ATTACHMENT 4

Bushfire Threat Assessment

BCA Check

PRELIMINARY PRE-DESIGN BUSHFIRE THREAT ASSESSMENT FOR REZONING

CRAWFORD ROAD EAST LISMORE

Date: **29 July, 2011**

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Prepared for: **Southern Cross University**

Prepared By: **Peter Thornton**
BPAD – A Certified Practitioner
MFireSafeEng
Building Surveyor MAIBS

BUILDING REGULATION CONSULTANTS
BCA Check Pty Ltd - ACN 104 451 210
PO Box 375 Lennox Head NSW 2478
Telephone 02 6687 7461 Fax 02 6687 6295 email bcacheck@bigpond.com

1.0 INTRODUCTION

The preliminary report provides initial advice prior to a final design and bushfire report which will address the requirements of the Section 117 Direction Number 4.4 (1 July 2009) issued under the Environmental Planning and Assessment Act 1979 (EP&A Act 1979) for rezoning of land.

The final report will be provided as supporting documentation for consultation by Council with the Commissioner of the NSW Rural Fire Service under s. 56(2)(d) of the EP&A Act 1979. The Section 117 Direction requires the planning proposal to;

(a) have regard to Planning for Bushfire Protection 2006

(b) introduce controls that avoid placing inappropriate developments in hazardous areas

(c) ensure that bushfire hazard reduction is not prohibited within the APZ.

The Direction also requires that the planning proposal should comply with the following;

(a) Provide an Asset Protection Zone (APZ) incorporating at a minimum:

(i) an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and

(ii) An Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road

(b) For infill development (that is development within an already subdivided area) where an appropriate Asset Protection Zone (APZ) cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. Should the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under the 100B of the Rural Fires Act 1997), the APZ provisions must be complied with.

(c) Contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks.

(d) Contain provisions for adequate water supply for fire-fighting purposes.

(e) Minimise the perimeter of the area of land interfacing the hazard which may be developed.

(f) Introduce controls on the placement of combustible materials in the Inner Protection Area

2.0 PROPOSED DEVELOPMENT

The development is for rezoning to mixed zones however the predominant zone relevant to the bushfire report will be the proposed residential zone. The report however will comment on any other zone that will permit the construction of a building. Full description of the proposal will be provided with the final report for consistency with the Planning Report.

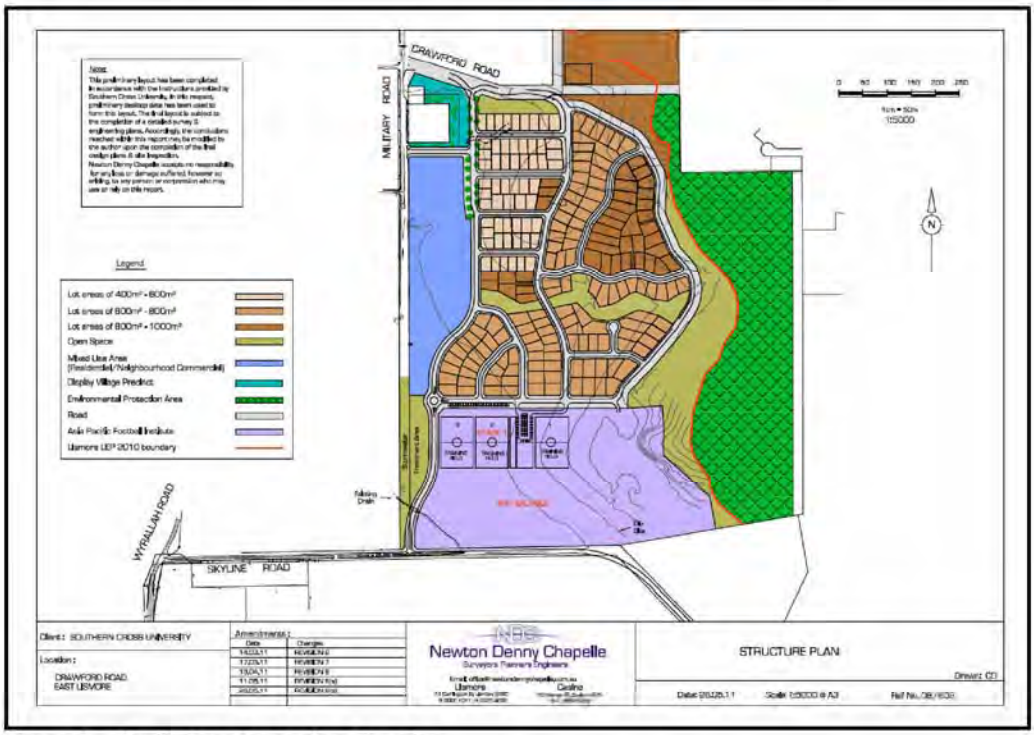
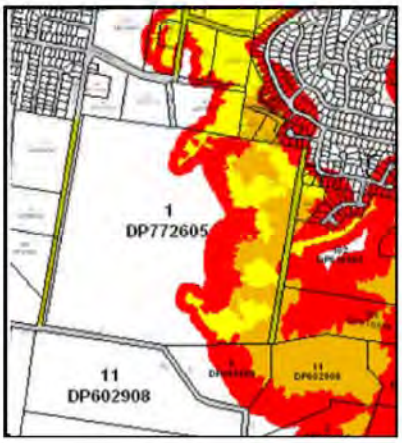


Figure 1 – Preliminary rezoning site plan.

2.2 SITE DETAILS

A number of the existing properties that are subject to the rezoning have been mapped as being bushfire prone (see map adjacent).

The specific site details will be included in the final bushfire report.



The site is generally flat with an upslope located to the eastern precinct of the subject land where the primary bushfire hazard is located.

2.4 SIGNIFICANT ENVIRONMENTAL FEATURES

This report does not make comment on the following legislation and is to be read in conjunction with the statement of environmental effects submitted with the development application:

- State Environmental Planning Policy No. 44 (Koala Habitat Protection).
- Threatened Species Conservation Act (1995).
- Environmental Protection and Biodiversity Conservation Act (1999).
- National Parks and Wildlife Act, 1974 (Wildlife Atlas)
- Native Vegetation Act 2003.

3.0 BUSHFIRE THREAT ASSESSMENT

The bushfire hazard impacting the land to be rezoned is open forest vegetation located in the eastern precinct of the study area.

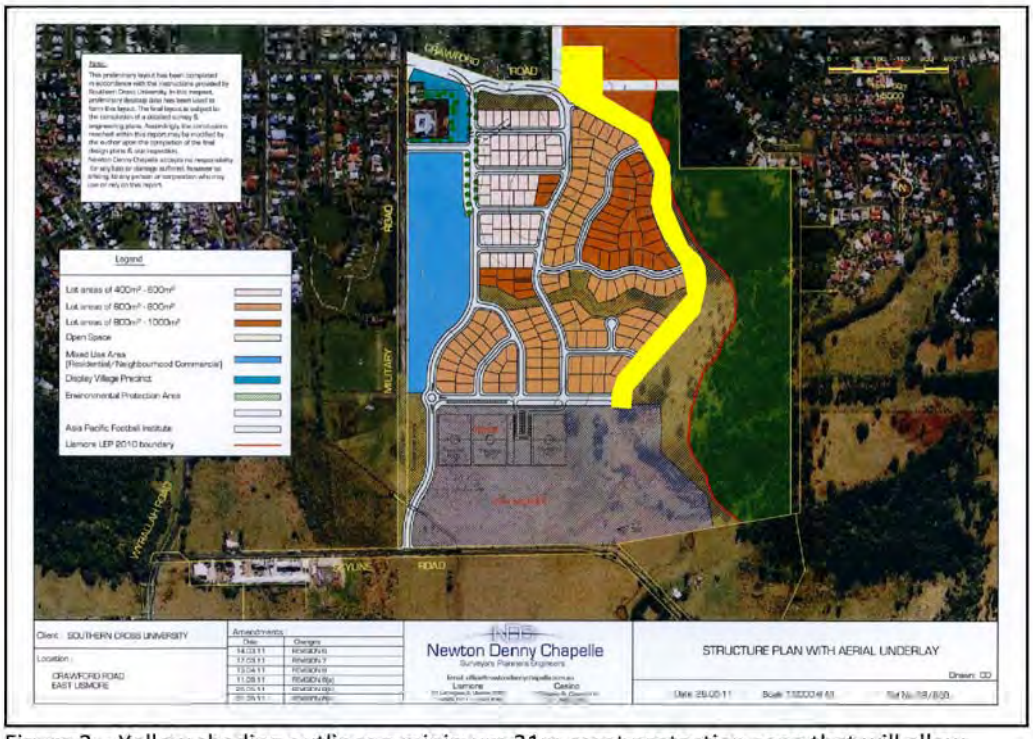


Figure 2 – Yellow shading outlines a minimum 21m asset protection zone that will allow future dwellings to be located outside the flame zone pursuant to AS 3959-2009.

The asset protection zone can be located over the road reserve and any cycle ways provided there is a mechanism to maintain grass verges etc.

Grassland is found in the southern precinct with open space and residential development to the west and north respectively. A complete bushfire assessment will be provided with the final bushfire report.

4.0 ASSET PROTECTION ZONES

Asset Protection Zones (APZ) are areas established and maintained to ensure that bushfire fuels are progressively reduced between the development and the bushfire hazard. The asset protection zone incorporates an Inner Protection Area (IPA) having reduced fuel loadings of approximately 3t/ha.

The APZ is to be provided in accordance with the relevant tables/figures in Appendix 2 of Planning for Bushfire Protection 2006 and wholly within the boundaries of the development site. Exceptional circumstances may apply (see section 3.3). APZ's are managed and maintained to prevent the spread of a fire towards the building in accordance with the requirements of Standards for Asset Protection Zones (RFS 2005) and located on lands with a slope less than 18 degrees.

5.0 WATER SUPPLY and UTILITY SERVICES

5.1 WATER SERVICES

The subdivision is to be serviced with street hydrants in accordance with Australian Standard 2419.1 and delineated by yellow triangular markings and blue reflective markers on the sealed road. The following table identifies the level of compliance with the acceptable solutions of Planning for Bushfire Protection 2006.

Acceptable Solution	Comment
Reticulated water supply uses a ring main system within the perimeter road	Design is to comply with AS 2419.1-2005 and PBP2006.
Fire hydrant spacing, sizing and pressures comply with AS 2419.1-2005 and are to be designed by a hydraulic engineer.	The fire hydrants are to be spaced to ensure that coverage to the furthest point of a future building within 100m of the vegetation is compliant with AS 2419.1-2005. Sizing, pressure and flows are to comply with AS 2419.1-2005.
Hydrants not located within the road carriageway.	Design to comply
All above ground water and gas service pipes external to the building are to be metal, including and up to any taps.	Design to comply.
Parking on public roads complies with PBP2006 provisions.	Design to comply.

The hydrant location must not be located in parking bays.

5.2 ELECTRICTIY SERVICES

Electrical transmission lines shall be placed underground.

5.3 GAS SERVICES

The following aspects will be required should a gas service be installed:

- Reticulated or bottled gas installed and maintained in accordance with AS 1596 with metal piping used.
- Fixed gas cylinders to be kept clear of flammable material by a distance of 10m and shielded on the hazard side of the installation.
- Gas cylinders close to the dwelling are to have the release valves directed away from the building and at least 2m from flammable material with connections to and from the gas cylinder being of metal.
- Polymer sheathed flexible gas supply lines to gas meters adjacent to the buildings are not used.

6.0 ACCESS

Public Roads

The public road is designed to promote the effectiveness of fire fighting vehicles and crews. The road network appears to be capable of complying with Planning for Bushfire Protection 2006 with further detail to be provided as the design develops.

The following aspects of the civil design are to be addressed:

- Public roads have a cross fall not exceeding 3 degrees
- Dead end roads are not more than 200m in length, incorporate a minimum 12m outer radius turning circle and are clearly signed posted as a dead end and direct traffic away from the hazard
- Public roads to have curves with a minimum inner radius of 6m.
- Minimum distance between inner and outer curves is 6m
- Maximum grade for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient.
- Minimum vertical clearance to a height of four metres above the road at all times.

- Capacity of road surface to carry 15 tonnes for reticulated water areas and 28 tonnes for other areas
- Public roads greater than 6.5m wide to locate hydrants outside of parking reserves to ensure accessibility to reticulated water.
- Public roads between 6.5m and 8m wide are No Parking on one side with the hydrants located on this side to ensure accessibility to reticulated water
- Public roads up to 6.5m wide provide parking within parking bays and locate services outside of the parking bays.
- One way public access roads are no less than 3.5m wide and provide parking within parking bays and locate services outside of the parking bays.
- Parking bays are a minimum 2.6m side from kerb edge to road pavement. No services or hydrants are located within the parking bays.
- Public roads directly interfacing the bush fire hazard vegetation provide roll top kerbing to the hazard side of the road.

7.0 CONSTRUCTION STANDARDS

Future Class 1a dwellings in the residential subdivision will be capable of complying with the construction standards of AS 3959-2009.

Disclaimer

This report was prepared for the purposes and exclusive use of the stated client for preliminary advice purposes only for land rezoning, and is not to be used for any other purpose or by any other person or Corporation or for submission with a Development Application or Rural Fire Service referral. BCA Check Pty Ltd accepts no responsibility for any loss or damage suffered howsoever arising to any person or Corporation who may use or rely on this report in contravention of the terms of this clause.

Reporting has been based on the relevant Council and Rural Fire Service Guidelines, however, recommendations given in this report are based on our site investigation at the time of reporting. In some cases site conditions may change dramatically within a few years due to rapid vegetation re-growth and invading weed species. The report does not guarantee that a building will not be adversely affected by bushfire however it is provided to limit the risk of ignition.

References:

ABCB, (2011), The Building Code of Australia, *Australian Building Codes Board Canberra,* Volume 1.

NSW Rural Fire Service and Planning NSW (2006), *Planning for bushfire protection, A guide for councils planners fire authorities developers and homeowners.* Rural Fire Service NSW Australia.

Standards Australia, (2009), AS3959 *Construction of buildings in bushfire prone areas,* Australian Standards, Sydney.

Legislation.

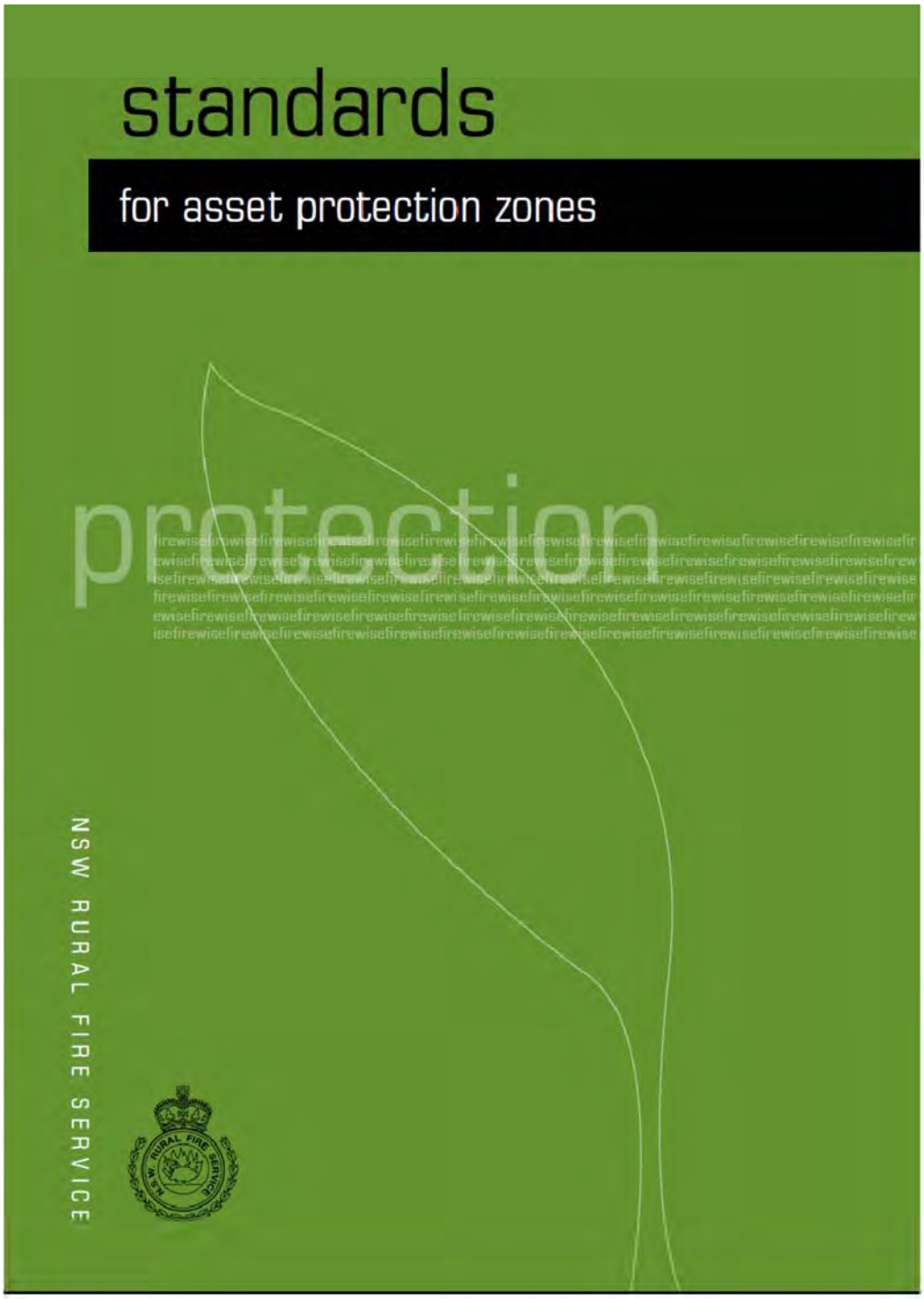
Environmental Planning and Assessment Act 1979 and Regulations 2000. *New South Wales.* Parliamentary Counsel's Office, NSW Government Information Service.

Rural Fires Act 1997. *New South Wales.* Parliamentary Counsel's Office, NSW Government Information Service.

Rural Fires Regulation. *New South Wales.* Parliamentary Counsel's Office, NSW Government Information Service.

APPENDIX A

Standards for Asset Protection Zones (RFS 2005)


standards
for asset protection zones
protection
NSW RURAL FIRE SERVICE

STANDARDS FOR ASSET PROTECTION ZONES

INTRODUCTION

For thousands of years bush fires have been a natural part of the Australian landscape. They are inevitable and essential, as many Australian plants and animals have adapted to fire as part of their life cycle.

In recent years developments in bushland areas have increased the risk of bush fires harming people and their homes and property. But landowners can significantly reduce the impact of bush fires on their property by identifying and minimising bush fire hazards. There are a number of ways to reduce the level of hazard to your property, but one of the most important is the creation and maintenance of an Asset Protection Zone (APZ).

A well located and maintained APZ should be used in conjunction with other preparations such as good property maintenance, appropriate building materials and developing a family action plan.

WHAT IS AN ASSET PROTECTION ZONE?

An Asset Protection Zone (APZ) is a fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as farm and machinery sheds, or industrial, commercial or heritage buildings.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows suppression of fire;
- an area from which backburning may be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy.

WHAT WILL THE APZ DO?

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the asset;
- damage to the built asset from intense radiant heat; and
- ember attack on the asset.

WHERE SHOULD I PUT AN APZ?

An APZ is located between an asset and a bush fire hazard.

The APZ should be located wholly within your land. You cannot undertake any clearing of vegetation on a neighbour's property, including National Park estate, Crown land or land under the management of your local council, unless you have written approval.

If you believe that the land adjacent to your property is a bush fire hazard and should be part of an APZ, you can have the matter investigated by contacting the NSW Rural Fire Service (RFS).

There are six steps to creating and maintaining an APZ. These are:

1. Determine if an APZ is required;
2. Determine what approvals are required for constructing your APZ;
3. Determine the APZ width required;
4. Determine what hazard reduction method is required to reduce bush fire fuel in your APZ;
5. Take measures to prevent soil erosion in your APZ; and
6. Landscape and regularly monitor in your APZ for fuel regrowth.

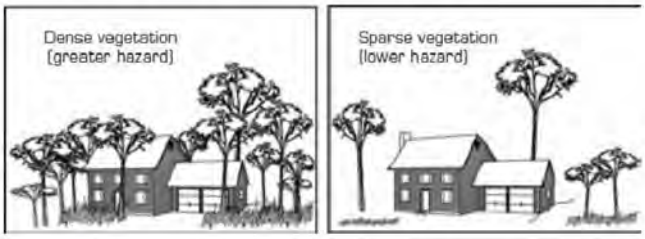
STEP 1. DETERMINE IF AN APZ IS REQUIRED

Recognising that a bush fire hazard exists is the first step in developing an APZ for your property.

If you have vegetation close to your asset and you live in a bush fire prone or high risk area, you should consider creating and maintaining an APZ.

Generally, the more flammable and dense the vegetation, the greater the hazard will be. However, the hazard potential is also influenced by factors such as slope.

- A large area of continuous vegetation on sloping land may increase the potential bush fire hazard.
- The amount of vegetation around a house will influence the intensity and severity of a bush fire.
- The higher the available fuel the more intense a fire will be.



Isolated areas of vegetation are generally not a bush fire hazard, as they are not large enough to produce fire of an intensity that will threaten dwellings.

This includes:

- bushland areas of less than one hectare that are isolated from large bushland areas; and
- narrow strips of vegetation along road and river corridors.

If you are not sure if there is a bush fire hazard in or around your property, contact your local NSW Rural Fire Service Fire Control Centre or your local council for advice.

STEP 2. DETERMINE WHAT APPROVALS ARE REQUIRED FOR CONSTRUCTING YOUR APZ

If you intend to undertake bush fire hazard reduction works to create or maintain an APZ you must gain the written consent of the landowner.

Subdivided land or construction of a new dwelling
If you are constructing an APZ for a new dwelling you will need to comply with the requirements in *Planning for Bushfire Protection*. Any approvals required will have to be obtained as part of the Development Application process.

Existing asset
If you wish to create or maintain an APZ for an existing structure you may need to obtain an environmental approval. The RFS offers a free environmental assessment and certificate issuing service for essential hazard reduction works. For more information see the RFS document *Application Instructions for a Bush Fire Hazard Reduction Certificate* or contact your local RFS Fire Control Centre to determine if you can use this approval process.

Bear in mind that all work undertaken must be consistent with any existing land management agreements (e.g. a conservation agreement, or property vegetation plan) entered into by the property owner.

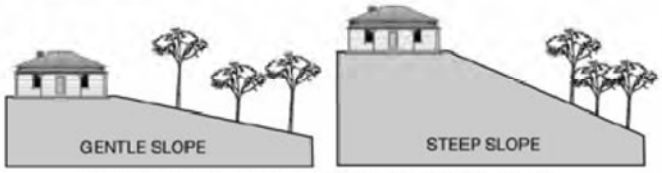
If your current development consent provides for an APZ, you do not need further approvals for works that are consistent with this consent.

If you intend to burn off to reduce fuel levels on your property you may also need to obtain a Fire Permit through the RFS or NSW Fire Brigades. See the RFS document *Before You Light That Fire* for an explanation of when a permit is required.

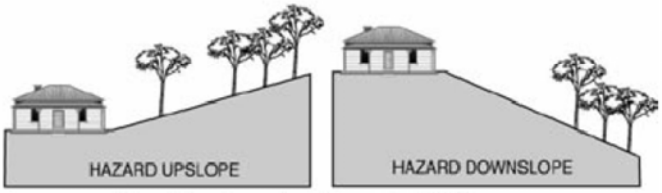
STEP 3. DETERMINE THE APZ WIDTH

The size of the APZ required around your asset depends on the nature of the asset, the slope of the area, the type and structure of nearby vegetation and whether the vegetation is managed.

Fires burn faster uphill than downhill, so the APZ will need to be larger if the hazard is downslope of the asset.



Gentle slopes require a smaller APZ distance than steep slopes



A hazard downslope will require a greater APZ distance then a hazard upslope of the asset

Different types of vegetation (for example, forests, rainforests, woodlands, grasslands) behave differently during a bush fire. For example, a forest with shrubby understorey is likely to result in a higher intensity fire than a woodland with a grassy understorey and would therefore require a greater APZ width.

A key benefit of an APZ is that it reduces radiant heat and the potential for direct flame contact on homes and other buildings. Residential dwellings require a wider APZ than sheds or stockyards because the dwelling is more likely to be used as a refuge during bush fire.

Subdivided land or construction of a new dwelling
If you are constructing a new asset, the principles of *Planning for Bushfire Protection* should be applied. Your Development Application approval will detail the exact APZ distance required.

Existing asset
If you wish to create an APZ around an existing asset and you require environmental approval, the Bush Fire Environmental Assessment Code provides a streamlined assessment process. Your Bush Fire Hazard Reduction Certificate (or alternate environmental approval) will specify the maximum APZ width allowed.

For further information on APZ widths see *Planning for Bushfire Protection* or the *Bush Fire Environmental Assessment Code* (available on the RFS website), or contact your local RFS Fire Control Centre.

STEP 4. DETERMINE WHAT HAZARD REDUCTION METHOD IS REQUIRED TO REDUCE BUSH FIRE FUEL IN YOUR APZ

The intensity of bush fires can be greatly reduced where there is little to no available fuel for burning. In order to control bush fire fuels you can reduce, remove or change the state of the fuel through several means.

Reduction of fuel does not require removal of all vegetation, which would cause environmental damage. Also, trees and plants can provide you with some bush fire protection from strong winds, intense heat and flying embers (by filtering embers) and changing wind patterns. Some ground cover is also needed to prevent soil erosion.

Fuels can be controlled by:

1. raking or manual removal of fine fuels
Ground fuels such as fallen leaves, twigs (less than 6 mm in diameter) and bark should be removed on a regular basis. This is fuel that burns quickly and increases the intensity of a fire.

Fine fuels can be removed by hand or with tools such as rakes, hoes and shovels.

2. mowing or grazing of grass
Grass needs to be kept short and, where possible, green.

3. removal or pruning of trees, shrubs and understorey
The control of existing vegetation involves both selective fuel reduction (removal, thinning and pruning) and the retention of vegetation.

Prune or remove trees so that you do not have a continuous tree canopy leading from the hazard to the asset. Separate tree crowns by two to five metres. A canopy should not overhang within two to five metres of a dwelling.

Native trees and shrubs should be retained as clumps or islands and should maintain a covering of no more than 20% of the area.

When choosing plants for removal, the following basic rules should be followed:

1. Remove noxious and environmental weeds first. Your local council can provide you with a list of environmental weeds or 'undesirable species'. Alternatively, a list of noxious weeds can be obtained at **www.agric.nsw.gov.au/noxweed/**;
2. Remove more flammable species such as those with rough, flaky or stringy bark; and
3. Remove or thin understorey plants, trees and shrubs less than three metres in height

The removal of significant native species should be avoided.

Prune in acordance with the following standards:

- Use sharp tools. These will enable clean cuts and will minimise damage to the tree.
- Decide which branches are to be removed before commencing work. Ensure that you maintain a balanced, natural distribution of foliage and branches.
- Remove only what is necessary.
- Cut branches just beyond bark ridges, leaving a small scar.
- Remove smaller branches and deadwood first.

There are three primary methods of pruning trees in APZs:

1. Crown lifting (skirting)
Remove the lowest branches (up to two metres from the ground). Crown lifting may inhibit the transfer of fire between the ground fuel and the tree canopy.

2. Thinning
Remove smaller secondary branches whilst retaining the main structural branches of the tree. Thinning may minimise the intensity of a fire.

3. Selective pruning
Remove branches that are specifically identified as creating a bush fire hazard (such as those overhanging assets or those which create a continuous tree canopy). Selective pruning can be used to prevent direct flame contact between trees and assets.

Your Bush Fire Hazard Reduction Certificate or local council may restrict the amount or method of pruning allowed in your APZ.

See the *Australian Standard 4373 (Pruning of Amenity Trees)* for more information on tree pruning.

4. Slashing and trittering
Slashing and trittering are economical methods of fuel reduction for large APZs that have good access. However, these methods may leave large amounts of slashed fuels (grass clippings etc) which, when dry, may become a fire hazard. For slashing or trittering to be effective, the cut material must be removed or allowed to decompose well before summer starts.

If clippings are removed, dispose of them in a green waste bin if available or compost on site (dumping clippings in the bush is illegal and it increases the bush fire hazard on your or your neighbour's property).

Although slashing and trittering are effective in inhibiting the growth of weeds, it is preferable that weeds are completely removed.

Care must be taken not to leave sharp stakes and stumps that may be a safety hazard.

5. Ploughing and grading
Ploughing and grading can produce effective firebreaks. However, in areas where this method is applied, frequent maintenance may be required to minimise the potential for erosion. Loose soil from ploughed or graded ground may erode in steep areas, particularly where there is high rainfall and strong winds.

6. Burning (hazard reduction burning)
Hazard reduction burning is a method of removing ground litter and fine fuels by fire. Hazard reduction burning of vegetation is often used by land management agencies for broad area bush fire control, or to provide a fuel reduced buffer around urban areas.

Any hazard reduction burning, including pile burns, must be planned carefully and carried out with extreme caution under correct weather conditions. Otherwise there is a real danger that the fire will become out of control. More bush fires result from escaped burning off work than from any other single cause.

It is YOUR responsibility to contain any fire lit on your property. If the fire escapes your property boundaries you may be liable for the damage it causes.

Hazard reduction burns must therefore be carefully planned to ensure that they are safe, controlled, effective and environmentally sound. There are many factors that need to be considered in a burn plan. These include smoke control, scorch height, frequency of burning and cut off points (or control lines) for the fire. For further information see the RFS document *Standards for Low Intensity Bush Fire Hazard Reduction Burning*, or contact your local RFS for advice.

7. Burning (pile burning)
In some cases, where fuel removal is impractical due to the terrain, or where material cannot be disposed of by the normal garbage collection or composted on site, you may use pile burning to dispose of material that has been removed in creating or maintaining an APZ.

For further information on pile burning, see the RFS document *Standards for Pile Burning*.

In areas where smoke regulations control burning in the open, you will need to obtain a Bush Fire Hazard Reduction Certificate or written approval from Council for burning. During the bush fire danger period a Fire Permit will also be required. See the RFS document *Before You Light that Fire* for further details.

STEP 5. TAKE MEASURES TO PREVENT SOIL EROSION

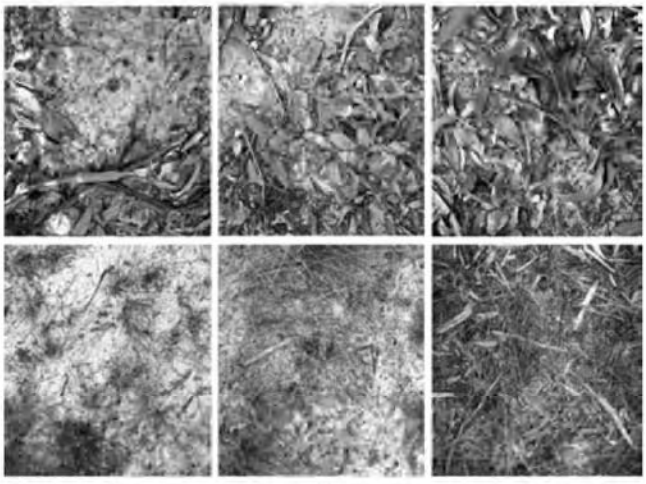
While the removal of fuel is necessary to reduce a bush fire hazard, you also need to consider soil stability, particularly on sloping areas.

Soil erosion can greatly reduce the quality of your land through:

- loss of top soil, nutrients, vegetation and seeds
- reduced soil structure, stability and quality
- blocking and polluting water courses and drainage lines

A small amount of ground cover can greatly improve soil stability and does not constitute a significant bush fire hazard. Ground cover includes any material which directly covers the soil surface such as vegetation, twigs, leaf litter, clippings or rocks. A permanent ground cover should be established (for example, short grass). This will provide an area that is easy to maintain and prevent soil erosion.

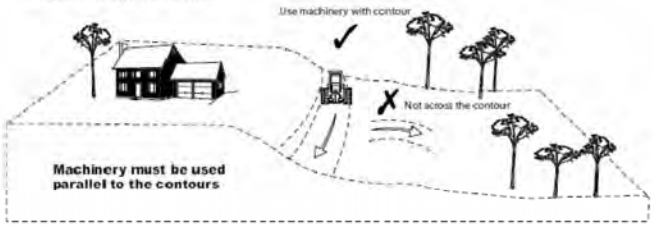
When using mechanical hazard reduction methods, you should retain a ground cover of at least 75% to prevent soil erosion. However, if your area is particularly susceptible to soil erosion, your Hazard Reduction Certificate may require that 90% ground cover be retained.



50% 75% 100%

Ground Cover

To reduce the incidence of soil erosion caused by the use of heavy machinery such as ploughs, dozers and graders, machinery must be used parallel to the contours. Vegetation should be allowed to regenerate, but be managed to maintain a low fuel load.

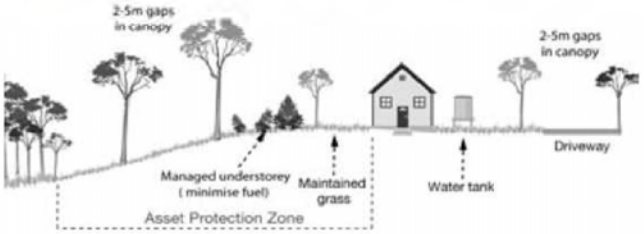


STEP 6. ONGOING MANAGEMENT AND LANDSCAPING

Your home and garden can blend with the natural environment and be landscaped to minimise the impact of fire at the same time. To provide an effective APZ, you need to plan the layout of your garden to include features such as fire resistant plants, radiant heat barriers and windbreaks.

Layout of gardens in an APZ
When creating and maintaining a garden that is part of an APZ you should:

- ensure that vegetation does not provide a continuous path to the house;
- remove all noxious and environmental weeds;
- plant or clear vegetation into clumps rather than continuous rows;
- prune low branches two metres from the ground to prevent a ground fire from spreading into trees;
- locate vegetation far enough away from the asset so that plants will not ignite the asset by direct flame contact or radiant heat emission;
- plant and maintain short green grass around the house as this will slow the fire and reduce fire intensity. Alternatively, provide non-flammable pathways directly around the dwelling;
- ensure that shrubs and other plants do not directly abut the dwelling. Where this does occur, gardens should contain low-flammability plants and non flammable ground cover such as pebbles and crush tile; and
- avoid erecting brush type fencing and planting "pencil pine" type trees next to buildings, as these are highly flammable.



Removal of other materials
Woodpiles, wooden sheds, combustible material, storage areas, large quantities of garden mulch, stacked flammable building materials etc. should be located away from the house. These items should preferably be located in a designated cleared location with no direct contact with bush fire hazard vegetation.

Other protective features
You can also take advantage of existing or proposed protective features such as fire trails, gravel paths, rows of trees, dams, creeks, swimming pools, tennis courts and vegetable gardens as part of the property's APZ.

PLANTS FOR BUSH FIRE PRONE GARDENS

When designing your garden it is important to consider the type of plant species and their flammability as well as their placement and arrangement.

Given the right conditions, all plants will burn. However, some plants are less flammable than others.

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Trees with loose, fibrous or stringy bark should be avoided. These trees can easily ignite and encourage the ground fire to spread up to, and then through, the crown of the trees.

Plants that are less flammable, have the following features:

- high moisture content
- high levels of salt
- low volatile oil content of leaves
- smooth barks without "ribbons" hanging from branches or trunks; and
- dense crown and elevated branches.

When choosing less flammable plants, be sure not to introduce noxious or environmental weed species into your garden that can cause greater long-term environmental damage.

For further information on appropriate plant species for your locality, contact your local council, plant nurseries or plant society.

If you require information on how to care for fire damaged trees, refer to the Firewise brochure *Trees and Fire Resistance; Regeneration and care of fire damaged trees.*

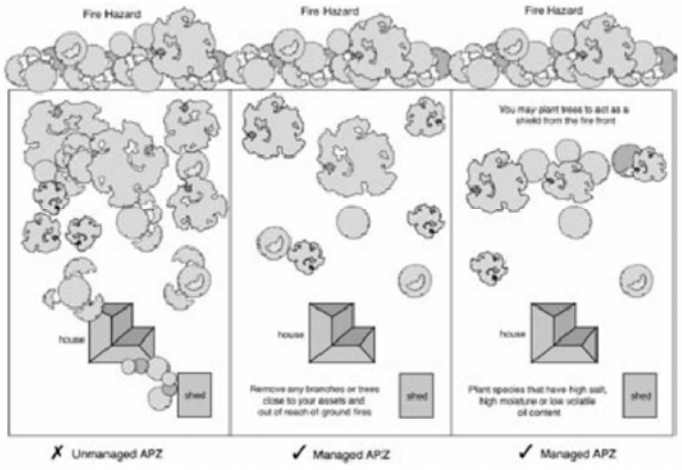
WIND BREAKS

Rows of trees can provide a wind break to trap embers and flying debris that could otherwise reach the house or asset.

You need to be aware of local wind conditions associated with bush fires and position the wind break accordingly. Your local RFS Fire Control Centre can provide you with further advice.

When choosing trees and shrubs, make sure you seek advice as to their maximum height. Their height may vary depending on location of planting and local conditions. As a general rule, plant trees at the same distance away from the asset as their maximum height.

When creating a wind break, remember that the object is to slow the wind and to catch embers rather than trying to block the wind. In trying to block the wind, turbulence is created on both sides of the wind break making fire behaviour erratic.



HOW CAN I FIND OUT MORE?

The following documents are available from your local Fire Control Centre and from the NSW RFS website at **www.rfs.nsw.gov.au.**

- Before You Light That Fire
- Standards for Low Intensity Bush Fire Hazard Reduction Burning
- Standards for Pile Burning
- Application Instructions for a Bush Fire Hazard Reduction Certificate

If you require any further information please contact:

- your local NSW Rural Fire Service Fire Control Centre. Location details are available on the RFS website or
- call the NSW RFS Enquiry Line 1800 679 737 (Monday to Friday, 9am to 5pm), or
- the NSW RFS website at **www.rfs.nsw.gov.au.**

Produced by the NSW Rural Fire Service, Locked Mail Bag 17, GRANVILLE, NSW 2142. Ph. 1800 679 737
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