Ministerial Building Standard MBS 008

Designated bushfire prone areas - additional requirements

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1.0 SCOPE

1.1 This standard is published as a Ministerial Building Standard as part of the Building Rules under the *Planning, Development and Infrastructure Act 2016* (the Act) and must be read in conjunction with the requirements of that Act and the Planning, Development and Infrastructure (General) Regulations 2017 (the Regulations).

1.2 This standard includes delineation of *designated bushfire prone areas* for the purposes of the *Building Code* and additional fire safety provisions to those *required* by the *Building Code* for the protection of new Class 1, 2 and 3 buildings in *designated bushfire prone areas*.

2.0 DESIGNATED BUSHFIRE PRONE AREAS

2.1 For the purposes of the *Building Code* and this Standard, a building is in a *designated bushfire prone area* if it is in an area identified in the *Planning and Design Code* (P&D Code) as-

(a) a general, medium or high bushfire risk area; or

(b) an area within an urban interface area that is within 500 metres of a high bushfire risk area.

2.2 For the purposes of the *Building Code* and this Standard, in a *designated bushfire prone area,* the bushfire attack level (BAL) for a *site* is determined using one of the following methods-

(a) the simplified procedure outlined in AS 3959; or

(b) the detailed procedure outlined in AS 3959; or

(c) the deemed to apply BAL levels outlined in **2.3**.

2.3 The following BAL levels are deemed to apply in *designated bushfire prone areas*-

(a) For areas identified as a general bushfire risk area in a Bushfire Hazard Overlay to the P&D Code – BAL Low

(b) For areas identified as a medium bushfire risk area in a Bushfire Hazard Overlay to the P&D Code – BAL 12.5

(c) For areas identified as a high bushfire risk area in a Bushfire Hazard Overlay to the P&D Code – the relevant BAL for the *site* identified by a *site* assessment carried out in accordance with Australian Standard *AS 3959 - Construction of buildings in bushfire-prone areas*.

(d) For areas in an urban interface area in a Bushfire Hazard Overlay to the P&D Code that are within 500 m of a high bushfire risk area and no closer than 100m of the high bushfire risk area – BAL Low

(e) For areas in an urban interface area in a Bushfire Hazard Overlay to the P&D Code that are within 100 m of a high bushfire risk area – the relevant BAL for the *site* identified by a *site* assessment carried out in accordance with *AS 3959 - Construction of buildings in bushfire-prone areas*.

2.4 Where the BAL is determined in accordance with AS 3959, details of the steps taken to determine the BAL for the particular *site* must be included in the building consent application documentation.

3.0 PERFORMANCE REQUIREMENT

3.1 In a *designated bushfire prone area*, a Class 1, 2 and 3 building must be provided with, or have access to, a *bushfire protection system* for occupants and/or the fire brigade to use to minimise a bushfire spreading to the building, as appropriate to-

(a) the potential source and intensity of a bushfire attack to the building;

(b) the size of the building allotment*;*

(c) the potential for loss of mains electricity supply to power the protection system during a bushfire event; and

(d) the availability of a reticulated water supply.

4.0 APPLICATION

Performance requirement **3.1** applies to new Class 1, 2 and 3 buildings and to alterations to Class 1, 2 and 3 buildings where the total floor area of the building would, after completion of the proposed building work, have increased by at least 50% when compared to the total floor area of the building as it existed 3 years before the date of the application (or, in the case of a building constructed since that time, as it existed at the date of completion of original construction).

5.0 DEEMED TO SATISFY PROVISIONS

5.1 Performance requirement **3.1** can be met by the installation of-

(a) a *site* specific *bushfire protection system* in accordance with the minimum requirements for-

(i) *water supply* in **5.2**;

(ii) adequate pumping system in **5.3**;

(iii) pipework in **5.4**; and

(iv) hoses necessary for fire-fighting purposes in **5.5**; or

(b) a community-based *bushfire protection system* that-

(i) is established through a formal agreement of the parties involved, including provisions for ongoing operation and maintenance of the system;

(ii) is suitable for use by the fire brigade; and

(iii) provides equivalent performance to the aggregate of all *site* specific *bushfire protection systems* required by **5.1(a)** for the number of houses or units being served, taking into account any additional on-site *bushfire protection systems* available on individual allotments or lots to supplement the system.

5.2 Water supply

5.2.1 An on-site dedicated *water supply* must be provided with a storage capacity and outlet fittings no less than those specified in **Table 5.2.1** for the relevant bushfire risk, which must be available at all times for fire-fighting purposes.

5.2.2 Where a *water supply* facility is *required* to have a *domestic fitting*, the outlet for the required capacity must be located not less than 400mm above ground level for a distance of 200 mm either side of the outlet.

5.2.3 A *water supply* facility connected to mains water must have an automatic float switch to maintain the *required* minimum capacity at all times.

5.2.4 A *required water supply* may be sourced from a tank or a swimming pool.

5.2.5 Where a *water supply* facility is required by **Table 5.2.1** to have a *fire fitting*-

(a) an all-weather roadway must be provided (or be available) for the *fire brigade* to use for fire-fighting purposes and to access the *water supply* during a fire; and

(b) a level hardstand area capable of supporting fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes must be provided to within 6m of the *water supply fire fittings.*

(b) an all-weather roadway required by (a) must-

(i) be capable of supporting fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes; and

(ii) have a vehicular clearance area of not less than 4 metres in width and 4 metres in height; and

(iii) enable fire-fighting vehicles to have vehicular access to within 60m of every part of the building.

(c) access to water in the *water supply* facility must be available-

(i) via a fire service adaptor fitted in the wall of the water storage facility near the bottom of the water storage facility, with a minimum outlet of 50mm terminating in a 65mm Storz outlet with a gate or ball valve for use by the relevant *fire brigade*; or

(ii) through a 200mm removable 'inspection opening' in the top of a closed water storage tank or directly from an open *water supply* such as a swimming pool, provided a hardened ground surface for fire appliance access is available within 3 metres of the access hole or *water supply.*

5.2.6 Except as permitted by **5.2.7,** where the *water supply* facility is an above-ground water tank, the tank (including any support structure) must be constructed of *non-combustible* material.

5.2.7 Where a *water supply* of not more than 2500 litres is required by **Table 5.2.1**, a tank constructed of an alternative material to that required by **5.2.6** may be considered by the relevant authority under a performance solution, provided that consideration is given to-

(a) the exposure of the tank to the potential source of bushfire attack;

(b) any protection (*shielding* or sprinklers) provided to protect the tank from the potential source of bushfire attack; and

(c) the safety risk to persons exposed to a potential fire while accessing the *water supply* for fire-fighting purposes.

Availability of *water supply*	**Minimum *water supply* (litres)** and **fittings *required* for the *site***		
	Allotment size	**Connected to mains**	**Not connected to mains**
Within a general or medium bushfire risk area Within an urban interface area that is within 500m of a high bushfire risk area	Any allotment size	2500 litres with *domestic fittings*	5000 litres with *domestic fittings*
Within a high bushfire risk area or an urban interface area that is within 100m of a high bushfire risk area and assessed as **BAL-12.5** or **BAL-19**	<500m²	2500 litres with *domestic fittings*	5000 litres with *domestic fittings*
	500m² - 1500m²	5000 litres with *fire fittings*	10 000 litres with *fire fittings*
	≥1500m²	10 000 litres with *fire fittings*	10 000 litres with *fire fittings*
Within a high bushfire risk area or an urban interface area that is within 100m of a high bushfire risk area and assessed as **BAL-29**, **BAL-40** or **BAL-FZ**	<500m²	10 000 litres with *fire fittings*	10 000 litres with *fire fittings*
	≥500m²	22 000 litres with *fire fittings*	22 000 litres with *fire fittings*

Table 5.2.1 - Capacity and fittings *required* for a dedicated *water supply*

***Notes**:*

1. *The water supply capacities in this table do not take into account any water that might be needed to supply a non-required sprinkler protection system or water tanks required for water saving purposes under the NCC.*

2. *The minimum water supply required may be combined with water for domestic use, provided that the outlet for domestic use is located above the dedicated fire water supply (in order for it to remain as a dedicated supply).*

5.3 Pumps

5.3.1 Where a *water supply* facility is required by **Table 5.2.1** to have a *fire fitting*, the *water supply* to a fire hose for the occupants to use must be pressurised by-

(a) a pump that-

(i) has a minimum inlet diameter of 38mm;

(ii) is powered by a petrol or diesel engine or that operates independently of mains electricity; and

(iii) has a power rating of at least 3.7 kW (5hp).

5.3.2 A pump provided in accordance with **5.3.1** and any flexible connections connecting it to the *water supply* must be-

(a) protected by a *non-combustible* cover or *shielding* that also provides adequate air ventilation for efficient pump operation;

(b) positioned on a hard surface, away from any hazardous vegetation; and

(c) maintained so that it is always operable during a fire danger season and on fire ban days.

5.4 Pipework

5.4.1 Water pipes and connections between a *water supply* facility and a pump must not be smaller in diameter than the diameter of the pump inlet.

5.4.2 All non-metal water supply pipes for bushfire fighting purposes (other than flexible connections and hoses for fire-fighting) must be buried below ground to a minimum depth of 300mm with no non-metal parts exposed above ground level.

5.5 Hoses

5.5.1 Where a *water supply* is *required* to be pressurised by a pump, a fire hose (or hoses) complying with **5.5.2** and suitable for connection to the pump must be provided for fire-fighting purposes.

5.5.2 A fire hose (or hoses) used for fire-fighting purposes must-

(a) be located so that all parts of the building are within reach of the nozzle end of the hose and if more than one hose is required they should be positioned to provide maximum coverage of the building and surrounds (ie at opposite ends of a dwelling); and

(b) be capable of withstanding the pressures of the available water supply; and

(c) be of reinforced construction manufactured in accordance with Australian Standard *AS 1221 - Fire hose reels*; and

(d) have a minimum nominal internal diameter of 18mm; and

(e) have an adjustable metal nozzle; or an adjustable PVC nozzle manufactured in accordance with Australian Standard *AS 1221 - Fire hose reels*; and

(f) have a maximum length of 36m; and

(g) be readily available for use at all times.

5.5.3 Where a *water supply* is sourced from a swimming pool or in-ground tank, an additional hose suitable for drawing water from the pool or tank must be provided and fitted to the pump.

APPENDIX A – INTERPRETATION

Building Code means Volume One and Volume Two of the National Construction Code as published by the Australian Building Codes Board as amended from time to time.

Bushfire protection system – means having a water supply that is accessible and available for fire-fighting purposes, which is provided with fittings and equipment as necessary and appropriate to enable it to be used by the occupants or the fire brigade to fight a potential bushfire.

Designated bushfire prone area means an area identified as such in this Standard where the construction requirements for buildings in bushfire prone areas under the *Building Code* apply and the additional requirements in this standard for protecting buildings during a bushfire apply.

Domestic fittings means standard household taps that enable an occupant to access the *water supply* with domestic hoses or buckets for extinguishing minor fires.

Fire authority means the South Australian Metropolitan Fire Service or the Country Fire Service.

Fire brigade means an operational unit of the South Australian Metropolitan Fire Service or the Country Fire Service that will be attending a fire in the relevant area where a *site* is located.

Fire fittings means specialised fittings that enable the *fire brigade* to access and use the *water supply* for fire-fighting purposes.

Non-combustible has the same meaning as defined in the *Building Code.*

Required means required by this Standard or by the *Building Code*.

Shielding means *non-combustible* obstruction or construction that will protect a tank or pump from the source of bushfire attack.

Water supply for the purposes of this standard means a source of water that may be held in a tank, swimming pool or dam which is available at all times for fire-fighting purposes.

A reference in this Standard to an Australian Standard is to the edition that is current at the time an application for building consent is made.