



ADVISORY NOTICE BUILDING

06/08

Advisory Notices are issued to assist in the interpretation of the Development Act 1993

March 2008

TECHNICAL:

Bushfire Protection Areas: technical issues

The purpose of this Advisory Notice is to provide advice about some of the construction requirements in Bushfire Protection Areas (BPA) including –

- The protection of sub-floor spaces in buildings with framed floors; and
- Clarification of SA variations SAG5.3(d) (Volume 1) and, SA 3.7.4.0 (d) and SA 3.7.4.1(d) (Volume 2) to the Building Code of Australia (BCA).

BACKGROUND

39 councils in South Australia have designated Bushfire Protection Areas (BPA's) within their Council boundaries. The BPA's are subject to planning and building requirements, depending upon the level of bushfire risk determined for the site (High, Medium, or General). The building requirements for Class 1, 2 and 3 buildings (and certain Class 10 buildings) located in general, medium and high bushfire risk areas are contained in the Building Code of Australia (BCA) Volumes 1 and 2 and the South Australian Housing Code (Housing Code) Part F.8. The requirements are based on Australian Standard 3959 but include South Australian variations.

BUILDINGS WITH FRAMED FLOORS - PROTECTION OF SUB-FLOOR SPACES

Regardless of the level of bushfire risk determined for the site, the Building Rules require the sub-floor space of buildings with framed floors to be completely protected against the entry and accumulation of sparks and burning embers.

The BCA and AS 3959 consider the flooring system of a building in a medium or high bushfire attack category to be protected if the joists and/or bearers are not less than 600mm above finished ground level. Only buildings in the extreme bushfire attack category are required to address the sub-floor space. When consideration was being given to adopting the BCA and AS 3959 provisions in South Australia, it was felt that the provisions imposed by the BCA and AS 3959 for extreme bushfire attack categories should be extended to both the medium and high bushfire attack categories in South Australia, which resulted in the SA variations. This decision was made in consultation with the CFS and was consistent with provisions that were contained in the previous *Ministers Specification G5.101 Construction requirements for buildings in bushfire risk areas*.

Concerns have been raised that the Building Rules requirement to completely protect the sub-floor space can only be achieved by completely **enclosing** the space between the **ground level** and the underside of the lowest floor framing member. This is not correct.



This issue seems to relate specifically to the interpretation of SA variations SA G5.3 (a)(ii) (BCA Volume 1), SA 3.7.4.0 (a)(ii) and SA 3.7.4.1 (a)(ii) (BCA Volume 2) and the equivalent Housing Code requirements which state that -

- (a) A framed floor, the underside of which is greater than 600mm above ground level, must have the sub-floor space completely protected by -
 - (i) a wall complying with AS 3959; or
 - (ii) a non-combustible sheet material; or**
 - (iii) a vertical *non-combustible* sheet material that extends around the perimeter of the floor from the underside of the lowest framing member to ground level; and
 - (iv) if fibre-reinforced sheets are used as a *non-combustible* sheet material they must have a minimum thickness of 6mm.

The reference in (a)(ii), which permits the use of a non-combustible sheet material to protect the sub-floor space of a building, was intended to be applied in the same manner as the extreme requirements for flooring systems that are contained in the BCA and AS 3959 which state that –

‘...in the case of a framed floor, where any bearer or joist is greater than 600mm above finished ground level and the floor is not enclosed, the bearer, joist and flooring must be fire-retardant-treated-timber or sheeted underneath with *non-combustible* material.’

This means that the area between ground level and the underside of the lowest framing member may be enclosed to achieve compliance but it does not have to be. In this instance the space occupied by the framing members (bearers and joists) is considered to be the sub-floor space that requires protection and as such compliance can be achieved by lining the underside of the framing members with a non-combustible sheet material. To ensure that sparks and embers do not enter the sub-floor space from the side, the non-combustible lining should be returned up the vertical face of the framing members unless the wall cladding itself covers the framing members. Some examples are provided in Figures 1A and 1B.

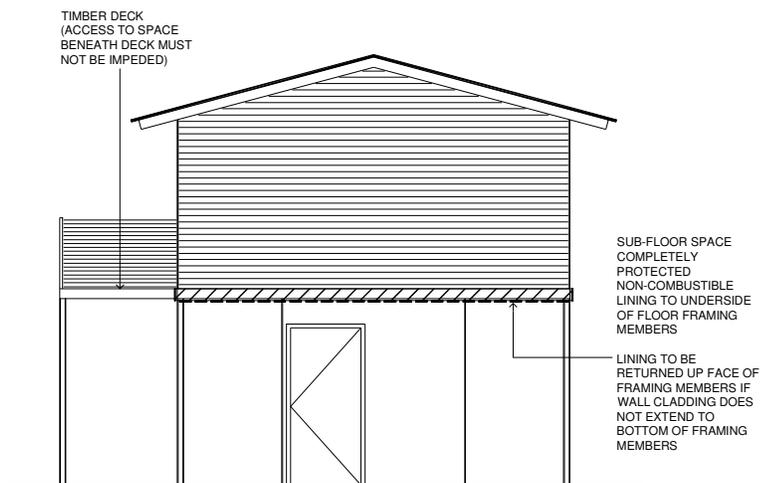


FIGURE 1A

This provision is useful in situations where the space beneath the building may in itself constitute another building, such as a carport or storage area (Class 10a) and it may be undesirable to fully enclose the space from the ground level to the underside of the floor framing. It also assists in achieving Council Floodplain area policies which generally require that the underneath area of an elevated dwelling may only be enclosed using **removable** panels or another material which can be easily removed in the event of a flood. This requirement would be unachievable if the bushfire requirements mandated enclosing the entire sub-floor space from ground level to the underside of the flooring.

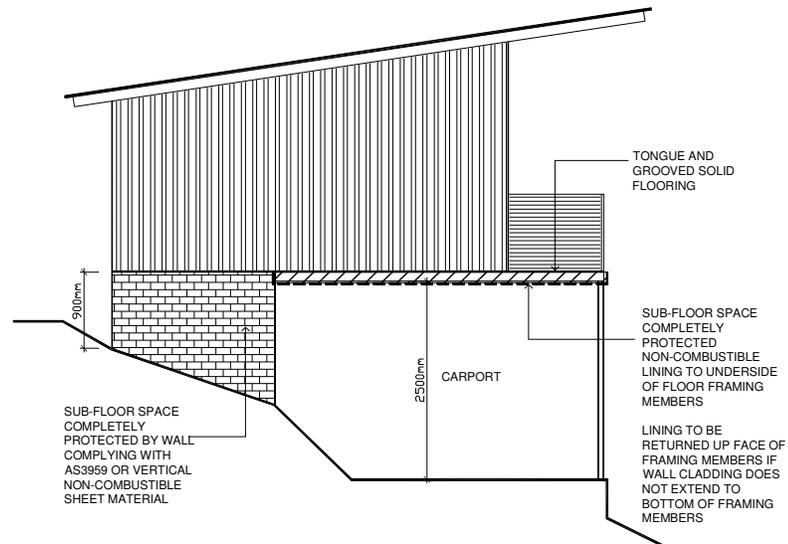


FIGURE 1B

BUILDING CODE OF AUSTRALIA VARIATIONS

South Australia varies the bushfire construction requirements in both Volumes of the BCA. In Volume 2 both the Acceptable Construction Manual (AS 3959) and the Acceptable Construction Practice have been varied. These variations are also included in Part F.8 of the Housing Code.

Planning SA is aware that there have been differing interpretations regarding variations *SAG5.3(d)* (Volume 1) and *SA 3.7.4.0(d)* and *SA 3.7.4.1(d)* (Volume 2) which states the following -

‘Where a garage, carport, verandah or similar structure is attached to or shares a common roof space with a building *required* to comply with AS 3959, it must also comply with AS 3959.’

This provision is self-explanatory for an application that proposes a new Class 1, 2 or 3 building with a garage, carport etc that is either attached to or shares a common roof space with the Class 1, 2 or 3 building – the garage, carport etc must comply with AS 3959. However, if an application proposes a new garage, carport etc in relation to an existing dwelling, the clause should be interpreted in the following manner –

- if the existing dwelling to which the new garage, verandah etc is to be attached, was the subject of an application lodged before AS 3959 was adopted (2 November 2000) and was therefore not required to comply with AS 3959, then the new carport, verandah etc also does not have to comply

with AS 3959.

- if the existing dwelling to which the new garage, verandah etc is to be attached, was the subject of an application lodged after AS 3959 was adopted (2 November 2000) and was therefore required to comply with AS 3959, then the new carport, verandah etc must also comply with AS 3959.

This variation was developed in consultation with the CFS so that minor structures, such as carports and verandahs, would not have to comply with requirements that were higher than those required for the more substantial existing building. This requirement will be reviewed during the development of BCA 2009.

Following the implementation of the recent changes to the bushfire planning and building legislation in South Australia, the Building Policy Branch has identified several minor issues relating to the bushfire construction requirements that require review. These issues will be addressed and resolved for inclusion in BCA 2009. The construction requirements for sites located in general bushfire risk areas, introduced by a recent amendment to *regulation 78* (Housing Code, Part F.8), will also be amalgamated into BCA 2009.

FURTHER INFORMATION

Further information about the planning and building requirements for Bushfire Protection Areas can be found on the Planning SA website at <http://www.planning.sa.gov.au/go/development-plans/bushfire-protection-areas> and <http://www.planning.sa.gov.au/go/bushfires>

Further information about the location of and requirements for Floodplain Areas can be found in the relevant Council Development Plans which are available from the Planning SA website at <http://www.planning.sa.gov.au/go/development-plans/development-plans-online> or by contacting the relevant Council.

Amendment 15 to the South Australian Housing Code can be downloaded for free from the Planning SA website at <http://www.planning.sa.gov.au/go/SA-Housing-Code>



Further information

Department of Primary Industries and Resources

Planning SA

136 North Terrace Adelaide
GPO Box 1815 Adelaide SA 5001
Telephone: 8303 0600

www.planning.sa.gov.au/building_policy/

Contact:

Don Freeman, Manager

Or

Jodie Evans, Chief Project Officer
Building Policy Branch
Level 4, 136 North Terrace Adelaide SA
Telephone: 8303 0602

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