

# Part 11 - Planning Scheme Policies

---

## Planning Scheme Policy 1 - Bushfire Hazard

---

### 1.1 Purpose

- (1) The purpose of this policy is to set out requirements for the preparation and submission of development applications, including technical reports, for premises subject to bushfire hazard to -
  - (a) minimise the density of uses or other development at risk from bushfire hazard so as to reduce the number of people and properties subject to the risk;
  - (b) ensure uses and other development are sited, designed and managed to minimise the risk of bushfire to people and property.

### 1.2 Applicability

This policy applies when a proposed development is situated on premises affected by the Bushfire Hazard Overlay Map and Code.

### 1.3 Formulating a Development Proposal

- (1) Bushfire hazard assessment and reporting should be undertaken before determination of a potential development scenario.
- (2) Recommendations of the reports are required to ensure the resulting development is compatible with the risk of bushfire and is fully understood by the applicant and premises operator/occupier.
- (3) It is strongly recommended that applicants arrange a pre-lodgement meeting to discuss matters to be included in any reports and the timing of lodgement of the report.

### 1.4 Bushfire Hazard Mapping

- (1) The Bushfire Hazard Overlay Map is based on hazard mapping developed for the mainland and Southern Moreton Bay Islands by the local government and the Queensland Fire and Rescue Service (QFRS).
- (2) The methodologies used for determination of the hazard is based on Appendix 3 of *SPP 1/03 - Guidelines - Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* and has been modified in accordance with QFRS recommendations for the local area.
- (3) The hazard mapping for North Stradbroke Island is based on mapping produced by the State Government.

### 1.5 Bushfire Hazard Assessment

- (1) In accordance with the Bushfire Hazard Overlay Code site specific bushfire hazard assessment is required when the premises is affected by medium or Southern Moreton Bay Islands bushfire hazard to ensure the proposal is located on land with the least risk and where management of the hazard is achievable.

- (2) Bushfire hazard assessment is conducted in accordance with the methodology described in Appendix 3 of *SPP 1/03 Guidelines - Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*.
- (3) The assessment manager should be consulted prior to undertaking any study using alternative methodologies.

## 1.6 Bushfire Management Plans

- (1) In accordance with the Bushfire Hazard Overlay Code site specific bushfire hazard assessment and a management plan is required when the premises is affected by -
  - (a) high bushfire hazard; or
  - (b) medium or Southern Moreton Bay Islands bushfire hazard and is for the purposes of community infrastructure; or
  - (c) high, medium or Southern Moreton Bay Islands bushfire hazard and involves the manufacture or storage of hazardous materials in bulk; or
  - (d) high bushfire hazard and for the purpose of reconfiguration or uses that involve numerous buildings.
- (2) The Bushfire Management Plan (BMP) identifies strategies for mitigating the impacts of bushfire on life, property and the environment. This includes identifying specific risk factors associated with the development, planning for the separation of at-risk elements and potential hazards and providing access and treatments to facilitate an effective response to bushfire.
- (3) Mitigation measures need to consider the four main factors of bushfire attack as detailed in *Protecting your Home Against Bushfire Attack* (DLGPS&R, 2000) -
  - (a) burning debris;
  - (b) radiant heat;
  - (c) direct flame contact;
  - (d) wind.
- (4) The BMP is prepared by a suitably qualified professional with technical expertise in the identification and mitigation of bushfire hazard. Suitable professionals may include those in the environmental management, landscape architecture, architecture, town planning and civil engineering fields.
- (5) Consultation with the local government, responsible Rural and/or Urban Fire Brigade, and managers of adjacent parks or reserves is necessary in the preparation of a BMP.
- (6) It is also desirable to consult other agencies or individuals, such as previous owners of the site or neighbours, who may have local knowledge of the severity and nature of the bushfire hazard.
- (7) A comprehensive BMP -
  - (a) includes an assessment of the nature and severity of the bushfire hazard affecting the site. This should comprise a detailed site specific bushfire hazard assessment using methodology set out in Appendix 3 of *SPP 1/03 Guideline Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*;
  - (b) addresses other site specific factors that are important in devising suitable bushfire mitigation strategies. These factors could include matters such as -
    - (i) likely direction of bushfire attack;
    - (ii) environmental values that may limit mitigation options;
    - (iii) locations of evacuation routes and/or safety zones;

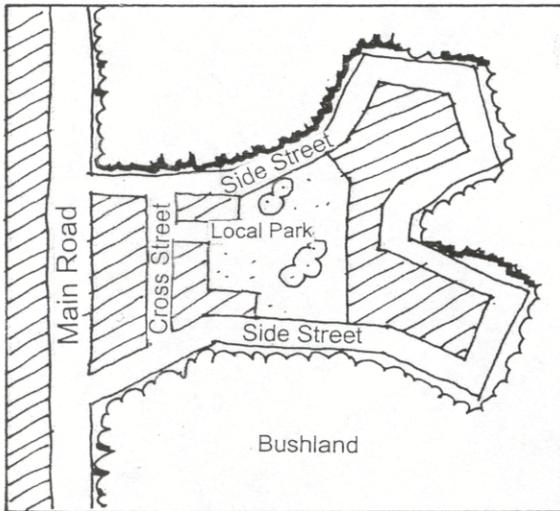
- (c) assesses the specific risk factors associated with the development proposal, including matters such as -
  - (i) the nature of activities and materials to be conducted/stored on the premises;
  - (ii) numbers and types of persons likely to be present;
  - (iii) warning and/or evacuation requirements;
- (d) addresses each of the specific outcomes and associated probable solutions in the Bushfire Hazard Overlay Code and recommends mitigation actions for the proposed development including -
  - (i) road and lot layout for reconfiguration;
  - (ii) fire trails and fire breaks;
  - (iii) accessways, driveways and evacuation routes;
  - (iv) land uses;
  - (v) site layout;
  - (vi) fuel reduction areas and buffers;
  - (vii) water supply;
  - (viii) landscaping;
  - (ix) fire fighting requirements including infrastructure;
  - (x) any other specific measures such as external sprinkler systems and alarms;
  - (xi) purchaser/resident education and awareness programs;
  - (xii) ongoing maintenance and response awareness programs.

## 1.7 Development Involving Hazardous Materials Manufactured or Stored in Bulk

- (1) Hazardous materials in bulk for the purposes of bushfire hazard are those detailed in SPP 1/03 as being hazardous materials defined in the *Dangerous Goods Safety Management Act 2001*, in quantities that -
  - (a) would be equivalent to or exceed the minimum quantities set out to determine a Large Dangerous Goods Location in the *Dangerous Goods Safety Management Regulation*; or
  - (b) would require a licence for a magazine for the shortage of an explosive under the *Explosives Regulation 1955*.
- (2) Radioactive substances and infectious substances are excluded from the definition of hazardous materials for the purposes of the SPP.
- (3) Development involving hazardous materials manufactured or stored in bulk has the potential to -
  - (a) be significantly affected by bushfire hazard;
  - (b) significantly assist the progression of bushfire.
- (4) Where a development requires a Flammable and Combustible Licence under the *Dangerous Goods Act 2001*, it is recommended that application for that licence be made at the same time as the development application to ensure all relevant issues are addressed in an integrated manner.
- (5) Depending on design or production capacity chemical manufacture and/or storage may constitute an Environmentally Relevant Activity as defined under the *Environmental Protection Act 1994*. This use or component of a use is required to be assessed for environmental impacts in accordance with the *Environmental Protection Act 1994* and the *Redland City Council Operator's Compliance Guidelines*. Further advice on this matter can be provided at the time of the pre-lodgement meeting.

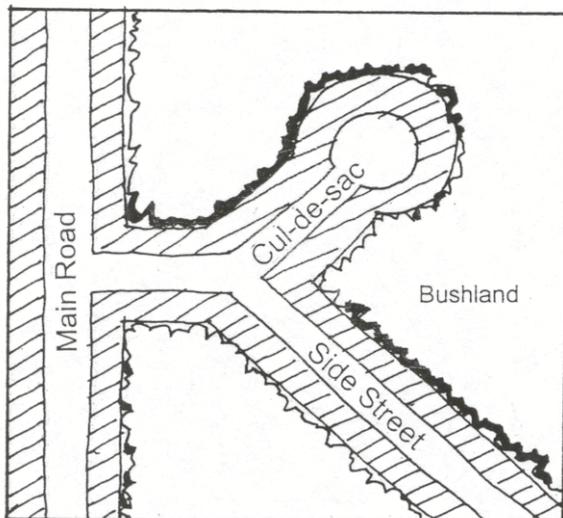
## 1.8 Road and Lot Layout

**Diagram 1 - Preferred road layout in and adjoining bushfire hazard areas**



Acceptable – perimeter road system provides separation between hazard and assets; access for fire fighters, and provides two directions for evacuation.

**Diagram 2 - Unacceptable road layout in and adjoining bushfire hazard areas**



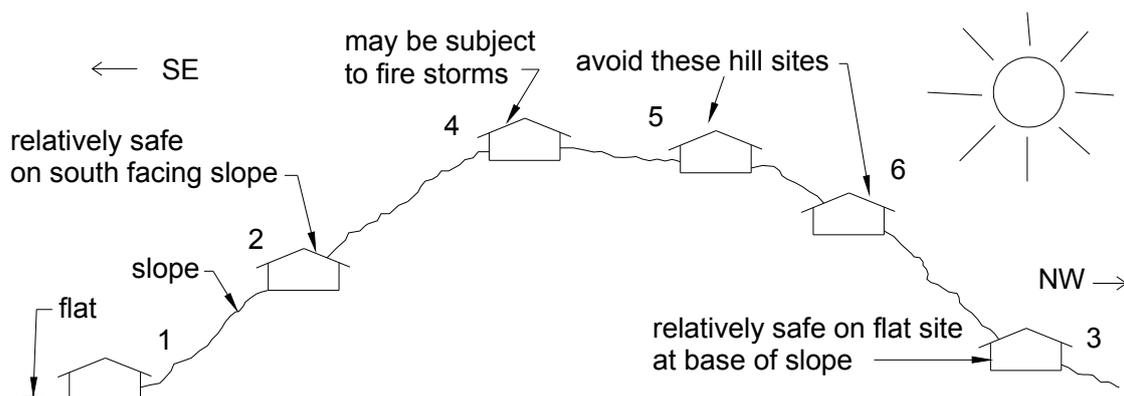
Unacceptable – closed road system congregates evacuation and response traffic, access for fire response restricted.

## 1.9 Building Siting and Development Envelopes

- (1) The way a building is sited on land is a basic factor influencing the ability to protect people and property. As the pattern of fires is predictable, it is possible to determine the most favourable areas to minimise impacts. For example -
  - (a) check data about previous fires in the area to determine the possible directions a fire would travel;
  - (b) be aware most bushfires occur during dry conditions, particularly in times of hot temperatures and low humidity, and are often accompanied by strong winds;
  - (c) remember fires accelerate going up hill and decrease in speed traveling down hill.
  - (d) hanging a building out over the hazard will increase the risk such as a pole house with timber decks will be much more exposed than one set into the slope;
  - (e) siting the structures downhill from the hazard reduces the risk, and this is reflected in the site-specific assessment method. Setbacks are still necessary to avoid falling trees and debris rolling down hill.

- (2) There are two key principles to be considered in siting a building in a bushfire hazard area -
- avoiding higher risk situations, particularly locations with a combination of slope and certain aspects;
  - maximising the setbacks from hazardous vegetation (refer fuel reduction areas above).
- (3) On larger lots it may be possible to site buildings in an area depicted on bushfire hazard assessment maps as lower bushfire risk.
- (4) Irrespective of the severity of hazard in any bushfire hazard assessment, combinations of slope and aspect on individual sites should be considered. Diagram 3 illustrates the relative bushfire safety of building site locations based on slope and aspect considerations.
- (5) The order of preference is low flat sites, sites set into Southerly or South East slopes, sites at the bottom of more exposed West and North West slopes. The most dangerous sites are on or at the top of West or North West slopes. Building sites should also avoid the head of gullies with Westerly aspects, because fire winds funnel up such sites.
- (6) Although fires may tend to come from a particular direction, local variations are always likely and protection for the southern and eastern side of developments must never be overlooked.

**Diagram 3 - Bushfire safety based on slope and orientation**



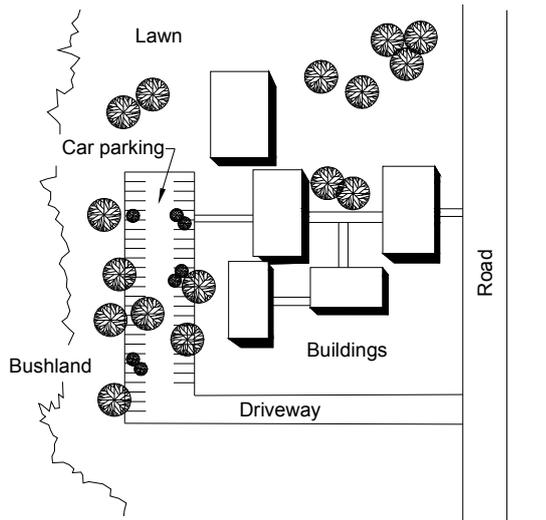
**Note -**

House sites numbered in order of degree of fire safety - 1 being the safest and 6 being the most hazardous.

- (7) Siting should also -
- avoid ridge tops;
  - avoid steep slopes, particularly upper slopes and narrow ridge crests;
  - avoid locations where adequate fuel reduction areas and buffers can not be provided within the property;
  - locate buildings where vehicular access from two directions can be provided away from identified hazard areas wherever possible;
  - build on level ground wherever possible;
  - where buildings must be constructed on sloping land, incorporate cut-in benches rather than elevated or above fill;
  - avoid raised floors in preference to concrete slabs;

- (h) locate the building near the property entrance for easier access/egress, refer to Diagram 4;
  - (i) keep services underground, particularly electricity;
  - (j) locate on-site water storage near buildings.
- (8) Development envelopes should be sited in the same manner to the above. Development envelope size and shape is designed to allow for the allocation of fuel reduction areas and buffers to assets within the building envelopes.

#### Diagram 4 - Preferred Site Layout



Consideration should be given to placing least susceptible land uses closer to the likely direction of fire attack than more susceptible land uses.

### 1.10 Construction of Buildings in Bushfire Hazard Areas

- (1) Building design can have a significant impact on the likelihood of damage occurring due to bushfire.
- (2) Compliance with *Australian Standard 3959:1999 - Construction of Buildings in Bushfire Prone Areas* is required when a premises is affected by Southern Moreton Bay Islands Bushfire Hazard and fuel reduction opportunities are limited due to lot size.
- (3) Incorporation of principles contained in the above standard are encouraged for all buildings within high, medium and SMBI bushfire hazard affected premises.
- (4) The document *Protecting your home against bushfire attack* (DLGPS&R, 2000) provides further guidance on how a building should be designed.
- (5) In addition, it is recommended that -
  - (a) external gas cylinders are shielded from possible exposure to radiant heat by the construction of a masonry shield;
  - (b) building elevation and roof pitches are minimised;
  - (c) all external gaps are less than 2mm;
  - (d) timber decking is kept to a minimum.

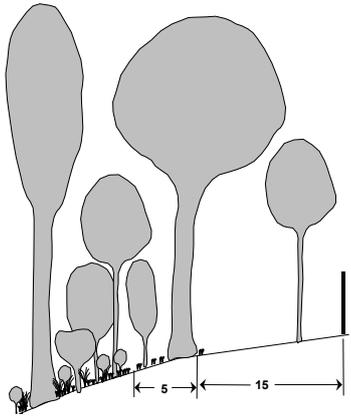
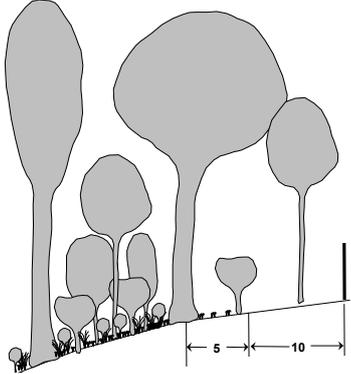
## 1.11 Landscaping

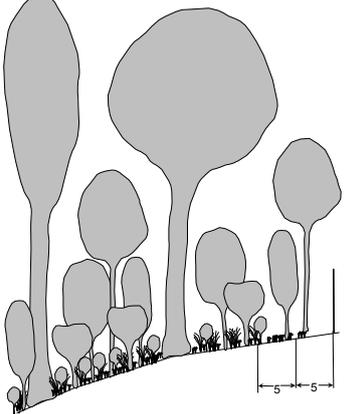
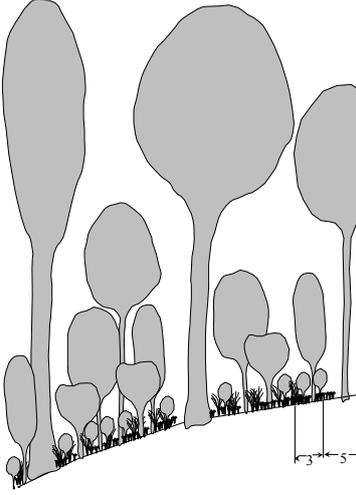
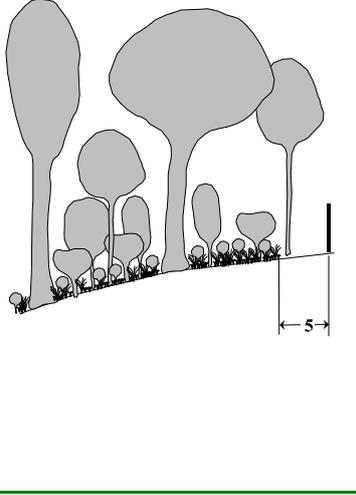
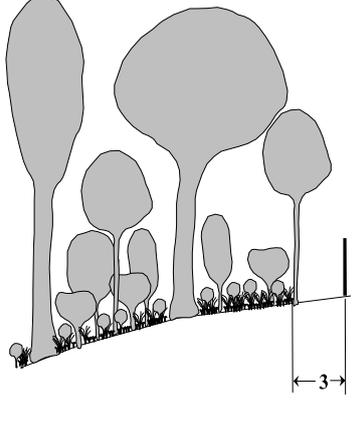
- (1) Landscaping should be designed to assist in creation of buffers and fuel reduction areas.
- (2) Consideration should be given to surround isolated buildings with a wide driveway or paths of gravel, concrete, pavers etc or mown areas.
- (3) Landscaping, particularly using mulch, adjacent to buildings can facilitate spot fires.
- (4) Low flammability plant species indigenous to the local government area should be used and are identified within Table 2 of the Bushfire Hazard Overlay Code.

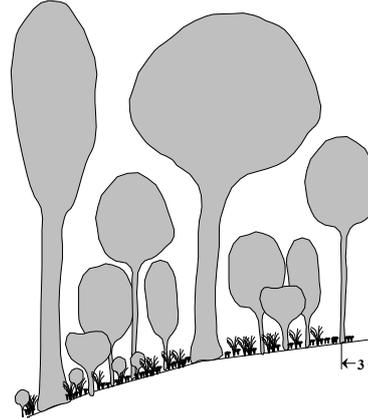
## 1.12 Fuel Reduction Areas

- (1) Fuel reduction areas (FRA) require the gradual removal of fuel between development and a hazard and are located to provide -
  - (a) areas of reduced fuel to slow advancing fire;
  - (b) adequate access for fire fighting and other emergency vehicles;
  - (c) for the retention of environmental values.
- (2) FRA types for the local government area were developed over time as land management agencies and the community addressed the separation of bushland from private and public assets with regard to bushfire risk management.
- (3) FRA types have been classified and are used to demonstrate the flexibility required by a land manager in balancing the built environment with the natural environment.
- (4) A FRA consists of varying widths of a slashed zone, and a medium fuel removal zone.
- (5) General characteristics of these FRA include -
  - (a) in the slashed zone -
    - (i) removal of all understorey plants and ground covers;
    - (ii) retention of trees with a trunk diameter at the base of greater than 15cm;
    - (iii) allowance for the movement of fire tender within the FRA in all situations;
  - (b) in the medium fuel removal zones (MFR) -
    - (i) retention of trees and groundcovers;
    - (ii) selective removal of plants that will be less than 1.5 metres in height on maturity.
- (6) Minimum FRA's are specified in Table 1 of the Bushfire Hazard Overlay Code.
- (7) Additional types may be appropriate as determined by a bushfire management plan for the development and are set out in Table 1 of this policy.
- (8) Distances and treatments should be -
  - (a) used as a guide and may be varied at the discretion of the local government in consideration of site specific hazards and significant environmental features. For this reason all 7 types of fuel reduction areas are detailed;
  - (b) measured from any buildings or structures associated with the development.
- (9) On lots greater than 2500m<sup>2</sup>, buildings should be sited so that the minimum setbacks from hazardous vegetation detailed for the FRA can be achieved.

**Table 1 - Fuel Reduction Area Descriptions**

FRA Type	Representation	Description
1		<p>Requires the removal of canopy, understorey and groundcover and installation of measures to minimise the erosion of the bare soil and direct stormwater run-off.</p> <p>Is only necessary where the fire risk is very high due to highly combustible fuel and the slope of the land would allow for a high rate of spread and a high flame height in periods of high fire danger, and where the risk to life and infrastructure is high.</p> <p><b>Zone widths -</b></p> <ul style="list-style-type: none"> <li>■ Slashed - 15 metres</li> <li>■ MFR - 5 metres</li> </ul> <p>It is noted that this type of FRA results in substantial impact on environmental values and allows for increased opportunities for environmental weeds, soil erosion and other impacts. Erosion control measures should be constructed and maintained in all situations.</p>
2		<p>Requires the removal of the understorey and ground cover but retains some of the canopy. This will depend on the slope, vegetation structure and the type of available fuel.</p> <p>The FRA is used in locations of medium slope with combustible material and where the risk to people and property is high.</p> <p>The slashed zone allows for the easy movement of a fire tender within the FRA in all situations and allows for the re-growth of grasses that need regular slashing or mowing particularly during the fire season.</p> <p><b>Zone widths -</b></p> <ul style="list-style-type: none"> <li>■ Slashed - 10 metres</li> <li>■ MFR - 5 metres</li> </ul> <p>It is noted that this type of FRA results in substantial impact on environmental values and allows for increased opportunities for environmental weeds, soil erosion and other impacts. Erosion control measures should be constructed and maintained in all situations.</p>

FRA Type	Representation	Description
3		<p>Requires the removal of the understorey and ground cover but retains canopy vegetation. This FRA is used in locations of medium to low slope, with combustible material and where the risk to people and property medium to low.</p> <p>The slashed zone allows for the easy movement of a fire tender within the FRA in all situations and allows for the re-growth of grasses that need regular slashing or mowing particularly during the fire season.</p> <p><b>Zone widths -</b></p> <ul style="list-style-type: none"> <li>■ Slashed - 5 metres</li> <li>■ MFR - 5 metres</li> </ul> <p>Erosion control measures are required.</p>
4		<p>Requires the removal of the understorey and the slashing of the ground cover.</p> <p>This FRA is used in locations of minimal slope with low fire risk to people or property.</p> <p>It may form internal FRAs within bushland areas where vehicle access is required.</p> <p>Access is provided for fire tenders around the canopy trees within this FRA.</p> <p><b>Zone widths -</b></p> <ul style="list-style-type: none"> <li>■ Slashed - 5 metres</li> <li>■ MFR - 3 metres</li> </ul> <p>Natural drainage lines are maintained and the grasses regularly mowed.</p>
5		<p>Requires the removal of understorey and fire fuels with the slashing of the groundcovers.</p> <p>This FRA type is used in locations of minimal slope and no risk to property. Fire prevention activities are conducted from this FRA, such as prescribed burns, and access is required for fire tenders within the FRA.</p> <p>This FRA is used in areas with environmental values such as riparian areas, where minimal disturbance to values is required.</p> <p><b>Zone widths -</b></p> <ul style="list-style-type: none"> <li>■ Slashed - 3 metres</li> <li>■ MFR - 2 metres</li> </ul> <p>This FRA may provide access in bushland areas such as walking tracks, bikeways, horse trails.</p>
6		<p>Requires the slashing of the groundcovers and the thinning of the understorey to form a FRA of 3 metres. This FRA would receive regular maintenance.</p> <p>This FRA is used in areas of no or minimal slope or where there is no fire risk and the FRA is used for fire prevention, such as prescribed burns.</p> <p>This FRA is used in areas of environmental value or cultural significance, where minimal disturbance is required. Vehicle access is not required.</p>

FRA Type	Representation	Description
7		<p>Allows for the thinning of the understorey and the minimal slashing/mowing of the groundcovers. The nominal width of this thinned area would be up to 3 metres.</p> <p>This FRA is used in areas of no or minimal slope or where there is no fire risk and the FRA is used for fire prevention such as prescribed burns, purposes.</p> <p>This FRA is used in areas where the adjacent land has a cleared well maintained open area between the hazard and any building or structure.</p>

### 1.13 Buffer Zones

- (1) Barriers and buffer zones around buildings will assist in slowing bushfire. Barriers may include planting suitable trees, vegetation and building permanent barriers such as low stone or masonry walls. These barriers or buffers assist in protecting buildings from possible attack by burning debris, heat radiation and direct flame contact.
- (2) Between the barriers and buildings, a 'buffer zone' is created by reducing the number of combustible items near, refer to Diagram 5. This means that if burning debris passes through the barriers, there is minimal opportunity to create further outbreaks and provides an opportunity to put out spot fires.
- (3) Consideration should be given to providing a grassed area or gravel, concrete or paved driveway in proximity to isolated buildings or mown areas.

**Diagram 5 - Creation of buffer zones between buildings and hazardous vegetation**

