



NSW RURAL FIRE SERVICE



BUSH FIRE ENVIRONMENTAL ASSESSMENT CODE

July 2021



Supporting documents

DOCUMENT NAME	DOCUMENT OWNER
Application Form - Bush Fire Hazard Reduction Certificate	NSW RFS
Application Instructions - Bush Fire Hazard Reduction Certificate	NSW RFS
Table of Certifying Authorities and Applicable Land	NSW RFS
Rules and Notes for the Application of Soil Erosion Risk for the Bush Fire Environmental Assessment Code	NSW RFS / EES
Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code	NSW RFS / EES
Threatened Species Hazard Reduction List: Part 1 - Plants, Part 2 - Animals, Part 3 - Ecological Communities, Part 4 - Aquatic Biodiversity	EES / NSW RFS / DPI-Fisheries
Conditions for Hazard Reduction and Aboriginal Heritage	NSW RFS / Heritage NSW
Fire Intervals for SFAZs and LMZs	EES / NSW RFS
Fire and Weed Management Guidelines	DPI / NSW RFS
Powerlines and Prescribed Burn Guidelines	Dept. of Industry / NSW RFS
Applicable Land Management Agreements, Directions and Orders	NSW RFS / DPIE (Planning) / EES

Note: Supporting documents may be accessed via the NSW RFS website www.rfs.nsw.gov.au

Related documents

DOCUMENT NAME	DOCUMENT OWNER
Standards for Pile Burning	NSW RFS
Standards for Low Intensity Bush Fire Hazard Reduction Burning	NSW RFS
Standards for Windrow Burning	NSW RFS
Fact Sheet - Telecommunication Towers in Bush Fire Prone Areas	NSW RFS
Bush Fire Protection for Existing Development Guidelines	NSW RFS
Neighbourhood Safer Places, Places of Last Resort Guidelines	NSW RFS
Fire Trail Standards	NSW RFS
Fire Trail Design, Construction and Maintenance Manual	NSW RFS / Soil Conservation Service

Note: Related documents may be accessed via the NSW RFS website www.rfs.nsw.gov.au

Acronyms

TITLE	ACRONYM	TITLE	ACRONYM
NSW Rural Fire Service	NSW RFS	Strategic Fire Advantage Zone	SFAZ
Department of Planning, Industry and Environment (Environment, Energy and Science Group)	EES	Land Management Zone	LMZ
Department of Primary Industries	DPI	State Environmental Planning Policy	SEPP
Roads and Maritime Services	RMS	Neighbourhood Safer Place	NSP
Bushfire Risk Information Management System	BRIMS	Aboriginal Heritage Information Management System	AHIMS
Asset Protection Zone	APZ	Soil Erosion Risk	SER
Department of Planning, Industry and Environment (Planning)	DPIE (Planning)		

Legislative References

FULL TITLE

- [Biosecurity Act 2015](#)
- [Biodiversity Conservation Act 2016](#)
- [Criminal Appeal Act 1912](#)
- [Crown Land Management Act 2016](#)
- [District Court Act 1973](#)
- [Environmental Planning & Assessment Act 1979](#)
- [Fisheries Management Act 1994](#)
- [Forestry Act 2012](#)
- [Land and Environment Court Act 1979](#)
- [Local Court Act 2007](#)
- [Local Government Act 1993](#)
- [Local Land Services Act 2013](#)
- [National Parks and Wildlife Act 1974](#)
- [Native Vegetation Act 2003](#)
- [Native Vegetation Conservation Act 1997](#)
- [Nature Conservation Trust Act 2001](#)
- [Noxious Weeds Act 1993](#)
- [Pesticides Act 1999](#)
- [Plantations and Reafforestation Act 1999](#)
- [Plantations and Reafforestation \(Code\) Regulation 2001](#)
- [Protection of the Environment Administration Act 1991](#)
- [Protection of the Environment Operations Act 1997](#)
- [Rural Fires Act 1997](#)
- [Rural Fires Regulation 2013](#)
- [State Environmental Planning Policy \(Coastal Management\) 2018](#)
- [State Environmental Planning Policy \(Koala Habitat Protection\)](#)
- [Supreme Court Act 1970](#)
- [Threatened Species Conservation Act 1995](#)
- [Wilderness Act 1987](#)

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Front page image: Low intensity bush fire hazard reduction burn. Photo credit: Ross Peacock, NSW RFS

Part 1: Preliminary

1.1 Title

This is the *Bush Fire Environmental Assessment Code for New South Wales* (the “Code”).

1.2 Commencement

This Code is to commence on the 1 July 2021.

1.3 Dictionary and definitions

Expressions defined in section 100A of the *Rural Fires Act 1997* apply to this Code.

A definition within the Dictionary of the *Rural Fires Act 1997* applies to this Code, except where otherwise defined in section 100A of the *Rural Fires Act 1997*.

Words that are defined in the Dictionary at the end of this Code have the meanings given to them by the Dictionary.

Words that are defined within the body of this Code have the meanings given to them.

1.4 Purpose

The purpose of this Code is to provide a ‘one-stop shop’ for a streamlined environmental assessment and approval process for mechanical and burning methods for undertaking bush fire hazard reduction work.

Issuing authorities and certifying authorities can use this Code to determine *Bush Fire Hazard Reduction Certificates* (“certificates”) that authorise the carrying out of the identified bush fire hazard reduction works in accordance with section 100C of the *Rural Fires Act 1997*.

This Code operates to identify the types of bush fire hazard reduction work for which this Code applies, and the conditions that are to be applied to minimise the potential impact of those works on a range of environmental factors.

This Code also identifies those circumstances for which a certificate may not be issued based on the potential environmental impact. In these cases, a more comprehensive assessment of the potential impact is required under the relevant environmental legislation.

Bush fire hazard reduction works carried out in accordance with a certificate issued under this Code do not require approval under any other NSW environmental regulatory legislation.

It is a requirement of section 100J of the *Rural Fires Act 1997* that the Commissioner of the NSW Rural Fire Service, in preparing this Code, has regard to:

- a. the principles of ecologically sustainable development (as described by section 6 (2) of the *Protection of the Environment Administration Act 1991*), and
- b. any matter likely to affect the environment by reason of the carrying out of bush fire hazard reduction works on the land that a determining authority would be required to consider under section 5.5 (1) of the *Environmental Planning & Assessment Act 1979* (but for this Division) if Part 5 of that Act were applicable to the work and the carrying out of the works were an activity within the meaning of that Part.

1.5 Authority

This Code has been prepared pursuant to sections 100J to 100N of the *Rural Fires Act 1997*.

1.6 Bush fire hazard reduction certificates by issuing authorities

An application may be made to the issuing authority for a certificate for work to be carried out on private land (by a person other than a local authority or the Commissioner of the NSW Rural Fire Service).

An application for a certificate for work to be carried out on private land must be made to the issuing authority in writing in accordance with clause 47 of the Rural Fires Regulation 2013. Application forms complying with this are available from the NSW Rural Fire Service (NSW RFS).

A single application may, with the consent of all owners or occupiers of the land concerned, be made:

- for land owned or occupied by more than one person, or
- by a public authority on behalf of those owners or occupiers.

Issuing authorities include the NSW RFS and the local authority of the area in which the land is situated. An issuing authority may determine an application by issuing a certificate under section 100F of the *Rural Fires Act 1997*.

Note: A local authority is the

- council of the area in relation to land that is situated within an area within the meaning of the *Local Government Act 1993*, or
- Private land refers to any land other than managed land as defined in section 100A of the *Rural Fires Act 1997* or unoccupied Crown land as defined in the Dictionary of the *Rural Fires Act 1997*.

1.7 Charges

Under section 100F of the *Rural Fires Act 1997* there is no charge for an application for or issue of a certificate.

1.8 Refusal to issue and right of appeal

Under section 100F of the *Rural Fires Act 1997* there is no right of appeal against a determination of, or a failure or refusal to determine an application for a certificate. A person may seek approval, consent or other authorisation for bush fire hazard reduction work under relevant environmental legislation, even if an issuing authority has refused or failed to issue a certificate.

1.9 Bush fire hazard reduction certificates by certifying authorities

A certifying authority is the local or public authority responsible for land as provided for under section 100E(2) of the *Rural Fires Act 1997*. A certifying authority may issue a certificate under section 100G of the *Rural Fires Act 1997* for bush fire hazard reduction work on land for which they are responsible. An up-to-date list of the certifying authorities (and the applicable land for which they are responsible) is maintained in the NSW RFS document *Bush Fire Environmental Assessment Code – Table of Certifying Authorities and Applicable Land*.

Note: The following lands are current at the time of the Gazettal of this Code:

- any land (where the work is directed or undertaken under the authority of the Commissioner of the NSW Rural Fire Service),
- land that is vested in or under the control of a local authority,
- unoccupied Crown land,
- land that is dedicated, or acquired for the purpose of dedication, under the *Forestry Act 2012* or in respect of which the Forestry Corporation of New South Wales has obtained the benefit of a forestry right within the meaning of Division 4 of Part 6 of the *Conveyancing Act 1919*,
- land that is dedicated or reserved, or acquired for the purpose of dedication or reservation under the *National Parks and Wildlife Act 1974*,
- land that is vested in, or under the control of, Transport for NSW, Sydney Metro, Transport Asset Holding Entity of New South Wales or Residual Transport Corporation of New South Wales,
- land that is vested in or under the control of the Roads and Maritime Services, and
- land that is within the catchment area of a water authority.

The NSW RFS is a certifying authority for any land and can issue a single certificate across multiple parcels of land. For example, the NSW RFS operates as a certifying authority when issuing a notice under section 66 of the *Rural Fires Act 1997*.

Other certifying authorities may issue a certificate for bush fire hazard reduction work on land under their responsibility. However, these authorities may issue a single certificate that includes adjoining land parcels if the other relevant issuing or certifying authorities provide written consent. For the purpose of this clause, the relevant issuing authority for private land is taken to be the NSW RFS.

Note:

- A local authority is:
 - the council of the area in relation to land that is situated within an area within the meaning of the *Local Government Act 1993*, or
 - is the person appointed by the Minister to be the local authority for the purposes of land within the Western Division as per the *Crown Land Management Act 2016* (other than land where the council is the local authority)
- Private land refers to any land other than managed land as defined in section 100A of the *Rural Fires Act 1997* or unoccupied Crown land as defined in the Dictionary of the *Rural Fires Act 1997*.

1.10 Duration of a certificate and frequency of works

Under section 1001 of the *Rural Fires Act 1997* a certificate becomes effective and operates for a period of time as specified within the certificate commencing on the date endorsed on the certificate.

A certificate may be issued for a period up to five years from the day of issue. A certificate may not be issued retrospectively.

1.10.1 Mechanical works

A certificate may be issued that provides for ongoing mechanical maintenance and weed reduction (i.e. repetition of mechanical works and herbicide application) for the duration specified in the certificate. In order to give effect, the certificate must specify that it provides for ongoing maintenance.

1.10.2 Pile burns and windrow burns

A certificate for pile burns or windrow burns must contain conditions that limit the lighting of pile burns or windrow burns to within one year of the certificate commencement date. Where ongoing maintenance results in the creation of further piles or windrows, a new certificate is required for such pile burns or windrow burns.

1.10.3 Prescribed burns (other than pile burns and windrow burns)

A certificate may only be issued for a prescribed burn to be undertaken once within the duration of the certificate (i.e. a new certificate is required to carry out a repeat burn at the same location). In addition, a prescribed burn may not be carried out for any area burned by a wildfire during the duration of the certificate. Note, this clause does not operate to prevent carrying out a prescribed burn for vegetation not burned within the initial prescribed burn or a wildfire.

Ongoing maintenance of control lines is permissible but only until such time as the associated prescribed burn is carried out.

1.11 Reporting

For the purpose of reporting under section 74 of the *Rural Fires Act 1997*, certificates must be recorded within the Guardian system or other information management system endorsed by the Commissioner of the NSW Rural Fire Service.

1.12 Enforcement

In the event that a person fails to comply with a condition or requirement of a certificate, the work carried out may be subject to enforcement action under the provisions of the environmental legislation offended by the work, as if that certificate had not been issued. That is, legal action is not taken to remedy or restrain a breach of a certificate, but rather the failure to obtain the required consent or approval under the offended legislative instrument.

1.13 Review

This Code will be reviewed by the Commissioner of the NSW Rural Fire Service within five years of operation and amended in accordance with section 1000 of the *Rural Fires Act 1997* if required.

1.14 Revocation of Code

The *Bush Fire Environmental Assessment Code for New South Wales*, February 2006 is revoked.

Part 2: Determination of a Bush Fire Hazard Reduction Certificate

2.1 Process of determination

A certificate must not be issued unless a bush fire risk management plan applies to the land.

2.2 Time to determine an application

Determination of an application for a certificate must be completed within 7 days, or a longer period if agreed to by the applicant, after lodgement of the application in accordance with clause 1.6.

2.3 Land excluded from the Code

The Code does not apply to excluded land as identified in section 100A of the *Rural Fires Act 1997*. As such, a certificate cannot be issued for works on these lands.

Note: the following lands are identified as excluded lands at the time of the gazettal of this Code:

- a. land identified as “coastal wetlands”, “littoral rainforests” or “proximity area for littoral rainforest” on the Coastal Wetlands and Littoral Rainforest Area Map of the *State Environmental Planning Policy (Coastal Management) 2018*,
- b. land declared by the Minister for the Environment under section 47 of the *Threatened Species Conservation Act 1995* to be critical habitat*,
- c. land within Lord Howe Island, or
- d. any other land prescribed by the regulations.

* This includes any area declared as critical habitat under Part 3 of the *Threatened Species Conservation Act 1995* prior to the commencement of the *Biodiversity Conservation Act 2016*.

2.4 Land on which the Code is restricted

A certificate may not be issued for the following land categories, except where works involve only the manual removal of weeds in accordance with Part 4:

- a. wetlands of international importance on the Ramsar List,
- b. a wilderness area within the meaning of the *Wilderness Act 1987*, or
- c. coastal dune environments within 100 metres of the mean high water mark, that consist of unconsolidated sand that is prone to mobilisation as a result of vegetation removal.

A certificate may not be issued for the construction for a new:

- d. fire trail,
- e. vehicular control line, or
- f. linear fire break (other than a transport corridor fire break),

within 30 metres of land identified as “coastal wetlands” on the Coastal Wetlands and Littoral Rainforest Area Map of *State Environmental Planning Policy (Coastal Management) 2018*. These restrictions do not apply to enhancements or maintenance to existing fire trails carried out to meet the Fire Trail Standards.

A certificate may not be issued for the construction for a new Neighbourhood Safer Place within land identified as a “proximity area for coastal wetlands” as identified on the Coastal Wetlands and Littoral Rainforest Area Map of *State Environmental Planning Policy (Coastal Management) 2018*.

2.5 Activities to which the Code does not apply

Works must constitute bush fire hazard reduction; as such a certificate may not be issued solely for the purpose of carrying out the following types of activities:

- a. vegetation clearing,
- b. burning for bush regeneration or ecological purposes,
- c. burning for cultural purposes,
- d. burning for agricultural purposes,
- e. burning for silvicultural purposes, or
- f. vegetation clearing along roadsides for purposes such as line of sight or utility maintenance.

A certificate may not be issued for the following types of activities:

- a. the construction and/or maintenance of a track or road other than a fire trail or control line,
- b. agricultural activities that do not have an existing requirement for environmental assessment, such as stubble burning, burning of sugar cane and diseased crops,
- c. burning of windrows resulting from purposes such as clearing for development or agriculture, or
- d. burning of:
 - i. garden waste,
 - ii. vegetation cleared to facilitate development,
 - iii. construction and industrial waste, or
 - iv. other rubbish or waste.

NB: Fire trails are as specified by the *Fire Trail Standards* prepared in accordance with Part 3B Division 2 of the *Rural Fires Act 1997*.

2.6 Land management agreements

2.6.1 Certificates issued under 100F of the *Rural Fires Act 1997*

The applicant for a certificate under 100F of the *Rural Fires Act 1997* is to include in their application for a certificate:

- whether the property is subject to any of the land management agreements specified in the supporting document *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders*, and if so,
- any relevant details of the land management agreement.

In addition, an issuing authority is to consider whether the property is subject to any applicable land management agreements that have been spatially identified by the relevant public authority and provided to the NSW RFS by that public authority.

The appropriate public authority is to make available a copy of the relevant conditions associated with any identified agreement within three working days of a request by an issuing authority.

The conditions on a certificate must not be inconsistent with any of the conditions of a land management agreement, unless mutually agreeable conditions are developed in consultation with the public authority responsible for the agreement:

Note: the supporting document *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders* includes reference to (but is not limited to) land management agreements under the following legislation:

- *National Parks and Wildlife Act 1974*,
- *Native Vegetation Conservation Act 1997*,
- *Native Vegetation Act 2003*,
- *Nature Conservation Trust Act 2001*,
- *Threatened Species Conservation Act 1995*, or
- *Biodiversity Conservation Act 2016*.

In addition, any certificate issued under 100F of the *Rural Fires Act 1997* must include one of two conditions:

- i. this certificate does not authorise any works that are inconsistent with any of the conditions of any land management agreements identified in the *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders* that apply to the land; or
- ii. this certificate authorises works that are inconsistent with the conditions of {the land management agreement} that applies to the land, however this certificate does not authorise any works that are inconsistent with any of the conditions of any other land management agreements identified in the *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders* that apply to the land;

2.6.2 Certificates issued under 100G of the *Rural Fires Act 1997*

A certifying authority is to consider whether the property is subject to any applicable land management agreements in the *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders* that have been spatially identified by the relevant public authority and provided to the NSW RFS by that public authority.

The appropriate public authority is to make available a copy of the relevant conditions associated with any identified agreement within three working days of a request by a certifying authority.

The conditions on a certificate must not be inconsistent with any of the conditions of any land management agreements that have been spatially provided, unless mutually agreeable conditions are developed in consultation with the public authority responsible for the agreement.

2.7 Orders and directions

Nothing in this Code operates to permit a landowner or land manager to clear vegetation contrary to an order or direction (including any order or direction by a Court) specified in the supporting document *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders*

Note: the supporting document *Bush Fire Environmental Assessment Code - Applicable Land Management Agreements, Directions and Orders* includes reference to (but is not limited to) orders and directions under the following legislation:

- *Criminal Appeal Act 1912,*
- *District Court Act 1973,*
- *Land and Environment Court Act 1979,*
- *Local Court Act 2007,*
- *Supreme Court Act 1970,*
- *National Parks and Wildlife Act 1974,*
- *Fisheries Management Act 1994,*
- *Protection of the Environment Operations Act 1997,*
- *Local Government Act 1993,*
- *Local Land Services Act 2013,*
- *Biodiversity Conservation Act 2016,* or
- *Coastal Management Act 2016.*

2.8 Development consents and other authorisations

2.8.1 Certificates issued under 100F of the *Rural Fires Act 1997*

For the purposes of establishing or maintaining an asset protection zone (APZ) for residential and special fire protection purpose buildings, the following applies:

The applicant for a certificate under 100F of the *Rural Fires Act 1997* is to include in their application for a certificate:

- whether the property has been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* that has been granted since 1 August 2002, and
- whether that development consent or approval required the establishment of an APZ, and if so
- the details of the APZ requirements.

2.8.1.1 Determining conditions for a property that has not been identified as being subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ

A certificate may be issued in accordance with the provisions of this Code.

In addition, the certificate must include a condition stating that the certificate has been issued on the basis of information supplied by the applicant and is therefore invalidated if the property is subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* that has been granted since 1 August 2002 requiring the establishment of an APZ.

2.8.1.2 Determining conditions for a property that has been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ

If a property is subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ, then the issuing authority may:

- issue a certificate for the APZ (if required) not inconsistent with that development consent or approval under the *Environmental Planning & Assessment Act 1979*, or

- if the proposed bush fire hazard reduction work will, wholly or partly, fall out outside the required APZ, the issuing authority is to consider whether it is appropriate to issue the certificate to authorise the carrying out of the work outside the APZ.

2.8.2 Certificates issued under 100G of the *Rural Fires Act 1997*

For the purposes of establishing or maintaining an APZ for residential and special fire protection purpose buildings, the following sub-clauses apply:

2.8.2.1 Determining if a property has been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002

Principal determination

The certifying authority must contact the council of the area to determine whether the property has been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 that includes the requirement to establish an APZ.

The council is to be given opportunity to provide a response with the details of any required APZs. If the council does not provide a response within a reasonable negotiated timeframe a certificate may be issued as if the property had not been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 relating to the establishment of APZs.

Alternative determination

Councils may establish local agreements with a certifying authority regarding a suitable process for identification of those properties that have been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 relating to the establishment of APZs.

2.8.2.2 Determining conditions for a property that has not been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ

A certificate may be issued in accordance with the provisions of this Code.

2.8.2.3 Determining conditions for a property that has been subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ

If a property has been identified by the council of the area as being subject to a development consent or approval under the *Environmental Planning & Assessment Act 1979* granted since 1 August 2002 requiring the establishment of an APZ, and the details of those requirements have been provided to the certifying authority, then the certifying authority may:

- issue a certificate for the APZ (if required) not inconsistent with that development consent or approval under the *Environmental Planning & Assessment Act 1979*, or
- if the proposed bush fire hazard reduction work will wholly or partly, fall out outside the required APZ, the certifying authority is to consider whether it is appropriate to issue the certificate to authorise the carrying out of the work outside the APZ (on information made available to the certifying authority by the local council).

2.8.3 Authorisations under the *Plantations and Reafforestation Act 1999*

Nothing in this Code operates to permit a person/organisation to clear vegetation contrary to an authorisation under the *Plantations and Reafforestation Act 1999*.

2.9 Owners consent required for bush fire hazard reduction certificate applications

Under section 100F of the *Rural Fires Act 1997*, any application to an issuing authority for a certificate must confirm that the consent of all owners or occupiers of the land upon which the work is proposed to be undertaken has been obtained.

Part 3: Type of hazard reduction

3.1 Purpose of works

The work must be for the purpose of bush fire hazard reduction and must be carried out in accordance with a bush fire risk management plan that applies to the land. Bush fire hazard reduction work means:

- a. the establishment or maintenance of fire breaks and fire trails on land, and
- b. the controlled application of appropriate fire regimes or other means for the reduction or modification of available fuels within a predetermined area to mitigate against the spread of a bush fire.

This does not include construction of a track or road.

NB: Fire trails are as specified by the *Fire Trail Standards* prepared in accordance with Part 3B Division 2 of the *Rural Fires Act 1997*.

3.2 Asset protection zones

Asset protection zones (APZs) are designed and managed to:

- provide fuel reduced areas around assets or groups of assets which are adjacent to bush fire hazards
- contain highly modified vegetation to reduce the radiant heat impact during a fire
- provide a defensible space to allow residents and firefighters to operate.

An APZ alone may not provide complete protection, and should be accompanied by appropriate building design, construction and maintenance, and may also be complemented with a strategic fire advantage zone (SFAZ).

This Code covers asset protection zones for:

- residential buildings (as identified in the *NSW RFS Bush Fire Protection for Existing Development Guidelines*),
- special fire protection buildings (as defined in section 100B of the *Rural Fires Act 1997*; e.g. schools, hospitals, retirement villages, and as identified in the *NSW RFS Bush Fire Protection for Existing Development Guidelines*),
- major buildings (as identified in the *NSW RFS Bush Fire Protection for Existing Development Guidelines*),
- telecommunication towers as defined in the *NSW Rural Fire Service Fact Sheet - Telecommunication Towers in Bush Fire Prone Areas*,

- a plantation can comprise more than one area of land if those areas are under the same ownership or management and the Minister determines that those areas may comprise a single plantation for the purposes of the *Plantations and Reafforestation Act 1999* and
- boundary fences (being a fence separating land owned by different persons/agencies).

The area and extent of work permissible for an APZ must be described as a condition within the certificate, or a map defining the boundaries and extent of work permissible for an APZ must be attached to the certificate.

3.2.1 Maximum extent of permissible works for an APZ

This Code provides for vegetation clearing for APZs in accordance with the following:

3.2.1.1 Residential and special fire protection purpose buildings

The maximum extent of work for residential and special fire protection purpose buildings (including On-site Refuges) must be no greater than the distances specified in the *NSW RFS Bush Fire Protection for Existing Development Guidelines*.

3.2.1.2 Major buildings

The maximum extent of work for major buildings must be no greater than the distances specified in the *NSW RFS Bush Fire Protection for Existing Development Guidelines*.

3.2.1.3 Telecommunication Towers

The maximum extent of work for telecommunication towers must be in accordance with the *NSW Rural Fire Service Fact Sheet - Telecommunication Towers in Bush Fire Prone Areas*.

3.2.1.4 Plantations

Work is permissible for the establishment and maintenance of an APZ for plantations as defined in section 5 of the *Plantations and Reafforestation Act 1999*. However, nothing in this Code operates to permit a person/organisation to clear vegetation contrary to an authorisation under the *Plantations and Reafforestation Act 1999*.

Mechanical works to maintain existing fire breaks may be undertaken.

This Code provides for mechanical clearing of planted vegetation for the purpose of constructing fire breaks within the boundary of a plantation authorised under the *Plantations and Reafforestation Act 1999*. The maximum extent of work for new fire breaks must be no greater than 30 metres and must be undertaken as close to the boundary as practical.

Work must not involve the mechanical removal of any vegetation retained and managed (under Part 5, Division 6 of the *Plantations and Reafforestation (Code) Regulation 2001*), as part of a plantation authorisation.

Burning may also be undertaken for this purpose, in accordance with the requirements of Part 5 of this Code.

3.2.1.5 Boundary fences

The maximum width of work along a boundary fence must be no greater than 6 metres on each side of the fence. The mechanical works must be carried out as close as possible to the fence, notwithstanding the need to avoid obstacles such as rocks and trees, while maintaining a maximum width of six metres.

3.2.2 Work permissible for the creation and maintenance of an APZ

Only the following works are permissible:

- a. **Mechanical work** for the maintenance or establishment of APZs in accordance with the requirements of Part 4
- b. **Pruning and tree removal** in accordance with the requirements of Part 4
- c. **Prescribed burning** in accordance with the requirements of Part 5
- d. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during APZ works.

3.3 Strategic Fire Advantage Zones

Strategic Fire Advantage Zones (SFAZs) are identified and managed to:

- provide fuel reduced areas which enable the protection of assets by firefighters when asset protection zones are not in place
- complement APZs
- provide strategically located fuel reduced areas and a mosaic of age classes within vegetation to reduce the potential for large bush fires to develop or spread
- provide areas where fire can more easily be suppressed
- provide strategically located fuel reduced areas to reduce vulnerability of assets which are susceptible to fire.

A map defining the boundaries and extent of permissible work for a SFAZ must be attached to the certificate.

3.3.1 Maximum extent of permissible works for an SFAZ

For the purpose of this Code, SFAZs may be any vegetated area that is managed as a SFAZ.

3.3.2 Work permissible for the creation and maintenance of a SFAZ

Only the following works are permissible for the creation and maintenance of a SFAZ:

- a. **Prescribed burning** in accordance with the requirements of Part 5 (and control lines in accordance with Part 4)
- b. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during APZ works
- c. **Windrow burning** in accordance with the requirements of Part 5.

3.4 Land management zones

Land management zones (LMZs) are identified and managed to:

- achieve fire protection objectives through prescribed burning to create a variety of fuel load structures and a mosaic of age classes within the landscape,
- provide optimum fire frequencies required for the maintenance of biodiversity.

A map defining the boundaries and extent of permissible work for a LMZ must be attached to the certificate.

3.4.1 Maximum extent of permissible works for an LMZ

For the purpose of this Code, LMZs may be any vegetated area that is managed as a LMZ.

3.4.2 Work permissible for the creation and maintenance of a LMZ

Only the following works are permissible for the creation and maintenance of a LMZ:

- a. **Prescribed burning** in accordance with the requirements of Part 5 (and control lines in accordance with Part 4)
- b. **Windrow burning** in accordance with the requirements of Part 5.

3.5 Transport Corridor Fire Breaks

Transport corridor fire breaks are designed and managed to:

- reduce ignition potential by providing fuel reduced areas along road and rail corridors which are adjacent to bush fire hazards
- provide areas from which fire can be suppressed

Transport corridor fire breaks are a strategic fuel reduced feature in the landscape and must be mapped or described as such in a bush fire risk management plan.

Transport corridor fire breaks may be managed to establish low vegetative ground cover through methods such as slashing or burning.

Transport corridor fire breaks are limited to public roads and railways that is vested in, or under the control of the following public authorities: a local authority (councils) or the Roads and Maritime Services in relation to public roads; and Transport for NSW in relation to railways.

The area and extent of work permissible for a transport corridor fire break must be described as a condition within the certificate, or a map defining the boundaries and extent of work permissible for the fire break must be attached to the certificate.

3.5.1 Maximum extent of permissible works for a Transport Corridor Fire Break

This Code provides for vegetation clearing for transport corridor fire breaks in accordance with the following:

3.5.1.1 Mechanical works

Mechanical works may be undertaken as follows:

- roads, up to six metres from the trafficable lane or within the clear zone (whichever is the greatest distance), and
- rail tracks, up to six metres from the rail track.

Clear zone is the area adjacent to the edge of the trafficable lane that is managed to provide space for a driver to stop safely or regain control of a vehicle that leaves the carriageway. Clear zone distances are determined and established by road authorities according to the risk factors at each site.

Trafficable lane refers to the formed road and is not inclusive of the shoulder.

The distances above may be in addition to any mechanical works undertaken to establish an APZ along a boundary fence separating the road reserve or rail corridor from other tenure.

3.5.1.2 Burning

Burning may be undertaken within the extent of the road reserve or rail corridor.

3.5.2 Work permissible for the creation and maintenance of a Transport Corridor Fire Break

Only the following works are permissible for the construction and/or maintenance of a transport corridor fire break:

- a. **Mechanical work** to construct or maintain transport corridor fire breaks in accordance with the requirements of Part 4
- b. **Tree pruning** in accordance with the requirements of Part 4
- c. **Prescribed burning** to construct or maintain transport corridor fire breaks in accordance with the requirements of Part 5
- d. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during mechanical works.

3.6 Linear fire breaks (other than transport corridor fire breaks)

Linear fire breaks (other than transport corridor fire breaks) are designed and managed to provide fuel reduced areas from which fire can be suppressed.

Linear fire breaks are a strategic fuel reduced feature in the landscape and must be mapped or described as such in a bush fire risk management plan.

Linear fire breaks are not to be used to further extend distances for APZs, transport corridor fire breaks, fire trails, or Neighbourhood Safer Places (NSPs); except where otherwise provided for below.

Linear fire breaks may be managed to establish low vegetative ground cover through methods such as slashing or burning.

The area and extent of work permissible for a linear fire break must be described as a condition within the certificate, or a map defining the boundaries and extent of work permissible for the fire break must be attached to the certificate.

3.6.1 Maximum extent of permissible works for a Linear Fire Break

This Code provides for vegetation clearing for linear fire breaks in accordance with the following:

3.6.1.1 Mechanical works

Mechanical works may be undertaken to:

- maintain existing linear fire breaks, or
- for new breaks, up to a maximum total width of:
 - 100 metres in the Western Division (where mallee species predominate),
 - 30 metres in the Western Division (other than where mallee species predominate),
 - 30 metres in areas other than the Western Division for grassland or grassy woodlands, and only where in conjunction with a transport corridor fire break (road only), or fire trail, i.e. a maximum distance of 30 metres inclusive of distances allowable for the transport corridor fire break or fire trail. If no transport corridor fire break (road only), or fire trail are present to undertake the linear fire break, then an unformed road reserve may be used if it is trafficable by fire fighting vehicles.
- 6 metres for all other areas.

Note: The Western Division is as described in the *Crown Land Management Act 2016*.

3.6.1.2 Burning

Burning may be undertaken within the areas defined above in 3.6.1.1 Mechanical works.

3.6.2 Work permissible for the creation and maintenance of a Linear Fire Break

Only the following works are permissible:

- a. **Mechanical work** to construct or maintain linear fire breaks that are identified in a bush fire risk management plan in accordance with the requirements of Part 4
- b. **Tree pruning** in accordance with the requirements of Part 4
- c. **Prescribed burning** to construct or maintain transport corridor fire breaks in accordance with the requirements of Part 5
- d. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during mechanical works.

3.7 Neighbourhood Safer Places

A Neighbourhood Safer Place (NSP) is a building or open space land that may be used as a place of last resort during a bush fire emergency as per the *NSW RFS Neighbourhood Safer Places, Places of Last Resort Guidelines*.

A place is considered a NSP when it is designated by the Commissioner of the NSW Rural Fire Service as such. Designated NSPs are listed on the register of NSPs on the NSW RFS website www.rfs.nsw.gov.au.

For the purpose of this Code a NSP includes any land endorsed by the Commissioner of the NSW Rural Fire Service as a proposed NSP but which is not yet designated.

3.7.1 Maximum extent of work permissible for NSPs

A NSP relies on separation from vegetation around buildings and open space to achieve a performance radiant heat level as per the *NSW RFS Neighbourhood Safer Places, Places of Last Resort Guidelines*.

This Code provides for vegetation clearing for NSPs in accordance with the following:

3.7.1.1 Land within a NSP

Any land designated as a NSP may be cleared.

3.7.1.2 Land adjoining a NSP

The maximum extent of work for land adjoining a NSP must be no greater than the distances specified in the *NSW RFS Neighbourhood Safer Places, Places of Last Resort Guidelines* as measured from the external boundary of the designated NSP.

3.7.2 Work permissible for the creation and maintenance of a NSP or land adjoining a NSP

Only the following works are permissible:

- a. **Mechanical work** to construct or maintain a NSP (or land adjoining a NSP) in accordance with the requirements of Part 4
- b. **Pruning and tree removal** in accordance with the requirements of Part 4
- c. **Prescribed burning** to construct or maintain a NSP (or land adjoining a NSP) in accordance with the requirements of Part 5
- d. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during mechanical works.

The area and extent of work permissible for a NSP and land adjoining a NSP:

- must be described as a condition within the certificate, or
- a map defining the boundaries and extent of work permissible for a NSP and the land adjoining the NSP must be attached to the certificate.

3.8 Fire trails

Fire trails are as specified by the *Fire Trail Standards* prepared in accordance with Part 3B Division 2 of the *Rural Fires Act 1997*.

3.8.1 Maximum extent of work permissible for constructing or maintaining fire trails

The extent of work permissible for the construction and/or maintenance of a fire trail must be in accordance with the *Fire Trail Standards*. Fire trail works are inclusive of all aspects of fire trails that are covered by the *Fire Trail Standards* such as the formed carriageway, passing bays and contour banks. Fire trail works may be associated with construction and/or maintenance.

3.8.2 Work permissible for constructing or maintaining a fire trail

Only the following works are permissible for constructing or maintaining a fire trail:

- a. **Mechanical work** to construct or maintain a fire trail in accordance with the requirements of Part 4
- b. **Pruning and tree removal** in accordance with the requirements of Part 4
- c. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during fire trail works.

The area and extent of work permissible for a fire trail must be described as a condition within the certificate, or a map defining the boundaries and extent of work permissible for a fire trail must be attached to the certificate.

3.9 Control lines for prescribed burns

Control lines for prescribed burns aim to provide:

- access to a burn
- a perimeter from which to light a burn or
- opportunity to contain a burn.

Control lines may consist of natural features such as watercourses and waterbodies, existing constructed features such as tracks, or may need to be specifically constructed.

3.9.1 Maximum extent of work permissible for construction or maintenance of control lines

The closest natural/existing control lines to the intended perimeter of the burn should be used where available. These include features such as a road, track, trail, watercourse or cleared area. If these are not available, this Code provides for the construction and maintenance of control lines in accord with the following:

3.9.1.1 Control lines not designed for vehicular use

The maximum width of a control line must not exceed four metres, other than Heathlands vegetation formation (as defined in Keith 2004) which may not exceed six metres.

Control lines may be constructed to protect internal or boundary fences to a maximum distance of three metres either side of the fence. The mechanical works must be carried out as close as possible to the fence (notwithstanding the need to avoid obstacles such as rocks and trees) while maintaining a maximum width of three metres.

3.9.1.2 Control lines designed for vehicular use

The extent of work permissible for the construction and/or maintenance of a control line designed for vehicular use must be in accordance with the *Fire Trail Standards*. Permissible works are inclusive of turnarounds, passing bays and the like, along with erosion control measures and the like, that are associated with construction and/or maintenance.

NB: *“Control lines designed for vehicular use’ should only be implemented where natural or existing containment lines are unavailable or are not practical, and where it is not practical to utilise “control lines not designed for vehicular use”.*

3.9.2 Work permissible for constructing or maintaining a control line

Only the following works are permissible for constructing or maintaining a control line:

- a. **Mechanical work** to construct or maintain a control line in accordance with the requirements of Part 4
- b. **Pruning and tree removal** in accordance with the requirements of Part 4
- c. **Pile burning** in accordance with the requirements of Part 5 for disposal of vegetation material removed during control line works.

The area and extent of work permissible for a control line must be described as a condition within the certificate, or a map defining the boundaries and extent of work permissible for a control line must be attached to the certificate.

Part 4: Mechanical hazard reduction

4.1 Vegetation within which mechanical works are restricted

4.1.1 Vegetation where mechanical works are highly restricted

A certificate may not be issued for mechanical works to clear the following vegetation classes (as defined in Keith 2004), except where works are limited to the manual removal of weeds.

Table 1: Vegetation where mechanical works are highly restricted

VEGETATION FORMATIONS	VEGETATION CLASSES
The identified rainforest classes	<ul style="list-style-type: none">➤ Dry Rainforests➤ Littoral Rainforests➤ Western Vine Thickets
All saline wetland classes	<ul style="list-style-type: none">➤ Inland Saline Lakes➤ Mangrove Swamps➤ Saltmarshes➤ Seagrass Meadows
All alpine complex classes	<ul style="list-style-type: none">➤ Alpine Bogs and Fens➤ Alpine Fjaeldmarks➤ Alpine Heaths➤ Alpine Herbfields
The identified freshwater wetland classes	<ul style="list-style-type: none">➤ Montane Bogs and Fens➤ Coastal Freshwater Lagoons➤ Coastal Heath Swamps➤ Montane Lakes

4.1.2 Vegetation where mechanical works are restricted

A certificate may not be issued for NSPs, transport corridor fire breaks, linear fire breaks or boundary fence APZs in the following vegetation classes (as defined in Keith 2004), except where works are limited to the manual removal of weeds.

Allowable mechanical works may only be undertaken if:

- there is no practicable alternative location available, and
- clearing of vegetation is kept to the minimum necessary.

Table 2: Vegetation where mechanical works are restricted

VEGETATION FORMATION	VEGETATION CLASS
The identified rainforest classes	<ul style="list-style-type: none"> ➤ Subtropical Rainforests ➤ Northern Warm Temperate Rainforests ➤ Southern Warm Temperate Rainforests ➤ Cool Temperate Rainforests

4.2 Standards to prevent soil erosion and instability

In the event of any accidental soil disturbance, the soil so disturbed must be remediated as soon as practicable to minimise the potential for erosion.

4.2.1 Construction and maintenance of APZs, NSPs, transport corridor and linear fire breaks

Mechanical works that result in an exposed soil surface renders the ground vulnerable to erosion. To minimise soil erosion for APZs, NSPs, transport

corridor and linear fire breaks, at least 70% ground cover is to be retained. However, for sites that have less than 70% ground cover prior to the work commencing the prescription should aim to maximise available ground cover through such means as spreading slashed vegetation.

A certificate may only be issued where works are consistent with the requirements of the relevant mapped soil erosion risk category specified in Table 3. Soil erosion risk categories are in accord with the document *Rules and Notes for Application of Soil Erosion Risk for the Bush Fire Environmental Assessment Code*.

Table 3: Works permissible within APZs, NSPs or transport corridor and linear fire breaks

Soil Erosion Risk Category	Hand tools and hand held machinery	Slashing, trittering or flail machinery	Reach, flail-arm, or side-arm mowers	Earthmoving machinery (note that slashing is preferred)	Removal and pruning of trees (applies to APZs and NSPs)	Skirting of trees (applies to transport corridor and linear fire breaks)
1	Permitted	Permitted	Permitted	Permitted Must not reshape the soil surface or result in re-direction of surface water runoff.	Permitted	Skirting permitted
2	Permitted	Permitted	Permitted	Permitted Must not reshape the soil surface or result in re-direction of surface water runoff. Where possible, machinery work must be conducted parallel to contours.	Permitted	Skirting permitted

Soil Erosion Risk Category	Hand tools and hand held machinery	Slashing, trittering or flail machinery	Reach, flail-arm, or side-arm mowers	Earthmoving machinery (note that slashing is preferred)	Removal and pruning of trees (applies to APZs and NSPs)	Skirting of trees (applies to transport corridor and linear fire breaks)
3	Permitted	Permitted	Permitted	Not permitted	Permitted but root structure of removed trees must be left undisturbed.	Skirting permitted
4	Permitted	Permitted	Permitted	Not permitted	Tree removal is only permitted on slopes less than 18° and the root structure of removed trees must be left undisturbed. On slopes of 18° and above only pruning of trees is permissible, and 75% of original canopy cover must be retained.	-
5	Permitted	Not permitted	Permitted. Machinery must operate from an existing formed track.	Not permitted	Tree removal is only permitted on slopes less than 18° and the root structure of removed trees must be left undisturbed. On slopes of 18° and above only pruning of trees is permissible, and 75% of original canopy cover must be retained.	Skirting permitted

Irrespective of Table 3, trees may not be removed on any slope where there is evidence of soil slumping or evidence of trees leaning in the same direction indicating substrate movement unless works are carried out in accordance with a Geotechnical Engineer Assessment Report that has been prepared for that purpose.

4.2.2 Construction and maintenance of fire trails and control lines designed for vehicular use

The *Fire Trail Standards* must be used for the application of erosion control measures for the construction and maintenance of fire trails and control lines designed for vehicular use.

Conditions must be imposed that control lines constructed must be allowed to regenerate following the burn.

4.2.3 Construction and maintenance of control lines (not designed for vehicular use)

Construction and maintenance of control lines (not designed for vehicular use) must be undertaken in accordance with the following requirements:

- Control lines should be constructed where native vegetation has already been disturbed, in preference to undisturbed vegetation.
- Control lines must be constructed in a manner that minimises the potential for soil erosion.
- Conditions must be imposed that control lines constructed must be allowed to regenerate following the burn.
- Control lines that run parallel to a watercourse or waterbody must not be constructed within the riparian buffer distances specified in Table 5.
- Control lines may be constructed within riparian buffers where they are constructed for the purpose of crossing a watercourse or waterbody.

Control lines may also be constructed to link through to the watercourse or waterbody where that watercourse or waterbody forms part of the containment strategy. Drainage structures (such as crossbanks, culverts or small logs) must be constructed close to the bank or shore and designed to minimise the potential for soil erosion and associated sedimentation of watercourses and waterbodies. Any modifications to the bed of the watercourse or waterbody may only be undertaken in accordance with an approval issued for that purpose by the Department of Primary Industries - Fisheries.

- The use of earthmoving machinery is not permitted within the riparian buffer or for the purpose of creating or maintaining a watercourse or waterbody crossing.
- Drainage structures (such as crossbanks, culverts or small logs) must be constructed at intervals of at least 50 metre intervals under the following circumstances:
 - where the Soil Erosion Risk Category is 3, 4 or 5, and
 - where the control line will be perpendicular (or within 45 degrees to the perpendicular) to the contour.

Construction and maintenance of control lines are only permitted where works are consistent with the requirements of the relevant mapped Soil Erosion Risk Category as specified in Table 4. Soil Erosion Risk categories are in accord with the document *Rules and Notes for Application of Soil Erosion Risk for the Bush Fire Environmental Assessment Code*.

Table 4: Works permissible for construction and maintenance of control lines (not designed for vehicular use)

Soil Erosion Risk Category	Hand tools and hand held machinery	Slashing, trittering or flail machinery	Reach, flail-arm, or side-arm mowers	Earthmoving machinery (note that slashing is preferred)	Removal and pruning of trees*
1	Permitted	Permitted	Permitted	Permitted	Permitted
2	Permitted	Permitted	Permitted	Permitted	Permitted
3	Permitted	Permitted	Permitted	Not Permitted	Permitted
4	Permitted	Permitted	Permitted Machinery must operate from an existing formed track	Not Permitted	Permitted
5	Permitted	Not permitted	Permitted Machinery must operate from an existing formed track	Not Permitted	Permitted

* Tree removal must be a last resort and is only allowed where modification of the route or lesser tree works such as skirting or pruning are not feasible.

4.3 Standards for the protection of riparian buffers and watercourses/waterbodies

4.3.1 Riparian buffers

Mechanical work must be excluded from all vegetation within, and adjacent to a watercourse or waterbody (i.e. the riparian buffer zone) within the distances specified in Table 5. The distance (metres) is measured from the highest bank or shore (i.e. the highest astronomical tide for tidal waters) on either side of the watercourse or waterbody.

A riparian buffer is not required adjacent to the following vegetation classes (as vegetation adjacent to these vegetation classes are not riparian vegetation per se):

- Coastal Heath Swamps,
- Montane Bogs and Fens,
- Coastal Swamp Forests, or
- Coastal Floodplain Wetlands.

The construction and maintenance of control lines (not designed for vehicular use) may be undertaken within the riparian buffer zone distances as specified in Table 5 where the works comply with Clause 4.2.3.

Existing fire trails and control lines designed for vehicular use may be maintained where they currently occur within the riparian buffer distances specified in Table 5.

The construction of fire trails and control lines designed for vehicular use may be undertaken within the riparian buffer distances specified in Table 5 if:

- there is no practicable alternative route available because of topography and slope constraints,
- it is located as far as practically possible from the waterway or waterbody, and
- clearing of native vegetation in riparian buffer zones is kept to the minimum necessary.

Table 5: Riparian buffer zones for mechanical works

Watercourse or waterbody and Strahler stream ordering	RIPARIAN BUFFER WIDTH FROM HIGHEST BANK IN METRES				
	Hand tools and hand held machinery	Slashing, trittering or flail machinery	Reach, flail-arm, or side-arm mowers	Earthmoving machinery	Removal and pruning of trees
1st Order and unmapped watercourses	5	5	5	10	5
2nd Order watercourses or a waterbody greater than or equal to 0.1 ha but less than 0.5 ha	5	10	10	15	10
3rd Order watercourses or a waterbody greater than or equal to 0.5 ha but less than 2 ha	10	15	15	20	15
4th Order watercourses or a waterbody greater than or equal to 2 ha	10	20	20	20	20

Irrespective of Table 5, the following works may be undertaken no closer than 2 metres of the highest bank or shore either side of a watercourse or waterbody where an APZ (for residential, special fire protection purpose or major buildings) occurs within any riparian zone:

- Pruning branches that are less than 2 metres from the ground (skirting), and
- The pruning of shrubs without removal of the root structure.

4.3.2 Watercourse and Waterbody Crossings for Fire Trails and Control Lines Designed for Vehicular Use

New fire trails and control lines designed for vehicular use may be constructed within the riparian buffer distances specified in Table 5 for the purpose of crossing a watercourse or waterbody. Watercourse or waterbody crossings are inclusive of means such as bridges, fords, culverts, and causeways (both piped and unpiped). The number of crossings must be no more than the minimum required and where there is no other suitable alternative. Construction includes widening or a change of alignment. Construction may only be undertaken in accordance with an approval issued for that purpose by the Department of Primary Industries - Fisheries.

In addition, irrespective of whether for the purpose of construction or maintenance, any watercourse or waterbody crossing, whether temporary or permanent, which:

1. requires placing material on the bed of the watercourse or waterbody (i.e. reclamation) and/or

2. may obstruct the free passage of fish, may only be undertaken in accordance with an approval issued for that purpose by the Department of Primary Industries - Fisheries.

Irrespective of whether for the purpose of construction or maintenance, any modifications to the bed of the watercourse or waterbody may only be undertaken in accordance with an approval issued for that purpose by the Department of Primary Industries - Fisheries.

4.4 Standards for the protection of trees

A range of considerations relate to the removal or pruning of trees. A tree being any perennial woody plant:

- that is three or more metres in height, and
- that has one or more self-supporting trunks (at least one of which has a circumference of 0.3 metres or more when measured at a height of 1.3 metres above ground).

Any reference to pruning in this Code is inclusive of skirting (the removal of lower branches to separate the tree canopy from the ground or understorey vegetation).

4.4.1 Criteria applying to all tree works

The following criteria apply to any tree removal/pruning works:

- Tree pruning or skirting should be used in preference to tree removal where appropriate.
- Any pruning or branch removal must be carried out in accordance with *AS 4373—2007 Pruning of Amenity Trees*.
 - Selection of trees for removal:
 - Trees considered to be unstable, unhealthy or dangerous should be removed in preference to other trees.
 - Species that are listed in the relevant Regional Strategic Weed Management Plan or the relevant local control authority priority weed lists should be removed in preference to other species.
 - Non-indigenous plants should be removed in preference to native species.
 - Small trees without hollows should be removed in preference to larger trees and trees with hollows.
 - Species with rough, flaky or stringy bark should be removed in preference to those with smooth or tightly held bark
 - Locally common species should be removed in preference to species listed by the local authority as regionally significant, or valuable for habitat/food or foraging source (e.g. Koala use tree species as per *State Environmental Planning Policy (Koala Habitat Protection)*)

4.4.2 Additional criteria for tree removal based on works purpose

The following criteria applies in addition to the criteria in clause 4.4.1 depending on the works purpose.

4.4.2.1 APZ - Residential, special fire protection purpose, and major buildings

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of an APZ for residential and special fire protection purpose buildings or major buildings:

- Any part of a tree within 5 metres of the building may be removed (this may involve pruning of the tree, rather than total removal).
- The canopy throughout the APZ may be managed to be discontinuous. Tree crowns may be separated by a maximum of 5 metres (this may involve pruning of trees, rather than total removal),
- Skirting (the removal of lower branches) to separate the tree canopy from the ground or understorey vegetation may be undertaken up to a height of 2 metres.

4.4.2.2 APZ - Boundary fences

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of an APZ for a boundary fence:

- Skirting (the removal of lower branches) to separate the tree canopy from the ground may be undertaken up to a height of 2 metres.

4.4.2.3 APZ - Plantations

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of an APZ for a plantation:

- The works must be in accordance with Clause 3.2.1.4 and may involve pruning or skirting of trees, rather than total removal.

4.4.2.4 APZ - Telecommunication towers

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of an APZ for telecommunication towers:

- Any tree works provided for in accordance with the NSW Rural Fire Service Fact Sheet - *Telecommunication Towers in Bush Fire Prone Areas*.
- Skirting (the removal of lower branches) to separate the tree canopy from the ground or understorey vegetation may be undertaken up to a height of 2 metres.

4.4.2.5 Neighbourhood Safer Places (NSPs)

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of a NSP:

- Any part of a tree within the NSP or land adjacent to the NSP may be removed (this may involve pruning of the tree, rather than total removal) to achieve a performance radiant heat level as per the *NSW RFS Neighbourhood Safer Places, Places of Last Resort Guidelines*.

4.4.2.6 Fire trails or control lines designed for vehicular use

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of a fire trail or a control line designed for vehicular use:

- Trees may only be removed for the purpose of constructing a fire trail or control line designed for vehicular use if it is not practical to modify the fire trail or control line to avoid their removal.
- Trees and vegetation may be removed to maintain a fire trail or control line designed for vehicular use.
- Any part of a tree that would impede the clear passage of the vehicle type for which the carriageway is designed may be removed (this may involve pruning of the tree, rather than total removal). The carriageway applies to the total width and minimum height of clearing allowable for the fire trail or control line.

4.4.2.7 Control lines not designed for vehicular use

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of a control line not designed for vehicular use:

- Trees may only be removed for the purpose of constructing a control line not designed for vehicular use if it is not practical to modify the control line to avoid their removal.
- Any part of a tree that overhangs or otherwise impedes the control line that might compromise the control line function may be removed (this may involve pruning of the tree, rather than total removal).
- Skirting (the removal of lower branches) to separate the tree canopy from the ground may be undertaken up to a height of 2 metres immediately adjacent to the control line to improve the functioning of the control line.

4.4.2.8 Transport corridors or linear fire breaks

The following criteria apply to tree removal/pruning works for the construction and/or maintenance of a transport corridor or linear fire break:

- Skirting (the removal of lower branches) to separate the tree canopy from the ground may be undertaken up to a height of 2 metres.

4.5 Standards for the protection of biodiversity

The document '*Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code*' supports the consideration of threatened biodiversity.

The *Threatened Species Hazard Reduction List* is developed by EES and NSW Department of Primary Industries - Fisheries in consultation with the NSW Rural Fire Service, and is comprised of:

- Part 1 – Plants,
- Part 2 – Animals,
- Part 3 – Ecological Communities, and
- Part 4 – Aquatic biodiversity.

4.5.1 Determining presence of threatened species, populations or ecological communities

The following data (as provided to the NSW Rural Fire Service for use under this Code) must be used to determine if threatened species, populations or ecological communities are present at the site:

- EES Threatened Species Hazard Reduction Map,
- EES threatened ecological community mapping,
- NSW Department of Primary Industries - Fisheries threatened biodiversity mapping,

Applicable mapping is that mapping that has been provided to the NSW Rural Fire Service by the relevant public authority for the purpose of this Code.

In addition, certifying authorities that are land managers are to use any existing records that they hold and would normally use to determine management actions on their land.

NB: The supporting document, *Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code*, along with the *Threatened Species Hazard Reduction List*, identify which threatened species, populations and ecological community records are applicable.

4.5.2 Determining management conditions from the *Threatened Species Hazard Reduction List*

Where threatened species, populations or ecological communities are identified in accordance with 4.5.1 as present at the site, then the management actions identified within the *Threatened Species Hazard Reduction List* must be imposed as a condition of the certificate.

The management actions identified within the *Threatened Species Hazard Reduction List* do not need to be met (other than for threatened aquatic biodiversity) if a site inspection under the NSW Office of Environment and Heritage '*Threatened Biodiversity Survey and Assessment Guidelines for Developments and Activities*' indicates that the species, population or ecological community of concern, or their habitat, is not likely to occur at the site.

The management actions identified within the Threatened Species Hazard Reduction List do not need to be met (other than for threatened aquatic biodiversity) if a site inspection using a valid survey method indicates that the species, population or ecological community of concern, or their habitat, is not likely to occur at the site.

Note: *Valid survey guidelines are as identified in the Code Supporting Document - 'Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code'.*

4.5.3 Modifying management conditions from the *Threatened Species Hazard Reduction List*

4.5.3.1 Modifying management conditions for issuing authorities

Where conditions on the *Threatened Species Hazard Reduction List* would prevent the works, an issuing authority may proceed with the assessment if:

- a licence under Section 2.11 of the *Biodiversity Conservation Act 2016* has been granted, or
- a licence under Part 7A (s220ZW) of the *Fisheries Management Act 1994* has been granted.

The conditions in any licences must be imposed. Works undertaken in accordance with these licences are not required to comply with conditions on the *Threatened Species Hazard Reduction List*.

4.5.3.2 Modifying management conditions for certifying authorities

Where conditions on the *Threatened Species Hazard Reduction List* would prevent the works, a certifying authority may proceed with the assessment in the following circumstances:

- a. If a site assessment/inspection (other than for threatened aquatic biodiversity) under:
 - survey guidelines identified in the Code Supporting Document - '*Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code*'.

indicates that the location of the species, population or ecological community of concern or their habitat is such that the works can be modified to protect the species, population or ecological community, or

- b. a licence under Section 2.11 of the *Biodiversity Conservation Act 2016* has been granted, or
- c. a licence under Part 7A (s220ZW) of the *Fisheries Management Act 1994* has been granted.

The conditions in any licences must be imposed. Works undertaken in accordance with these licences are not required to comply with conditions on the *Threatened Species Hazard Reduction List*.

4.6 Standards for the protection of Aboriginal cultural heritage

Any certificate issued under 100F of the *Rural Fires Act 1997* must contain a condition requiring works to cease and Heritage NSW to be notified if any Aboriginal heritage is discovered during the carrying out of the works. This also applies to any certificates issued under 100G of the *Rural Fires Act 1997* where the certificate is issued in support of a notice under the *Rural Fires Act 1997*.

Any other type of certificate issued must contain a condition requiring that if any Aboriginal heritage is discovered during the carrying out of the works, then works must be undertaken in accordance with the relevant conditions specified in the NSW RFS document *Conditions for Hazard Reduction and Aboriginal Heritage*, and Heritage NSW to be notified.

In addition, the following process applies.

4.6.1 Determining presence and type of Aboriginal cultural heritage

4.6.1.1 Determining presence/type for issuing and certifying authorities

The issuing/certifying authority must conduct a basic search for Aboriginal cultural heritage in the Aboriginal Heritage Information Management System (AHIMS) or any replacement information management system.

If the basic search identifies the presence of Aboriginal cultural heritage, the issuing/certifying authority must then undertake an extensive search in AHIMS in order to obtain relevant details.

Heritage NSW will provide extensive search results information within 3 working days, detailing any Aboriginal cultural heritage of concern. If Heritage NSW does not meet the 3 working day turn around then the issuing/certifying authority may proceed to issue the certificate.

4.6.1.2 Alternative procedure for determining presence/type for certifying authorities

Certifying authorities that have a data licence agreement in place with Heritage NSW that identifies Aboriginal cultural heritage may use that data to determine presence and type of Aboriginal heritage.

4.6.2 Determining management conditions for Aboriginal cultural heritage

Where Aboriginal cultural heritage is indicated to be present, then bush fire hazard reduction works must be undertaken in accordance with the relevant conditions specified in the NSW RFS document *Conditions for Hazard Reduction and Aboriginal Heritage*.

4.7 Standards for the protection of other cultural heritage

4.7.1 Determining presence and type of cultural heritage

For the purpose of this clause, applicable national, state or local heritage are limited to those sites or items:

- that are identified on a national, state or local heritage register, and
- that have been spatially identified by the relevant public authority and provided to the NSW Rural Fire Service by that public authority.

4.7.2 Determining management conditions for cultural heritage

If there is cultural heritage that may be affected by the proposed work, conditions must be imposed to protect the site or item. Such conditions must be determined in consultation with the relevant authority or authorities.

4.8 Standards for the consideration of statutory plans of management

If there are any relevant statutory plans of management relevant to the area of proposed work on public land, conditions must be imposed to ensure the works are consistent with the objectives of the plan to protect the environmental values of the area.

4.9 Standards relating to weeds

Nothing in this Code operates to exempt the landowner or land manager from their ongoing obligation to comply with the *Biosecurity Act 2015*.

All bush fire hazard reduction works are to be carried out in accordance with any Biosecurity Plans that apply to the land.

4.9.1 Herbicide Use

Herbicides can only be used within this Code for controlling weeds.

When applying herbicides, users should make every reasonable attempt to prevent damage occurring from the use of a herbicide, such as off-target spray drift onto native vegetation and other non-target vegetation such as agricultural areas.

Spraying of herbicides cannot be used within 100 metres of the known location of any species listed in the *Threatened Species Hazard Reduction List*, unless the List states otherwise. A targeted application method with a suitable herbicide should be used as an alternative to prevent contamination. The use of any herbicide near water bodies must not be undertaken if likely to result in water pollution or harm to non-target species.

Where herbicides are to be used, conditions must be imposed that the user is required to:

- use only herbicides registered by the Australian Pesticides and Veterinary Medicines Authority (www.apvma.gov.au) that are approved for the intended situation of use,
- strictly adhere to any directions on the container label before using any pesticide, so that specific instructions relating to the rate, timing, application and safety are noted unless operating in accordance with an APVMA off-label permit,
- not risk injury to persons, property and non-target plants and animals through the use of a herbicide,
- use in accordance with the requirements of the *Pesticides Act 1999*, *Biosecurity Act 2015*, and the *Protection of Environment (Operations) Act 1997*, and any other relevant State or local government chemical use authorisations.
- operate in accordance with the *Biosecurity Act 2015*, and the relevant Regional Strategic Weed Management Plan.

Part 5: Hazard Reduction using Prescribed Burning

5.1 Vegetation or land to which burning does not apply or has limitations

A certificate may not be issued for burning in or of the following vegetation formations and/or classes (as defined in Keith 2004):

Table 6: Vegetation where prescribed burns are excluded

VEGETATION FORMATIONS	VEGETATION CLASSES
All Rainforest classes	<ul style="list-style-type: none"> ➤ Subtropical Rainforests ➤ Northern Warm Temperate Rainforests ➤ Southern Warm Temperate Rainforests ➤ Cool Temperate Rainforests ➤ Dry Rainforests ➤ Western Vine Thickets ➤ Littoral Rainforests ➤ Oceanic Rainforests ➤ Oceanic Cloud Forests
All Saline Wetlands classes	<ul style="list-style-type: none"> ➤ Inland Saline Lakes ➤ Mangrove Swamps ➤ Saltmarshes ➤ Seagrass Meadows
The identified Freshwater Wetland classes*	<ul style="list-style-type: none"> ➤ Coastal Freshwater Lagoons ➤ Montane Bogs and Fens ➤ Montane Lakes
All Alpine Complex classes	<ul style="list-style-type: none"> ➤ Alpine Bogs and Fens ➤ Alpine Fjaeldmarks ➤ Alpine Heaths ➤ Alpine Herbfields
All Arid Shrublands (Chenopod subformation) classes	<ul style="list-style-type: none"> ➤ Riverine Chenopod Shrublands ➤ Aeolian Chenopod Shrublands ➤ Gibber Chenopod Shrublands

* The exclusion of burning does not apply to any threatened ecological communities (within this Vegetation Class) identified in the *Threatened Species Hazard Reduction List - Part 3*, where the conditions provide for burning, so long as the conditions in that List are met.

A certificate may not be issued for prescribed burning (including burning of piles and windrows) on land that contains peat soils (unless the ground has sufficient soil moisture content to prevent ignition of the peat soil profile).

5.2 Type of burn

- A certificate may not be issued for high intensity prescribed burning in Dry Sclerophyll Forests, Wet Sclerophyll Forests, Forested Wetlands, Freshwater Wetlands, Grassy Woodland, or Semi-arid Woodlands (as defined in Keith 2004).
- Burning undertaken by anybody other than a Fire Fighting Authority (as defined under the *Rural Fires Act 1997*) must be conducted in accordance with the NSW Rural Fire Service *Standards for Low Intensity Bush Fire Hazard Reduction Burning*, except if the following applies:
 - The flame height objectives in the Standards may be varied if the responsible Fire Fighting Authority determines that the burn may still be undertaken safely. Conditions detailing the relevant changes must be included in the Certificate, including any appropriate safety conditions, such as requiring the attendance of a Fire Fighting Authority.
- Pile burning undertaken by anybody other than a Fire Fighting Authority (as defined under the *Rural Fires Act 1997*) must be conducted in accordance with the NSW Rural Fire Service Standards for Pile Burning.
- Windrow burning must be conducted in accordance with the requirements of the *Plantations and Reafforestation (Code) Regulation 2001* and the *NSW Rural Fire Service Standards for Windrow Burning*.

5.3 Standards for the protection of biodiversity – threatened species

The document '*Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code*' supports the consideration of threatened biodiversity.

The *Threatened Species Hazard Reduction List* is developed by EES and NSW Department of Primary Industries - Fisheries in consultation with the NSW Rural Fire Service, and is comprised of:

- Part 1 – Plants,
- Part 2 – Animals,
- Part 3 – Ecological Communities, and
- Part 4 – Aquatic biodiversity.

5.3.1 Determining presence of threatened species, populations or ecological communities

The following applicable mapping must be used to determine if threatened species, populations or ecological communities are present at the site:

- EES Threatened Species Hazard Reduction Map,
- EES threatened ecological community mapping, and
- NSW Department of Primary Industries - Fisheries threatened biodiversity mapping.

Applicable mapping is that mapping that has been provided to the NSW Rural Fire Service by the relevant public authority for the purpose of this Code.

In addition, certifying authorities that are land managers are to use any existing records that they hold and would normally use to determine management actions on their land.

NB: The supporting document, *Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code*, along with the *Threatened Species Hazard Reduction List*, identify which threatened species, populations and ecological community records are applicable.

5.3.2 Determining management conditions from the *Threatened Species Hazard Reduction List*

Where threatened species, populations or ecological communities are identified in accordance with 5.3.1 as present at the site, then the management actions identified within the *Threatened Species Hazard Reduction List* must be imposed as a condition of the certificate.

The management actions identified within the *Threatened Species Hazard Reduction List* do not need to be met (other than for threatened aquatic biodiversity) if a site inspection using a valid survey method indicates that the species, population or ecological community of concern, or their habitat, is not likely to occur at the site.

Note: *Valid survey guidelines are as identified in the Code Supporting Document - 'Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code'.*

5.3.3 Modifying management conditions from the *Threatened Species Hazard Reduction List*

5.3.3.1 Modifying management conditions for issuing authorities

Where conditions on the *Threatened Species Hazard Reduction List* would prevent the works, an issuing authority may proceed with the assessment if:

- a licence under Section 2.11 of the *Biodiversity Conservation Act 2016* has been granted, or
- a licence under Part 7A (s220ZW) of the *Fisheries Management Act 1994* has been granted.

The conditions in any licences must be imposed. Works undertaken in accordance with these licences are not required to comply with conditions on the *Threatened Species Hazard Reduction List*.

5.3.3.2 Modifying management conditions for certifying authorities

Where conditions on the *Threatened Species Hazard Reduction List* would prevent the works, a certifying authority may proceed with the assessment in the following circumstances:

- a. If a site assessment/inspection (other than for threatened aquatic biodiversity) under:
 - survey guidelines identified in the Code Supporting Document - *'Rules and Notes for Implementation of the Threatened Species Hazard Reduction List for the Bush Fire Environmental Assessment Code'*.

indicates that the location of the species, population or ecological community of concern or their habitat is such that the works can be modified to protect the species, population or ecological community, or

- b. If a licence under Section 2.11 of the *Biodiversity Conservation Act 2016* has been granted,
- c. If a licence under Part 7A (s220ZW) of the *Fisheries Management Act 1994* has been granted

The conditions in any licences must be imposed. Works undertaken in accordance with these licences are not required to comply with conditions on the *Threatened Species Hazard Reduction List*.

5.4 Standards for the protection of biodiversity – fire regimes and fire interval thresholds

The issuing/certifying authority must determine the primary vegetation class to be burned within the gross area proposed for hazard reduction burning, and apply the appropriate minimum fire interval. In situations where other vegetation classes occur as a significant proportion within the gross area proposed for hazard reduction burning, then the appropriate fire interval must be addressed for these vegetation classes as well. The issuing/certifying authority must also consider sensitive vegetation (e.g. rainforest or wet sclerophyll forest gullies) and impose a condition on the certificate to ensure that the potential for burning these areas is minimised through appropriate implementation of the burn.

The fire interval thresholds below apply unless operating in accordance with Clause 5.12.2 Fire intervals for weed management.

5.4.1 Fire interval thresholds from the *Threatened Species Hazard Reduction List*

If threatened species, populations or ecological communities were identified as present at the site in clause 5.3.1, a certificate may only be issued for prescribed burning if the time since fire is longer than, or equal to, the minimum fire interval required by the *Threatened Species Hazard Reduction List* (if specified). Nothing in this clause operates to prevent works carried out otherwise in accordance with clauses 5.3.2 or 5.3.3.

5.4.2 Fire interval thresholds for APZs

A certificate may be issued for prescribed burning in an APZ regardless of fire interval. Clause 5.4.1 applies if threatened species, populations or ecological communities are identified as per clause 5.3.1.

5.4.3 Fire interval thresholds for SFAZs

A certificate may only be issued for prescribed burning in a SFAZ if the time since fire is longer than, or equal to, the minimum SFAZ fire interval for the vegetation class in the EES/NSW RFS document *Fire Intervals for SFAZs and LMZs*.

Clause 5.3.2 applies (unless clause 5.3.3 is applicable) if threatened species, populations or ecological communities are identified as per clause 5.3.1.

5.4.4 Fire interval thresholds for LMZs

A certificate may only be issued for prescribed burning in a LMZ if the time since fire is longer than, or equal to, the minimum LMZ fire interval for the vegetation class in the EES/NSW RFS document *Fire Intervals for SFAZs and LMZs*.

Clause 5.3.2 applies (unless clause 5.3.3 is applicable) if threatened species, populations or ecological communities are identified as per clause 5.3.1.

5.4.4.1 Landscape consideration of fire regime for LMZs

Prior to a certificate being issued for a prescribed burn in a LMZ consideration should be given to managing the landscape to provide for a mosaic of varying age structures within each vegetation class.

5.4.5 Fire interval thresholds for NSPs

A certificate may be issued for prescribed burning in a NSP regardless of fire interval. Clause 5.4.1 applies if threatened species, populations or ecological communities are identified as per clause 5.3.1.

5.4.6 Fire interval thresholds for Transport Corridor or Linear Fire Breaks

A certificate may only be issued for prescribed burning in Transport Corridor or Linear Fire Breaks if the time since fire is longer than, or equal to, the minimum SFAZ fire interval for the vegetation class in the EES/NSW RFS document *Fire Intervals for SFAZs and LMZs*.

Clause 5.3.2 applies (unless clause 5.3.3 is applicable) if threatened species, populations or ecological communities are identified as per clause 5.3.1.

5.5 Fire permits, notifications and no burn notices

Nothing in this Code operates to exempt a person from their legal obligation to comply with:

- a. fire permit requirements under section 87 or section 88 of the *Rural Fires Act 1997*,
- b. notification requirements under section 86 of the *Rural Fires Act 1997*, and clause 33 of the *Rural Fires Regulation 2013*,
- c. Total Fire Ban declarations by the NSW RFS under section 99 of the *Rural Fires Act 1997*, or No Burn Notices declared by the Environment Protection Authority under section 133 of the *Protection of the Environment Operations Act 1997*.

5.6 Standards relating to the effects of smoke

For the purpose of this Code:

- small fires are prescribed burns up to 1 hectare in size and pile burns
- large fires are prescribed burns greater than 1 hectare in size and windrow burns

5.6.1 Adjoining land and neighbouring residences

Conditions must be imposed that at least 24 hours (unless specified otherwise in a fire permit) notification of the intended date of the burn must be given to all adjoining landholders (including land that is separated by a lane, road or watercourse or waterbody) and:

- for a small fire, the owners/occupiers of any residential premises within 50 metres
- for a large fire, the owners/occupiers of any residential premises within 200 metres.

5.6.2 Sensitive locations

Sensitive locations include schools, hospitals, residential aged care facilities, child care facilities, ventilation intakes (e.g. mine shafts), airports and the like.

If any of these locations are within 100 metres of a small fire or 1000 metres of a large fire, the issuing or certifying authority must consult with the owner/manager to determine mutually agreeable conditions. In determining those conditions consideration must be given to burning when:

- the operator confirms that they do not expect an adverse impact, or if not confirmed, then
- when the facility is closed or not operating, or
- where an agreement is in place to modify operating conditions, or
- the prevailing or forecast weather patterns indicate that the wind will be blowing away from it or,
- whether burning should be restricted to daylight hours.

The owner/manager must be given updated notifications at least 24 hours (unless specified otherwise in a fire permit) the intended date of the burn.

5.6.3 Traffic

Where smoke has the potential to detrimentally affect road or rail traffic, conditions must be imposed (other than for fire fighting authorities) requiring that the person acting on the certificate must:

- at least 2 weeks prior to the planned burn, liaise with the relevant:
 - road authority (RMS or local council) to determine any requirements for road safety and traffic management including; road occupancy licences, liaison with NSW Police Force, timing, public communications, signage, constraints on ingress and egress from the road carriageway, or
 - rail land manager to determine any requirements for rail safety and rail management,
- comply with any requirements so specified, unless those requirements are contrary to any other condition of the certificate, in which case the work may not be conducted, and
- 24 hours before the proposed burn, notify the relevant:
 - road authority (RMS or local council) if the conditions are such that the smoke will affect a nearby road, or
 - rail land manager if the conditions are such that the smoke will affect a nearby rail.

5.6.4 Tourism / Community Activities

If tourism or community activities are significant in the area, conditions may be applied to the certificate to ensure that the planned timing of the burn takes into account visitation during peak holiday periods or during major sporting or community events and the need to minimise adverse impacts.

5.6.5 Power Lines

Conditions must be imposed requiring that the person acting on the certificate must comply with any requirements specified in guidelines prepared by the NSW Department of Industry in consultation with the NSW Rural Fire Service.

In the absence of guidelines, if 11kV or higher voltage powerlines are located within the boundaries of the proposed burn, conditions must be imposed requiring that the person acting on the certificate must:

- at least 7 days prior to the planned burn, liaise with the electricity network provider to determine when conditions are likely to be most suitable to carry out the burn and any safety requirements, and
- comply with any requirements so specified, unless those requirements are contrary to any other condition of the certificate, in which case the work may not be conducted.

5.6.6 Significant flying fox camps

If a significant flying fox camp mapped and provided by EES for the purpose of this Code is within 100 metres of a small fire or 1000 metres of a large fire, conditions must be imposed that the burn is to be carried out only when:

- the forecast weather conditions indicates that the wind will be blowing away from that area, or
- it is known that the flying fox colony is not present at the proposed time of the burn.

5.7 Standards to prevent soil erosion and instability

The Soil Erosion Risk for Prescribed Burning Map prepared by EES identifies land considered to be at particular risk of erosion subsequent to a prescribed burn of moderate or higher intensity being undertaken. The document *Rules and Notes for Application of Soil Erosion Risk for the Bush Fire Environmental Assessment Code* provides details on the Soil Erosion Risk for Prescribed Burning Map.

5.7.1 Determining presence of land at risk of soil erosion

The Soil Erosion Risk for Prescribed Burning Map prepared by EES must be used to determine if land at risk of soil erosion is present at the site for burns of moderate or higher intensity.

5.7.2 Determining management conditions from the Soil Erosion Risk for Prescribed Burning Map

Where land at risk of soil erosion is identified in accordance with 5.7.1 as present at the site, then the management actions identified in the map attribute table must be implemented to minimise the erosion potential.

5.8 Standards for the protection of riparian buffers

No lighting of a prescribed burn is permitted within the riparian buffer zone distances specified in Table 7. No lighting of a windrow burn is permitted within 20 metres of any watercourse or waterbody. The distance (metres) is measured from the highest bank or shore (or mean high water for tidal waters) on either side of the watercourse or waterbody.

For prescribed burns being conducted near a watercourse or a waterbody, all reasonable steps (excluding clearing vegetation and the use of foams or retardants) should be taken to ensure that the fire does not burn within the riparian buffer zone. Fires should be lit under conditions so that if they do burn within the riparian buffer zones they are patchy and low intensity.

A riparian buffer is not required adjacent to the following vegetation classes for prescribed burning (as vegetation adjacent to these vegetation types are not riparian vegetation per se):

- Coastal Heath Swamps,
- Inland Floodplain Swamps,
- Inland Floodplain Shrublands,
- Coastal Floodplain Wetlands,
- Coastal Swamp Forests, or
- Montane Bogs and Fens.

Table 7: Riparian buffer zone widths for burning

WATERCOURSE OR WATERBODY AND STRAHLER STREAM ORDERING	RIPARIAN BUFFER ZONE WIDTH (METRES)
1st Order and unmapped watercourses	5
2nd Order watercourses or a waterbody greater than or equal to 0.1 ha but less than 0.5 ha	5
3rd Order watercourses or a waterbody greater than or equal to 0.5 ha but less than 2 ha	10
4th Order watercourses or a waterbody greater than or equal to 2 ha	20

5.9 Standards for the protection of Aboriginal cultural heritage

Any certificate issued under 100F of the *Rural Fires Act 1997* must contain a condition requiring works to cease and Heritage NSW to be notified if any Aboriginal heritage is discovered during the carrying out of the works.

Any certificate issued under 100G of the *Rural Fires Act 1997* must contain a condition requiring that if any Aboriginal heritage is discovered during the carrying out of the works, then works must be undertaken in accordance with the relevant conditions specified in the NSW RFS document *Conditions for Hazard Reduction and Aboriginal Heritage*, and Heritage NSW to be notified.

In addition, the following process applies.

5.9.1 Determining presence of Aboriginal cultural heritage

5.9.1.1 Determining presence/type for issuing/certifying authorities

The issuing/certifying authority must conduct a basic search for Aboriginal cultural heritage in the Aboriginal Heritage Information Management System (AHIMS) or any replacement information management system.

If the basic search identifies the presence of Aboriginal cultural heritage, the issuing/certifying authority must then undertake an extensive search in AHIMS in order to obtain relevant details.

Heritage NSW will provide extensive search results information within 3 working days, detailing any Aboriginal cultural heritage of concern. If Heritage NSW does not meet the 3 working day turn around then the issuing/certifying authority may proceed to issue the certificate.

5.9.1.2 Alternative procedure for determining presence/type for certifying authorities

Certifying authorities that have a data licence agreement in place with Heritage NSW that identifies Aboriginal cultural heritage may use that data to determine presence and type of Aboriginal heritage.

5.9.2 Determining management conditions for Aboriginal cultural heritage

Where Aboriginal cultural heritage is indicated to be present, then bush fire hazard reduction works must be undertaken in accordance with the relevant conditions specified in the NSW RFS document *Conditions for Hazard Reduction and Aboriginal Heritage*.

5.10 Standards for the protection of other cultural heritage

5.10.1 Determining presence and type of cultural heritage

For the purpose of this clause, applicable national, state or local heritage are limited to those sites or items:

- that are identified on a national, state or local heritage register, and
- that have been spatially identified by the relevant public authority and provided to the NSW RFS by that public authority.

5.10.2 Determining management conditions for cultural heritage

If there is cultural heritage that may be affected by the proposed work, conditions must be imposed to protect the site or item. Such conditions must be determined in consultation with the relevant authority or authorities.

5.11 Standards for the consideration of statutory plans of management

If there are any relevant statutory plans of management that apply to public land relevant to the area of proposed work conditions must be imposed to ensure the works are consistent with the objectives of the plan to protect the environmental values of the area.

5.12 Standards relating to weeds

Nothing in this Code operates to exempt the landowner or land manager from their ongoing obligation to comply with the *Biosecurity Act 2015*.

All bush fire hazard reduction works are to be carried out in accordance with any Biosecurity Plans that apply to the land.

5.12.1 Herbicide use

Herbicides may be used for controlling weeds as part of pre-burn activities.

When applying herbicides, users should make every reasonable attempt to prevent damage occurring from the use of a herbicide, such as off-target spray drift onto native vegetation and other non-target vegetation such as agricultural areas.

Spraying of herbicides cannot be used within 100 metres of the known location of any species listed in the *Threatened Species Hazard Reduction List*, unless the List states otherwise. A targeted application method with a suitable herbicide should be used as an alternative to prevent contamination. The use of any herbicide near water bodies must not be undertaken if likely to result in water pollution or harm to non-target species.

Where herbicides are to be used, conditions must be imposed that the user is required to:

- use only herbicides registered by the Australian Pesticides and Veterinary Medicines Authority (www.apvma.gov.au) that are approved for the intended situation of use,
- strictly adhere to any directions on the container label before using any pesticide, so that specific instructions relating to the rate, timing, application and safety are noted unless operating in accordance with an APVMA off-label permit,
- not risk injury to persons, property and non-target plants and animals through the use of a herbicide,
- use in accordance with the requirements of the *Pesticides Act 1999*, *Biosecurity Act 2015*, and the *Protection of Environment (Operations) Act 1997*, and any other relevant State or local government chemical use authorisations.
- operate in accordance with the *Biosecurity Act 2015*, and the relevant Regional Strategic Weed Management Plan.

5.12.2 Fire intervals for weed management

Burning of weeds for bush fire hazard reduction may be undertaken in accordance with any *Fire and Weed Management Guidelines* prepared by the Department of Primary Industries and NSW Rural Fire Service. A certificate may be issued if the landowner submits a plan of management outlining how the landowner intends to manage the weed occurrence in accordance with the fire and weed management guidelines. The plan is to include reference to timing and complementary measures such as herbicide use and mechanical works.

If the plan of management meets the Fire and Weed Management Guidelines then burning may be undertaken irrespective of any relevant fire intervals that might otherwise be required for the vegetation classification for the period of time required to control the weed occurrence.

This clause does not provide for burning of:

- vegetation formations and classes identified in clause 5.1 or
- threatened biodiversity unless otherwise in accordance with clause 5.3.

5.13 Standards relating to pile and windrow burning

Pile burning may be undertaken to dispose of vegetation material removed during mechanical works, only where the material in the pile cannot be disposed of through regular waste collection services; transported to a green waste tip or be composted on site.

A certificate to burn a pile may not be issued without an existing approval (a certificate or any approval, consent or authorisation otherwise required) allowing mechanical works to form the pile.

Pile burning and windrow must be assessed in accordance with the requirements of clauses 5.1, 5.2, 5.3, 5.5, 5.6, 5.8, 5.9, 5.10, 5.11, 5.12 and 5.13.

Pile burning construction, ignition and burn safety measures must be undertaken in accordance with the NSW Rural Fire Service Standards for Pile Burning.

Windrow burning may be undertaken to dispose of vegetation windrows created as part of plantation operations (as defined in the *Plantations and Reafforestation Act 1999*). Evidence of any authorisation to create the windrow must be presented before a certificate can be issued to burn a windrow. Windrow burning approvals must be assessed in accordance with the requirements of clauses 5.1, 5.2, 5.3, 5.5, 5.6, 5.8, 5.9, 5.10, 5.11, 5.12 and 5.13.

A certificate for pile or windrow burns must specify the number of approved piles or windrows.

Dictionary

Bush fire risk management plan – a document prepared and approved for a rural fire district or other part of the State that maps and describes the level of bush fire risk across an area and establishes treatment options to reduce bush fire hazards as defined in Section 54 of the *Rural Fires Act 1997*.

Control line – a defined perimeter used to stop a fire escaping from a designated burn area.

Drainage structures – any structure (such as a culvert, crossbank, mitre etc) that diverts the flow or potential flow of water onto a stable surface capable of handling concentrated flow (such as a vegetated or non-erosive surface).

Fire interval – the length of time between successive fires (whether planned or unplanned) on an area of land.

High intensity prescribed burning – the use of fire intended to result in the removal of a substantial portion of the shrub and canopy layer.

Keith (2004) refers to David Keith, (2004) *Ocean Shores to Desert Dunes: the native vegetation of New South Wales and the ACT*. DIPNR (NSW) and NSW. Department of Environment and Conservation (NSW)

Low intensity prescribed burning – the use of fire intended to result in the removal of the leaf litter, grass and some shrub layer whilst minimising canopy scorching. Low intensity burning aims to minimise intensity by lighting under conditions where a combination of some or all of following factors influence fire behaviour: low fuel loads, moist fuels, low temperatures, high humidity, low wind speeds and fire lighting patterns.

Mechanical hazard reduction work – work involving the use of the following types of methods:

- hand tools (e.g. rakes, hoes, leaf blowers)
- hand held machinery (e.g. brushcutters, domestic-size lawn mowers, chainsaws)
- slashing machinery (e.g. ride-on lawn mowers, slashers, triters, reach mower/flail head extensions)
- earthmoving machinery (e.g. graders, dozers, excavators, ploughs, bobcats).

Moderate intensity prescribed burning – the use of fire intended to result in the removal of a substantial portion of the shrub layer. Some canopy scorching may occur.

Native vegetation – is as defined in the *Local Land Services Act 2013*, and includes marine vegetation as defined in the *Fisheries Management Act 1994*.

Peat soils – soils containing a significant amount of peat at the surface. Peat fires smoulder underground and travel below the surface making them difficult to contain or extinguish.

Prescribed burning – the controlled application of fire under specified environmental conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives.

Ramsar Wetland – land that is a declared Ramsar Wetland within the meaning of the Environmental Protection and *Biodiversity Conservation Act 1999* of the Commonwealth.

Soil Erosion Risk (SER) – a classification given to an area of land from the EES SER map developed by EES for the purpose of this Code. The SER map has been derived from soil regolith, rainfall erosivity and slope values.

Strahler stream ordering system – it is a classification system that gives a waterway an ‘order’ according to the number of tributaries associated (Strahler 1952).

Time since fire – the length of time since an area of land was last burned (whether planned or unplanned).

Threatened Species Hazard Reduction List – the document of that name (inclusive of Parts 1, 2, 3 and 4) prepared by EES and the Department of Primary Industries - Fisheries) and located on the NSW RFS website. It includes a list of threatened species, populations and ecological communities and associated management conditions.

Threatened Species Hazard Reduction Map – the data layers containing localities of threatened species, populations and ecological communities prepared by EES and the Department of Primary Industries - Fisheries for the purpose of implementing the *Threatened Species Hazard Reduction List*.

Tree – any perennial woody plant:

- that is three or more metres in height, and
- that has one or more self-supporting trunks (at least one of which has a circumference of 0.3 metres or more when measured at a height of 1.3 metres above ground).

Vegetation classes – is as defined in Keith (2004). They are groups of vegetation defined mainly by overall floristic similarities (i.e. shared species) although they may also share structural and habitat characteristics (Keith 2004).

Vegetation formations – broad vegetation groups distinguished by structural and physiognomic features as defined in Keith (2004).



Waterbody - a lake, a wetland, a lagoon, a saltmarsh and any collection of still water, whether perennial or intermittent and whether natural or a natural body of water artificially modified, and whether or not it also forms part of a watercourse or estuary.

Watercourse - means:

- a. any watercourse, whether perennial or intermittent and whether comprising a natural channel or a natural channel artificially modified, and
- b. any tributary, branch or other watercourse into or from which a watercourse referred to in paragraph (a) flows, and whether or not it also forms part of a waterbody or estuary.

Windrow - a row of cut vegetation pushed up as a result of clearing (for example timber which is pushed into rows or lines for burning during a clearing operation) and includes post logging waste material.

Wetland - a natural or artificial feature including marshes, mangroves, backwaters, billabongs, swamps, sedgeland, wet meadows or wet heathlands that form a shallow waterbody (up to two metres in depth) when inundated cyclically, intermittently or permanently with fresh, brackish or salt water.



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