a Bush Fire Hazard Assessment is set out in the Council's *Local Planning Policy 8 – Fire Protection Measures for New Development and Subdivisions*. This policy summarises that a Bush Fire Hazard Assessment:

- will assist in managing risks and should assist in minimising liabilities;
- may assist in reducing the occurrence and minimising the impact of bush fires on the Boddington Community;
- will assist the Shire Administration undertake its statutory liabilities;
- will assist in the Shire in the assessment of Planning Applications and Building Licences; and
- will assist in the preparation of structure planning and strategic planning.

This Bush Fire Hazard Assessment identifies Bush Fire Prone areas. In designated Bush Fire Prone areas, all habitable buildings should comply with *Australian Standard AS 3959-2009* (or any updates) which are referred to in the *Building Code of Australia*.

2.0 Bush Fire Hazard Assessment Methodology

"Planning for Bush Fire Protection" Edition 2 details "How to Conduct a Bush Fire Hazard Assessment" in Appendix 1 Section 1 as follows:

"Classifying the bush fire hazard by assessing the predominant vegetation is a key to the initial determination of the site suitability for subdivision/development and if deemed suitable the potential level of construction standard is determined by the application of the current Australian Standard AS 3959 "Construction of Buildings in Bush Fire Prone Areas" at the subdivision/development stage".

FirePlan WA assessed the vegetation within the municipality through a visual inspection. This involved by driving on all rural public roads, where accessible, and some firebreaks on public land, using Table 1 Vegetation Type and Class (using both text description and graphic description tables). FirePlan WA also referred to vegetation studies and mapping from the Department of Environment and Conservation (DEC) which was cross referenced through the visual inspection.

A slope analysis map (provided by the Shire of Boddington) showing areas of greater 10° and less than 10° was used in conjunction with the vegetation assessment to determine the Bush Fire Hazard rating.

From this information the whole of the Shire of Boddington was classified as having a rating of "Low", "Moderate" or "Extreme".

The field information was transferred to a set of aerial photographs which has been electronically captured by the Shire appointed cartographer. These are set out in Appendix 3.

Additionally, FirePlan WA liaised with the Fire and Rescue Authority (FESA), DEC and the Shire in preparing this assessment. FESA and DEC also provided information on fuel loads and bushfire risk from different types of vegetation and landforms.

It is acknowledged there are limitations with undertaking a bush fire hazard assessment for the entire municipality, including not being able to access and inspect all rural land. Also, land use and development changes and this has implications on fire hazard risks. For instance, an area classified as “low” risk in this assessment undertaken in 2012 would change to “extreme” should a tree plantation be established.

This municipal wide assessment does not take away the requirement for a more detailed assessment for individual properties. As outlined in section 5.0, there is a requirement for individual Fire Management Plans and/or determining bushfire attack level (BAL) to be prepared and reviewed.

3.0 Bush Fire Prone Areas

It is recommended that the Shire use this Bush Fire Hazard Assessment to designate declared Bush Fire Prone Areas. In particular, to adopt the Bush Fire Prone Areas set out in Appendix 3. The recommended declared Bush Fire Prone Areas incorporate land rated as “moderate” and “extreme” fire risk. Areas with a moderate bush fire hazard rating are shown as orange, while areas with an extreme bush fire hazard rating are shown as red.

Based on “Planning for Bush Fire Protection” Edition 2, bush fire prone areas shall apply to all stands of significant vegetation (areas rated “moderate” and “extreme”) and all land within 100 metres of the perimeter of that vegetation.

In accordance with the *Shire of Boddington Local Planning Scheme No. 2 (LPS2)*, in all areas rated “moderate” and within the 100 metre buffer, it is recommended that the construction of buildings should comply with AS 3959-2009. In areas rated as “extreme”, and within the 100 metre buffer, the buildings are required to comply with AS 3959-2009. LPS2 sets out the following provisions:

“4.11 Bush Fire Management

- 4.11.1 The Council will need to be satisfied that development will comply with the relevant Council and State Government policy on bushfire protection and that an acceptable fire management plan will be implemented.
- 4.11.2 In areas determined by the Council to be extreme bush fire hazard areas, all buildings, whether or not they require planning approval pursuant to the Scheme shall be constructed so as to comply with the requirements of the relevant Australian Standard.
- 4.11.3 In areas determined by the Council to be a moderate bush fire hazard area having regard to fire hazard mapping prepared from time to time, the Council may require any proposed new building to comply with the requirements of the Australian Standard.
- 4.11.4 Where a Fire Management Plan has been endorsed by the Fire and Emergency Services Authority of Western Australia and the Council, through the planning process, the affected land owners will be responsible

for the ongoing implementation of the “land owners’ responsibilities” as specified in that Fire Management Plan.”

The above provisions give a statutory head of power to designate bushfire prone areas and enable implementation of AS 3959-2009 through the Building Code of Australia.

Given Council Local Planning Policy 8 sets out that the Council takes a precautionary approach to bush fire risk, it is recommended that for areas classified as a “moderate” risk, that the Shire require buildings to comply with AS 3959-2009 unless suitably justified by the landowner/developer e.g. a minor addition and the site/proposal meets the acceptable solutions set out in Planning for Bush Fire Protection which are certified by an suitably qualified and/or experienced person/organisation in fire management.

Should a landowner/developer dispute the bush fire hazard assessment for their land set out in Appendix 3 and the associated bushfire prone classification e.g. based on changing circumstances such as the removal of a tree plantation, it is recommended that the landowner/developer provide appropriate justification and documentation to the Shire. The Shire will generally require the landowner/developer to arrange a site specific bush fire hazard (BAL) assessment by a person/organisation that is suitably qualified and/or experienced in fire management. If the Shire is satisfied with the more detailed bush fire hazard assessment, it can determine that the land is not subject to the requirements of AS 3959-2009 if the site specific hazard assessment BAL is “low” (BAL-Low). Alternatively, the Shire may consider modifying the requirements relating to the Australian Standard for building construction if the hazard assessment is “moderate” (BAL 12.5 and only in exceptional circumstances and where certified by a fire management practitioner).

4.0 Special Control Area

FirePlan WA is aware that the Council is reviewing Local Planning Scheme No. 2 with the objective of preparing a new Local Planning Scheme No. 3 (LPS3). As part of the preparation of LPS3, it is suggested that the Council consider the implications of introducing a Bush Fire Hazard Special Control Area or refer to the Bush Fire Hazard Assessment in LPS3. Whatever approach is adopted, a statutory head of power is required in LPS3, as in current LPS2, to designate bushfire prone areas and enable implementation of AS 3959-2009 through the Building Code of Australia.

In “Planning for Bush Fire Protection” Appendix 5 Special Control Area” provisions are discussed as follows:

“6.1 Bush Fire Hazard Special Control Area

- 6.1.1 The bush fire hazard special control area is shown on the scheme map as BFH.
- 6.1.2 In respect of a special control area shown on a scheme map the provisions applying to the special control area apply in addition to the provisions applying to any underlying zone or reserve and any general provisions of the scheme.

6.2 Prepare of Bush Fire Hazard Special Control Area

- 6.2.1 The purpose of the bush fire hazard special control area is:

- (a) to implement State Planning Policy 3.4 Natural Hazards and Disasters;
- (b) to identify land that is subject, or likely to be subject to bush fire hazard;
- (c) to ensure a bush fire attack level assessment is carried out on land that is subject to, or likely to be subject to bush fire hazard; and
- (d) to ensure that development effectively addresses the level of bush fire hazard applying to the land.”

There are various options in identifying Special Control Areas including applying to for particular areas/precincts or it could declare that the whole of the municipality as an area which Bush Fire provisions will apply. To ensure that appropriate fire safety measures are established, it is suggested that the Special Control Area could extend around the entire municipality and then exclude low fire risk areas within and adjoining the Boddington and Ranford townsites.

The introduction of a Special Control Area has advantages and disadvantages. An advantage is that showing a Special Control Area is transparent on the scheme maps. Showing the Special Control Area however does not respond quickly and efficiently to changing fire hazards and could be subject to numerous amendments. Whatever approach is used in LPS3, it is suggested that there should be a goal of ensuring effective and efficient statutory powers.

5.0 Development in Bush Fire Prone Areas

It is important that a Developer is required to prepare a Fire Management Plan as early as possible in the planning process. Many developers are now well aware of the influence that Planning for Bush Fire Protection and now consider bushfires as the number one planning issue for a development to precede. There may be a need to update the Fire Management Plan at each stage of the development which may take up to 5 years from the concept stage to clearance of conditions and Lots are sold. During this time Bush Fire Planning Guidelines may have changed and building construction standards AS 3959-2009 may have changed (three sets of amendments to AS 3959-2009 have been issued since March 2009).

The Shire of Boddington should declare Bush Fire Prone Areas as set out in Appendix 3. In reviewing Council Local Planning Policy 8, it may be advisable to make reference to Planning for Bush Fire Protection and bush fire hazard ratings in more generic terms to avoid regular Policy Changes. E.g. the current policy refers to Planning for Bush Fire Protection 2001 version and hazard ratings are “medium” “high” and “extreme” which have changed in the current version. Planning for Bush Fire Protection Edition 2 2010 is currently being reviewed.

For land designated as “extreme,” “moderate” and areas within 100 metres of extreme or moderate areas in the bush fire hazard rating in Appendix 3, it is recommended that habitable buildings will be required to meet AS 3959-2009. BAL ratings as detailed in a site specific Fire Management Plan and/or BAL assessment are to be undertaken which is certified by a fire management practitioner and a copy of the BAL report is provided to the Shire as part of the Building Permit Application.

6.0 Areas of Possible Exclusion from Development

There are some areas that may be unsuitable for residential, rural residential, rural smallholding, tourist and associated subdivision/development due to their extreme fire risk.

In areas with steep slopes, dwellings cannot be constructed where the slopes are greater than 20° for less than 100 metres surrounding the dwellings. This is because AS 3959-2009 does not address construction standards for areas with slopes greater than 20°.

For existing lots in areas classified as extreme bush fire hazard risk, where appropriately justified, some development may be considered having regard to the relevant guidance statements in Planning for Bushfire Protection and considering factors such as land use, size of allotment, and the amount of clearing permitted, potential of erosion, number of dwellings per lot etc.

7.0 Conservation of Natural Vegetation and Landscape Values

Better planning seeks to ensure that both fire management and conservation of native vegetation (due to the importance of flora and fauna attributes) should occur. There is typically a greater opportunity to achieve this where the land currently has a “Rural” zoning and/or earlier in the planning process. Typically, if there are options to locate development on cleared land, then this is preferable from a fire management and conservation perspective. This municipal wide bush fire hazard assessment seeks to influence the location of development in response to identified bush fire risks.

Where conservation and/or landscape values are of greater importance than allowing a landowner to construct a dwelling or other development near areas containing rare or threatened vegetation or a conservation area, then conservation/landscape values may need to have priority. There may be opportunities for a redesign of the subdivision/development.

Where existing lots exist or an approval is in place, it is paramount that the protection of life and property through compliance with Building Protection Zones, Hazard Separation Zones and Building Construction Standards in accordance with current standards and must be implemented as a priority over the conservation considerations. The Shire is required to carefully consider existing approvals, statutory provisions and the Planning for Bushfire Protection Guidelines in its decision making.

8.0 Firebreak Notice

The Shire of Boddington Bush Fire Notice 2011/2012 needs to be updated to include:

- definition of Building Protection Zone that is consistent with “Planning for Bush Fire Protection”;
- that where a Fire Management Plan exists then the standards contained in the Fire Management Plan will be enforced;
- firebreaks around Plantations; and
- definition of Flammable Material.

9.0 Plantations

The Fire and Emergency Services Authority in conjunction with Local Government and the Plantation Industry have development guidelines for Plantations. In the guidelines it refers to:-

“a statutory ability for Local Governments to consider the impact of plantations and implement provisions of these guidelines may be achieved by their inclusion within a town planning scheme. This may be by the use of a Policy Statement and/or consideration of tree plantings as a development requiring Local Government determination through town planning schemes”.

There needs to be an appropriate separation between new plantations and existing habitable dwellings to comply with the current AS 3959-2009 (a plantation is rated as an “extreme” Bush Fire Hazard).

It is recommended that Council adopt the FESA Guidelines for Plantation Fire Protection and add it to their Local Planning Policy No. 8 *Fire Protection Measures for New Development and Subdivisions*.

It is noted that the Council is considering a “Plantation Exclusion Area” in draft LPS3 which relates to the “development footprint” as set out in the endorsed Local Planning Strategy. The plantation exclusion area and draft LPS3 will be subject to separate community and stakeholder consultation.

10. Access within Development

In “Planning for Bush Fire Protection” Appendix 2 the Performance Criteria states:

“The internal layout, design and construction of public and private vehicular access in the subdivision/development allows emergency and other vehicles to move through it easily and safely at all times. Two different vehicular access routes, both of which connect to the public road network are available to all residents/the public at all times”.

It is important that two access routes is provided in Stage One of the development. It may not need to be to the final internal road standard required by the Council, but should comply with the Public Road, Fire Service Routes or Emergency access ways detailed in Planning for Bush Fire Protection as a minimum.

In many cases, a development may contain several stages before the road system is completed and meets the requirement standard. Many things can change, sales may not be achieved, and staging of the development may need to be extended or suspended. If two access routes are not established in the first stage, it may put residents lives at risk in the event of a fire.

11. Implementation Issues

There are several issues that must be considered to implement Bush Fire Protection within the Shire of Boddington. Some of these are:

- the elements of Planning for Bush Fire Protection guidelines and the implementation of building standards must be clearly understood and implemented by Council and Staff;
- early requirement for Bush Fire Planning to be implemented by Developers at the earliest stage in the Planning Process will achieve better safety for residents in the development area;
- ensure that Conditions of Subdivision are met by the developer prior to clearance of those conditions. This should include a site inspection;
- any changes to the location of a building envelope may increase the risk from a bush fire by locating the building closer to vegetation thus changing the Building Protection Zone, Hazard Separation Zone and Building Construction Standards. This can be overcome by good communication between Council Staff and documenting a process for internal referral to appropriate staff before a decision is made;
- updating the Shire of Boddington Local Planning Policy No. 8 to reflect:
 - new Planning for Bush Fire Protection Guidelines;
 - FESA Guidelines for Plantation Protection;
- reviewing Council's Firebreak Notice to include more description of Building Protection Zones and Hazard Separation Zones around dwellings and include firebreak requirements for plantations; and
- consider as standard practice that the developer is to install the Building Protection Zones and Hazard Separation Zone standards as a condition of subdivision which presents the lot (at the time of sale) to a standard that the new landowner can see and just need to maintain. The new landowner installs the Building Protection Zones at the time of building construction.

Appendix 1 Photos – 1-4 extreme bush fire hazards



1. Natural Bushland – no grazing



2. Plantation- nearing maturity



3. Plantation - recently clear felled- regenerating



4. Sandalwood Plantation – adjoining light industrial area Boddington townsite.

Moderate bush fire hazard- Photos 5-8



5. No understorey, trees thinned out, heavily grazed



6. No understorey, trees thinned out heavily grazed.



7. No understorey, heavily grazed



8. Cleared area in excess of 10°

Low bush fire hazard Photos 9-10



9. Grasslands



10. Grasslands