

A Guide to Bushfire Construction Requirements

Summary

Calleya is bordered by protected bushland. Whilst this provides for walking trails and an element of living amongst the nature, it also means that we need to ensure that homes are protected against potential bushfires.

All lots that are located within 100m of protected bushland are required to undertake a Bushfire Attack Level (BAL) assessment. The BAL assessment report must be provided to obtain a building permit and is typically undertaken at the building permit phase. Arrangements can be discussed with your builder, and your land sales representative can give you an indication of the rating for each lot (subject to being current at a period in time).

Bushfire Attack Level

The Bushfire Attack Level (BAL) relates to the classification of bushfire intensity levels that a home may experience in the unfortunate event of a bushfire occurring in the adjoining bushland areas. It is important to note that risk of bushfire and the impact on houses can be collectively minimised by planning at the development stage (by both the developer and the prospective landowner) and through ongoing maintenance; this may involve a variety of measures such as management of vegetation surrounding the site, creating firebreaks, house design etc. The BAL rating system takes into account numerous site characteristics such as the slope of the land, vegetation type surrounding the site (as well as its proximity to the site) and the proximity of adjacent buildings as well as the Fire Danger Index for the region. In Western Australia, there are four BAL ratings that are approved for development (listed in increasing severity level): BAL –Low, BAL –12.5, BAL –19, BAL –29.

The remnant vegetation (type and proximity) surrounding the site is the most important component when assessing bushfire risk and assigning BALs. Based on this assessment, three BAL levels have been assigned to this development: BAL –12.5 (low risk), BAL –19 (moderate risk), BAL –29 (high risk). The vast majority of perimeter dwellings are anticipated to be BAL –12.5 and are thus assessed as low risk. Those assigned BAL –19 or BAL –29 are located closer to the surrounding vegetation.

A Bushfire Attack Level (BAL) assessment has been prepared and supported by Council and is attached for your reference. This assessment is current as at the time it was prepared (January 2014) and is provided as an information tool only, as previously outlined purchasers may be required to prepare an individual assessment through the building license process and as such the attached is a guide only.

Building requirements for BAL levels

Each BAL rating has specific construction requirements associated with it as outlined in the Australian Standard AS 3959–2009 Construction of buildings in bushfire-prone areas. A house designed to specified construction requirements is more likely to survive a bushfire compared to those not built to specification. The following table (Table 1) sets out a summary of construction requirements according to the determined BAL levels for the site. It should be noted however that the table is not intended as a design guide; full technical details can be found in AS 3959-2009.



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Table 1: Building requirements for each BAL level

	BAL -12.5	BAL -19	BAL -29
Subfloor Supports	No special construction requirements	No special construction requirements	Enclosure by external wall or by steel, bronze or aluminium mesh, non-combustible supports where the subfloor is unenclosed, naturally fire resistant timber stumps or posts on 75mm metal stirrups
Floors	No special construction requirements	No special construction requirements	Concrete slab on ground, enclosure by external wall, metal mesh as above or flooring less than 400mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation
External Walls	As for BAL -19	External walls – Parts less than 400mm above ground or decks etc to be of non-combustible material, 6mm fibre cement clad or bushfire resistant/naturally fire resistant timber	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete), timber framed, steel framed walls sarked on the outside and clad with 6mm fibre cement sheeting or steel sheeting or bushfire resistant timber
External Windows	As for BAL -19 except that 4mm Grade A safety glass can be used in place of 5 mm toughened glass	Protected by bushfire shutter, completely screened with steel, bronze or aluminium mesh or 5mm toughened glass or glass blocks within 400mm of ground, deck etc. Openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber	Protected by bushfire shutter or completely screened with steel, bronze or aluminium mesh, or 5mm toughened glass with openable portion screened and frame of metal or metal reinforced PVC-U, or bushfire resistant timber and portion within 400mm of ground level screened
External Doors	As for BAL -19 except that door framing can be naturally fire resistant (high density) timber	Protected by bushfire shutter, or screened with steel, bronze or aluminium mesh or glazed with 5mm toughened glass, non-combustible or 35mm solid timber for 400mm above threshold, metal or bushfire resistant timber framed for 400 mm above ground, decking, etc, tight-fitting with weather strips at base	Protected by bushfire shutter, or screened with steel, bronze or aluminium mesh or non-combustible, or 35mm solid timber for 400mm above threshold. Metal or bushfire resistant timber framed tight-fitting with weather strips at base
Roofs	As for BAL -19	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked
Verandahs Decks etc	As for BAL -19	Enclosed sub-floor space – no special requirement for materials except within 400mm of ground.	Enclosed sub-floor space or non-combustible or bushfire resistant timber supports. Decking to be non-combustible



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Estimated building costs for each BAL level

The estimated additional building costs associated with building a single storey home is as follows:

BAL -12.5 \$5,000 - \$12,000*

BAL -19 \$5,000 - \$20,000*

BAL -29 \$20,000 and higher*

Note: There is a large variation in the above estimates for potential cost increases associated with dwelling construction to meet the necessary BAL standards.

These costs can be impacted by a variety of influences including, but not limited to; house size, floor plan layout / home design and building costs.

Further information

The City of Cockburn and the Department of Fire and Emergency Services (DFES) have a public information program that outlines responsibilities for preparing a home for bushfire attack and what to do in the event a bushfire should occur.

Further guidance for landowners is available from the following websites:

DFES:

The Homeowner's Bush Fire Survival Manual

http://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/FESA_Bushfire-Homeowners_Survival_Manual.pdf

City of Cockburn:

Fire Prevention

http://www.cockburn.wa.gov.au/Council_Services/Rangers/Fire_Prevention/default.asp

Fire Order

http://www.cockburn.wa.gov.au/documents/CouncilServices/Rangers/FireBreaksClauseFCOJuly_2013.pdf

Fire Control Order 2013–2014

http://www.cockburn.wa.gov.au/documents/CouncilServices/Rangers/FIRE_CONTROL_ORDER-adopt180913.pdf

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