

BUSH FIRE ASSESSMENT REPORT

Lot 38 DP 1059938

31 Alidenes Road Wilsons Creek

Rezoning of Land (s100B)

Prepared for: St Saviour Investments Pty Ltd

Prepared by:

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BPAD-L3 ACCREDITED PRACTITIONER

Date: 12 November 2018 amended

Ref: 18/389

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DOCUMENT CONTROL

Revision No.	Date	Description	Prepared	Checked	Authorised
A	12.11.2018	Final	Scott Sewell	PJT	Peter Thornton
B	10.12.2018	Final amended	Peter Thornton	PJT	Peter Thornton

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1.0 EXECUTIVE SUMMARY

This report establishes that the land proposed for rezoning from Zone RU2 Rural Landscape to R5 Large Lot Residential at Lot 38 DP 1059938, 31 Alidenes Road Wilsons Creek is capable of complying with Planning for Bushfire Protection 2006.

The public roads or internal roads if community title, APZs and utilities will be required to comply with Planning for Bushfire Protection 2006 (or the legislation at the time of development application for subdivision). This bushfire protection measures will require specific assessment in detail with the future development application. It is noted that Draft Planning for Bushfire Protection 2018 is due to be legislated in May 2019 and any development application from this date forward will need to consider the new legislation.

2.0 INTRODUCTION

2.1 GENERAL

This report has been prepared to address the bushfire requirements of the planning proposal to rezone Lot 38 DP 1059938, 31 Alidenes Road Wilsons Creek from Zone RU2 Rural Landscape to R5 Large Lot Residential. The report is an assessment to provide support to the proposal in regard to bushfire hazard.



Figure 1: Location of the subject property to be rezoned

NSW Govt. Six Maps

2.2 PROPOSED REZONING

The applicant is proposing to rezone Lot 38 DP 1059938, 31 Alidenes Road Wilsons Creek from Zone RU2 Rural Landscape to R5 Large Lot Residential. The property that is to be rezoned has an area of approximately 12 hectares. This report has not considered any concept subdivision plans in conjunction with the proposed rezoning.

A development application for future subdivision of the land will involve detailed land survey, further detailed bushfire assessment as the subdivision is 'integrated development', an ecological (fauna and flora) assessment, environmental assessments (acid soils, land contamination), design of allotment layout and engineered infrastructure services (roads, water supply, sewerage network, stormwater drainage, electricity and telecommunications), having regard to the above assessments.

2.3 REPORT DETAILS

Report Reference No.:	18/389
Property Address:	Lot 38 DP 1059938, 31 Alidenes Road Wilsons Creek
Local Government Area:	Byron Shire Council
Proposal:	Rezoning Zone RU2 Rural Landscape to R5 Large Lot Residential
Drawings:	Ardill Payne & Partners, Rezoning Map Job 8247 Dwg No. SK1 Issue A dated Dec 2018.
Report Prepared By:	Peter Thornton MFireSafeEng Building Surveyor (MAIBS) BPAD – L3 Accredited Practitioner

3.0 PROPOSED DEVELOPMENT

The applicant is proposing to rezone Lot 38 DP 1059938, 31 Alidenes Road Wilsons Creek from Zone RU2 Rural Landscape to R5 Large Lot Residential in the Rezoning Map Job 8247 Dwg No. SK1 Issue A dated Dec 2018 (see Figure 2).

Access is by way of Alidenes and Wilsons Creek Roads.

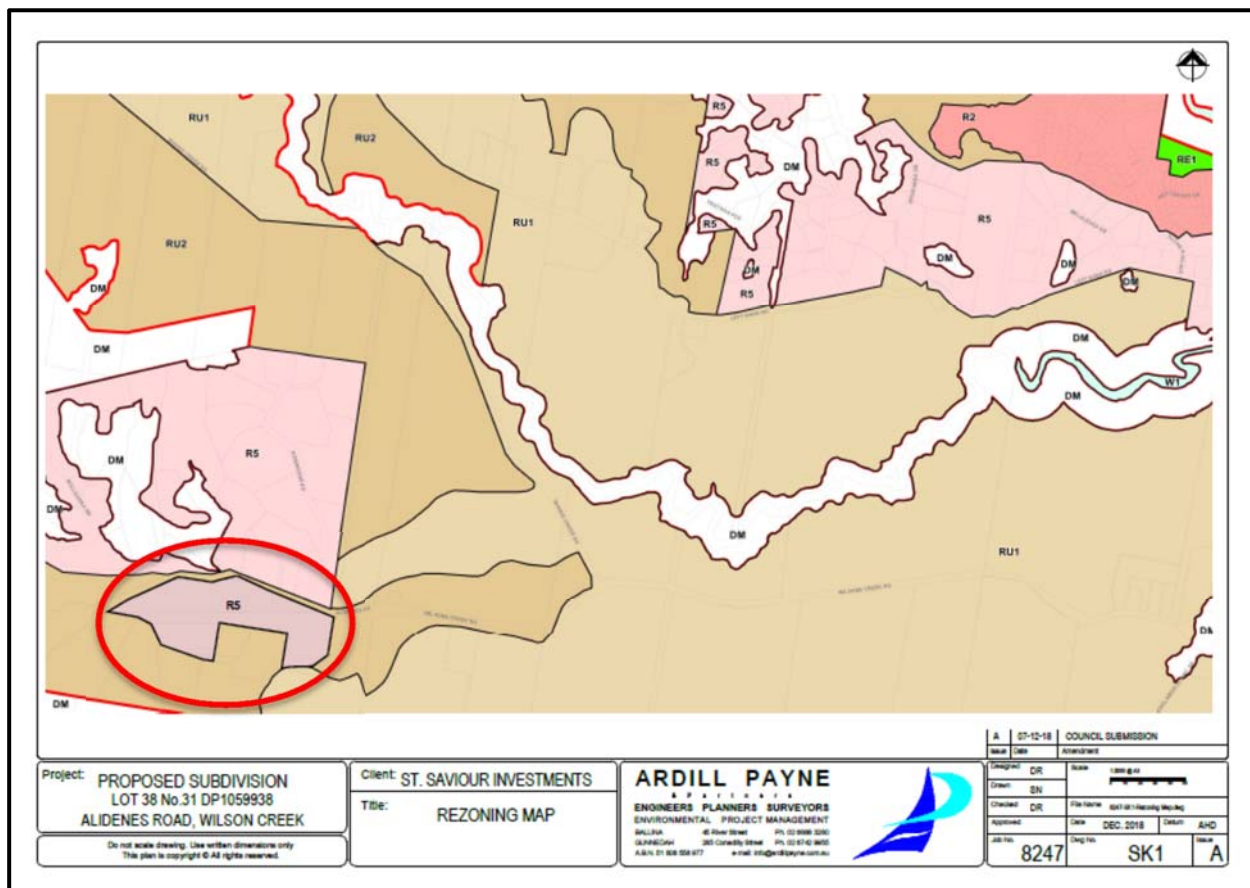


Figure 2: Proposed rezoning plan.

4.0 BUSHFIRE ASSESSMENT AND ASSET PROTECTION ZONES

The bushfire prone mapping identifies the subject allotment as being bushfire prone (Figure 3). Aerial mapping and inspection of the site reveals that the bushfire prone land map is reasonably accurate in respect to the current bushfire hazard except the areas of rainforest / Camphor Laurel onsite are not mapped. Additionally, some areas are better classed as Category 2 rainforest.

It is noted, plans outlining any revegetation or rehabilitation of the site have not been assessed at the time of reporting. Revegetation requirements will need to be fully assessed at development application stage for subdivision.

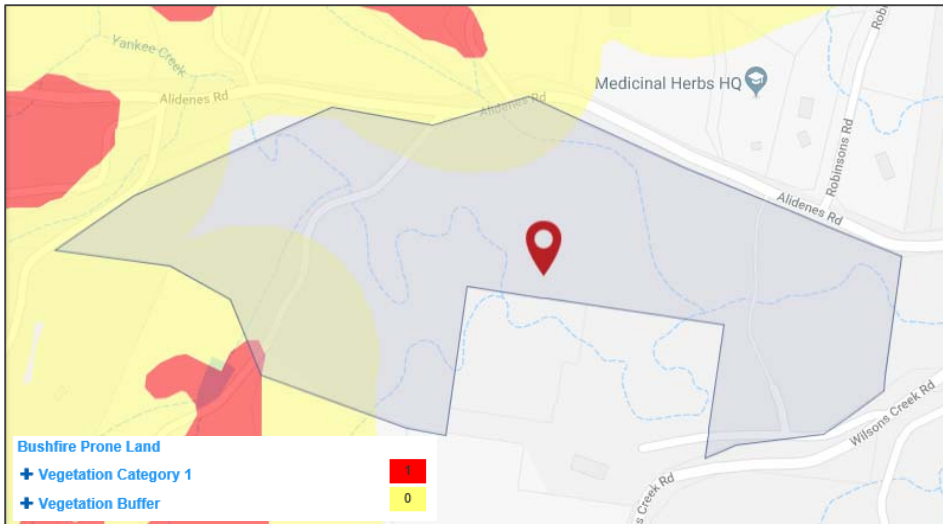


Figure 3: Bushfire prone land map

planningportal.nsw.gov.au.

Table 1 provides a summary of the vegetation type within 140m of the residential rezoned land, slope and asset protection zone requirements of Appendix 3 of Planning for Bushfire Protection 2006.

The land onsite has a creek with some small areas of rainforest / Camphor Laurel located on flat to slight downslope ground as shown in Figure 4. If this vegetation is retained onsite then a 9m – 11m APZ would be required adjacent to the vegetation. If revegetation works are required then a 9m – 11m APZ would also be required onsite. It is noted that there are large areas available for APZ requirements.

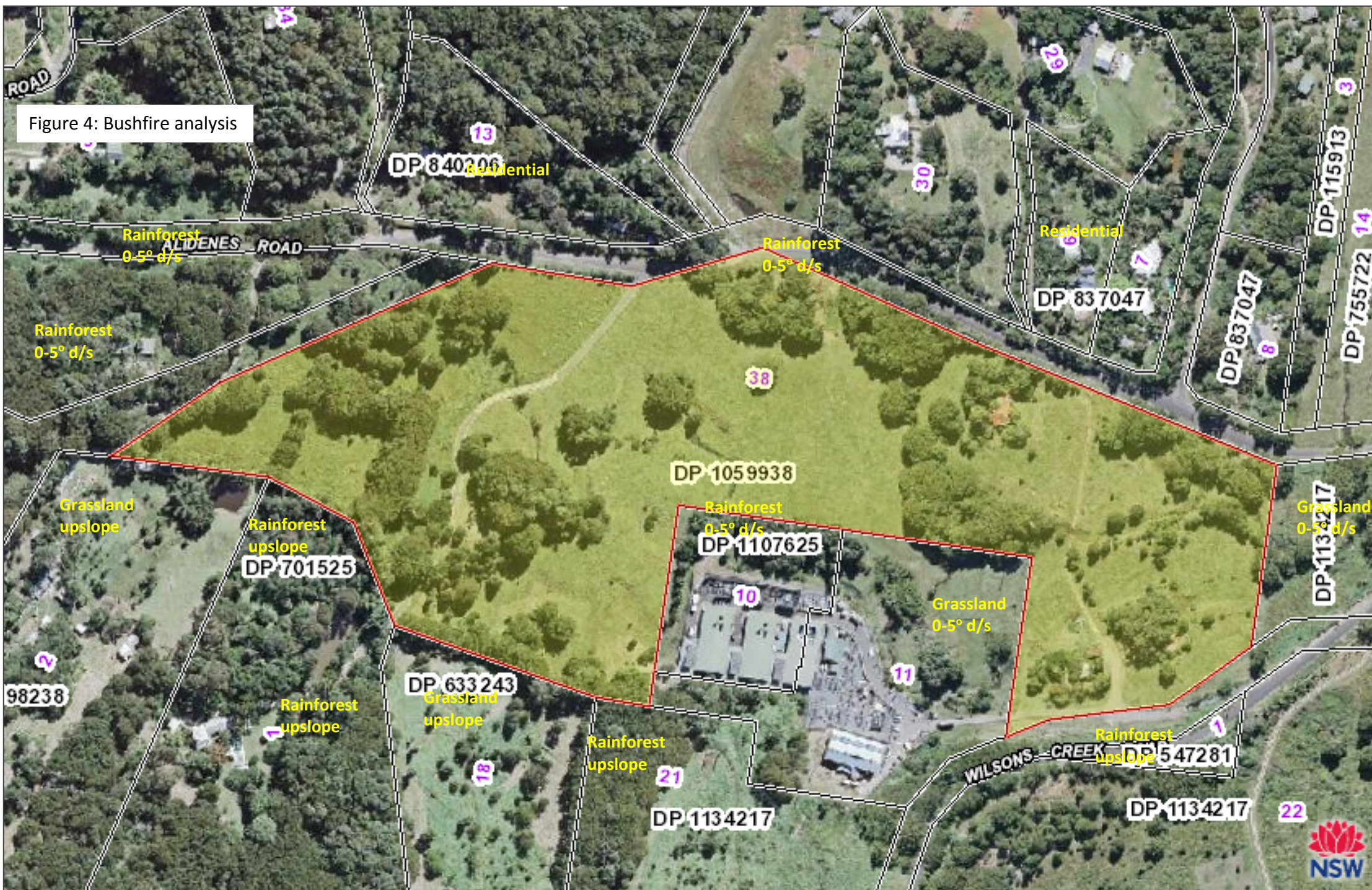


Location of possible future allotments.



Narrow strip of Rainforest / Camphor Laurel onsite

Figure 4: Bushfire analysis



Asset Protection Zones 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 assessment establishes that future residential development will require asset protection zones.

The following table summarises the category of bushfire attack pursuant to Planning for Bushfire Protection 2006.

Table 1: Summary of Preliminary Asset Protection Zones required – PBP2006.

LOT NUMBER ON PLAN AS PER FIGURE 4	VEGETATION	SLOPE (Degrees)	REQUIRED APZ
North of Lots 1, 2, 9, 10, 11, 12, 13	Rainforest	Upslope	9 metres
East of Lots 17, 30, 32	Grassland	0-5° downslope	9 metres
South of Lots 6, 7, 8, 24, 27, 28, 31, 32	Rainforest	upslope	9 metres
South of Lots 20, 21, 22, 25	Rainforest	0-5° downslope	11 metres
West of Lots 1, 3, 4, 6	Rainforest	0-5° downslope	11 metres

Should revegetation works be required or proposed then the site will need to be reassessed. This will require specific analysis at subdivision stage with the survey and building envelope location. It is noted that modelling the slope of the vegetation and fire run to the west may decrease the distances required.

5.0 CONSTRUCTION STANDARDS AND OTHER PLANNING CONTROLS

The land available for the required asset protection zones will allow construction of future dwellings to be undertaken in accordance with a maximum of radiant heat threshold of 29kW/m². However the majority of buildings are likely not to require any specific bushfire construction level or at least well lower construction level than the threshold of 29kW/m².

The future use of the rezoned land for residential purposes will require approval of an ‘integrated’ development application for subdivision under s91 of the EP&A Act (requiring the issue of a s100B Rural Fires Act bushfire safety authority) and development application/s for any dwellings under s4.14 of the EP&A Act.

Having regard to the area of potentially developable land, estimated number of additional allotments and the level of assessment required for any future subdivision and dwellings, these consideration will need to be taken into account with future applications.

6.0 WATER AND UTILITY SERVICES

6.1 WATER SERVICES

The development is not currently connected to a reticulated water supply. The water supply for a future residential subdivision is to comply with s4.1.3 of Planning for Bushfire Protection 2006.

In this instance each future lot is capable of supporting a static water supply of 10,000 litres.

6.2 ELECTRICITY SERVICES

The existing electrical supply to the surrounding residential areas is provided overhead and underground service.

The development application for future subdivision will investigate and provide details on the existing reticulated electrical supply and design details for the extension of the supply to comply with s4.1.3 of Planning for Bushfire Protection 2006.

6.3 GAS SERVICES

No reticulated gas service is provided in Wilsons Creek or to the land.

The development applications for future dwellings will provide details of the storage of gas to comply with s4.1.3 of Planning for Bushfire Protection 2006.

7.0 ACCESS

The land proposed to be rezoned will require sealed residential roads to be assessed with a development application for subdivision.

All new roads will need to comply with the requirements of s4.1.3(1) or s4.2.7 (if community title) of Planning for Bushfire Protection 2006.

8.0 LANDSCAPING

Landscaping will need to be considered with application for future dwellings.

9.0 CONCLUSION

The report establishes that compliant asset protection zones can be achieved for a future subdivision of the land to be rezoned.

Compliance with water supply, utilities and construction standards can be assessed at development application stage for the future subdivision and development application for future dwelling/s.

In this regard, investigations undertaken for the purposes of this assessment shows that there is a potential for compliance with Planning for Bushfire Protection 2006 to be achieved however the full extent of allotment yield and subsequent impact on other heads of considerations have not been considered.

DISCLAIMER

This report was prepared for the purposes and exclusive use of the stated client to accompany an application to Byron Shire Council specifically relating to the proposed rezoning of the subject property, and is not to be used for any other purpose or by any other person or Corporation. 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.

As identified in Planning for Bushfire Protection 2006 and the Building Code of Australia the report is to provide recommendations to reduce the risk of ignition and does not guarantee the complete protection of the building in the event of bush fire or that the building will not be adversely impacted upon.

Reporting has been based on the relevant Council and Rural Fire Service Guidelines however recommendations or suggestions 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.

REFERENCES

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.

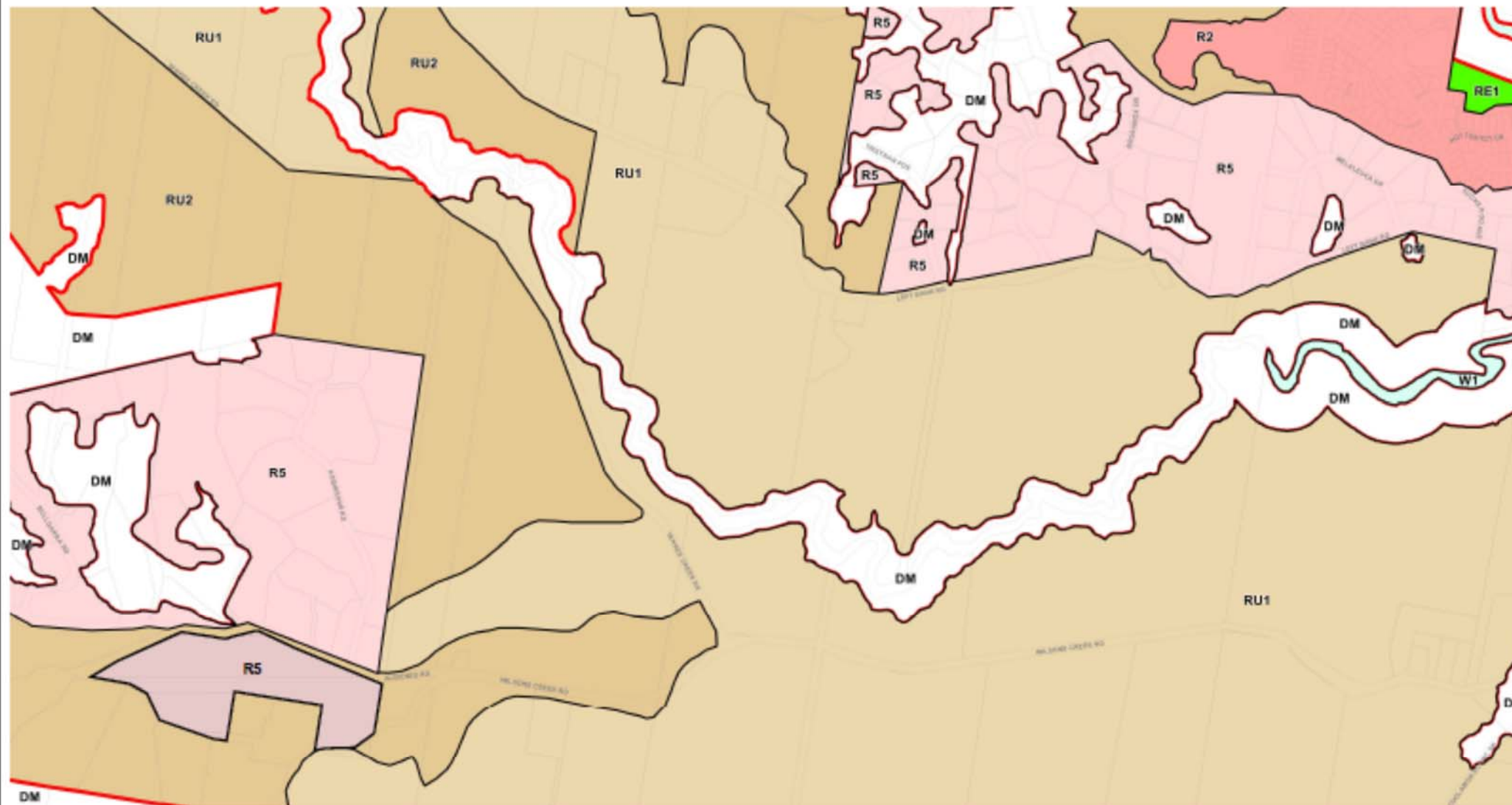
LEGISLATION

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: Rezoning Plan



Project: **PROPOSED SUBDIVISION**
LOT 38 No.31 DP1059938
ALIDENES ROAD, WILSON CREEK

Do not scale drawing. Use written dimensions only
 This plan is copyright © All rights reserved.

Client: **ST. SAVIOUR INVESTMENTS**
 Title: **REZONING MAP**

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A	07-12-18	COUNCIL SUBMISSION	
Issue	Date	Amendment	
Designed	DR	Scale	1:200 @ A4
Drawn	SN		
Checked	DR	File Name	6017 SK1 Rezoning Map.dwg
Approved		Date	DEC. 2018
Job No.	8247	Dwg No.	SK1
		Issue	A

APPENDIX B: Standards for Asset Protection Zones (RFS 2005)

for asset protection zones

protection

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NSW RURAL FIRE SERVICE



STANDARDS FOR ASSET PROTECTION ZONES

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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.

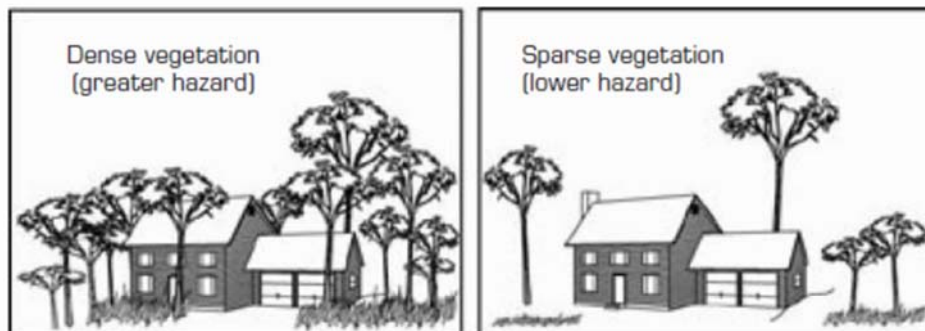
STEP 1. DETERMINE IF AN APZ IS REQUIRED

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.

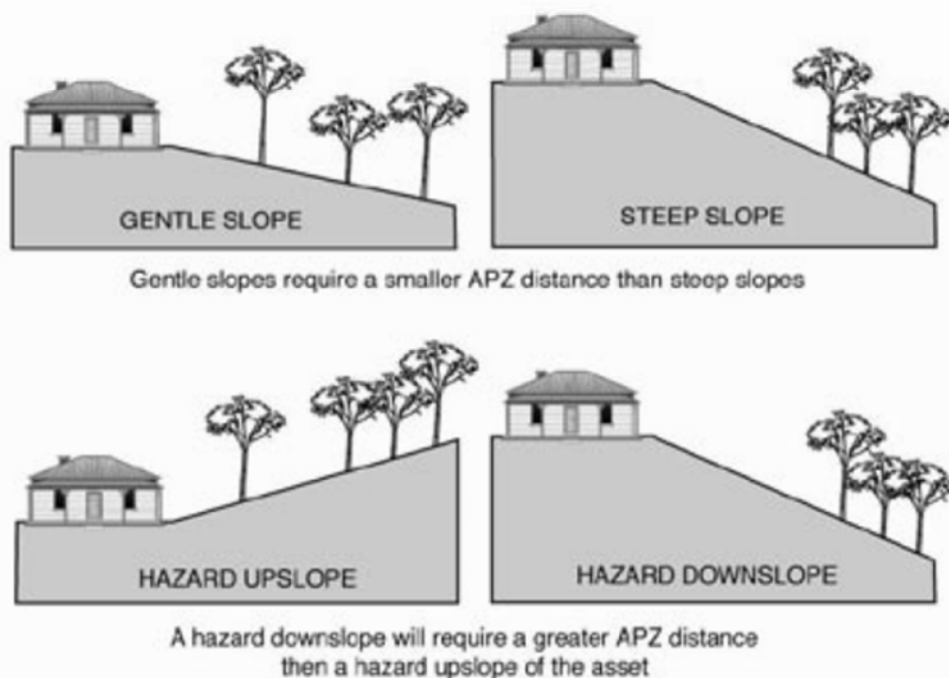
If you intend to burn off to reduce fuel levels on your property you may also need to obtain a Fire Permit through the RFS or NSW Fire Brigades. See the RFS document *Before You Light That Fire* for an explanation of when a permit is required.

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.

5



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.

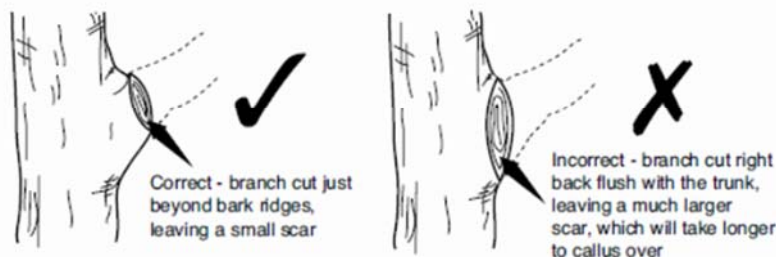
When choosing plants for removal, the following basic rules should be followed:

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 accordance 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

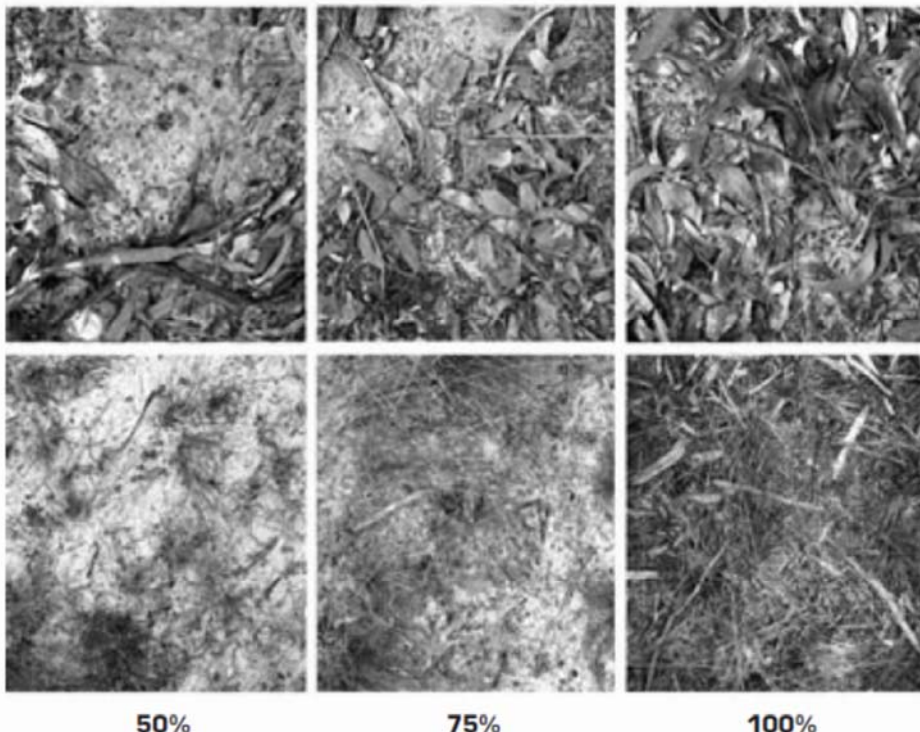
While the removal of fuel is necessary to reduce a bush fire hazard, you also need to consider soil stability, particularly on sloping areas.

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

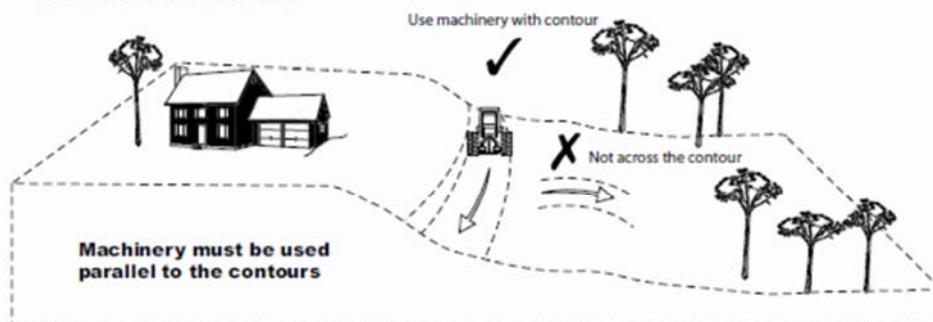
A small amount of ground cover can greatly improve soil stability and does not constitute a significant bush fire hazard. Ground cover includes any material which directly covers the soil surface such as vegetation, twigs, leaf litter, clippings or rocks. A permanent ground cover should be established (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.



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.



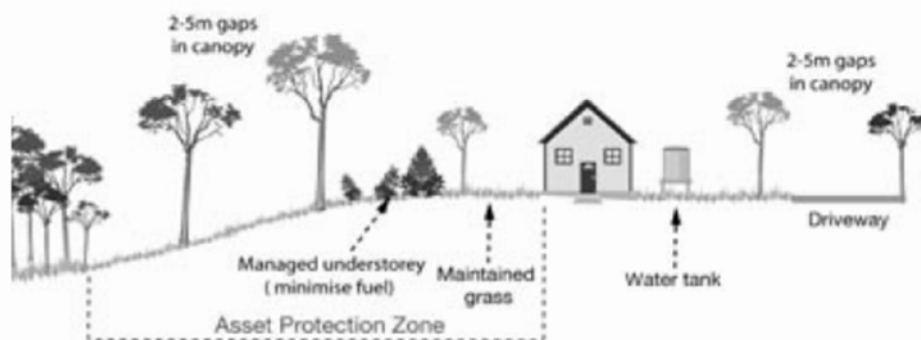
STEP 6. ONGOING MANAGEMENT AND LANDSCAPING

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.

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

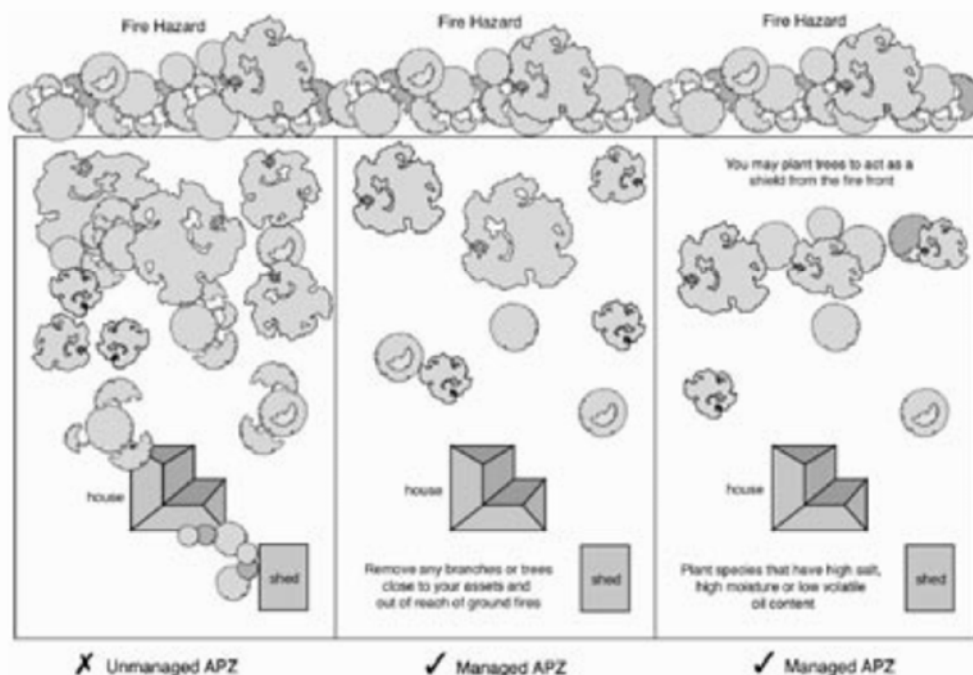
Rows of trees can provide a wind break to trap embers and flying debris that could otherwise reach the house or asset.

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.

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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**
www.rfs.nsw.gov.au

Printed on 100% Recycled Cyclus Offset paper.