

BUSHFIRE REGULATIONS AND YOUR PROPERTY

Helping you understand how
Bushfire Planning regulations and
B.A.L. requirements can affect your
property or building project.



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Introduction

New legislation in April 2016 resulted in a dramatic change to Bushfire Regulations for Western Australia and introduced Bushfire Prone Mapping. This guide has been developed for the building industry, real estate agents and those interested in building their own home. We hope it will help you understand these new guidelines.

If a site is identified as Bushfire prone, any new construction must comply with upgraded construction standards. A Bushfire Attack Level (BAL) Assessment is used to determine which level of compliance is required.

In some cases, further information may be required to ensure that a development can be safely defended from Bushfire. A Bushfire Management Plan is used to present this information.

In the following guide you will find answers to some of the common questions such as:

- How do I comply with the new regulations?
- What do the different BAL ratings mean?
- How much will it cost to comply?
- How do I know if I need a BAL or Bushfire Management Plan?

I hope you find this guide useful. If there are any questions not answered in this guide or you would like further information, please contact Bushfire Smart. We would be happy to help.

Thanks

Nathan Peart – *Managing Director*

BAL Assessments Explained

A Bushfire Attack Level (BAL) Assessment is a means of measuring the severity of a buildings potential exposure to ember attack, radiant heat and direct flame contact in a bushfire event, and thereby determining the construction measures required for the dwelling.

You only need a BAL assessment if your property falls within the current designated bush fire prone areas, as on the Map of Bushfire Prone Areas.

Check your property here: bushfiresmart.com.au/bushfire-prone-map/

The BAL assessment considers several factors including the Fire Danger Index, the slope of the land, types of vegetation and how close it is to the proposed building.

Once a BAL is calculated, building construction requirements can be calculated from the relevant sections of the Australian Standard to ensure the correct resistance to bushfires. These requirements consider the BAL rating for attack from burning embers, radiant heat and flame contact.

The Bushfire Attack Levels are broken down into 6 categories:

BAL Low	There is insufficient risk to warrant specific construction requirements
BAL 12.5	Ember Attack
BAL 19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL 29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux
BAL 40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux with the increased likelihood to flame
BAL Flame Zone	Direct exposure to flames from the fire front in addition to heat flux and ember attack

Each one of these can add to your building costs, so it is important to get a qualified person to prepare an accurate report. To ensure you are getting the best result, Bushfire Smart BAL assessments are carried out by FPAA accredited consultants.

Impact of BAL Ratings on Construction Costs

FESA in their submission to the Keelty Report produced the following table derived from the Australian Building Codes Board publication the "Final Regulatory Impact Statement for Decision (RIS 2009-02)".

Table: Cost of Compliance with AS3959-2009

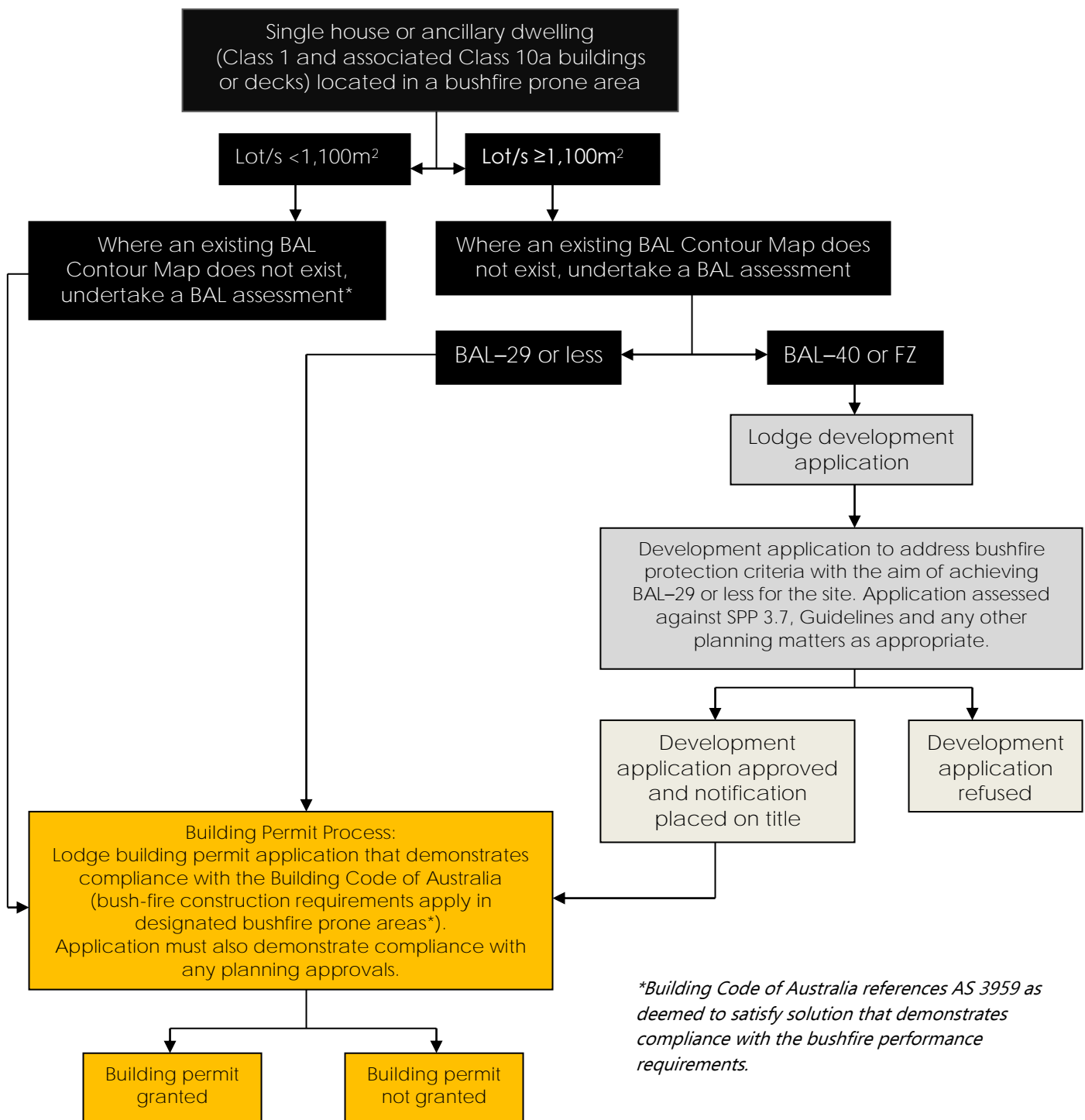
<i>Category of bush fire attack</i>	<i>Predicated bush fire attack and level of exposure.</i>	<i>Base house</i>	<i>Large two story</i>	<i>Elevated light weight construction</i>
BAL – Low	Insufficient risk to warrant specific construction requirements.	\$0	\$0	\$0
BAL – 12.5	Ember attack.	\$11,535	\$14,981	\$21,428
BAL – 19	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux.	\$11,535	\$14,981	\$21,428
BAL – 29	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux.	\$15,471	\$17,095	\$35,024
BAL – 40	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing heat flux and the increased likelihood of exposure to flames.	\$17,107	\$19,751	\$62,357
BAL – FZ	Direct exposure to flames from fire front in addition to heat flux and ember attack.	\$20,885	\$28,905	\$76,679

Alternatively to the table above, The Shire of Busselton in Council Agenda dated 11/05/2011 on matter concerning the identification of Bushfire prone areas provided the following information that estimated the costs (above standard constructing standards) of compliance with AS3959-2009.

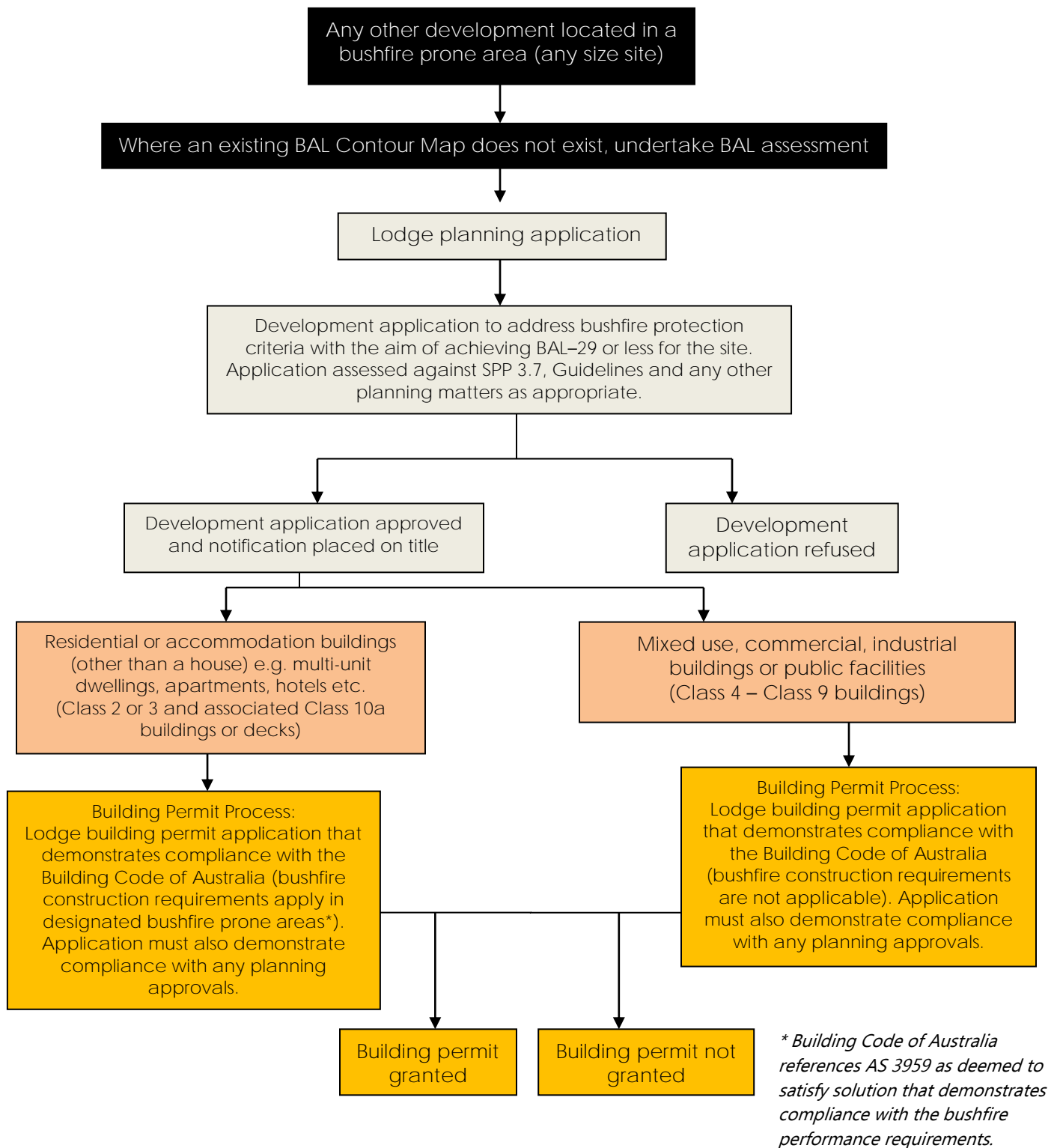
BAL – 12.5	3-4%
BAL – 19	4-5%
BAL – 29	6-6.5%
BAL – 40	6-10%
BAL – FZ	8 – 10%

Residential BAL Flow Chart

Appendix 1 - Application processes in designated bushfire prone areas



Commercial BAL Flow Chart



Construction Requirements - Building in Bush Fire Prone Area

SUMMARY ONLY

The entire standard is too complex to be included here. **This is a guide only.** Please refer to the full version of the current edition of AS 3959 – 2009 Building in Bush Fire Areas.

- A BAL Low report does not require any specific construction requirements so is not included in this table
- See full specification for screen requirements.
- Construction is to ensure no gaps greater than 3mm. This may require further sarking or treatments to what is listed here.

Information provided by: Building Advise BS19 – Building In Bush Fire Prone Areas

Bushfire Attack Level (BAL)	BAL 12.5	BAL 19	BAL 29	BAL 40	BAL FZ
Construction level	Section 3 & 5	Section 3 & 6	Section 3 & 7	Section 3 & 8	Section 3 & 9
SUBFLOOR SUPPORTS	No Special Requirements	No Special Requirements	Enclosed by the walls meeting external walls requirements below, mesh with a 2mm aperture made of steel, bronze or aluminum. Where unenclosed supports required to be naturally fire resisting timber or non combustible.	Enclosed by the walls meeting external walls requirements below. Where unenclosed supports required to be non combustible or a system that complies with AS1530.8.1	Enclosed by walls , or unenclosed to have FRL 30/-/-
FLOORS <i>Note: Concrete slab on ground complies with all levels.</i>	No Special Requirements	No Special Requirements	If less than 400mm to F.G.L. must be one of the following: Enclosed as above, or Floor to be non combustible ,naturally fire resisting , or underside protected with sarking or the like.	Enclosed as above, or if unenclosed floors to be non combustible, or protected with non combustible sheeting system that complies with AS1530.8.1	Unenclosed floors to have FRL 30/30/30 or meet AS1530 or

Bushfire Attack Level (BAL)	BAL 12.5	BAL 19	BAL 29	BAL 40	BAL FZ
Construction level	Section 3 & 5	Section 3 & 6	Section 3 & 7	Section 3 & 8	Section 3 & 9
EXTERNAL WALLS	Sections of walls less than 400mm above F.G.L ground, decks, verandahs or roofs less than 18° to be non combustible, bushfire resistant or naturally fire resisting timber.	Sections of walls less than 400mm above F.G.L ground, decks, verandahs or roofs less than 18° to be non combustible, bushfire resistant or naturally fire resisting timber	All walls to be non combustible (masonry etc.), or if framed, sarked and clad with non combustible material. (Fibre Cement to be min. 6mm).	All walls to be non combustible (masonry), or if framed, sarked and clad with non combustible material. (Fibre Cement to be min. 9mm).	Non combustible with minimum 90mm thickness or FRL 30/30/30
EXTERNAL GLAZING ASSEMBLES <i>Frames to comply with full specification.</i>	Have Bushfire Shutters. Or, Be fully screened. Or, Windows and glazed doors within 400mm of the ground, deck or verandah, to be min. 4mm Grade A Safety Glass. If screened, all screens to be corrosion resistant steel, bronze or aluminum.	Have Bushfire Shutters. Or, Be fully screened. Or, Windows and glazed doors within 400mm of the ground, deck or verandah, to be min. 5mm toughened glass. Openable portions of windows to be screened	Have Bushfire Shutters. Or, Be fully screened. Or, All glazing to be min. 5mm toughened glass. Sections of windows and glazed doors within 400mm of the ground, deck or verandah to be screened. Openable portions of windows to be screened	All glazing to be min. 5mm toughened glass. Openable and fixed parts to be screened.	Protected by bushfire shutters or, Window system to have FRL -/30/30-; or pass AS1530.8.2 when tested from the outside.
DOORS <i>Frames to comply with full specification.</i>	Have Bushfire Shutters. Or, Be fully screened. Or, Section of door within 400mm of the ground, deck or verandah, to be Non combustible, 35mm solid timber, have a metal kick plate or be bush fire resisting timber. All glazing to be comply with external glazing above.	Have Bushfire Shutters. Or, Be fully screened. Or, Section of door within 400mm of the ground, deck or verandah, to be Non combustible, 35mm solid timber, have a metal kick plate or be bush fire resisting timber. All glazing to be min. 5mm toughened glass.	Have Bushfire Shutters. Or, Be fully screened. Or, Section of door within 400mm of the ground, deck or verandah, to be Non combustible, 35mm solid timber, have a metal kick plate or be bush fire resisting timber. All glazing to be min. 5mm toughened glass. (Sliding doors to be 6mm unless fully screened). Sections of glazing within 400mm of the ground, deck or verandah to be screened.	Have Bushfire Shutters. Or, Be fully screened. Or, Be non combustible or 35mm solid timber. All glazing to be min. 6mm toughened glass. Sections of glazing within 400mm of the ground, deck or verandah to be screened.	Protected by bushfire shutters or, Window system to have FRL -/30/30-; or pass AS1530.8.2 when tested from the outside.



Bushfire Attack Level (BAL)	BAL 12.5	BAL 19	BAL 29	BAL 40	BAL FZ
Construction level	Section 3 & 5	Section 3 & 6	Section 3 & 7	Section 3 & 8	Section 3 & 9
ROOFS	<p>Cover to be non-combustible.</p> <p>Fully sarked and sealed.</p> <p>Penetrations to be fitted with ember guard.</p> <p>Verandahs and carports to be non – combustible.</p>	<p>Cover to be non-combustible.</p> <p>Fully sarked and sealed.</p> <p>Penetrations to be fitted with ember guard.</p> <p>Verandahs and carports to be non – combustible.</p>	<p>Cover to be non-combustible.</p> <p>Fully sarked and sealed.</p> <p>Penetrations to be fitted with ember guard.</p> <p>Verandahs and carports to be non – combustible.</p>	<p>Cover to be non-combustible.</p> <p>Fully sarked and sealed.</p> <p>Penetrations to be fitted with ember guard.</p> <p>Verandahs and carports to be non – combustible.</p> <p>No roof mounted evaporative coolers</p>	<p>Roofs to have FRL 30/30/30 or pass AS1530.8.2 when tested from the outside.</p>
VERANDAHS and DECKS	<p>Decking within 300mm horizontally or 400mm vertically of glazed elements to be non combustible or bushfire resisting timber</p>	<p>Decking within 300mm horizontally or 400mm vertically of glazed elements to be non combustible or bushfire resisting timber</p>	<p>Deck to be non combustible or bushfire resisting timber. Unenclosed sub floors supports to be non combustible.</p>	<p>Deck to be non combustible and have no gaps. Unenclosed sub floor supports to be non combustible.</p>	<p>Deck to be non combustible and have no gaps. Unenclosed sub floor supports to be non combustible.</p>
SERVICE PIPES	All above ground and gas pipes to be metal.				

For more information contact us at:

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Why Choose Bushfire Smart?

Bushfire Smart always provide friendly, professional service. We are always available by phone or email to answer your queries.

We are here to help you keep up with the ever changing regulations and to make sure that everything is done right the first time, so that there is no fuss when submitting your plans to council.

All our assessors are fully accredited with FPAA. We commit to:

- Responding to your email or quote request within 4 working hours
- Providing what we promise, when we say it will be done
- Providing you full documentation required by councils
- Being available to answer any queries for you, your builder or council
- Ensuring you have all the information you need to comply with the BAL assessment.

Have you got a question about the new regulations?

Contact Bushfire Smart now at bal@bushfiresmart.com.au,
phone **(08) 9583 4333**
or visit our website: <http://www.bushfiresmart.com.au>

