8.2.4. Bushfire hazard overlay code

8.2.4.1. Application

This code applies to the assessment of development if it is identified as an applicable code for development, as specified in the assessment benchmarks column in the tables of assessment located in Part 5 of the planning scheme.

When using this code, reference should be made to section 5.3.2 and where applicable, section 5.3.3 located in Part 5.

All subject matter in this code is applicable to the development assessment, unless the following circumstance arises:

(1) The heading of a specific benchmarks for assessment table specifies otherwise; or

(2) A heading within a specific benchmark for assessment table specifies that the outcomes apply to a specific type of development or to development at a specific location; or

(3) A performance outcome or acceptable outcome specifies that the outcomes apply to a specific type of development or to development at a specific location.

In the circumstance where point (2) or point (3) above arises the following applies:

(1) the development assessment outcomes apply only to the type of development specified or only to development at the location specified; and

(2) the development must still be assessed against all other general subject matter of the code.

Editor's note—The bushfire hazard area is a natural hazard area for the purpose of State Planning Policy. Within this area, susceptibility to bushfire has been identified. The area identified in the bushfire hazard overlay maps may not reflect the full extent of the area that may be affected by bushfire.

8.2.4.2. Purpose

The purpose of the bushfire hazard overlay code is to ensure that development in bushfire prone areas does not increase risk to life, property, community, economic activity and the environment during bushfire events.

8.2.4.3. Overall outcomes

The purpose of the code will be achieved through the following overall outcomes:

(1) development is located where bushfire hazard risk to personal safety and property is avoided or minimised and mitigated to acceptable levels;

(2) highly vulnerable and community uses are not located in bushfire hazard areas;

(3) vegetation which is identified as matters of State or local environmental significance is not cleared to achieve bushfire hazard minimisation;

(4) natural processes and the protective function of landforms and vegetation are maintained in bushfire hazard areas;

(5) access is provided for safe entry and exit requirements for residents during bushfire events;

(6) development provides for the efficient operational requirements of fire fighters during bushfire events;

(7) development is provided with adequate water supply and fittings for fire-fighting vehicles, and access arrangements for fire fighters;

(8) emergency services facilities are located and designed to function effectively during and after a bushfire;

(9) development does not create an unacceptable burden on disaster management response or recovery capacity and capabilities; and

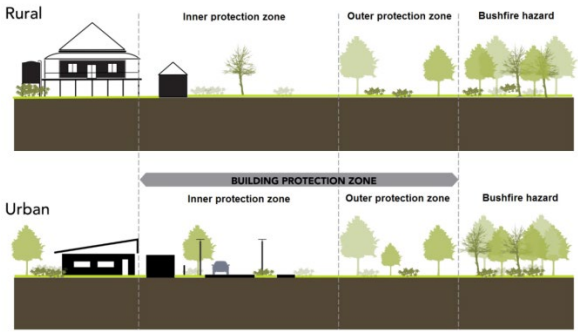
(10) development avoids the storage of hazardous materials in a bushfire hazard area.

Editor's note—For building assessment provisions, the bushfire hazard (bushfire prone) areas defined by the planning scheme overlays are designated to be the bushfire prone area for the purposes of the National Construction Code.

8.2.4.4. Specific benchmarks for assessment

Table 8.2.4.4.1 — Outcomes for assessable development

Performance outcomes	Acceptable outcomes
Development other than reconfiguring a lot where located in bushfire hazard areas identified as potential impact buffer, or medium potential bushfire intensity, or high potential bushfire intensity, or very high potential bushfire intensity	
Bushfire planning	
PO1 Development does not expose people and property to unacceptable risk from bushfire hazard taking into account: (a) vegetation type; (b) slope; (c) aspect; (d) bushfire history; (e) ongoing maintenance; and (f) on-site and off-site fire hazard implications. Editor's note: Off-site impacts may include potential hazard from land up to ten (10) kilometres away from the site. For example, it may be relevant to consider how large tracts of forest away from the site may impact on the bushland that surrounds the site. Editor's note: *Schedule 6, Part 2 of the Planning Regulation, 2017*, makes specific development within a bushfire hazard overlay located on a lot smaller than 2,000m^2 which is zoned residential accepted development.	**AO1.1** Development is located within a building protection zone approved as part of a Development Permit for reconfiguration of a lot, and the building protection zone was determined in accordance with SC7.2 Bushfire hazard planning scheme policy. **AO1.2** If the development is not located within an approved building protection zone for the site in accordance with AO1.1, then the development occurs only if it is located in accordance with a bushfire management plan which has been prepared in accordance with SC7.2 Bushfire hazard planning scheme policy, and the bushfire management plan demonstrates that: (a) the development is not in a medium, high or very high bushfire hazard area; or (b) the outermost walls or living spaces of buildings on the site are separated from the edge of the bushfire hazard source, the greater of the following: (i) sufficient distance to achieve a bushfire attack level no greater than 29kW/m^2; or (ii) a distance of twenty (20) metres; or (iii) no less than 1.5 times the mature tree canopy height in the hazard hazardous vegetation. Editor's note: The Bushfire Attack Level is calculated in accordance with the methodology described in the Australian Standard AS 3959 – Construction of buildings in bushfire prone areas. Editor's note: Council may accept a bushfire management plan that was prepared for a previous development approval over the land, prior to the SC7.2 Bushfire hazard planning scheme policy coming into effect, subject to further assessment to ensure compliance with current standards. **AO1.3** Buildings and structures are located within a building protection zone which achieves the following: (a) the inner zone and outer zone of the building protection zone have slopes under thirty-three (33) per cent; and (b) the inner zone has the following

Performance outcomes	Acceptable outcomes
	characteristics: (i) it has a minimum distance of ten (10) metres, or a distance sufficient to achieve a bushfire attack level no greater than 29kW/m^2; and (ii) tree canopy cover in the zone is less than ten (10) per cent; and (iii) tree canopy is located greater than two (2) metres from any part of the roofline of a building; and (c) the outer zone has the following characteristics: (i) it has a minimum distance of ten (10) metres plus one (1) metre for every degree of downslope vegetation; and (ii) tree canopy cover in the zone is less than thirty (30) per cent. Note: The following figures illustrate the desired outcome.  Editor's note: The term 'building protection zone' is explanatory in nature. In documents other than this Code, it may also be referred to as an asset protection zone, building radiation zone, or defendable space. Regardless of the name, the above figures illustrate the key features of the zone.
Land use	
PO2 In areas determined to be at an unacceptable risk from bushfire hazards, development does not occur if it is for a use which: (a) results in a significant concentration of people at any one time; or (b) results in a significant increase in people living or working in the area; or (c) involves institutional uses where evacuating people may be difficult; or (d) involves a significant number of vulnerable people; or (e) involves essential public infrastructure; or (f) involves manufacture or storage of hazardous materials.	No acceptable outcome is nominated.
PO3 In areas determined to have bushfire hazard risk within tolerable levels, development occurs only	No acceptable outcome is nominated.

Performance outcomes	Acceptable outcomes
if: (a) it adequately mitigates potential adverse impacts from bushfire hazard through siting, design, and other mitigation measures; (b) it supports safe and efficient evacuation and emergency services access to the site in the event of a bushfire; and (c) essential public infrastructure is not put at significant risk from destruction or failure during and immediately after bushfire events.	
Vegetation protection	
PO4 Buildings, structures and their associated buffer areas, access routes and fire management trails, are located to maximise the protection of vegetation in areas of high biodiversity or scenic value. Editor's note: For assessable development, building locations envelopes may be accepted in some cases, in place of buildings being illustrated on plans. Editor's note: Due to the conflict between the need for vegetation clearing for bushfire mitigation and the need for protecting vegetation with biodiversity values or scenic values, a site will need to be chosen where development has no significant adverse impacts on biodiversity values or scenic values, while achieving the required bushfire objectives.	**AO4.1** Buildings, structures and their associated buffer areas, access routes and fire management trails, avoid causing significant adverse impacts on the following: (a) areas identified as containing matters of environmental significance; and (b) areas identified as: (i) Scenic amenity management area A; or (ii) Scenic amenity management area B; or (iii) Coastal green break; or (iv) Coastline foreshore.
Internal access	
PO5 Development ensures that the location, siting, and design of development and associated internal access ways: (a) avoid potential for entrapment during a bushfire; and (b) enable safe evacuation of the site during a bushfire for site occupants.	**AO5.1** Internal access ways have: (a) a minimum cleared width of six (6) metres; (b) a minimum cleared height of 4.8 metres; (c) a minimum formed width of four (4) metres; (d) a maximum gradient of twenty-five (25) per cent if sealed, or eighteen (18) per cent if unsealed; (e) where the length of the access way is greater than thirty (30) metres, an average gradient no greater than 14.4 per cent; (f) a cross fall no greater than eighteen (18) per cent if sealed, or 12.5 per cent if unsealed; (g) where there are dips or peaks, entry and exit angles no greater than 12.5 per cent; (h) adequate drainage to prevent soil erosion; (i) where the site: (i) is located within a reticulated municipal water supply area, a maximum length of seventy (70) metres from the development to an all-weather public road designed with culverts and bridges constructed with a minimum load bearing of fifteen (15) tonnes; or (ii) is not located within a reticulated

Performance outcomes	Acceptable outcomes
	municipal water supply area, a maximum length of 200 metres from the development to an all-weather public road designed with culverts and bridges constructed with a minimum load bearing of eight (8) tonnes.
Emergency access	
PO6 Development has adequate access to external road networks which can be utilised by emergency vehicles, and provides safe evacuation in the event of a bushfire.	**AO6.1** Where located on a property greater than two-thousand (2000) square metres in area, the development has direct access to a constructed all-weather public road which is capable of carrying emergency service vehicles.
Water supply for firefighting purposes	
PO7 Development provides adequate water supply for firefighting purposes and the water supply is safely located and freely accessible for firefighting.	**AO7.1** Development involving existing or new buildings having a gross floor area greater than fifty (50) square metres comply with the following: (a) the development site has access to a reliable municipal reticulated water supply with sufficient flow and pressure characteristics for fire-fighting purposes at all times (the minimum pressure and flow is 10 litres per second at 200 kPa; or (b) all buildings are located within ten (10) metres of a water tank, which: (i) is constructed with fire-proof materials or is located underground with above-ground access points; (ii) meets the minimum water supply requirements outlined in Table 8.2.4.4.3; (iii) is located more than nine (9) metres from any potential fire hazards (such as venting gas bottles and combustible structures); (iv) is located within six (6) metres of a hardstand area allowing access for a heavy rigid fire appliance; (v) is fitted with fire brigade tank fittings consisting of: (A) for above ground tanks, a fifty (50) millimetre ball valve and male camlock coupling and metal pipe fittings; or (B) for underground tanks, an access hole having a minimum diameter of 200 millimetres to allow access for suction lines; and (vi) is identified by directional signage clearly provided at the street access point. Editor's note: Water supply for fire-fighting is in addition to water supply for household use. Where a non-reticulated supply of water is required, swimming pools, creeks and dams

Performance outcomes	Acceptable outcomes
	should not be used as a substitute for a dedicated static supply as these sources of water are not reliable during drought conditions.
Activities involving hazardous material	
PO8 The manufacture or storage of hazardous materials does not increase the risk of fire hazard.	**AO8.1** Development does not involve the manufacture or storage of hazardous materials beyond that which is commonly associated with domestic use.
Landscaping and fencing	
PO9 Landscaping does not create an unacceptable risk to people or property and provides for ongoing management of risk to the development and people from a bushfire.	**AO9.1** Development complies with a landscaping plan which: (a) is prepared in compliance with an approved bushfire management plan; (b) preserves the requirements of any building protection zone; and (c) does not increase the exposure of a habitable building not located in a building protection zone to a bushfire hazard.
PO10 Development utilises fencing that: (a) does not contribute to the spread of bushfire; (b) provides access for fire-fighting purposes; (c) facilitates the safe movement of fauna in rural areas.	**AO10.1** Fences are constructed: (a) using non-combustible or fire retardant materials within twenty (20) metres of any building used for accommodation; (b) with gates that can be freely accessed for fire-fighting purposes (if applicable); and (c) to not impede the safe movement of fauna (where applicable).
Reconfiguring a lot where located in bushfire hazard areas identified as potential impact buffer, or medium potential bushfire intensity, or high potential bushfire intensity, or very high potential bushfire intensity Note: The following performance outcomes and acceptable outcomes apply only to the following categories of development: ▪ Reconfiguring a lot in the Rural zone and in the Emerging Community zone; ▪ Reconfiguring a lot in any other zone where more than 6 additional lots are created and a new road is created.	
Bushfire planning	
PO11 The lot layout is designed as a consequence of, and in accordance with the recommendations of a bushfire hazard assessment and management plan. Editor's note: A bushfire hazard assessment and management plan should precede the reconfiguring design and inform the lot layout, not vice versa. Editor's note: The recommendations of a bushfire hazard assessment and management plan (if considered suitable) may be attached to the conditions of any development approval (if given).	No acceptable outcome is nominated.
PO12 A bushfire hazard assessment and management plan demonstrates that all future buildings are able to be separated from the bushfire hazard by	No acceptable outcome is nominated.

Performance outcomes	Acceptable outcomes
a distance which is the greater of the following: (a) a sufficient distance to achieve a bushfire attack level no greater than 29kW/m^2; or (b) no less than 1.5 times the mature tree canopy height in the hazard hazardous vegetation; or (c) for forest or woodland vegetation, a sufficient area to create a building protection zone which achieves the following: (i) the inner zone and outer zone of the building protection zone have slopes under thirty-three (33) per cent; and (ii) the inner zone has the following characteristics: (A) it has a minimum distance of ten (10) metres, or a distance sufficient to achieve a bushfire attack level no greater than 29kW/m^2; and (B) tree canopy cover in the zone is less than ten (10) per cent; and (C) three canopy is located greater than two (2) metres from any part of the roofline of a building; and (iii) the outer zone has the following characteristics: (A) it has a minimum distance of ten (10) metres plus one (1) metre for every degree of downslope vegetation; and (B) tree canopy cover in the zone is less than thirty (30) per cent. Editor's note: The separation area between buildings and the bushfire hazard may include: ▪ a cleared road reserve of adequate width; or ▪ open space acceptable to Council as a reserve contributed as part of the open space requirements of a development; or ▪ maintainable land retained in private ownership in lots which are large enough to contain the required separation distance; or ▪ maintainable open space or fire trail in a Community Management Scheme owned and maintained by the body corporate.	
PO13 Lot design minimises the number of lots which have a direct interface with the bushfire hazard.	**AO13.1** No more than twenty (20) per cent of the total number of lots in the development interface directly with the fire hazard.
Access	
PO14 The reconfiguring design ensures that the road network, future driveways and access routes: (a) avoid potential for entrapment during a bushfire; (b) provide safe and efficient movement of	**AO14.1** Where creating lots having an area less than two (2) hectares: (a) all lots are separated from hazardous vegetation by a constructed all-weather, public road;

Performance outcomes	Acceptable outcomes
residents, workers and visitors out of the subdivision and away from an approaching bushfire; (c) provides alternative access and egress considering the most likely bushfire scenarios; (d) ensures that the location, siting, and design of development and associated driveways and access routes enables safe and efficient access for emergency services vehicles during and after a bushfire. Editor's note: A bushfire hazard assessment and management plan can assist in demonstrating compliance with this performance outcome.	(b) the road layout provides for at least one alternative access route connecting all lots in the development to a public road that meets the requirements in Table 8.2.4.4.2 and which is connects to a collector road; and (c) cul-de-sacs are avoided except where: (i) a perimeter road with a cleared width of twenty (20) metres separates the lots at the head of the cul-de-sac from hazardous vegetation; and (ii) the cul-de-sac is no longer than seventy (70) metres from the intersection with another road to the furthest future building. Editor's note: Where staged development occurs or development is in accordance with an approved master plan, a temporary perimeter road may be considered, subject to availability of reticulated water supply. **AO14.2** Where creating lots having an area greater than two (2) hectares: (a) all lots have a driveway or private road access which connects directly to a constructed all-weather public road; (b) dead-end roads are a maximum length of 200 metres and an alternative emergency evacuation route is provided away from the most likely source of bushfire risk. **AO14.3** For all lots, private roads and access driveways comply with the requirements specified in Table 8.2.4.4.2. **AO14.4** Where the lots: (a) are required to be supplied with reticulated municipal water supply, private roads and access driveways have a maximum length of seventy (70) metres from an all-weather public road designed with culverts and bridges constructed with a minimum load bearing of fifteen (15) tonnes; or (b) are not required to be supplied with reticulated municipal water supply, private roads and access driveways have a maximum length of 200 metres from an all-weather public road designed with culverts and bridges constructed with a minimum load bearing of eight (8) tonnes.
Water for fire fighting purposes	
PO15	**AO15.1**

Performance outcomes	Acceptable outcomes
Development involving new premises provides adequate infrastructure to support firefighting.	Where the development is connected to a reticulated water supply, lots are provided with water supply and pressure in accordance with Australian Standard AS2419 Fire Hydrant Installations.

Table 8.2.4.4.2 — Emergency services vehicles road and access design requirements

Emergency service vehicle road and access design standards
Public roads (other than within the buffer area) are constructed to the following minimum standards: (a) Two-wheel drive, all weather roads, accommodating two way traffic; (b) Perimeter roads are connected to internal road networks at regular intervals; (c) A minimum formed width of 7.5 metres; (d) A minimum six (6) metres clear of standing flammable vegetation (excluding street trees); (e) A minimum cleared height of 4.8 metres; (f) Curves have a minimum inner radius of six (6) metres and they are not excessive in number to allow for rapid access and egress; (g) The minimum distance between inner and outer curves is six (6) metres; (h) Maximum grades for sealed roads do not exceed twenty-five (25) per cent and an average grade of not more than eighteen (18) per cent, or other gradient specified by road design standards, whichever is the greater; (i) Capacity to carry a fully loaded firefighting vehicle (approximately fifteen (15) tonnes for areas with municipal reticulated water supply, or eight (8) tonnes in other areas), with load limits clearly marked on any bridges.
Private roads and fire trails are constructed to the following minimum standards: (a) A minimum formed width of four (4) metres including any gates; (b) A minimum six (6) metres clear of standing flammable vegetation; (c) A minimum cleared height of 4.8 metres; (d) Where less than six (6) metres formed width and greater than 200 metres in length, passing bays twenty (20) metres long by three (3) metres wide, or turning facilities every 200 metres; (e) Adequate drainage and erosion control devices; (f) A gradient no greater than 12.5 per cent and a cross fall of no greater than eighteen (18) per cent; (g) Access at each end of the private road or the fire trail from a public road; (h) Access point signed and direction of travel identified; and (i) Suitable arrangements in place to ensure maintenance in perpetuity. For private roads, capacity to carry a fully loaded firefighting vehicles (approximately fifteen (15) tonnes for areas with municipal reticulated water supply, or eight (8) tonnes in other areas), with load limits clearly marked on any bridges.

Table 8.2.4.4.3 — Water storage requirements

Lot size / use type	Minimum water requirement (per dwelling, combined or independent living quarters, combined or independent living unit, cabin, habitable building, non-habitable building having an area greater than 50 square metres, or similar) located on each lot
Lots less than 1,000 square metres	5,000 litres

Lots between 1,000 square metres and less than one (1) hectare	10,000 litres
Lots greater than one (1) hectare	25,000 litres
Other development requirements	
Where the development does not involve a circumstance identified above, the minimum water requirement must be in accordance with water supply recommendations determined as part of a bushfire hazard assessment report and bushfire management plan which has been prepared by a suitably qualified person in accordance with Planning Scheme Policy SC7.2.	