

Building Act 2016

Director's Determination – Requirements for Building in Bushfire-Prone Areas

I, Dale Edward Webster, in my capacity as Director of Building Control, and acting pursuant to section 20(1) of the *Building Act 2016*, hereby make the following Determination for the purposes of the provisions of the *Building Act 2000* and *Building Regulations 2014* that remain in force by virtue of clause 3(2) of Schedule 6 of the *Building Regulations 2016*.

Determination title	Requirements for Building in Bushfire-Prone Areas
Description	This Determination specifies the requirements for building in bushfire-prone areas, for the purposes of the savings and transitional provisions of the <i>Building Regulations 2016</i>
Version	Version 2.1
Application	For the purposes of section 20(3)(b) of the Act, this Determination applies from 1 September 2017 – (a) until its revocation; or (b) in respect of a municipal area until – (i) the State Planning Provisions come into effect as part of the Tasmanian Planning Scheme in accordance with section 29(2) of the <i>Land Use Planning and Approvals Act 1993</i> ; and (ii) the State Planning Provisions come into effect in respect of that municipal area in accordance with section 30(2) of the <i>Land Use Planning and Approvals Act 1993</i> ; whichever of (a) or (b) is sooner.
Previous Determination	The Determination on Requirements for Building In Bushfire-Prone Areas Version 2.0, dated 23 February 2017, ceases to have effect from the date of application of this Determination.
Date of Director's approval	29 August 2017



Dale Edward Webster
Director of Building Control

I. Definitions

(1) In this Determination a term defined in the *Building Act 2000*, *Building Regulations 2014* or Planning Directive No. 5.1 Bushfire-Prone Areas Code which came into effect on 1 September 2017, unless a contrary intention appears, has the same meaning in this Determination.

(2) In this Determination –

Accredited person – means accredited bushfire hazard assessor as defined in the *Building Regulations 2014*, the Chief Officer, or a delegate of the Chief Officer;

AS 2304-2011 – means Australian Standard AS 2304-2011 *Water storage tanks for fire protection systems*;

AS 2419.1-2005 - means AS 2419.1-2005 *Fire hydrant installations – System design, installation and commissioning*;

AS 3959-2009 - means Australian Standard AS 3959-2009 *Construction of buildings in bushfire-prone areas*;

BCA – means the National Construction Code as defined in the *Building Act 2016*;

Bushfire Attack Level (BAL) – means the bushfire attack level as determined by an accredited person in accordance with AS 3959 – 2009;

Bushfire Hazard Management Plan (BHMP) – means as defined in the *Fire Service Act 1979*;

Carriageway – means the section of road formation which is used by traffic, and includes all the area of the traffic lane pavement together with the formed shoulders;

Chief Officer – has the same meaning as in the *Fire Service Act 1979*;

Emergency plan – means as defined in the TFS Bushfire Emergency Planning Guidelines as amended from time to time;

Fire fighting water point – means the point where a fire appliance is able to connect to a water supply for fire fighting purposes. This includes a coupling in the case of a fire hydrant, offtake or outlet, or the minimum water level in the case of a static water body (including a dam, lake or pool);

Fire hydrant – means as described in AS 2419.1-2005 *Fire hydrant installations – System design, installation and commissioning*: An assembly installed on a branch from a water pipeline, which provides a valved outlet to permit a supply of water to be taken from the pipeline for fire fighting;

Group home – means use of land for residential accommodation for people with disabilities;

Hardstand – means as described in AS 2419.1-2005 *Fire hydrant installations – System design, installation and commissioning*: An identifiable and clearly marked trafficable all-weather pavement providing access and capable of supporting a fire brigade pumping appliance during fire fighting operations;

Habitable building - means a Class 1, 2, 3, 8 or 9 building, as defined in the building classification scheme in the National Construction Code;

Hazard management area (HMA) – means the area, between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for fire fighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire;

Hazardous use – means a use where:

- (a) The amount of hazardous chemical used, handled, generated or stored on a site exceeds the manifest quantity as specified in the *Work Health and Safety Regulations 2012*; or
- (b) Explosives are stored on a site and where classified as an explosive location or large explosives location as specified in the *Explosives Act 2012*;

Hose lay – means the distance between two points established by a fire hose laid out on the ground, inclusive of obstructions;

NASH Standard - Steel Framed Construction in Bushfire Areas - means the document entitled *NASH Standard - Steel Framed Construction in Bushfire Areas* published by the National Association of Steel-Framed Housing Inc., as referenced in the National Construction Code;

Property access – means the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area;

Static water supply – means water stored in a tank, swimming pool, dam, or lake, that is available for fire fighting purposes at all times;

TFS – means Tasmania Fire Service;

TFS Bushfire Emergency Planning Guidelines – means the *Bushfire Emergency Planning Guidelines*, as amended from time to time, published by the TFS; and

Tasmania Fire Service Water Supply Signage Guideline – means the *Tasmania Fire Service Water Supply Signage Guideline*, as amended from time to time, published by the TFS.

- (3) In this Determination, where reference is made to a particular building class, the specified class is as defined in the part of the BCA which relates to the classification of buildings and structures.
- (4) For the purposes of the definition of "building work in a bushfire-prone area" which appears in the *Building Regulations 2014*, and is preserved and amended by Schedule 6 of the *Building Regulations 2016*, "hazardous use" is taken to have the same meaning as in this Determination.

2. Application

- (1) This Determination applies to a building located in a bushfire-prone area of the following Class:
 - (a) Class 1;
 - (b) Class 2;
 - (c) Class 3;
 - (d) Class 8;
 - (e) Class 9; and
 - (f) Class 10a that is closer than 6 metres to a habitable building.
- (2) Despite subsection (1), this Determination does not apply to buildings which are integral to the agricultural use of the land and which are not normally occupied.

3. Performance Requirements

- (1) A building to which this Determination applies must, to the degree necessary, be:
 - (a) Designed and constructed to reduce the ignition from bushfire, appropriate to the –
 - (i) Potential for ignition caused by burning embers, radiant heat or flame generated by bushfire; and
 - (ii) Intensity of the bushfire attack on the building;
 - (b) Provided with vehicular access to the site to assist fire fighting and emergency personnel to defend the building or evacuate occupants;
 - (c) Provided with access at all times to a sufficient supply of water for fire fighting purposes on the site; and
 - (d) Provided with appropriate separation of the building from the bushfire hazard.
- (2) The performance requirement specified in subclause (1)(a) is applicable to the following:
 - (a) a Class 1, 2 or 3 building; or
 - (b) a Class 10a building or deck associated with a Class 1, 2 or 3 building.

4. Deemed-to-Satisfy Requirements

4.1. Construction Requirements

- (1) Building work (including additions or alterations to an existing building) in a bushfire-prone area must be designed and constructed in accordance with an Acceptable Construction Manual determined by the BCA, being either: -
 - (a) AS 3959-2009; or
 - (b) *Nash Standard - Steel Framed Construction in Bushfire Areas* as appropriate for a BAL determined for that site.
- (2) Subclause (1)(a) is applicable to the following:

- (a) a Class 1, 2 or 3 building; or
 - (b) a Class 10a building or deck associated with a Class 1, 2 or 3 building.
- (3) Subclause (1)(b) is applicable to the following:
- (a) a Class 1 building; or
 - (b) a class 10a building or deck associated with a Class 1 building.
- (4) Despite subsection (1) above, variations from requirements specified in 1(a) and 1(b) are as specified in Table 4.1 below.
- (5) Despite subsections (1) and (4) above, performance requirements for buildings subject to BAL 40 or BAL Flame Zone (BAL-FZ) are not satisfied by compliance with subsections (1) or (4) above.

Comment: this means that where BAL 40 or BAL FZ is assessed, the Performance Requirements are not satisfied by complying with the Deemed-to-Satisfy Requirements.

4.2. Property Access

- (1) A new building constructed in a bushfire-prone area must be provided with property access to the building and the fire fighting water point, accessible by a carriageway, designed and constructed as specified in subsection (2) below.
- (2) Vehicular access from a public road to a building must:
- (a) Meet the property access requirements described in Table 4.2;
 - (b) Include access from a public road to within 90 metres of the furthest part of the building measured as a hose lay; and
 - (c) Include access to the hardstand area for the fire fighting water point.

4.3. Water Supply for Fire fighting

- (1) A new building constructed in a bushfire-prone area, must be provided with a water supply dedicated for fire fighting purposes as specified in subsections (2) and (3) below.
- (2) Water supplies for fire fighting must meet the requirements described in Tables 4.3A or 4.3B.
- (3) The water supply must be:
- (a) Provided from a fire hydrant or static water supply;
 - (b) Located within the specified distance from the building to be protected; and
 - (c) Provided with a hardstand and suitable connections.

4.4. Hazard Management Areas

- (1) A new building, or extension to a building, constructed in a bushfire-prone area must be provided with a HMA of sufficient dimensions and which provides an area around the building which separates the building from the bushfire hazard.
- (2) The HMA must comply with Table 4.4; and

- (3) The HMA for a particular BAL must have the minimum dimensions required for the separation distances specified for that BAL in Table 2.4.4 of AS 3959-2009; and
- (4) The HMA must be established such that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to the bushfire attack.

4.5. Emergency Plan

- (1) An emergency plan must be provided for:
 - (a) New buildings and additions and alterations to buildings classified as an accommodation building Class 1b, Class 2, or Class 3, other than a group home for persons with a disability, a respite centre or a residential aged care facility or similar; or
 - (b) A new building, extension or addition to a building, or change of use classified as a vulnerable use, constructed in a bushfire-prone area; and
- (2) The emergency plan must comply with Table 4.5.

4.6. Interpretation of Tables

- (1) For the purposes of paragraphs 4.1, 4.2, 4.3, 4.4 and 4.5 above, the corresponding Tables 4.1, 4.2, 4.3A, 4.3B, 4.4 and 4.5 below must be respectively complied with in the following way:
 - (a) for a particular Element specified in Column 1, the corresponding Requirement specified in Column 2, must be complied with.

Table 4.1 Construction Requirements and Construction Variations

Column 1		Column 2
Element		Requirement
A.	Polycarbonate Sheeting for walls and roofs.	<p>May be used in exposures up to and including BAL 19.</p> <p><i>Comment: refer to the TFS Chief Officer’s Bushfire Advisory Note 3.</i></p>
B.	Straw Bale Construction	<p>May be used in exposures up to and including BAL 19.</p>
C.	Shielding provisions under Section 3.5 of AS3959-2009.	<p>To reduce construction requirements due to shielding, building plans must include suitable detailed elevations or plans that demonstrate that the requirements of Section 3.5 of the Standard can be met.</p> <p><i>Comment: Application of Section 3.5 of the Standard cannot result in an assessment of BAL – LOW.</i></p>
D.	Construction standard for vulnerable use	<p>Building work for a building classified as a vulnerable use must be constructed to a BAL that is determined in a BHMP certified by an accredited person.</p>

Table 4.2 Requirements for Property Access

Column 1		Column 2
Element		Requirement
A.	Property access length is less than 30 metres; or access is not required for a fire appliance to access a fire fighting water point.	There are no specified design and construction requirements.
B.	Property access length is 30 metres or greater; or access is for a fire appliance to a fire fighting water point.	<p>The following design and construction requirements apply to property access:</p> <ul style="list-style-type: none"> (a) All-weather construction; (b) Load capacity of at least 20 tonnes, including for bridges and culverts; (c) Minimum carriageway width of 4 metres; (d) Minimum vertical clearance of 4 metres; (e) Minimum horizontal clearance of 0.5 metres from the edge of the carriageway; (f) Cross falls of less than 3° (1:20 or 5%); (g) Dips less than 7° (1:8 or 12.5%) entry and exit angle; (h) Curves with a minimum inner radius of 10 metres; (i) Maximum gradient of 15° (1:3.5 or 28%) for sealed roads, and 10° (1:5.5 or 18%) for unsealed roads; and (j) Terminate with a turning area for fire appliances provided by one of the following: <ul style="list-style-type: none"> (i) A turning circle with a minimum outer radius of 10 metres;

Column 1		Column 2
Element		Requirement
		(ii) A property access encircling the building; or (iii) A hammerhead “T” or “Y” turning head 4 metres wide and 8 metres long.
C.	Property access length is 200 metres or greater.	The following design and construction requirements apply to property access: (a) The Requirements for B above; and (b) Passing bays of 2 metres additional carriageway width and 20 metres length provided every 200 metres.
D.	Property access length is greater than 30 metres, and access is provided to 3 or more properties.	The following design and construction requirements apply to property access: (a) Complies with Requirements for B above; and (b) Passing bays of 2 metres additional carriageway width and 20 metres length must be provided every 100 metres.

Table 4.3A Requirements for Reticulated Water Supply for Fire Fighting

Column 1		Column 2
Element		Requirement
A.	Distance between building area to be protected and water supply	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) The building area to be protected must be located within 120 metres of a fire hydrant; and (b) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.
B.	Design criteria for fire hydrants	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) Fire hydrant system must be designed and constructed in accordance with TasWater Supplement to Water Supply Code of Australia WSA 03 – 2011-3.1 MRWA Edition 2.0; and (b) Fire hydrants are not installed in parking areas.
C.	Hardstand	<p>A hardstand area for fire appliances must be provided:</p> <ul style="list-style-type: none"> (a) No more than three metres from the hydrant, measured as a hose lay; (b) No closer than six metres from the building area to be protected; (c) With a minimum width of three metres constructed to the same standard as the carriageway; and (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

Table 4.3B Requirements for Static Water Supply for Fire Fighting

Column 1		Column 2
Element		Requirement
A.	Distance between building area to be protected and water supply	<p>The following requirements apply:</p> <ul style="list-style-type: none"> (a) The building area to be protected must be located within 90 metres of the fire fighting water point of a static water supply; and (b) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.
B.	Static Water Supplies	<p>A static water supply:</p> <ul style="list-style-type: none"> (a) May have a remotely located offtake connected to the static water supply; (b) May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times; (c) Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems; (d) Must be metal, concrete or lagged by non-combustible materials if above ground; and (e) If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS 3959-2009, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by: <ul style="list-style-type: none"> (i) metal; (ii) non-combustible material; or (iii) fibre-cement a minimum of 6 mm thickness.
C.	Fittings, pipework and accessories (including stands and tank	<p>Fittings and pipework associated with a fire fighting water point for a static water supply must:</p> <ul style="list-style-type: none"> (a) Have a minimum nominal internal diameter of 50mm;

Column 1		Column 2
Element		Requirement
	supports)	<ul style="list-style-type: none"> (b) Be fitted with a valve with a minimum nominal internal diameter of 50mm; (c) Be metal or lagged by non-combustible materials if above ground; (d) Where buried, have a minimum depth of 300mm; (e) Provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to fire fighting equipment; (f) Ensure the coupling is accessible and available for connection at all times; (g) Ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length); (h) Ensure underground tanks have either an opening at the top of not less than 250 mm diameter or a coupling compliant with this Table; and (i) Where a remote offtake is installed, ensure the offtake is in a position that is: <ul style="list-style-type: none"> (i) Visible; (ii) Accessible to allow connection by fire fighting equipment; (iii) At a working height of 450 – 600mm above ground level; and (iv) Protected from possible damage, including damage by vehicles.
D.	Signage for static water connections	<p>The fire fighting water point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must:</p> <ul style="list-style-type: none"> (a) comply with water tank signage requirements within <i>Australian Standard AS 2304-2011 Water storage tanks for fire protection systems</i>; or (b) comply with the Tasmania Fire Service Water Supply Signage Guideline published by the Tasmania Fire

Column 1		Column 2
Element		Requirement
		Service.
E.	Hardstand	<p>A hardstand area for fire appliances must be provided:</p> <ul style="list-style-type: none"> (a) No more than three metres from the fire fighting water point, measured as a hose lay (including the minimum water level in dams, swimming pools and the like); (b) No closer than six metres from the building area to be protected; (c) With a minimum width of three metres constructed to the same standard as the carriageway; and (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

Table 4.4 Requirements for Hazard Management Area

Column 1		Column 2
Element		Requirement
A.	Hazard management areas for new buildings on lots provided with a BAL at the time of subdivision.	<p>A new building must:</p> <ul style="list-style-type: none"> (a) Be located on the lot so as to be provided with a HMA no smaller than the required separation distances for the BAL determined at the time of subdivision; and (b) Have a HMA established in accordance with a certified bushfire hazard management plan.
B.	Hazard management areas for new buildings on lots not provided with a BAL at the time of subdivision.	<p>A new building must:</p> <ul style="list-style-type: none"> (a) Be located on the lot so as to be provided with a HMA no smaller than the separation distances required for BAL 29; and (b) Have an HMA established in accordance with a certified bushfire hazard management plan.
C.	Hazard management areas for alterations or additions to buildings.	<p>An alteration or addition to a building must:</p> <ul style="list-style-type: none"> (a) Be located on the lot so as to be provided with a HMA which: <ul style="list-style-type: none"> (i) Has the separation distances required for the BAL assessed for the construction of the existing building; or (ii) In the case of a building without an existing BAL assessment, is no smaller than the separation distances required for BAL 29; and (b) Have an HMA established in accordance with a certified bushfire hazard management plan.

Column 1		Column 2
D.	Hazard management areas for new buildings and additions and alterations to buildings classified as an accommodation building BCA Class 1b, BCA Class 2, or BCA Class 3, other than communal residence for persons with a disability, a respite centre or a residential aged care facility or similar.	<p>A new building or an alteration or addition must:</p> <p>(a) Be:</p> <ul style="list-style-type: none"> (i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or (ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for fire fighting; <p>and</p> <p>(b) Have an HMA established in accordance with a certified bushfire hazard management plan.</p>
E.	Hazard management areas for new buildings and additions and alterations to existing buildings classified as vulnerable use as defined in the <i>Bushfire-Prone Areas Code (Planning Directive 5.1)</i>	<p>A new building or an addition or alteration including change of use must:</p> <p>(a) Be:</p> <ul style="list-style-type: none"> (i) located on the lot so as to be provided with HMAs no smaller than the separation distances required for BAL 12.5; or (ii) provided with a certificate from an accredited person that a bushfire hazard management plan provides, to the degree necessary, separation of the building from the bushfire hazard, appropriate resistance to ignition from bushfire, property access and water supply for fire fighting; <p>and</p> <p>(b) Have a HMA established in accordance with a certified bushfire hazard management plan.</p>

Column 1		Column 2
F.	Hazard management areas for new buildings or additions and alterations to buildings associated with a hazardous use	<p>A new building or an alteration or addition, including change of use, for a building determined as a hazardous use must:</p> <ul style="list-style-type: none"> (a) Be located on the lot so as to be provided with a HMA no smaller than the required separation distances for the BAL determined in the certified bushfire hazard management plan; and (b) Have a HMA established in accordance with a certified bushfire hazard management plan.

Table 4.5 Requirements for Emergency Planning

Column 1		Column 2
Element		Requirement
A.	Emergency plans	<p>An emergency plan must be developed for the site which is:</p> <ul style="list-style-type: none"> (a) Compliant with the TFS Bushfire Emergency Planning Guidelines; and (b) Approved by TFS or a person accredited by the TFS.

History of Publication Dates for this Determination

Version 1 (original and first publication)	14 March 2016
Version 2.0 (revised to align with Interim Planning Directive No.1.1)	23 February 2017
Version 2.1 (revised to align with Planning Directive No.5.1)	1 September 2017

TABLE OF AMENDMENTS

Purpose of amendments –:

Version 2.1 of this Determination:

- (a) Reflects changes to the Bushfire-Prone Areas Code (issued as Planning Directive No. 5.1) regarding the definition of hazardous use and signage requirements for static water connections;
- (b) Reflects changes to the TFS Bushfire Emergency Planning Guidelines; and
- (c) Makes minor corrections to the previous version.

NOTES

These notes are not part of the determination

1. This determination supersedes the Determination on Requirements for Building in Bushfire-Prone Areas Version 2.0 dated 23 February 2017.
2. This determination should be read in conjunction with the following –
 - (a) Those parts of the *Building Act 2000* and *Building Regulations 2014* relating to bushfire-prone areas which remain in effect through the savings and transitional provisions of the *Building Regulations 2016*
 - (b) Bushfire-Prone Areas Code (published as Planning Directive No.5.1) (available at www.iplan.tas.gov.au)
 - (c) Director's Determination – Application of Requirements for Building in Bushfire-Prone Areas (originally published as Version 1.0 dated 23 February 2017), as amended from time to time (available at: www.justice.tas.gov.au)
 - (d) TFS Emergency Planning Guidelines, published by the TFS (available at www.fire.tas.gov.au)
 - (e) Tasmania Fire Service Water Supply Signage Guideline, published by the TFS (available at www.fire.tas.gov.au)
3. Clause 3(2) of Schedule 6 of the *Building Regulations 2016* specifies savings and transitional provisions relating to hazardous areas, and in particular that:
 - (a) Part 5 of the regulations do not come into force in respect of a municipal area until the State Planning Provisions of the Tasmanian Planning Scheme come into effect in respect of that municipal area; and
 - (b) Relevant requirements in the *Building Act 2000* and *Building Regulations 2014* relating to building work in bushfire-prone areas remain in force until that time.