


Council Policy

Buffers



COUNCIL POLICY

 Adelaide Hills COUNCIL	BUFFERS
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Policy Number:	DEV-06
Responsible Department(s):	Planning Policy
Relevant Delegations:	As per the Delegations Register and as detailed in this Policy
Other Relevant Policies:	N/A
Relevant Procedure(s):	Buffers Guidelines
Relevant Legislation:	N/A
Policies and Procedures Superseded by this policy on its Adoption:	18 December 2001 4 December 2007 15 June 2009 17 April 2012 9 December 2014 14 November 2017
Adoption Authority:	Council
Date of Adoption:	24 May 2022
Effective From:	07 June 2022
Minute Reference for Adoption:	Item 12.7, 129/22
Next Review:	No later than March 2025 or as required by legislation or changed circumstances

Version Control

Version No.	Date of Effect	Description of Change(s)	Approval
1.1	4/12/07	Title and Contents	Council Res – B326
1.2	15/06/09	Title, Contents and Formatting	SPDPC Res – 31
1.3	17/04/12	Contents and Formatting	SPDPC Res – 12
1.4	01/01/15	Minor Changes	Council Res – 270
1.5	28/11/17	Contents and Formatting	Council Res – 263/17
1.6	07/06/22	Contents, Formatting and introduction of Supporting Guideline	Council Res – 129/22

BUFFERS POLICY

1. INTRODUCTION

- 1.1 The Adelaide Hills Council provides one of Australia’s best-known regions for wine and fruit production. These activities underpin a diverse agricultural and horticultural sector set amongst landscapes of scenic beauty interspersed with large tracts of native vegetation and small historic country towns and settlements.
- 1.2 These unique features coupled with a short commuter distance from Adelaide and a shift to remote working, has led to an increased demand for country living lifestyles often, but not always, on small land holdings. In addition, the region continues to build its profile as a much sought-after tourism destination.
- 1.3 In a region with such a diverse mix of uses it is critical to ensure that where a new land use is proposed that it is compatible with adjoining or nearby land uses. This is especially true for residential land uses in which the occupants, whether permanent or temporary, may be unfamiliar with and sensitive to the various spill-over effects of rural activities on local environmental amenity.
- 1.4 The importance of such considerations and associated responses are only heightened by the unique Adelaide Hills context, where there is a particularly important set of environmental sensitivities including watershed and native vegetation, limitations on the amount of suitable land available for farming and exceptional landscape qualities worthy of protection and enhancement.
- 1.5 This policy seeks to provide an approach to resolving potential external impacts from one land use to another through the application of buffers.

2. OBJECTIVES

- 2.1 To protect community amenity while facilitating appropriate agricultural, horticultural, value-adding or other uses with potential adverse off-site impacts.
- 2.2 To specify when buffers may be considered an appropriate design solution to address performance outcomes in the Planning and Design Code.
- 2.3 To inform and provide guidance to a relevant authority and applicants when buffers are being considered as a design solution to address performance outcomes in the Planning and Design Code.

3. DEFINITIONS

- 3.1 The following definitions have been used throughout this policy document:
- 3.1.1 **“Agriculture”** – includes pursuits of field cropping, grazing, dairying, and livestock production.
- 3.1.2 **“Buffer”** – concept of a separation between differing land uses in order to protect the effects of one land use from another. May include: 'open' ground, a 'vegetation buffer' or a 'constructed buffer' design.

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- 3.1.3 **“Constructed buffer”** - a complete or partial buffer design that incorporates an artificial barrier, usually as a temporary measure to protect a sensitive receptor while a vegetative buffer is established.
- 3.1.4 **“Horticulture”** - generic term to describe farm production including orcharding, market gardening, flower growing, viticulture and nursery production
- 3.1.5 **“Native vegetation”** - Has the same meaning as in the Native Vegetation Act 1991.
- 3.1.6 **“Open buffer”** - a buffer design of normally open ground with grass or other ground cover vegetation in terms of density, height to assist in a screening effect.
- 3.1.7 **“Primary production”** - refers to pursuits of farming and mining as production-oriented activities
- 3.1.8 **“Relevant Authority”** - same meaning as Section 82 of the *Planning, Development and Infrastructure Act 2016*
- 3.1.9 **“Sensitive Receiver or Sensitive Land Uses”** - Means:
- i. any use for residential purposes or land zoned primarily for residential purposes
 - ii. pre-school
 - iii. educational establishment
 - iv. hospital
 - v. supported accommodation
 - vi. tourist accommodation, and
 - vii. A site or feature within the landscape that is sensitive to impact from external adverse effects such as native vegetation, faunal habitat, waterways and wetlands, beehives, susceptible crops, and rainwater collection points (i.e. on out-buildings).
- 3.1.10 **“Vegetation”** - all plant life forms including trees, shrubs and smaller plants such as ground covers, climbers and vines, ferns, mistletoe, grasses, reeds, rushes, sedges, moss, and lichen.
- 3.1.11 **“Vegetative buffer”** - the portion of a buffer design that incorporates establishment of a specific vegetation stand.
- 3.1.12 **“Viticulture”** – vine husbandry managed by vignerons as one of several possible horticultural pursuits.
- 3.1.13 **“Watercourse”** – is a defined watercourse identified by dataset number 903 with dataset title Topography – WaterCourses (available via Location SA Browser).
- 3.1.14 **“Watershed”** – defined by the Mount Lofty Ranges Water Supply Catchment (Area 1 and 2) Overlay.

4. APPLICATION

4.1 This policy can be applied by a Relevant Authority or utilised by an Applicant to mitigate potential land use conflicts for development applications lodged in the Council area in the following circumstances:

- i. Where new sensitive land uses are proposed adjacent to agricultural and horticultural land uses including any associated value adding uses,
- ii. Where new agricultural and horticultural land uses including any associated value adding uses are proposed adjacent to sensitive receivers in a neighbourhood/township zone, or
- iii. Any other circumstances deemed appropriate by the relevant authority.

*Note: refer to **Appendix A** for further guidance on when the buffers policy can be applied.*

4.2 The policy may be used by a Relevant Authority or an Applicant as part of a formal development application process or when Council is providing preliminary or general advice to landholders and the community.

4.3 This policy must be read in conjunction with the [Buffers Guidelines](#).

5. SCOPE

5.1 The performance based approach to planning facilitated through the Planning and Design Code (one of the *Planning, Development and Infrastructure Act 2016* (the Act) 'designated instruments') provides a Relevant Authority scope – through the application of relevant performance outcomes – to use the policy to guide suitable buffer design solutions as part of the development assessment process.

Note: This approach relies on the accepted notion that performance outcomes are, by definition, qualitative, and articulate an outcome that can be met by a variety of different techniques.

6. POLICY STATEMENT

6.1 The following principles will be considered when buffers are being proposed as a potential design solution as part of a development assessment application:

- 6.1.1 The Adelaide Hills Council acknowledges that its district comprises major areas of watershed, native vegetation and diverse rural and urban/township land uses and has a key role to play in managing potential land use conflicts.
- 6.1.2 The Council is committed to planning and establishing policies that support rural land uses, and protect existing residential and other sensitive land uses, and environmentally sensitive areas.
- 6.1.3 The application of the Buffers Policy provides a pathway to ensure land use conflicts can be appropriately mitigated as part of the development assessment process.

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- 6.1.4 The Council will formulate [Buffers Guidelines](#) to provide further guidance and technical information to inform appropriate buffer design and maintenance requirements.
 - 6.1.5 The requirement for the buffer on the encroaching land use (proposed use) is an effective and equitable approach to land use conflict mitigation. However, where agreement can be reached between owners, a shared buffer may be of mutual benefit.
 - 6.1.6 Applications for a change in land-use will need to submit a Site Assessment Plan identifying relevant issues to enable assessment of potential impacts of the proposed development. Where chemical-sensitive land use changes (e.g. vineyards adjoining other horticulture development) are proposed that the assessment be informed by a Farm Management Plan developed by a suitably qualified and experienced farm sector consultant.
 - 6.1.7 It is acknowledged that buffer design, size and suitability will vary depending on the agricultural and horticultural operations and impacts it is mitigating. This policy provides design considerations and provisions to ensure a buffer is suitable and effective for its context.
 - 6.1.8 Where deemed appropriate buffer design and maintenance considerations will need to be incorporated into any proposed development application and should form part of the preliminary scoping and early concept design phases.
 - 6.1.9 In assessing an application involving buffers a relevant authority will avail itself of sound advice or information from internal staff and State Government Agencies where required in order to inform the development assessment process.
 - 6.1.10 In assessing an application involving buffers a relevant authority may also seek recommendations from a suitably qualified farm sector consultant in reaching its decision.
 - 6.1.11 The Council will promote education and training programs, and the sharing of information about rural land management including the use of buffers, to facilitate a shared understanding of the varying priorities of different land uses within the Council.
 - 6.1.12 Where a buffer is required from a land use that will generate noise or health issues (e.g. wind farms, turbines or transmission stations/towers), or where a land use may cause safety concerns (e.g. glare, reflection) or public health issues (e.g., solar panels, signage, flashing advertising, etc.), Council may seek specialist advice in relation to any matters that generate such concerns.

7. POLICY POSITION

7.1 The following outlines the Council's position in respect to buffers including design guidelines and establishment and maintenance requirements in order to achieve the above principles.

7.2 What is a Buffer?

- 7.2.1 Buffers are commonly used as part of effective land use planning to mitigate the impacts of incompatible land uses.
- 7.2.2 Buffers provide an area of separation between conflicting agricultural, horticultural, residential and sensitive land uses.
- 7.2.3 Agricultural and horticultural operations are regulated by specific environmental laws and codes. Regulations vary between agricultural and horticultural industries and seek to protect specific environmental values. While these regulations do deal with mitigating impacts to surrounding environments, they are not specific to management of impact to interfacing residential and sensitive land uses.
- 7.2.4 While state planning strategies and the land use regulatory framework promotes that interface issues be appropriately considered, this additional level of policy detail has been developed to assist relevant authorities, land managers and land holders in how to design and manage this specific mitigation approach.
- 7.2.5 Agricultural and horticultural operations including value-adding activities can generate various off-farm impacts such as dust, smoke, ash, noise, smell, light, contaminants, chemical spray drift and irrigation overspray. These activities can be intermittent, seasonal, or continual.
- 7.2.6 Where development for a residential or sensitive land use is introduced into an area where agricultural or horticultural operations exist then the residential or sensitive land use should consider a buffer that mitigates the risk to amenity, health and safety that may arise from the interface with the established agricultural and horticultural activities.
- 7.2.7 Where a development for agricultural or horticultural operations including associated value-adding activities is introduced to an area where sensitive land uses exist the proposal should consider an appropriate buffer that mitigates the risk to amenity, health and safety that may arise from the interface with residential or sensitive land uses, particularly where adjacent to neighbourhood/township zones.

7.3 **Buffer Characteristics and Design considerations**

7.3.1 General:

7.3.1.1 Typical forms of buffers include:

- (1) Open ground or separation area
Note: this can include a 'headland area'
- (2) Vegetated
- (3) Constructed (i.e. a physical barrier such as shade cloth)

7.3.1.2 Depending on each situation buffers should be of a sufficient design to:

- i. Protect from spray drift

- ii. Prevent compaction and chemical trespass under existing native vegetation
- iii. Ameliorate noise, odour and dust emission
- iv. Filter out waterborne nutrients and chemicals prior to watercourse entry
- v. Minimise visual impacts
- vi. Enhance the landscape view and ambience
- vii. Ameliorate loss of biodiversity and/or promote potential for biodiversity enhancement
- viii. Protect from wind

7.3.1.3 The use of buffers has intersecting benefits, and potential disadvantages depending on site and locality context (refer to the [Buffers Guidelines](#) for more information).

7.3.1.4 Locational context and the divergent off-farm impacts caused by various agricultural or horticultural industrial practices need to form key considerations when designing buffers that are suitable and effective (refer to [Buffers Guidelines](#) for more information).

7.3.1.5 Precise design of the buffer will depend upon the site the proposed land-uses and the adjacent or nearby land use and characteristics including road reserves.

7.3.1.6 Where the land use impact potential is likely to be high, such as potent, high quantity, or high frequency chemical regimes or more variable management standards with less desirable technology or where there is a higher than normal sensitivity level (i.e. childcare centre) then a more cautionary design criteria will be required.

7.3.1.7 It should not be presumed that a title boundary, whether fenced or not, forms the limit of responsibility to adjoining landholders where environmental or public health may be at risk from a conflicting land use activity.

7.3.2 Buffer Selection (Type)

7.3.2.1 The buffer type, whether open ground, vegetated, constructed or a combination of any of these will be the first attribute to be considered in buffer design.

7.3.2.2 The optimal long-term options for buffering are either an 'open' ground and/or a 'vegetated' buffer design (refer to Figure 7.1).

Note: A temporarily constructed buffer may be desirable in the short term to provide protection until a vegetative buffer reaches its 'effective' height.

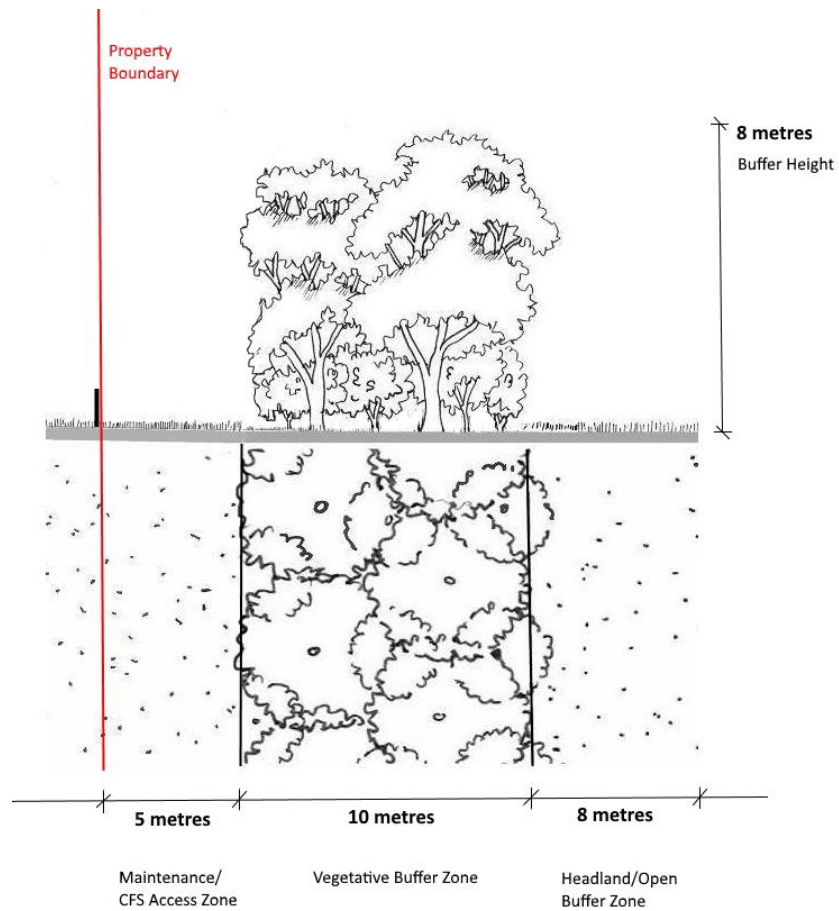


Figure 7.1: Typical Buffer cross-section (indicative only – not to scale)

7.3.3 Buffer Location

- 7.3.3.1 The siting or location of a buffer will be determined on the basis of assessment of the sensitive receiver in need of protection.
- 7.3.3.2 It will be common for a buffer to be located adjacent to the boundaries of the encroaching allotment. However, there will be circumstances where other locations within the encroaching allotment are deemed suitable or appropriate i.e. with respect to buffers for native vegetation or watercourses.
- 7.3.3.3 Within a Medium and High Bushfire Risk Area a vegetative buffer should not be located within the greater of the following:
 - A. 20m of an existing building
 - B. Bushfire Asset Protection Zone.

Note: Failure to meet this requirement may interfere with the adequacy of the BAL rating that has been assessed for the building.

7.3.3.4 Provided the biodiversity conservation is not compromised, adjoining roadside vegetation may be included, where suitable, as part of a vegetated buffer, but this requires separate Council consent (via Section 221 of the LG Act).

7.3.3.5 Cleared road reserves may also provide further opportunity for buffer establishment with co-operative road reserve planting possible through consultation with Council staff.

Note: It is unlikely permission to use any road reserve that has a category 1, 2 or 3 will be granted (refer to Council Road Reserve Management Plan).

7.3.3.6 A separation distance, often referred to as an 'open' buffer is required between development and the edge of each existing native vegetation stand or solitary native plant, both on site and overhanging an applicant's property.

Note: The separation distance, often 4-5 metres, refers to the distance out from the canopy dripline (for trees and tall shrubs) or the foliage edge (for shrubs and smaller plants) of the existing native vegetation on or overhanging an applicant's property.

7.3.3.7 Where chemical trespass or spray drift from a proposed change of land use may have potential to impact native vegetation an additional vegetative buffer may be required.

7.3.4 Buffer Height

7.3.4.1 The height of a buffer determines the level of protection given to the leeward side of the buffer.

7.3.4.2 The height of the buffer will offer protection downwind for approximately ten times the buffer height (refer to Figure 7.2).

7.3.4.3 Buffers whether established with vegetation or temporarily constructed, must be higher than the release height of agricultural or horticultural sprays to be effective.

7.3.4.4 An effective vegetative buffer height should be between one and a half and twice the agricultural or horticultural spray release height or one and a half and twice the target crop height whichever is greater.

Note: For guidance tests on spray drift have shown that the minimum height of a buffer should be 1.5 times the release height of the spray for a vegetated buffer with 50% porosity. If porosity is reduced to below 40%, the minimum height of the buffer should increase to double the release height of the spray.

7.3.4.5 The following provides a summary of varying spray release heights for the most common agricultural or horticultural operations in the Council area and can be applied to determine the effective buffer height:

A. Vineyards: up to 3.5 metres above ground level.

- B. Orchards: up to 4.5 metres above ground level.
- C. Market Gardens and Flowers: up to 0.5 to 1 metre above ground level.
- D. Cropping, grazing or low intensity animal husbandry: generally no greater than 2.0 metres.

7.3.4.6 Due to the potential for the buffer to cast shade or draw away water and nutrients from the production area, the height of the buffer will typically influence the distance it should be located away from the production area.

7.3.4.7 Where there are powerline utilities within the proposed buffer, legislated clearance distances for any vegetative planting in close proximity will need to be factored into the buffer design.

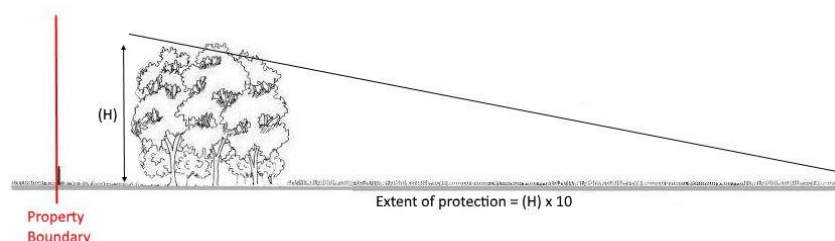


Figure 7.2: Buffer Height Effect (Indicative only – not to scale)

7.3.5 Buffer Width

7.3.5.1 The buffer width is critical to the degree of protection provided between differing land-uses and farm management practices.

7.3.5.2 The buffer width should be sufficient to provide protection to sensitive receivers and land uses in balance with ensuring that agricultural and horticultural operations remain viable and proposed development is not unreasonably restricted.

7.3.5.3 Within the buffer width one of the buffer types or a combination of them are required.

7.3.5.4 Where appropriate and where no other feasible alternatives are available the absolute minimum buffer width will be 5 metres.

Note: Minimum width is unlikely to facilitate effective protection where more intensive horticultural operations are involved (i.e. vineyards and orchards).

7.3.5.5 In all other circumstances (excluding a buffer adjacent to a watercourse) a minimum buffer width of 10 metres is required and must include at least a 5-metre vegetative portion.

- 7.3.5.6 An additional 4-10 metres may be required either side of a vegetative buffer portion for access and turnaround of fire service vehicles. The latter condition could depend on the relative access beyond the enterprise both within and beyond the applicant's property.
- 7.3.5.7 A buffer width of 20 metres measured from the top of the existing banks of a watercourse is recommended.
- 7.3.5.8 The buffer width is calculated as the combined dimension of open ground and vegetative planting and would be taken to include the dimension of any constructed buffer.
- 7.3.5.9 The width may vary depending on the location of sensitive receivers, site features, type of development and management strategies.

7.3.6 Buffer Density

- 7.3.6.1 Vegetated buffers should be designed with suitable trees, shrubs, groundcover and grasses, to achieve adequate protection for each of the adjacent land-uses.
- 7.3.6.2 The primary aim of a vegetated buffer is to minimise the amount of airflow through the bulk of the vegetated stand. Vegetated buffers must provide such a density of foliage and plant material which will act to reduce the drift rate as spray droplets move through the vegetation (see Figure 7.3).

Note: Whilst this section refers to spray drift, these same principles apply to wind protection and containment of dust.

- 7.3.6.3 A vegetative buffer must aim to establish a 50% porosity rating.

Note: Whilst the vegetative buffer design may seek 50%, in reality due to the dynamic nature of vegetation the porosity rating may well fluctuate between 40% to 60% porosity.

- 7.3.6.4 A reduced porosity rating (< 40% density) will require a higher and wider buffer to account for the reduction in the trapping of spray drift due to the more open nature of the vegetative stand.
- 7.3.6.5 An increased porosity rating (> 60% density) will result in accumulation at the face of the buffer of the spray drift and an increased turbulence of the dispersing spray cloud on the lee side of the buffer both from the top down and at the sides, often at a higher speed.

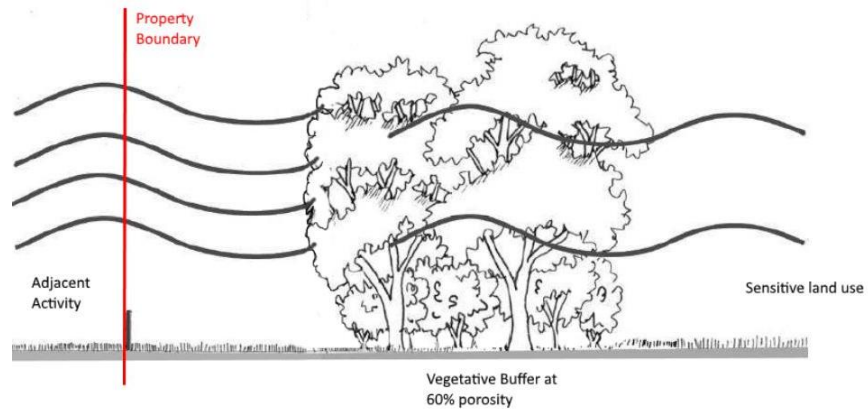


Figure 7.3: Buffer Density Effect (Indicative only – not to scale)

7.3.7 Buffer Length

7.3.7.1 Buffer length refers to the linear length of the buffer to its furthest extent.

7.3.7.2 At a minimum and where appropriate the buffer should extend past any area that is requiring protection (see Figure 7.4).

Note: Vegetated buffers function as windbreaks. Longer windbreaks are more effective than shorter, as there is an increased level of turbulence at each end of a windbreak.

7.3.7.3 Where the land use impact potential is high a precautionary approach should be applied, whereby a buffer length is increased up to twelve times and in certain instances eighteen times to twenty four times the height of the vegetative buffer.

Note: Where wind conditions are notoriously variable a longer buffer is desirable.

7.3.7.4 It is common for a buffer to extend along the length of the boundary to which the encroaching land use is subject.

Note: This will usually be the title or land-holding boundary but may vary due to topographical features and the actual location of the crop and other critical elements.

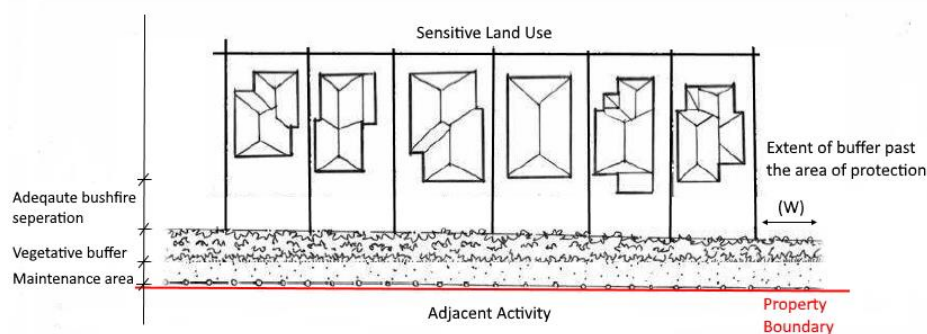


Figure 7.4: Buffer length effect (Indicative only – not to scale)

7.4 General Requirements

7.4.1 Recommended Vegetative Buffer Species

7.4.1.1 Suitability in each circumstance will need to be carefully considered. Factors such as soil type, rainfall, slope, growth-rate, lifespan and land-use history will require assessment.

7.4.1.2 Vegetated buffers take years to provide the desired protection. There are quick-growing early maturing shrubs and trees, which can be removed at a later stage, when the more desirable vegetation species or varieties have reached a suitable height. A careful consideration of the growing conditions may prescribe a mix of fast and steadier growth rated vegetation for the permanent stand.

7.4.1.3 Plant surfaces, which present a small frontal area to moving droplets dust particles and wind have the most successful design features. Thin needle-like foliage with small branches are particularly suitable, as are large leaves covered in small hairs. This is not to preclude other species without these most desirable features provided the foliage is not excessively dense.

7.4.1.4 The intricacies of each site, limits discussion about specific plant species for buffering developments from abutting land uses. Council will assess proposals more favourably where sufficient site data, including growing conditions and management strategies for maintenance of the vegetation are provided. Each applicant should provide a list of plant species sought for approval, stating the features considered most relevant for the site. Refer to **Appendix B** for a list of suitable plant species.

7.4.2 Vegetative Buffer Establishment

7.4.2.1 The selection and placement of plant species is a key consideration, as changes following establishment are likely to be inconvenient and expensive. Detailed planning is required to ensure best long-term results.

7.4.2.2 Council promotes vegetative buffers that are:

- consistent with the existing local landscape 'feel' or ambience
- established using 'Non-Invasive' (as per Invasive Plants Information Sheet- see [Buffers Guidelines](#))
- have no known detrimental effect on the landscape / environment
- established at least two staggered or parallel rows thick
- long-lived (> 20 years)

7.4.2.3 Current best practice techniques are required to enable vegetation to reach its desired dimensions as soon as possible. This does not necessarily imply a heavy fertilizer and irrigation schedule. On the contrary, over feeding and watering more than is natural for the species will eventually create management problems. Whilst the vegetation may grow fast its root system needs to establish slowly during the first year. Any plant pushed will become weak and prone to limb loss.

7.4.2.4 Thorough soil treatment for problem / competitive weeds and to open the subsoil to water permeation, then follow up weed control is essential for a successful vegetative buffer structure to develop as designed. Follow up weed control during the first three years is critical although regular management beyond this will assist the plants to provide a healthy and long-lived buffer structure. Smaller species in a multi-layered vegetative buffer should be planted on the 'lee' side of taller species for a more effective 'fire' retardant structural design.

7.4.2.5 Plant spacing in most instances will need to be 2.5 to 3.5 metres, with rows 2 to 3 metres apart (spacing 3.5 to 4 metres on a more exposed or stressful site such as a windy hill or claypan). Crowding is not conducive to optimum growth characteristics and sustained long life. The canopy spread for the species selected needs to be accounted for when allocating a management perimeter to work within.

7.4.3 Buffer Maintenance

7.4.3.1 The establishment of buffer planting, like any other cover crop, requires watering, fertilising and weeding. Following establishment, maintenance is required to all buffer types for them to remain effective. Buffers should be appropriately designed and constructed to avoid time consuming and costly maintenance requirements, whilst achieving their maximum desired effect of mitigating land use conflicts.

7.4.3.2 Buffer maintenance includes:

- A. Maintaining the required buffer characteristics such as height, width, length, and density of each buffer type is required to ensure the effectiveness of the buffer is maintained.
- B. Buffers protecting against spray drift require pruning and thinning on an annual basis to maintain a 50% density so that their effectiveness is maximised.

- C. Buffers are required to be watered during dry periods to maintain good buffer growth.
- D. Mulch levels are to be maintained to reduce weed growth and retain moisture.
- E. Fertilising prior to the growing season will assist in maintaining the health and vigour of the buffer.
- F. Buffers require maintenance and management in terms of litter build up, noxious weed and pest control. Buffers should remain weed free to prevent the build-up of weed species that can cause infestation of agricultural or horticultural production areas as well as other neighbouring land uses.
- G. Appropriate access strips are provisioned for on either side of the buffer to allow for maintenance activities to be conducted.
- H. Ongoing maintenance such as replanting may be required over time to maintain buffer characteristics.

7.4.3.3 Open-ground buffers will need to be slashed or mown, kept weed free and the fire risk kept to a minimum.

7.4.3.4 Open-ground buffers should not be used for storage of plant or machinery nor used regularly for vehicular traffic that may raise dust and create an undue noise impact to nearby residences (if present).

7.4.3.5 If ground surface chemical and/or nutrient run off enters a buffer zone, then a 'clean up' or maintenance strategy should be in place that satisfies the appropriate Australian Safety Standard (refer to EPA for guidance).

7.4.4 Development Application Requirements

7.4.4.1 In addition to typical *Schedule 8* requirements under the *Planning, Development and Infrastructure (General) Regulations 2017* applications where buffers are being considered as a potential design solution in order to satisfy relevant Performance Assessment outcomes will need to support the application with the following additional information:

- A. A site assessment to identify on-site and adjoining local conditions. This should include climate effects for potential frost hazard, existing native and other vegetation and fauna habitats, local bird species, soil characteristics and water availability, watercourses/drainage lines and especially likely sensitive receptors, e.g. adjacent and on-site dwellings, rainwater collection points.
- B. A property management plan, which may include agricultural and horticultural operational procedures and specifications as to; the technology type, chemical and/or mechanical groupings to be considered and what is the purpose and frequency of the

operations. In addition, the property management plan should outline how vegetation is to be managed, including measures such as separation distances from proposed development, to prevent impact on existing native vegetation on and overhanging the development.

Note: A plan of existing and proposed vegetation is an essential element of the property management plan to be submitted with an application. It must be clear how such vegetation is to be managed, including measures such as separation distances from proposed development, to prevent impact on existing native vegetation on and overhanging the development. The plan should incorporate, to scale, the canopy cover or foliage perimeter of all existing vegetation on the site and adjacent to it. Neighbouring and road reserve vegetation status also needs to be clearly shown.

- C. Design specifications proposed for the proposed establishment of one or more buffers. Including a summary of how the intended use of each type or combination of buffers will provide effective protection.
- D. Plans drawn to scale, submitted with a proposal for a change of land-use should include:
 - labelled contours at 5 metre intervals
 - drainage lines into and out of the site
 - adjoining landscape, including slope and aspect
 - adjoining land uses, including current ground cover descriptions
 - soil management proposals
 - land classes (if known)
 - irrigation drainage
 - potential for erosion from wind and water
 - the canopy outline of all existing vegetation on the site and adjacent to it, and
 - Neighbouring and road reserve vegetation status identified.

Note: For site plan Case Study examples refer to the [Buffers Guidelines](#).

8. DELEGATION

8.1 The Chief Executive Officer has the delegation to:

- Approve, amend and review any guidelines or procedures that shall be consistent with this Policy; and
- Make any legislative, formatting, nomenclature or other minor changes to the Policy during the period of its currency.

9. AVAILABILITY OF THE POLICY

9.1 This Policy will be available via the Council's website www.ahc.sa.gov.au.

APPENDIX A

THE BUFFERS POLICY MAY BE APPLIED TO THE FOLLOWING CHANGE OF LAND USE PROPOSALS

CHANGE OF LAND USE PROPOSALS	POTENTIAL INTERFACE ISSUES	POTENTIAL FOR BUFFERS TO MITIGATE INTERFACE IMPACTS (LOW TO HIGH)	BUFFER RESPONSIBILITY
<p>Sensitive receiver(s) or boundary realignment (to facilitate rural residential development) within a rural/hills face zone proposed on land adjacent to an existing primary production operation including an associated value adding industry/shop/function centre use.</p>	<p>Amenity impacts from dust, smoke, ash, noise, smell, light, contaminants, chemical spray drift and irrigation overspray</p>	<p>Medium to High</p>	<p>Proposed sensitive receiver(s) developer (Applicant)</p>
<p>Sensitive receiver(s) or a residential land division within a neighbourhood/township zone proposed on land adjacent to an existing primary production operation including an associated value adding industry/shop/function centre use</p>	<p>Amenity impacts from dust, smoke, ash, noise, smell, light, contaminants, chemical spray drift and irrigation overspray</p>	<p>Medium to High</p>	<p>Proposed sensitive receiver(s) developer (Applicant)</p>
<p>Primary production operation including an associated value adding industry/shop/function centre use proposed on land adjacent to an approved residential land division or existing sensitive receiver(s) in a neighbourhood/township zone</p>	<p>Amenity impacts from dust, smoke, ash, noise, smell, light, contaminants, chemical spray drift and irrigation overspray</p>	<p>High</p>	<p>Proposed primary production operator (Applicant)</p>
<p>Primary production operation proposed on land adjacent to an existing primary production operation under a conflicting land management regime (i.e. viticulture and horticulture)</p>	<p>Operational impacts from contaminants, chemical spray drift and irrigation overspray</p>	<p>High</p>	<p>Proposed primary production operator (Applicant)</p>
<p>Primary production operation proposed adjacent to a significant stand of native vegetation or a watercourse</p>	<p>Environmental impacts from contaminants, chemical spray drift and irrigation overspray</p>	<p>High</p>	<p>Proposed primary production operator (Applicant)</p>

Note: Minimum separation distance triggers have not been recommended as agricultural practices are continually evolving. However as a starting point if a proposed land use is located less than 500m from an existing conflicting use there is likely to be reasonable justification to request information to determine the appropriate application of buffers.

APPENDIX B

VEGETATION SUITABLE FOR BUFFERS IN AHC

The below list identifies species endemic to the Adelaide Hills Council district that have a buffering capacity. Only a limited number of species would be appropriate for each situation. The fire retardance characteristics, as well as growth rate and buffer features need close examination before selecting them. Council staff are available to assist once an initial potential list has been submitted for comment.

The below list seeks to promote the following outcomes:

- consistent with the roadside and/or local natural vegetation
- native vegetation species endemic to the region and found in the local natural setting
- can be sourced from local plant material (for native plants)
- have a relative low 'fire retardance'. Characteristics may include: absence of essential flammable oils; dead foliage not retained in canopy; open spreading branch habit with few fine twigs and self-pruning; bark smooth and shed in plates or dense and persistent [eucalypts are to be precluded 40 metres from residences]
- promotes the use of at least two compatible species to account for 'tunnelling' effect
- require limited maintenance

Additional considerations when selecting plant species:

- soil structure
- soil texture
- other soil features including pH, whether 'saline', waterlogging, water repellent
- average rainfall
- slope
- aspect (compass bearing)
- easements present
- existing vegetation on 'buffer' site
- overhanging vegetation from adjoining properties
- overhanging vegetation from roadside or unmade road reserve
- predominant wind direction and relative strength
- overhead or underground services location
- watering schedule (if proposed) during establishment and thereafter
- frost incidence
- special requests from abutting neighbour/s
- fire fuel load strategy
- replacement (of unhealthy plants) strategy
- any special requirements imposed on site, e.g. CFS
- local native vegetation association description
- list of species for consideration
- list of species not considered desirable
- indicate where the plant material (tube-stock, grown on or seed) will be sourced
- whether establishing in rows or at random / scattered
- row and plant spacing distances (where applicable)
- method, timing and preparation schedule for vegetative buffer establishment

Table Guide:

- **Rainfall** -- H (>800mm) M (600-800mm) L (500-600mm)
- **Growth Rate** -- F (2-4yrs) M (4-6yrs) S (6-yrs)
- **Longevity** -- L (century or so) M (at least 2 decades)

Fire Retardant Species*

Botanical Name	Common Name	Family Name	Spray Buffering Feature	Growth Form	Rainfall (1)	Growth Rate (2)	Longevity
SHRUB (1-3m height)							
<i>Acacia acinacea</i>*	Wreath (round-leaved) Wattle	Mimosaceae	y	☐	L	F	M
<i>Acacia continua</i>	Thorny Wattle	Mimosaceae	y	☐	L	F	M
<i>Acacia ligulata</i>	Umbrella Bush	Mimosaceae	y	☐	L	F	M
<i>Acacia paradoxa</i>	Kangaroo Thorn	Mimosaceae	y	☐	L-H	F	M
<i>Acacia retinodes</i> var. <i>retinodes</i> Swamp forma.	Swamp Wattle	Mimosaceae	y	☐	L-M	F	M
<i>Allocasuarina muelleriana</i> ssp. <i>Muelleriana</i>	Slaty Sheoak	Casuarinaceae	y	☐	L	M	M
<i>Beyeria lechenaultii</i>	Pale Turpentine Bush	Euphorbiaceae	y	☐	L	M	M
<i>Callistemon teretifolius</i>	Flinders Ranges Bottlebrush	Myrtaceae	y	☐	L	M	M
<i>Correa</i> aff. <i>aemula</i>	Hairy Correa	Rutaceae	y	☐	MH	F	M
<i>Correa glabra</i>	Smooth Rock Correa	Rutaceae		☐	L	F	M
<i>Correa reflexa</i> var. <i>reflexa</i>*	Common Correa	Rutaceae		☐	M	H	F M
<i>Gahnia clarkei</i>	Tall Saw-sedge	Cyperaceae		☐	MH	F	M
<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	Cyperaceae		☐	H	F	M
<i>Gahnia trifida</i>	Cutting-grass	Cyperaceae		☐	H	F	M
<i>Hakea carinata</i>	Erect Hakea	Proteaceae	y	☐	L-M	M	M
<i>Hakea rostrata</i>	Beaked Hakea	Proteaceae	y	☐	L-M	M	M
<i>Hakea rugosa</i>	Dwarf Hakea	Proteaceae	y	☐	M	M	M
<i>Leptospermum continentale</i>	Prickly tea tree	Myrtaceae	y	☐	L-M	M	M
<i>Leptospermum myrsinoides</i>	Heath tea tree	Myrtaceae	y	☐	M	M	M
<i>Leucopogon lanceolatus</i>	Lance Bearded-heath	Epacridaceae	y	☐	MH	M	M
<i>Leucopogon rufus</i>	Ruddy Bearded-heath	Epacridaceae	y	☐	M	M	M
<i>Myporum viscosum</i>	Sticky Boobialla	Myoporaceae	y	☐	L	S	L
<i>Pultenaea hispidula</i> (prev. <i>graveolens</i>)	Scented Bush-pea	Fabaceae	y	☐	MH	F	M
SHRUB to TALL SHRUB (<5m height)							

Botanical Name	Common Name	Family Name	Spray Buffering Feature	Growth Form	Rainfall (1)	Growth Rate (2)	Longevity
<i>Acacia verticillata</i>	Prickly Moses	Mimosaceae	y	♀	MH	F	M
<i>Acacia victoriae</i> ssp. <i>Victoriae</i>	Elegant Wattle	Mimosaceae	y	♀	L	F	M
<i>Allocasuarina striata</i>	Small Bull-oak	Casuarinaceae	y	♀	L-M	M	M
<i>Callistemon rugulosus</i> var. <i>rugulosus</i>	Scarlet Bottlebrush	Myrtaceae	y	♂	L-M	M	M
<i>Callistemon sieberi</i>	River Bottlebrush	Myrtaceae	y	♂	M	M	M
<i>Melaleuca decussata</i>	Totem Poles	Myrtaceae	y	♂	L	F	M
<i>Prostanthera behriana</i>	Downy Mintbush	Lamiaceae	y	♀	L-M	M	M
SHRUB to LOW TREE (<8m height)							
<i>Acacia dodonaeifolia</i>	Stick Wattle	Mimosaceae	y	♂	L-M	F	M
<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Christmas Bush	Pittosporaceae	y	♂	L-M	M	M
<i>Melaleuca lanceolata</i> ssp. <i>lanceolata</i>*	Dryland tea tree Moonah	Myrtaceae	y	♀	L	F	M
TALL SHRUB to LOW TREE (3-8m height)							
<i>Acacia retinodes</i> var. <i>retinodes</i> Hill forma.	Swamp Wattle (Hill)	Mimosaceae	y	♀	L	F	M
<i>Acacia verniciflua</i>	Varnish Wattle	Mimosaceae	y	♂	H	F	M
<i>Banksia marginata</i>	Silver Banksia	Proteaceae	y	♀	L-M	M	L
<i>Dodonaea viscosa</i> ssp. <i>spatulata</i>	Stick Hop-bush	Sapindaceae	y	♂	L-M	F	M
<i>Eucalyptus cosmophylla</i>	Cup Gum	Myrtaceae	y	♀	M	M	L
<i>Leptospermum lanigerum</i>	Silky tea tree	Myrtaceae	y	♂	L	M	M
<i>Pittosporum angustifolium</i>	Native Apricot	Pittosporaceae	y	♀	L	S	M
TALL SHRUB to TREE (3-12m height)							
<i>Callitris rhomboidea</i>	Oyster Bay Pine	Cupressaceae	y	♂	L	S	L
LOW TREE to TREE (5-12m height)							
<i>Callitris gracilis</i>	Southern Cypress Pine	Cupressaceae	y	♂	L	M	L
LOW TREE to TALL TREE (>5m height)							
<i>Eucalyptus fasciculosa</i>	Pink Gum	Myrtaceae	y	♀	L	M	L
<i>Eucalyptus goniocalyx</i> ssp. <i>goniocalyx</i>	Long-Leaved Box	Myrtaceae	y	♀	M	M	L
<i>Eucalyptus porosa</i>	Mallee Box	Myrtaceae		♀	L	M	L
TREE (8 - 12m height)							
<i>Allocasuarina verticillata</i>	Drooping Sheoak	Casuarinaceae	y	♀	L-H	M	M
TREE to TALL TREE (>8m height)							
<i>Acacia melanoxylon</i> *	Blackwood	Mimosaceae	y	♀	MH	F	L
<i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>	Rough-barked Manna Gum	Myrtaceae	y	♀	L-M	F	L

Botanical Name	Common Name	Family Name	Spray Buffering Feature	Growth Form	Rainfall (1)	Growth Rate (2)	Longevity
TALL TREE (>12m height)							
<i>Eucalyptus baxteri</i>	Brown Stringybark	Myrtaceae	y	♀	M-H	M	L
<i>Eucalyptus camaldulensis</i> ssp. <i>camaldulensis</i>	River Red Gum	Myrtaceae	y	♀	L-M	F	L
<i>Eucalyptus dalrympleana</i> ssp. <i>dalrympleana</i>	Mountain Gum (formerly Candlebark)	Myrtaceae	y	♀	M-H	F	L
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	South Australian Blue Gum	Myrtaceae	y	♀	L	F	L
<i>Eucalyptus obliqua</i>	Messmate Stringybark	Myrtaceae	y	♀	MH	M	L
<i>Eucalyptus odorata</i>	Peppermint Gum	Myrtaceae	y	♀	L	M	L
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	Myrtaceae	y	♀	M	F	L
EXOTIC VEGETATION (take care to retain consistency with existin landscape as advised by Council)							
SHRUB (1-3m height)							
<i>Banksia hookeriana</i>	Hooker's Banksia	Proteaceae	y	♀	L	F	M
<i>Callistemon brachyandrus</i>	Prickly Bottlebrush	Myrtaceae	y	♀	L	S	M
<i>Grevillea olivacea</i>	Ikuve-leaved Grevillea	Proteaceae	y	♂	L	M	M
<i>Juniperus communis</i> 'Compressa'	Dwarf Juniper	Cupressaceae		♂	M	S	L
<i>Thryptomene saxicola</i>	Thryptomene 'Paynei'	Myrtaceae		♂	L-M	F-M	M
SHRUB to TALL SHRUB (1-5m height)							
<i>Banksia ashbyi</i>	Ashby's Banksia	Proteaceae	y	♀	L	M	M
<i>Callistemon phoeniceus</i>	Fiery Bottlebrush	Myrtaceae	y	♂	L-M	S	M
<i>Chamelaucium uncinatum</i>	Geralton Wax	Myrtaceae	y	♂	L	F	M
<i>Eucalyptus cneorifolia</i>	Kangaroo Is. Narrow-leaved Mallee	Myrtaceae		♀	L	S	L
<i>Grevillea hookeriana</i>	Tooth brush Grevillea	Proteaceae		♂	L	F	M
<i>Melaleuca acuminata</i>	Malley Honey Myrtle	Myrtaceae	y	♂	L	M	L
SHRUB to LOW TREE (1-8m height)							
<i>Banksia brownii</i>	Brown's Banksia	Proteaceae	y	♀	M	M	M
<i>Banksia ericifolia</i>	Heath Banksia	Proteaceae	y	♀	L-M	M	M
<i>Leptospermum scoparium</i>	Pink tea tree 'Lambethii'	Myrtaceae	y	♂	L-M	M	M
<i>Melaleuca huegelii</i>	Chenille Honey Myrtle	Myrtaceae	y	♂	L	F	M
TALL SHRUB (3-5m height)							
<i>Chamaecyparis lawsoniana</i> 'Lutea'	Golden Lawson Cypress	Cupressaceae			H	S	L
<i>Leptospermum polygalifolium</i> (prev. <i>flavescens</i>)	Tantoon tea tree	Myrtaceae	y	♂	M	F	M
<i>Myoporum insulare</i>*	Boobialla	Myoporaceae		♂	L	F	M

Botanical Name	Common Name	Family Name	Spray Buffering Feature	Growth Form	Rainfall (1)	Growth Rate (2)	Longevity
TALL SHRUB to LOW TREE (3-8m height)							
Acacia trineura	Three-nerved Wattle	Mimosaceae		☉	L	F	M
Banksia coccinea	Scarlet Banksia	Proteaceae	y	♀	M	M	M
Callistemon viminalis cultivars	Weeping Bottlebrush	Myrtaceae	y	♀	L-M	S	M
Eucalyptus pulverulenta	Powdered Gum	Myrtaceae	y	♀	L-M	F	M
Juniperus virginiana 'Spartan'	Spartan Juniper	Cupressaceae		△	M	M	L
TALL SHRUB to TREE (3-12m height)							
Juniperus communis	Common Juniper	Cupressaceae		△	M	S	L
LOW TREE (5-8m height)							
Callistemon 'Harkness'	Gawler Hybrid	Myrtaceae	y	♀	L	S	M
Metrosideros excelsa 'Aurea'	NZ Christmas Tree	Myrtaceae	y	♀	L-M	M	L
Photinia robust	Photinia	Rosaceae		☽	M	F	M
LOW TREE to TREE (5-12m height)							
Acacia falciformis	Hickory Wattle	Mimosaceae	y	♀	M-H	M	M
Acacia pendula	Weeping Myall	Mimosaceae	y	♀	L	S	L
Banksia prionotes	Acorn Banksia	Proteaceae	y	♀	L	F	M
Cupressus glabra	Smooth Arizona Cypress	Cupressaceae		△	L	S	M
Eucalyptus cinerea	Argyle Apple	Myrtaceae		♀	M	M	L
Eucalyptus cornuta	Yate	Myrtaceae	y	♀	L	M	M
Eucalyptus scoparia	Willow Gum	Myrtaceae	y	♀	H	M	M
Melaleuca linarifolia	Snow-in-Summer	Myrtaceae	y	♀	L-M	M	M
LOW TREE to TALL TREE (>5m height)							
Acmena smithii*	Lilly Pilly	Myrtaceae	y	♀	M	M	L
Allocasuarina torulosa	Rose Sheoak	Casuarinaceae	y	△	L-M	F	L
Banksia menziesii	Firewood Banksia	Proteaceae	y	♀	L	S	M
Eucalyptus nicholii	Willow Peppermint	Myrtaceae		♀	M	F	M
TREE to TALL TREE (>8m height)							
Abies pinsapo	Spanish Fir	Pinaceae		△	H	S	L
Angophora floribunda	Rough-barked Apple	Myrtaceae	y	♀	M	F	L
Cedrus deodara	Himalayan Cedar	Pinaceae	y	△	M	S	L
Cupressus lusitanica	Portuguese Cypress	Cupressaceae		☽	L	M	M
Eucalyptus astringens	Brown Mallet	Myrtaceae	y	☽	L	M	M
Eucalyptus occidentalis	Flat-topped yate	Myrtaceae	y	☽	L	F	M
Grevillea robusta	Silky Oak	Proteaceae	y	♀	L-M	F	M
TALL TREE (>12m height)							
Abies nordmanniana	Caucasian Fir	Pinaceae		△	H	S	L
Abies procera 'Glauca'	Noble Fir	Pinaceae	y	△	H	S	L
Angophora costata*	Smooth Barked Apple	Myrtaceae	y	♀	M	F	L

Botanical Name	Common Name	Family Name	Spray Buffering Feature	Growth Form	Rainfall (1)	Growth Rate (2)	Longevity
	Gum Myrtle						
Picea abies	Norway Spruce	Pinaceae		△	H	S	L
Pseudotsuga menziesii	Douglas Fir	Pinaceae		△	H	F	L

Sources:

Sustainable Landscapes – Reducing Fire Risks in Gardens Botanic Gardens of Adelaide, Adelaide, undated – [http://www.environment.sa.gov.au/botanicgardens/Learn/Sustainable_Landscapes_Project]

Fire Retardant Plants Fact Sheet - Country Fire Service (CFS), Adelaide, 2000