



## USER GUIDE #28 - BUSHFIRE

This user guide provides information on the Mackay Region Planning Scheme 2017 requirements for development in bushfire hazard areas. Bushfire hazard areas are identified in the Bushfire hazard overlay.

The purpose of the Bushfire hazard overlay is to ensure that the risk to life, property, and the environment, as a result of bushfire, is mitigated to an acceptable or tolerable level

### WHAT ARE BUSHFIRE HAZARD AREAS?

Bushfire hazard areas are identified on the Bushfire hazard overlay map as areas affected by either:

- Very high bushfire hazard area
- High bushfire hazard area
- Medium bushfire hazard area
- Within 100m of a bushfire hazard area

The Bushfire hazard areas were mapped by the Queensland Government in 2015. The identification of hazard areas takes into account the type of vegetation, the slope, and the local weather conditions. Council amended this mapping in early 2022 to remove some discrete locations of mapped hazard in urban areas that no longer contain hazards.

### APPLICATION AND ASSESSMENT PROCESS

The Bushfire hazard overlay code applies to certain Material change of use (MCU) and Reconfiguring a lot applications (ROL) that are mapped as within a bushfire hazard area or within 100m of a bushfire hazard area.

#### ► Accepted development subject to requirements

A MCU for a Dwelling house is Accepted Development Subject to Requirements (ADSR) if it is:

- Mapped in a bushfire hazard area or within 100m of a bushfire hazard area; and
- Located in any of these zones: Community facilities zone, Conservation zone, Open space zone, Rural zone, Rural residential zone, Tourism zone, Township zone (only applies to Township zone lots 2000m<sup>2</sup> or larger).

The following circumstances do not trigger the requirements of the Bushfire hazard overlay code:

- Non-habitable outbuildings
- Extensions to existing Dwelling houses involving less than a 50% increase in gross floor area; and
- Where a suitably qualified person confirms in writing that the site is not in a hazard area or a 100m buffer area.



### ► Code assessable MCU

A MCU is Code assessable against the Bushfire hazard overlay code, if:

- Mapped in a bushfire hazard area or within 100m of a bushfire hazard area; and
- Involving a use listed in Table 5.10.5 of the planning scheme. Most uses under the planning scheme apply, including most accommodation type uses (other than Dwelling house), centre activities, community activities, and essential infrastructure. Refer to the planning scheme to see exactly which uses apply.

### ► Code assessable ROL

All applications for ROL on land identified as a bushfire hazard area or within 100m of a Bushfire hazard area are Code assessable against the Bushfire hazard overlay code.

### ► Overlay applies to already assessable development

The Bushfire hazard overlay may raise a level of assessment assigned by a zone code or a local area plan, but not lower it. For example a MCU that is Impact assessable under the relevant zone code that is also triggered for Code assessment under the Bushfire hazard overlay will remain Impact assessable. A MCU that is ADSR under the relevant zone code that is also triggered for Code assessment under the Bushfire hazard overlay would be elevated to Code assessment.

## WHAT ARE THE KEY REQUIREMENTS?

The following key requirements (referred to as assessment benchmarks in the scheme) from the Bushfire hazard overlay code apply:

### ► MCU for Dwelling House ADSR requirements

The following requirements apply.

- if a Bushfire Management Plan was prepared at ROL stage, development is sited and undertaken in accordance with this; or
- the Dwelling house is located within 60m of the road frontage;
- a 4m wide driveway is provided;
- the driveway slope is less than 12.5%;

- the Dwelling house is sited to avoid Bushfire hazard areas or if avoidance of Bushfire hazard areas is not possible then the Dwelling house is located in the area of the lowest hazard;
- an Asset protection zone (APZ) is provided that separates the perimeter of the building and the bushfire hazard by a distance that achieves a radiant heat flux of 29 kW/m<sup>2</sup> or less. A suitably qualified person must calculate radiant heat flux levels. See below section on APZ for more information; and
- Where reticulated water supply is not available, a tank is provided for firefighting purposes which is in accordance with the requirements in the below section about water tanks and the following volumes:
  - 5000L if the property is <1000m<sup>2</sup>; or
  - 10,000L if the property is 1000m<sup>2</sup> - 10,000m<sup>2</sup>; or
  - 25,000L if the property is >10,000m<sup>2</sup>.

If an applicable MCU complies with all of these requirements then it is Accepted development, and no application is required for this aspect. If the application does not comply with one or more of these requirements, then an application is required to assess the non-compliance against the Performance outcome and Overall outcomes of the code.

### ► Code assessable MCU requirements

The following are the key requirements for code assessable MCUs:

- A Bushfire Management Plan prepared by a suitably qualified professional in accordance with Queensland Fire and Emergency Services' (QFES) [Bushfire resilient communities](#) document is required in order to demonstrate compliance with the below requirements;
- Development (other than a vulnerable use or community infrastructure for essential services) must provide an APZ to achieve a radiant heat flux of 29kW/m<sup>2</sup> or less. See section on APZ for further information;
- Vulnerable uses or community infrastructure for essential services are not suitable uses to locate in Bushfire hazard areas and must not establish or intensify unless:

- It can be demonstrated that there is an overriding need in the public interest for the service the development provides; and
  - An APZ is provided to achieve a radiant heat flux of 10kW/m<sup>2</sup>; and
  - Vulnerable uses need to demonstrate that there are no other suitable alternative locations for the use within the required catchment; and
  - Community infrastructure needs to demonstrate that it can function effectively during and immediately after a bushfire event.
- Landscaping treatments, both in APZs and site-wide use only low threat vegetation and roads and maintain:
    - A potential fuel load of less than eight tonnes per hectare; and
    - A discontinuous fuel structure.
  - Development establishes evacuation areas, arrangements and procedures, to achieve an acceptable or tolerable risk to people and does not worsen evacuation capability of other premises or result in significant additional burden on emergency services personnel.
  - Development achieves an acceptable or tolerable risk by siting to avoid bushfire or locate in areas of lowest risk, avoid clearing for APZs to the extent possible and provide access for firefighting vehicles and maintenance works.
  - On lots over 2000m<sup>2</sup>, development facilitates evacuation by:
    - Locating habitable areas as close as possible to property entrances; and
    - Ensuring vehicular access is designed to allow safe evacuation and access by emergency services.
  - Development outside of a reticulated water supply area provides a water tank for fire fighting purposes that is in accordance with the requirements in the section about water tanks and the below volumes:
    - 5000L per dwelling for dual occupancies and multiple dwellings; and
    - As per AS2304 for Industrial, commercial and other activities.
  - Critical or potentially hazardous infrastructure

such as water supply, electricity, gas and telecommunications are located underground.

- Manufacturing and storage of hazardous chemicals is avoided or risks to public safety and the environment are mitigated to an acceptable level.

#### **Vulnerable uses are:**

- Childcare centre, Community care centre, Detention facility, Educational establishment, Hospital, Relocatable home park, Rooming accommodation, Residential care facility and Retirement facility.

#### **Community infrastructure for essential services are:**

- Educational establishment, Emergency services and Hospital.

#### **► Code assessable ROL requirements**

- Development is not located on ridgelines, saddles or crests where slopes exceed 15%.
- APZ are provided to achieve a radiant heat flux of 29 kW/m<sup>2</sup>. The APZ is to be measured from:
  - The lot boundary or at the building envelope plan if identified for lots 2000m<sup>2</sup> or less; and
  - The building envelope plan for lots over 2000m<sup>2</sup>.
- If lots are larger than 2000m<sup>2</sup>, a development footprint is provided for each lot that is located within 60m of the road frontage and provides an access route that does not exceed 12.5% in slope.
- Lots are not long and narrow in shape and do not include rear / battleaxe lots.

Where involving more than 5 lots:

- The lot layout is designed to minimise the length of the development perimeter and number of lots exposed to hazardous vegetation.
- The road network is designed to avoid bottle necks, provide sufficient capacity for evacuations, avoid cul-de-sacs and no-through roads; and provide multiple access and egress options.
- Where the ROL results in 10 lots or more, a secondary point of access to the wider road network is provided.
- The reconfigured lot layout ensures evacuation routes direct people away from, not towards or through, areas of greater bushfire hazard and



minimise the length of the route through Bushfire hazard areas.

- In urban areas or where lots are less than 2000m<sup>2</sup>, a perimeter road is provided that is designed to the required standard (see below section on perimeter road design).
- Where reticulated water is available, the supply pressure complies with Council's engineering requirements and the road network and fire hydrants are designed and installed in accordance with:
  - Fire Hydrant and Vehicle Access Guidelines for residential, commercial and industrial lots (QFES), unless otherwise specified by the relevant water entity; and
  - the Department of Transport and Main Roads' Road Planning and Design Manual.
- Where reticulated water supply is not available the lot layout provides:
  - A fire trail and / or working area; or
  - A perimeter road; and
  - Space for a static water supply and safe and clear access for fire fighting vehicle to manoeuvre.

### ► Asset Protection Zones (APZ)

An APZ is a low-fuel area that separates the perimeter of the building (or development) and the bushfire hazard by a distance that achieves a certain radiant heat flux. For most uses this is 29 kW/m<sup>2</sup> or less. APZs may include roads and other maintained grassed areas and any vegetation should be less than 8 tonnes per hectare and discontinuous.

APZ distances must be calculated by a suitably qualified professional using the methodology outlined in [QFES - Bushfire resilient communities](#). The qualified professional will calculate the distance required from the hazardous vegetation that will achieve the required radiant heat flux.

Some of the key factors are summarised below to provide some indication of the factors that will influence the size of the APZ:

#### The type of vegetation

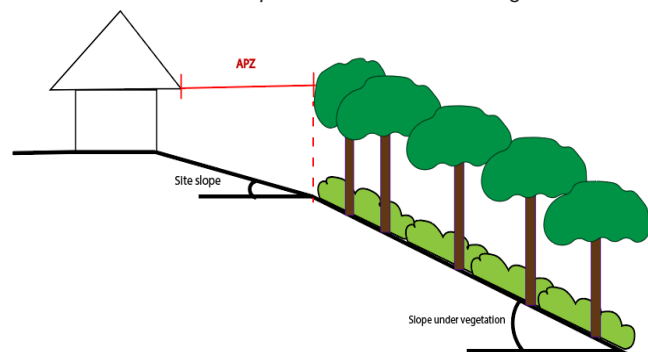
Certain vegetation classes are more flammable than

others. A suitably qualified person will undertake a vegetation hazard class assessment.

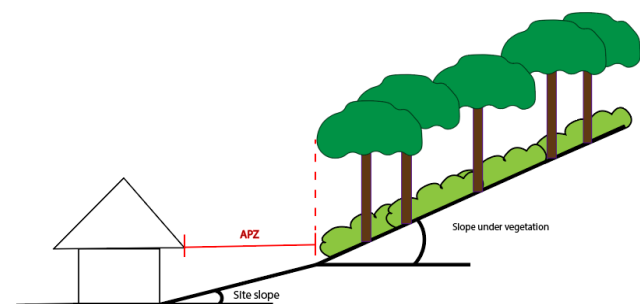
#### The slope under the vegetation

Fires spread faster going uphill and therefore APZs need to be larger if development is uphill of hazardous vegetation. Conversely, locating below hazardous vegetation on a slope reduces the risk and is a preferable placement from a risk perspective. The slope under the vegetation is more important than the site slope in determining the overall hazard.

*Example 1 - higher hazard - larger APZ required  
Fire would accelerate uphill towards the building.*



*Example 2 - lower hazard - smaller APZ required  
Fire would not accelerate towards the building.*



#### The fire weather severity in the area

Fire weather severity is influenced by a range of weather variables including wind speed, relative humidity, temperature and atmospheric stability, as well as preceding drought conditions. This variable is mapped by the State Government and also considered as part of the APZ calculation.

### ► Vegetation clearing for an APZ

Applicants must comply with all local, state and federal legislation. **It is highly recommended that, prior to lodging an application for MCU or ROL with Council or addressing ADSR criteria, applicants engage with the [Department of State Development, Infrastructure, Local Government and Planning](#) to determine if a development approval authorising the clearing of native vegetation regulated under the *Vegetation Management Act 1999* is required and whether the clearing will be supported.**

### ► Water tanks for fire-fighting purposes

- Are used solely for fire-fighting - not for other purposes;
- Are made of non-combustible materials or are located below ground;
- Include a tank fitting that allows access by firefighters;
- Are located within 20m of the building; and
- Allow a fire truck access within 6m of the tank.

### ► Perimeter road design

Perimeter roads are:

- Two-lane, 20m wide road reserve, max 250m lengths between connections to the wider road network, provides clear access for firefighting and maintenance (no chicanes etc), provides access to firehydrants, incorporates mountable kerbing where kerbing is provided, and has a maximum gradient of 12.5%.

The above are key requirements only and the planning scheme should be used to determine actual requirements.

### ► Building works application

Building works approvals must be lodged to licenced building certifiers who generally work in private businesses, not at Council.

Bushfire Attack Level (BAL) requirements apply to certain building types (including Dwelling houses) and determine design features that are required to protect the building from bushfires. Like APZs, BALs are calculated based on radiant heat flux (kW/m<sup>2</sup>). The higher the BAL level, the greater the level of building design required. Having an appropriate APZ will help to reduce the BAL of a building which may reduce design costs for the building. A suitably qualified consultant may calculate a BAL and APZ at the same time.

## OTHER RELEVANT USER GUIDES:

### General

- #1 Using the planning scheme
- #2 What is my zone and other planning scheme designations?
- #3 Do I need to lodge a development application?
- #5 Making a development application
- #6 The development assessment process

## FOR MORE INFORMATION

This user guide provides an overview of planning scheme requirements for development in Bushfire hazard areas only. To view the planning scheme in full please visit Council's website - [www.mackay.qld.gov.au/planningscheme](http://www.mackay.qld.gov.au/planningscheme)

Further information about bushfire is available in:

- [QFES's - Bushfire resilient communities; and](#)
- Council's Planning scheme policy - bushfire
- [QRA's - Bushfire resilient building guidance for Queensland Homes](#) provides a good overview of bushfire concepts and design responses for houses.

The *Planning Act 2016*, *Planning Regulation 2017* and the *Development Assessment Rules* set out the requirements for the development assessment process.

Council provides general development advice:

- [Online](#) enquiries can be lodged via the [Planning advice online enquiries form](#)
- [Phone](#) enquiries and appointments can be lodged by phoning 1300 MACKAY (1300 622 529)

You can also contact a building certifier, consultant town planner, building designer or other qualified professional who can provide assistance and, if necessary, prepare and lodge a development application on your behalf.

FOR MORE INFORMATION PHONE COUNCIL  
ON **1300 MACKAY** (1300 622 529)  
OR VISIT THE WEBSITE **MACKAY.QLD.GOV.AU**