



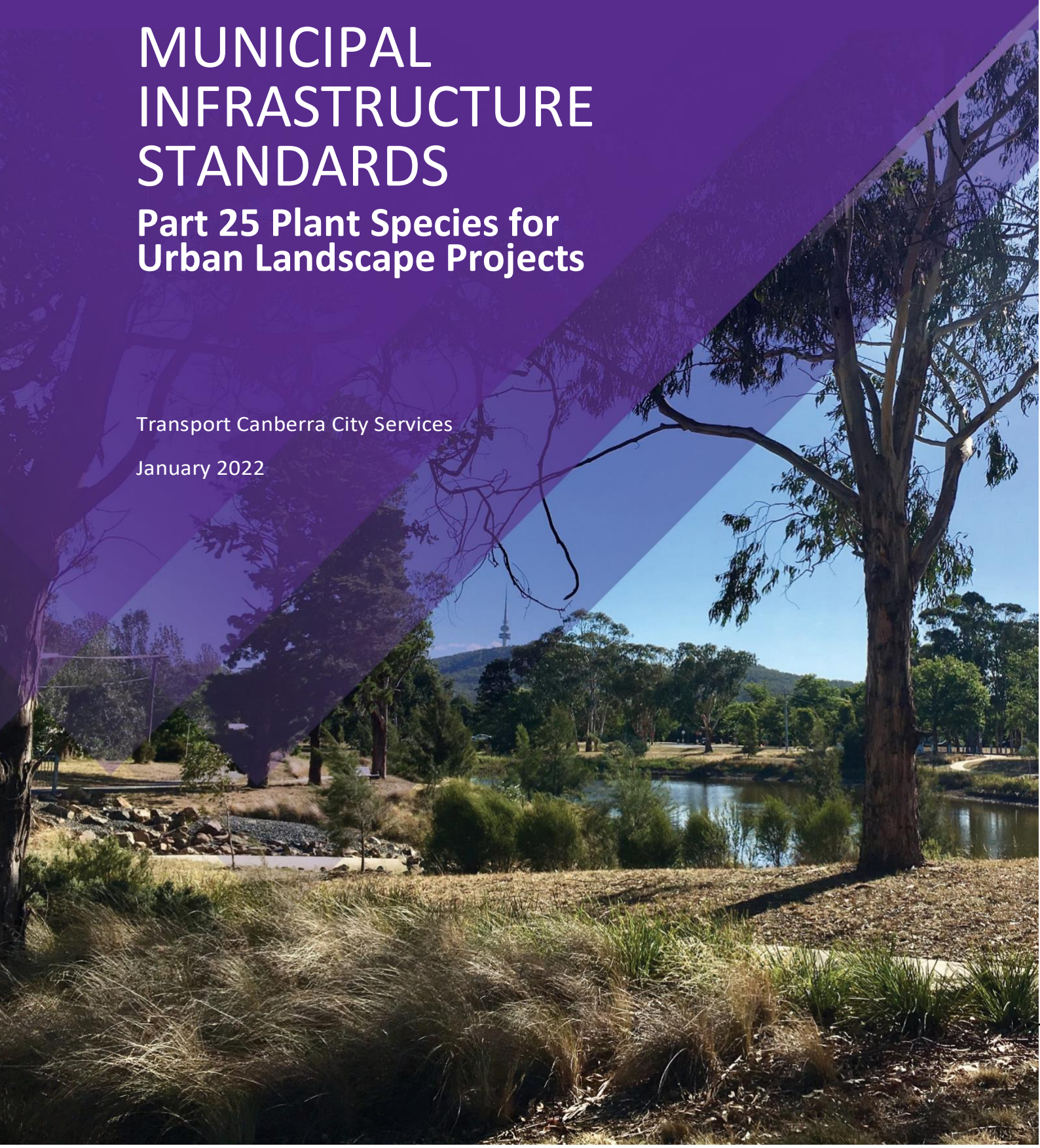
ACT
Government

MUNICIPAL INFRASTRUCTURE STANDARDS

Part 25 Plant Species for Urban Landscape Projects

Transport Canberra City Services

January 2022



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ACKNOWLEDGEMENT OF COUNTRY

Transport Canberra and City Services (TCCS) acknowledge that Aboriginal people are the Traditional Owners of Australia.

We acknowledge and pay respect to the Ngunnawal peoples as the custodians of the land and waters that we live and thrive on today here in the ACT.

TCCS acknowledge that Canberra's cultural and natural heritage was maintained by the Ngunnawal people for many generations before colonial settlement on Australian soil.

Aboriginal people's management of the land preserved the natural balance of local plants and animals. This knowledge of the environment in which we live is critical to the protection and restoration of our land today.

It is our responsibility to preserve and encourage Aboriginal cultural integrity. When using this document, consider opportunities to incorporate Ngunnawal and Aboriginal culture into our urban landscapes by utilising the cultural knowledge identified in the plant species list.



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1 PLANT SPECIES

1.1 General

1.1.1 Responsibilities

1.1.1.1 Objectives

Objective: Provide appropriate plant species, for urban public unleased land in the ACT managed by TCCS.

Provide details of suitable plant species for verge designs associated with municipal streets in the ACT and open spaces on unleased territory land in the ACT in order to:

- > Ensure trees have adequate soil volume suitable to support healthy root growth and healthy trees;
- > Minimise adverse impacts on adjacent buildings, urban infrastructure and utilities above and below ground;
- > Minimise average maintenance needs;
- > Minimise future management problems;
- > Provide plant species which are best suited to the ACT climate; and
- > Maximise benefits of plant species for climate change mitigation and adaptation.

Territory Plan: This Design Standard provides technical support to the *Estate Development Code* to provide more detailed design requirements for the design of verges in the ACT.

Scope: This Design Standard applies to all plants on public lands (road reserves and urban open space). All factors that influence the design shall be considered including:

- > Existing vegetation and protection requirements;
- > Environmental conditions and requirements;
- > Site conditions and functional requirements;
- > Requirements of affected Authorities;
- > Relevant design standards; and
- > Ngunnawal and Aboriginal cultural site requirements

1.1.1.2 Designer's qualifications

Requirement: The design of all soft landscape shall be by a Registered Landscape Architect (AILA). The proponent shall submit evidence of designer's AILA Registration to TCCS.

1.1.1.3 Precedence

Where any document issued, except legislation or the *Territory Plan*, referenced in this Municipal Infrastructure Standard (MIS) includes technical requirements that conflict with this MIS, consult with the service authority and TCCS for clarification.

1.1.2 Cross references

1.1.2.1 Commonwealth Legislation

The following Commonwealth Legislation is relevant to this Standard:

Aboriginal and Torres Strait Islander Heritage Protection Act

Australian Capital Territory Planning and Land Management Act

Disability Discrimination Act

Environment Protection and Biodiversity Conservation Act

Work Health and Safety Act

1.1.2.2 ACT Legislation

The following ACT Legislation is relevant to this Standard:

Discrimination Act

Emergencies Act

Environment Protection Act

Heritage Act

Legislation Act

Lakes Act

National Capital Plan

Nature Conservation Act

Planning and Development Act

Planning and Development Regulation

Pest Plants and Animals Act

Pest Plants and Animals (Pest Plants) Declaration (No. 1)

Public Roads Act

Public Unleased Land Act

Territory Plan and related Codes

Parking and Vehicular Access General Code

Crime Prevention through Environmental Design General Code

Waterways: Water Sensitive Urban Design General Code

Tree Protection Act and related instrument

Tree Protection (Guidelines for Tree Management Plans) Determination

ACT Tree Register

Utilities Act

Utility Networks (Public Safety) Regulation

Water and Sewerage Act

Water and Sewerage Regulations (ACT)

Water Resources Act

Work Health and Safety Act

1.1.2.3 ACT Government Strategic Documents

ACT Pest Animals Management Strategy 2012-2022

ACT Weeds Strategy 2009-2019

ACT Climate Change Adaption Strategy

The ACT Planning Strategy – Planning for a sustainable city

Active 2020: A Strategic Plan for Sport and Active Recreation in the ACT & Region 2011-2020

Canberra Plan; Towards Our Second Century

The City Plan 2014

The ACT Strategic Bushfire Management Plan 2014-2019

Nature Conservation Strategy 2013-2023

Strategic Bushfire Management Plan for the ACT, ACT Emergency Services Authority

Threatened Species Action Plans

Transport for Canberra. Transport for a sustainable city 2012-2031

1.1.2.4 Design Standards

This Design Standard references the following component standards

MIS 01	Street planning and design
MIS 04	Subsurface drainage
MIS 05	Active travel facilities design
MIS 06	Verges
MIS 07	Driveways
MIS 08	Stormwater
MIS 11	Off street Parking
MIS 15	Urban Edges Management Zone
MIS 16	Urban open space
MIS 18	Irrigation
MIS 20	Street and park furniture
MIS 24	Soft Landscape Design

1.1.2.5 Specifications

The following Specifications are related to this Standard:

MITS 09	Landscape
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1.1.2.6 TCCS Reference Documents

The following TCCS Reference Documents are related to this standard:

- Reference Document 6 Requirements for design acceptance submissions
- Reference Document 7 Requirements for operational acceptance submission for hard public infrastructure works
- Reference Document 8 Requirements for works as executed records
- Reference Document 9 Requirements for final acceptance submission for hard landscape assets and civil works
- Reference Document 10 Requirements for landscape consolidation and handover

1.1.2.7 Design Guides

The following design guides are related to this standard:

- Canberra Central Design Manual
- Environment Protection Guidelines for Construction and Land Development in the ACT (EPA)
- ACT Crime Prevention and Urban Design Resource Manual, ACT Department of Urban Services, Planning and Land Management, 2000.
- Development Control Code for Best Practice Waste Management in the ACT (ACT No Waste)
- Network Architecture and Technology (NBN)
- Underground Services in a Shared Trench Agreement, (Telstra, TransACT, ActewAGL)
- Water Supply and Sewerage Standards (Icon Water)

1.1.3 Referenced documents

The following documents are incorporated into this Design Standard by reference:

1.1.3.1 Standards

- AS 4373 Pruning of amenity trees
- AS 4970 Protection of trees on development sites
- AS 2303 Tree stock for landscape use

1.1.3.2 Other publications

- ACTMAPi (for the location of Registered Trees and significant plants and animals)
- ACT Crime Prevention and Urban Design Resource Manual, Planning and Land Management, ACT Department of Urban Services, Canberra
- ACT Crime Prevention Through Environmental Design General Code (CPTED)
- Belconnen's Urban Parks, Sportsgrounds and Lake Ginninderra, Canberra Urban Parks and Places, Department of Urban Services, Canberra
- Inner Canberra's Urban Parks and Sportsgrounds, Canberra Urban Parks and Places, Department of Urban Services, Canberra
- Tuggeranong's Urban Parks and Sportsgrounds, Canberra Urban Parks and Places, Department of Urban Services, Canberra
- Woden and Weston Creek's Urban Parks and Sportsgrounds, Canberra Urban Parks and Places, Department of Urban Services, Canberra

EPA - Environment Protection Policies – eg. General, Waste Water Reuse, Air, Contaminated sites, Outdoor concert noise, Water quality

EPSD - Nature Conservation web site includes information and strategy plans regarding ecological issues in the ACT, for example - Action Plan 27 (Woodlands for Wildlife), Grassland Conservation and Aquatic/Riparian Conservation

Heart Foundation - Active Living Impact Check list – A tool for developments in the Australian Capital Territory

Parks and Recreation Zone Development Code

Clark, R 1996, Purchasing Landscape Trees: A Guide to Assessing Tree Quality, NATSPEC 2 Guide, Construction Information Systems Australia, Milsons Point, NSW.

Draper DB and Richards PA 2009, Dictionary for Managing Trees in Urban Environments, CSIRO Publishing, Victoria.

Proprietary products: To *TCCS Products previously considered for use list*

Schneemann B, Brack C, Brookhouse M & Kanowski P 2019, Urban Forest Tree Species Research for the ACT, The Australian National University, Canberra. Prepared on behalf of EPSDD. Available at https://www.environment.act.gov.au/__data/assets/pdf_file/0008/1437047/urban-forest-tree-species-research-for-the-act-consultants-report-2019.pdf

1.1.4 Interpretations

1.1.4.1 Abbreviations

General: For the purposes of this standard the following abbreviations apply:

AILA:	Australian Institute of Landscape Architects
ASV:	Available Soil Volume
CPTED:	Crime Prevention through Environmental Design
EPA:	Environment and Protection Authority, ACT Government and its successors
EPSDD:	Environment, Planning and Sustainable Development Directorate, ACT Government and its successors
IZV:	Initial Zone Volume
SZV:	Soil Zone Volume
TCCS:	Transport Canberra and City Services Directorate, ACT Government and its successors

1.1.4.2 Definitions

General: For the purposes of this Design Standard the definition given below applies:

Active Living: A way of life that integrates physical activity into daily routines.

Active Recreation: Recreation activities that involve physical input or interactions. Examples include running, ball games, climbing and riding.

Biodiversity: The variety of life on earth, comprising countless species living in different but inter-dependent ecosystems. Variability among living organisms in terrestrial, marine and other aquatic environments (and the ecological systems of which they are part) includes:

- > Diversity within species and between species; and
- > Diversity of ecosystems.

Climate change: *The Intergovernmental Panel on Climate Change (2007)* defines climate change as “a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity.”

Crime Prevention through Environmental Design (CPTED): Aims to prevent crime by designing spaces and buildings that foster human activity and interaction using four key principles: natural surveillance to limit the opportunity for crime; natural access to encourage the movement of people into spaces that are open and inviting; territorial reinforcement to maintain a sense of ownership by the local community; and target hardening to make it difficult to steal or vandalise property.

Path: A paved off-road facility of varying width and surfacing for shared use by pedestrians and cyclists. All paths, including paths adjacent to streets, are shared by pedestrians and cyclists in the ACT, differing from NSW and Victoria where cyclists over 12 years of age are not permitted to ride on paths unless appropriately designated.

Road verge: The part of the road reserve between the carriageway and the boundary of adjacent blocks (or other limit to road reserve). It may accommodate public utilities, footpaths, stormwater flows, street lighting poles and planting.

Root barrier: A physical or chemical obstruction located in the ground to prevent or divert the spread of roots, usually to protect nearby infrastructure.

Urban Open Space: Unleased Territory Land within the urban area set aside for public use. (Defined in the *Territory Plan*, zoned as PRZ1)

Water Sensitive Urban Design: An approach to urban planning and design that aims to integrate the management of the urban water cycle into the urban development process.

Weed species: Any plant species exotic or native which is known to spread by the production of viable progeny often in large numbers, outcompeting and disrupting existing vegetation, e.g. in gardens, parks or bushland. The species concerned may be introduced from outside its area of natural distribution to an area where there are few or no natural predators, or it may have an ability to spread due to changes in land use creating a favourable habitat

1.1.5 Tabulated category definitions

Botanical name: Recognised scientific name used for the current genus, species, subspecies and cultivar (abbreviation CV, that is, cultivated plant variety) names. The previous name of a plant may be included below the botanical name in brackets.

Code: A standardised unique code or abbreviation for each plant, primarily for use on landscape plans (in particular planting plans and schedules). An example would be Aml = *Acacia melanoxylon*. The capital letter(s) are drawn from the genus name, followed by the lowercase letter(s) drawn from the species name and/or cultivar name.

Design characteristics: Features of a plant that set it apart for design consideration. Examples include autumn colour or symbolic meaning such as the ANZAC lone pine. Foliage and flower colour are usually listed. Other notable descriptions include common name, bark, fruit, canopy density and shape.

Flowering times: Typical seasons in which trees flower and produce pollen and/or nectar.

Forager: Wildlife that utilise pollen, nectar or fruit.

Height x width: Average mature height and width in metres under typical conditions in the ACT urban landscape.

Management and siting notes: Specific problems attributed to the species. Examples include disease occurrence, insect attack, nuisance fruit drop and any other known considerations such as irrigation requirement. Three main management/siting notes are detailed below:

- > Frost tolerance – if not listed, the plant has a high frost tolerance. It is suitable for exposed sites but may not be suitable in hollows or frost pockets. If not, the following explanations apply:
 - low – requires shelter from frost in the ACT landscape; and
 - medium – suitable in unsheltered sites but not in very exposed sites.
- > Shade tolerance – if not listed, full sun requirement is assumed. If not, the following explanations apply:
 - shade – requires shade; and
 - shade/sun – will tolerate shade but will also grow in sun.
- > Pruning – the amenity of plants in the urban landscape can often be improved by well-judged pruning. Pruning maintenance can extend the longevity of a plant species in the urban landscape. Plant species that require more frequent pruning, therefore greater maintenance, are noted. The following explanation also applies:
 - Responds to severe pruning – will tolerate hardwood pruning.

Nectar, pollen, fruit: Resources provided by plants to be utilised by foragers.

Ngunnawal cultural notes: An outline of how selected plants were used by Ngunnawal and Aboriginal peoples for food, medicine, tools, shelter and cultural purposes.

- Utilising Ngunnawal and Aboriginal plant species in local landscape projects helps incorporate Aboriginal culture into our environment and is strongly encouraged.

Root barrier zone: A linear root barrier zone has been identified for trees to specify when a root barrier is required. If the tree is closer to a path or kerb than the distance given, then a root barrier is required. N/A = Not applicable. N/R = Not required (if planted at minimum distance from path or kerb).

Target soil volume & site restrictions: Plants within the MIS 25 plant list are not always suitable for a particular site or certain purpose. This category ensures the following:

- > Minimal adverse impacts on urban infrastructure;
- > Minimal average maintenance needs; and
- > The plant is used in its suitable location or environment.

Available soil volume: \geq (greater than or equal to) – is a figure in cubic meters (m^3) to indicate the available unobstructed soil volume provided through sound design to encourage healthy trees within urban infrastructure (see further discussion in Design Criteria).

Each species has been grouped into an ASV Class to indicate the target soil volume:

- > ASV Class 1 $\geq 15\text{m}^3$
- > ASV Class 2 $\geq 30\text{m}^3$
- > ASV Class 3 $\geq 45\text{m}^3$
- > ASV Class 4 $\geq 70\text{m}^3$
- > ASV Class 5 $\geq 100\text{m}^3$

This is the minimum soil volume required for each species which can be calculated at design stage, particularly verge design. This minimum volume has been set to ensure:

- > Suitable underground space to support healthy tree root growth, for healthy trees that grow to their potential;
- > Suitable underground space for trees to coexist with other urban infrastructure in the verge; and
- > Minimal future management problems for all services in the verge, including trees.

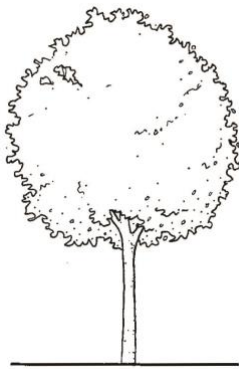
The main site restrictions or 'not suitable' sites and purposes are:

- > Car parks – used when the plant species has characteristics unsuitable for car park sites. Examples include plants with a light tree canopy which could provide insufficient summer shade. Plants with a vigorous root system which could adversely impact urban infrastructure. Lastly plants with a leaf or fruit drop which could increase maintenance costs or inconvenience levels;
- > Clear Zone – that area adjacent to the traffic lanes which should be kept free of fixed roadside hazards including trees > 200m trunk diameter;
- > Creeks and watercourses – this includes ephemeral and permanent water courses, both natural and constructed often with a low maintenance regime. This criterion is used when the plant species has characteristics unsuitable for creeks or watercourses. Examples include plants with vigorous root systems which could adversely impact the waterway. Plants with a potential to be invasive particularly in low maintenance areas. Lastly plants that could require increased maintenance costs;
All plant species listed not suitable for creeks and watercourses remain restricted unless written approval is obtained from TCCS;
- > Dry sites – sites that almost always maintain soil moisture below the water holding capacity of the soil;
- > Exposed sites – sites always subject to prevailing winds or full sun. An exposed site is often characterised by steep gradients and shallow soils;
- > Large plantings – used when the plant species historically has not performed adequately when planted in large numbers. Examples include plants that are susceptible to widespread pest attack. See also single species;
- > All plant species listed not suitable for large plantings are better used in low numbers in mixed species plantings; and
- > Natural areas including semi-natural open space and native grassland sites – sites containing native plants and animal communities where the invasion of non-native plant species should be avoided. An example of a natural area includes the 33 separate sites that collectively make up Canberra Nature Park.

- > All plant species listed not suitable for natural areas including semi-natural open space and native grassland sites should not be planted adjacent to or within these areas. Additional clearance zones apply if the listed plant species has the following characteristics:
 - 500 metre clearance zone if plant has seeds likely to be spread by birds;
 - 100 metre clearance zone if plant has a main seed dispersal method of wind dispersal;
 - 50 metre clearance zone if plant is likely to sucker; and
 - The clearance zone distances may be increased by TCCS when necessary.

- > Paved areas – used when the plant species has characteristics unsuitable for paved areas. Examples include plants with a vigorous root system which could adversely impact urban infrastructure. Plants with a leaf, fruit or resin drop which could increase maintenance costs or inconvenience levels. Plants that require more frequent pruning or additional indirect pest control. Lastly plants that historically perform poorly in paved areas. *Some species may be considered if suitable root barrier is applied at planting;
- > Playing fields – used when the plant species has characteristics unsuitable for playing fields. Examples include plants with vigorous root systems that may invade irrigated and dryland grassed areas increasing maintenance costs.
 - All plant species listed not suitable for playing fields should not be planted within 35 metres of a playing field;
- > Poorly drained sites – sites that almost always maintain soil moisture above the water holding capacity of the soil. A poorly drained site is often due to impeded drainage;
- > Poor soils – sites which limit plant growth due to inadequate chemical or physical properties in the soil;
- > ASV – used to determine tree size by access to soil.
- > Roads and streets – used when the plant species is unsuitable for the current setbacks for road hierarchies detailed in Design Standard 4 Road Verges.
 - All plants used on roads and streets should be selected in conjunction with Design Standard 4 Road Verges;
- > Screening – used when the plant species does not have a dense branching habit or shoot system suitable for screening views;
- > Shelter belts – used when the plant species is unsuited to a high degree of wind exposure;
- > Single species – used when the plant species is susceptible to widespread pest attack, particularly when grown at high densities. See also large plantings;
- > All plant species listed not suitable for single species are better used in low numbers in mixed species plantings;
- > Urban areas – used when the plant species has characteristics unsuitable for urban areas other than natural areas or open space. Examples include plants which suffer unacceptably high insect or disease attack. Plants with a leaf, fruit or resin drop which could increase maintenance costs or inconvenience levels. Plants that require more frequent pruning.
 - All plant species listed not suitable for urban areas are native in the ACT and common locally; and
- > Wet sites – sites that are subject to frequent and prolonged water inundation. A wet site is often characterised by depression topography.

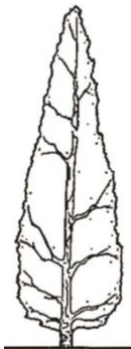
Tree shape category: The following four categories of trees are used to describe clearance requirements:



Category 1 – Large to medium, $\geq 10\text{m}$ sized rounded tree with clean trunk and rounded to elliptical form. Examples include *Eucalyptus mannifera* (Red-spotted gum), *Eucalyptus rossii* (Scribbly gum), *Melaleuca linariifolia* (Flax leaf paperbark), *Quercus cerris* (Turkey oak), *Fraxinus pennsylvanica* ‘Cimmzam’ (Cimmaron) (Cimmaron green ash) and *Pistacia chinensis* (Chinese pistachio).



Category 2 – Small to medium tree, $\leq 9\text{m}$ with rounded to spreading form often with low branches, but can have a clean trunk. Examples include *Acacia caerulescens* (Buchan blue), *Eucalyptus parvula* (Small-leaf gum), *Quercus suber* (Cork oak), *Malus spectabilis* (Chinese flowering crab apple) and *Koelreuteria paniculata* (Golden rain tree).



Category 3 – Upright tree with narrow columnar form. Examples include *Melaleuca bracteata* (Black tea tree), *Callitris muelleri* (Mueller’s cypress), *Populus x canescens* ‘Tower’ (Tower poplar), *Quercus robur* ‘Fastigata’ (Upright English oak), *Prunus* ‘Amanogawa’ (Flowering cherry fastigate form) and *Cupressus sempervirens* ‘Stricta’ (Roman cypress).



Category 4 – Pyramidal shaped tree, often with low branching habit. Examples include *Araucaria bidwillii* (Bunya bunya pine) and *Pinus canariensis* (Canary Island pine).

Figure 25-1 Tree shape categories

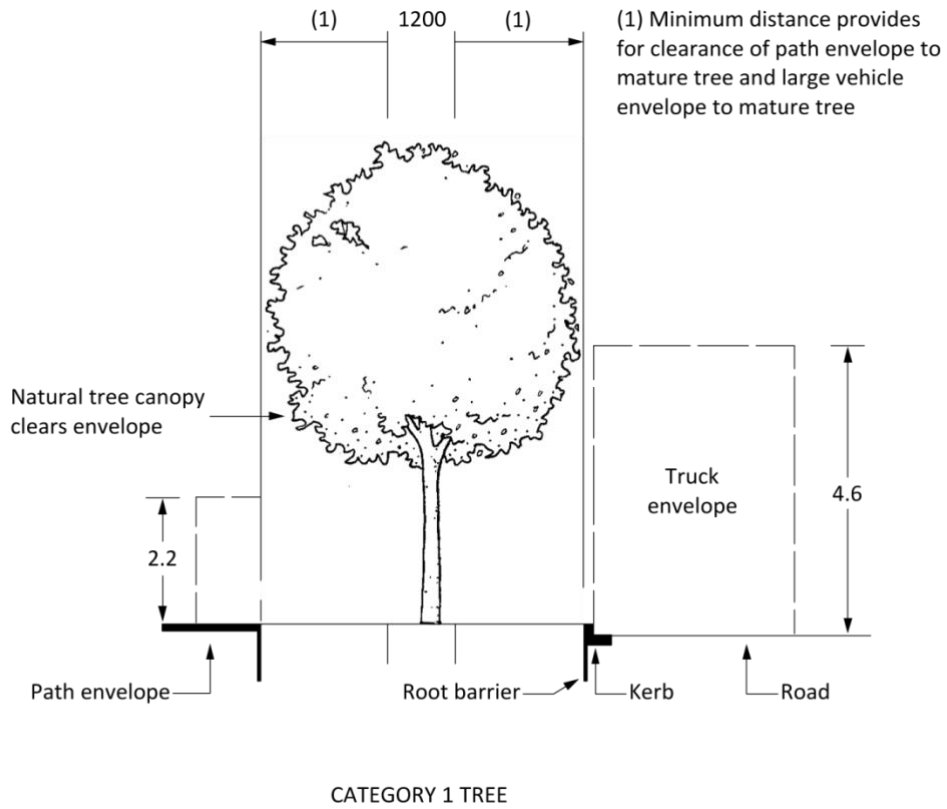


Figure 25-2 Tree shape categories clearance requirements – Category 1

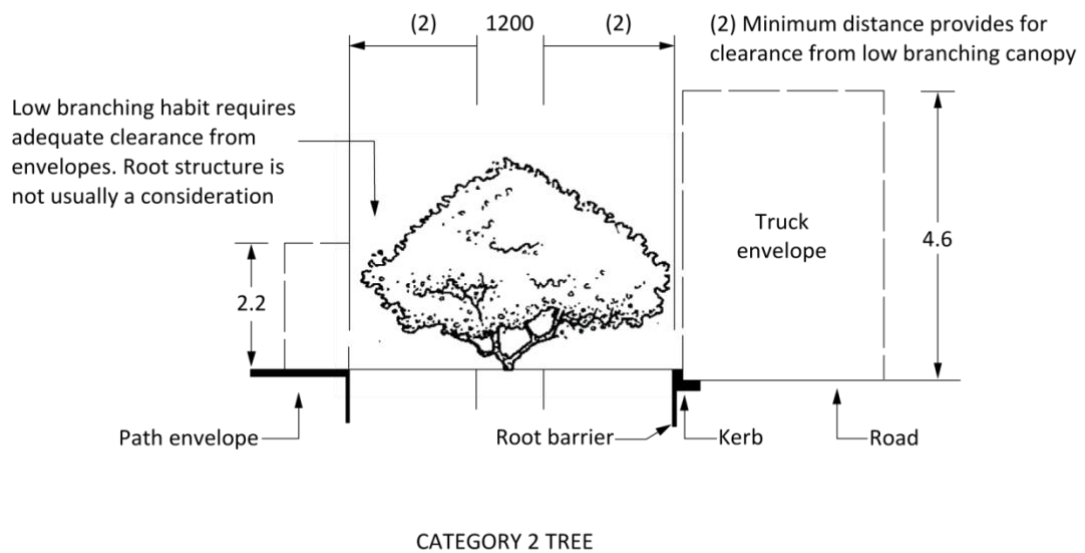
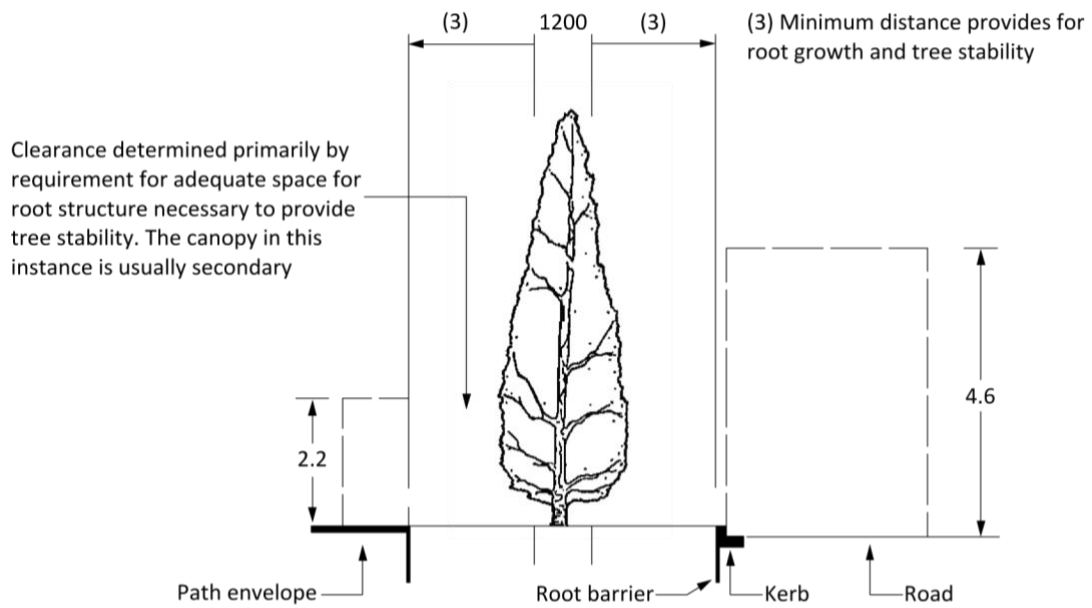
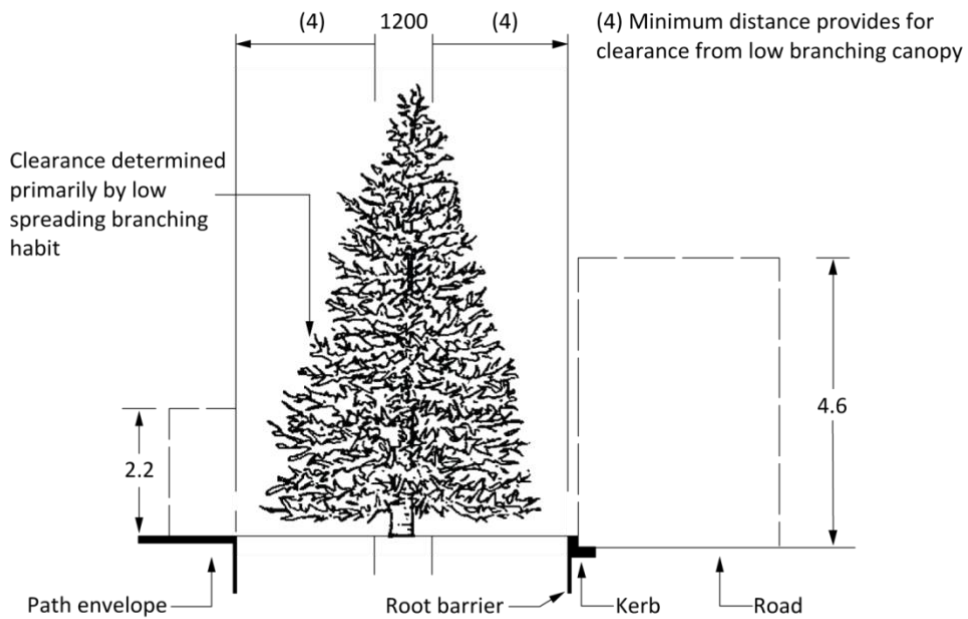


Figure 25-3 Tree shape categories clearance requirements – Category 2



CATEGORY 3 TREE

Figure 25-4 Tree shape categories clearance requirements – Category 3



CATEGORY 4 TREE

Figure 25-5 Tree shape categories clearance requirements – Category 4

1.1.6 Additional design clearances required

The following additional information has been provided for approved street trees.

Minimum clearance from building setback: This is the minimum distance from a tree to all adjacent building setbacks, including above ground and below ground. Tree species are to be selected that in accordance with the distance available from trees to buildings or substantial structures to ensure:

- > That sufficient clearance is provided for healthy tree growth, both above ground and below ground;
- > Minimal adverse impacts on adjacent buildings and other urban infrastructure; and
- > Minimal future management problems.

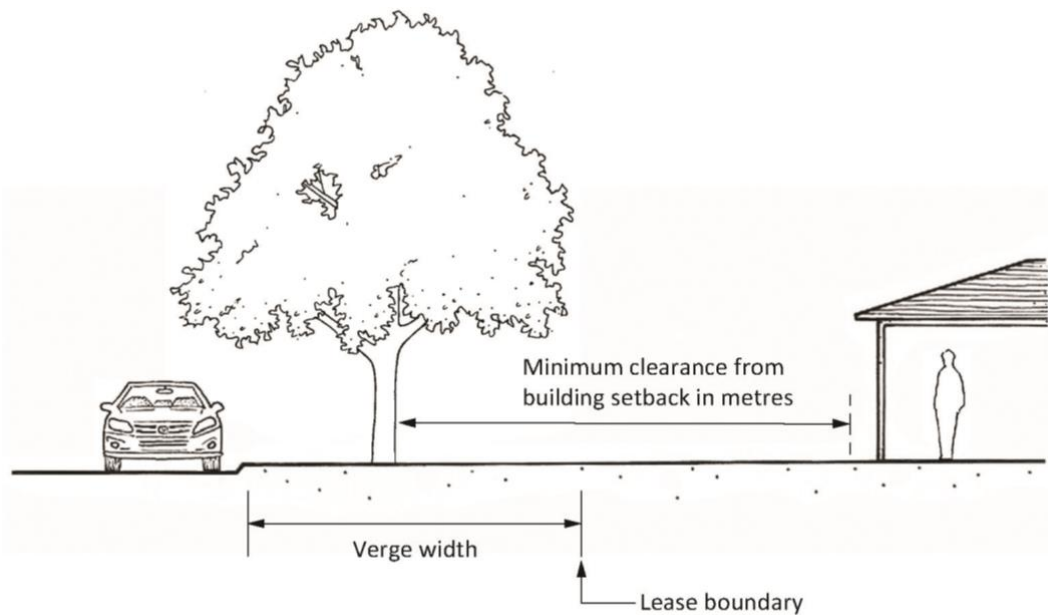


Figure 25-6 Minimum clearance from building setback

Minimum clearance from driveways: Refer to *MIS 07 Driveways*

Minimum clearance from kerbs: This is the minimum distance from a tree to the kerb. This distance has been set using Austroads clearances and the best-known growth characteristics of the MIS 25 tree species. This minimum distance has been set at 1.85m from the Nominal Kerb Line to the tree centreline to ensure:

- > That sufficient clearance is provided for pedestrian access and passengers alighting from vehicles onto verges;
- > That sufficient clearance is provided for healthy tree growth, including canopy spread and root growth,
- > Minimal clear zone width for errant vehicles, and
- > Minimal future management problems, such as damage to kerb infrastructure.

Minimum clearance from paths: This is the minimum distance from a tree to the path. This distance has been set using Austroads clearances and the best-known growth characteristics of the MIS 25 tree species.

Trees shall not be planted within:

Category 1 small trunk	1.5m from centre of tree trunk
Category 1 medium trunk	1.7m from centre of tree trunk
Category 1 large trunk	2.0m from centre of tree trunk
Category 2	2.0m from centre of tree trunk*
Category 3	1.7m + mature canopy radius
Category 4	3.0m from centre of tree trunk*

*Unless advanced trees are planted and lifted away from paths, under an extended consolidation period.

Advanced planting methods may allow exemptions to path offsets down to a minimum of 1.2m. Type of advanced planting methods and rationale of reduced offset shall be confirmed with the approving authority prior to design submission.

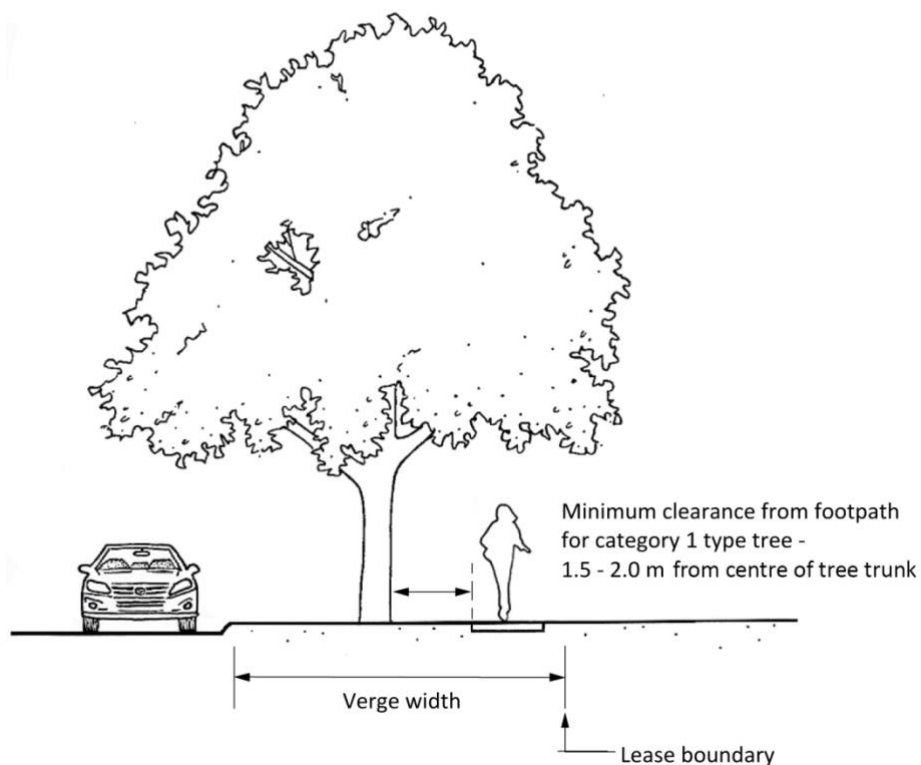


Figure 25-1 Minimum clearance from paths

Minimum clearances from concrete channel, invert linings and floodway structures: Refer to *MIS 08 Stormwater*.

Minimum clearances from hydraulic services: Refer to *MIS 06 Verges*.

Minimum clearances from stormwater pipes: Refer to *MIS 06 Verges*.

Minimum clearances from powerlines and other electricity infrastructure: This minimum distance is set by ActewAGL to reduce future management problems to powerlines and other electricity infrastructure. Vegetation, particularly tree species, should be restricted in the vicinity of powerlines and other electricity infrastructure. ActewAGL provide additional advice about what tree species are suitable for planting near powerlines.

Table 25-1 Minimum clearances from powerlines and other electricity infrastructure

Direction in which minimum distance must be observed	Minimum distance from insulated aerial cable or insulated aerial service line U ≤ 1 kV	Minimum distance from aerial conductor or covered aerial cable U ≤ 1 kV	Minimum distance from aerial conductor or aerial cable 1kV < U ≤ 33 kV	Minimum distance from aerial conductor or aerial cable 33 kV < U ≤ 132 kV
Any direction	1.0 m	1.5 m	2.0 m	3.0 m

1. **Aerial cable** - any insulated or covered conductor or assembly of cores (with or without protective covering) that is above ground or water, suspended in the open air between two or more supports and forms part of an electricity network; and
2. **Aerial service line** - the final span or section of a low voltage aerial conductor of an upstream network that is connected to a point of supply.
3. **U** - denotes the nominal voltage for an aerial line.

1.2 Design criteria

1.2.1 Available soil volume

Available soil volume (ASV): ASV is to be demonstrated at design stage, particularly verge design for new developments. ASV is a substitute for the previous application ‘not suitable for road verges < x m³ which will now be expressed as ‘Target ASV ≥ x m³’ for each species.

Soil volume requirements have been set to ensure:

- > Suitable underground space to support healthy tree root growth, for healthy trees that grow to their potential;
- > Suitable underground space for trees to coexist with other urban infrastructure in the verge; and
- > Minimal future management problems for all services in the verge, including trees.

Soil volume requirements have been calculated using the following factors:

- > Projected canopy width of the mature tree x 0.75;
- > Where the height: width ratio exceeds 3:1, tree height has been used instead of canopy width;
- > That a single tree can coexist with other services both landscape and hard infrastructure; and
- > Tree root growth is dynamic and extends beyond designated zones within the verge in all directions including into private property.

1.2.1.1 Calculation of Available Soil Volume (ASV)

Available soil volume (ASV):

$$(ASV) = IZV - SZV$$

Initial Zone Volume (IZV): The complete volume available within the verge fronting a block

$$IZV = X \times Y \times 0.6m$$

Verge width + 1m of residential block (X), Frontage length (Y), Root Zone depth (0.6m*)

Shared Zone Volume (SZV): The shared volume available within the verge where the other service modules are located including the driveway, path and services trench.

$$SZV = (Z \times 0.6) / 2) \#$$

Driveway, path & services trench area (Z) – including 1m of residential block driveway, Root Zone depth (0.6m*)

* Urban Treescapes may consider or require increased root zone depth, beyond the typical 0.6m. In this case design stage will need to demonstrate any increased root zone depth supports uncompacted soil volume, healthy root growth and successful coexistence with other underground infrastructure. There are several practices to generate uncompacted soil volume, such as plastic modular systems, structural soils and other.

Generating increased uncompacted soil volume does not need to be restricted to the IZV.

The SZV has been halved because the purpose of this zone is to support the module requirements of other services within the verge.

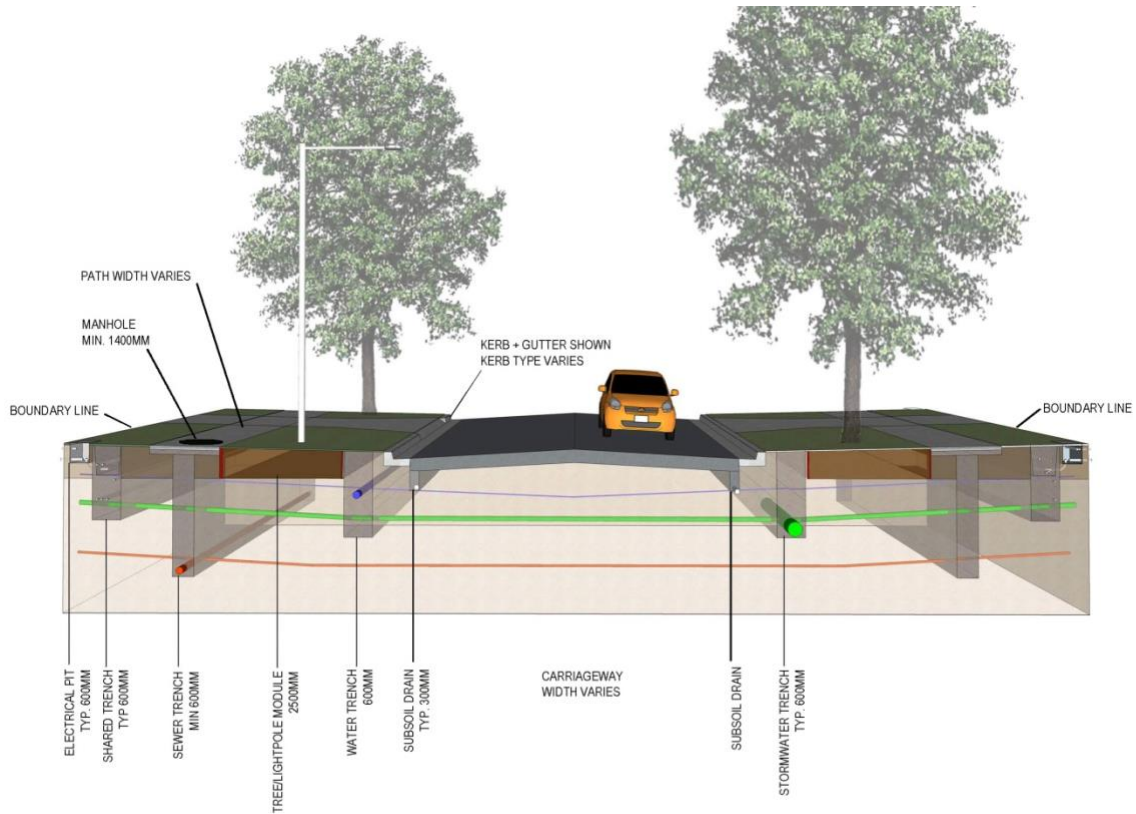


Figure 25-2 Typical Section

1.2.2 Species selection

1.2.2.1 Tree Selector

Selecting the right tree species for the right planting location is critical to designing and maintaining high quality urban infrastructure. The right tree can mitigate future infrastructure conflict and tree maintenance costs. Canberra's urban forest provides vast economic, climatic, environmental, aesthetic and social benefits to the community. Long-term tree benefits are maximised by trees being suitable for their landscape.

The *Canberra Tree Selector* is a user-friendly online tool guiding professionals and the public toward selecting suitable trees for Canberra's landscape. The *Canberra Tree Selector* proposes suitable tree species based on criteria selected by the user, such as planting location, size, origin, foliage, irrigation needs and ornamental display. The *Canberra Tree Selector* also provides detailed fact sheets, extending information on individual tree species on the MIS 25 plant list. The overall purpose of the *Canberra Tree Selector* is to inform people and to enhance the MIS 25 plant list.

1.2.2.2 Special plants

Some plants within the general MIS 25 plant list have been withdrawn and listed as a special plant under their sub-category, trees, shrubs, ground covers, native grasses and introduced grasses. Special plant is used when the plant species has special management considerations. Examples include plants that require more frequent pruning or require specialised growing conditions. This may also include plants with a potential to be invasive or suffer high insect or disease attack.

The planting of a special plant species is limited to certain applications and certain sites within Canberra's environment and urban landscapes. All plant species listed as a special plant require written approval from TCCS.

This revision has discontinued listing trees as special plants. All special management considerations for a tree species are described within the MIS 25 plant list table under management and siting notes and not suitable for. Those trees previously listed as special plants are notated by a hash (#) before the genus name.

If a plant is a recent addition to the list, it is indicated by an asterisk (*) before the genus name.

1.2.2.3 Climate Resilient Species

Climate modelling predicts that the Canberra region is set to become hotter with more frequent droughts and more seasonally variable rainfall. Tree species planted within urban areas of the ACT are being monitored to measure species' success rates and provide data on which species are likely to survive and thrive both now and into the future.

Consider tree species with characteristics that can provide resilience in a changing climate when selecting trees for use in urban landscape projects. More information on the suitability of tree species in Canberra's changing climate is available in the [Urban Forest Tree Species Research for the ACT](#) report.

1.3 Documentation

Requirements: Comply with *Reference document 6 Design Acceptance submissions*.

ANNEXURE A – TREES

Table 25-2 Native trees higher than 15 metres

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
# <i>Angophora costata</i>	APc	15-20 x 10-15	ASV Class 4 ≥70m ³ Poorly drained soils. Wet sites. Planting less than 4 metres from hydraulic services.	1	2.5	Requires semi-sheltered sites. Low frost tolerance. Moderate drought tolerance.	Smooth barked apple, gum myrtle. Pitted pink bark. Curved, waxy leaves.	Oct-Dec	Low Nectar Med Pollen Seed	Bees, Birds, Butterflies	
# <i>Araucaria bidwillii</i>	AAb	20-25 x 15	ASV Class 4 ≥70m ³ Suburban street verges. Natural areas.	4	4	Slow growing. Cockatoo damage due to seeds. High frost tolerance and good drought tolerance.	Bunya bunya pine. Dark green glossy, prickly foliage. Wrinkled black bark. Large cones 30cmx20cm.		Large and heavy cones	Seed eating birds (cockatoos) Mammals	
<i>Casuarina cunninghamiana</i> subsp. <i>Cunninghamiana</i>	Csc	18-20 x 12-15	ASV Class 4 ≥70m ³ Dry sites. Exposed sites.	1	3	Suitable on a range of sites, including boggy locations and nutrient poor soils. High frost and drought tolerance. Responds to severe pruning.	River she-oak. Local species. Evergreen. Keystone local species that provides wildlife habitat.	Spring	Pollen Seeds	Birds Butterflies Keystone local species that provides wildlife habitat	River she-oak used by Ngunnawal people in the ACT region for the making of Boomerangs and axe handles. Young shoots and cones are chewed to create saliva when water is in short supply. Mature cones used to make childrens toys. When you were a child you were told by elders if you get lost to find this tree and stay as the needles would keep snakes away.
<i>Eucalyptus acaciiformis</i>	Eac	15-20 x 15	ASV Class 4 ≥70m ³	1	2.5	Tolerates poor sites. High frost and drought tolerance. Suited to open space areas.	Wattle-leaf peppermint. Leaves similar to <i>Acacia</i> phyllodes. Fissured brown bark. Better form than <i>E.</i> <i>nicholii</i> .	Autumn- Winter	Nectar Pollen Seeds	Good roosting, nesting for wildlife. Attractive to parrots as a food source.	
<i>Eucalyptus albens</i>	Eal	15-20 x 10-15	ASV Class 4 ≥70m ³ Poorly drained sites. Wet sites. Screening. Shelter belts.	1	2.5	High frost and drought tolerance. Requires pruning during formative stages.	White box. Glaucous blue/green foliage. Whitish- grey fibrous tessellated bark	Autumn- Winter	High Nectar High Pollen Seeds	Browsing & protective habitat for birds and wildlife	
<i>Eucalyptus andrewsii</i>	Ean	20 x 15	ASV Class 4 ≥70m ³ Suburban street verges.	1	2.5	High frost and drought tolerance. Tolerates poor soils.	New England blackbutt. Green/blue-green foliage. Grey/brown fibrous bark.	Autumn	High Nectar High Pollen Seeds	Browsing & protective habitat for birds and wildlife in hollows as it ages	
<i>Eucalyptus angophoroides</i>	Eah	20 x 12	ASV Class 3 ≥45m ³ Large plantings. Poorly drained sites. Wet sites.	1	2.5	Moderate to high frost tolerance. Moderate drought tolerance. Prefers moist, deeper alluvial soils. Tolerates occasional flooding.	Apple-topped box. Tall upright tree Grey-brown bark.	Oct-Dec	Nectar Pollen Seeds		
<i>Eucalyptus baueriana</i> (<i>Eucalyptus bauerana</i>)	Eba	15-20 x 15	ASV Class 4 ≥70m ³ Poorly drained sites. Wet sites	1	2.5	Slow growth. High frost and drought tolerance. Grows well in a range of soils but prefers good loams.	Blue box. Fibrous bark. Green- blue semi glossy leaves.	Late Spring- Early Summer	Nectar Pollen Seeds	Bees	
* <i>Eucalyptus benthamii</i> New species	Ebe	15-25 x 10-20	ASV Class 4 ≥100m ³ Poorly drained sites. Wet sites. Natural areas. Screening. Shelter belts.	1	3	High frost tolerance. Prefers fertile loams and alluvia.	Camden white gum. White bark shedding in long ribbons. Classified as a vulnerable species	Autumn	Nectar Pollen Seeds	Bees	
# <i>Eucalyptus blakelyi</i>	Ebl	20 x 15	ASV Class 4 ≥70m ³ Urban areas. Single species.	1	2.5	Medium to high frost and drought tolerance. Tolerates occasional water logging. Prone to severe insect attack; can require spraying for insects.	Blakely's red gum. Local species. Keystone local species that provides wildlife habitat.	Sept- Feb	Med Nectar Med Pollen Seeds	Bees Keystone local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and canoes and as a marker tree for pathways.

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Eucalyptus blaxlandii</i>	Ebx	20 x 15	ASV Class 4 ≥70m ³	1	2.5	High frost and moderate drought tolerance. Grows in poor soils including gravels.	Blaxland's stringybark. Reddish deeply furrowed bark. Slightly sickle shaped leaves.	Spring	Nectar Pollen Seeds	Bees	Ngunnawal people would use the tree to make shelters and rope.
<i>Eucalyptus bridgesiana</i>	Ebr	20 x 15	ASV Class 4 ≥70m ³ Urban areas. Poorly drained sites. Wet sites.	1	2.5	High frost and moderate drought tolerance. Tolerates exposed sites. Does not tolerate water logging. Known host for native mistletoe.	Apple box. Grey short-fibred bark. Heart shaped juvenile leaves. Keystone local species that provides wildlife habitat.	Autumn	High Pollen Nectar Seeds	Bees, Birds. Keystone local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields and coolamons. They also used the bark to heat water.
<i>Eucalyptus elata</i>	Eel	25 x 15	ASV Class 5 ≥100m ³ Dry sites. Exposed sites.	1	3	Moderate frost and drought tolerance. Prefers moist sites such as creeks and watercourses. Formative pruning important to avoid multi-branching.	River peppermint. Light green foliage. Bark sheds in ribbons. Large, fast growing.	Spring	Nectar Pollen Seeds	Bees, Birds.	Ngunnawal people would use the leaves to make tea.
<i>Eucalyptus globoidea</i>	Egl	20 x 15	ASV Class 4 ≥70m ³ Poorly drained sites. Wet sites.	1	2.5	Moderate to high frost and drought tolerance. Likely to tolerate a wide range of sites and soils.	White stringybark. Glossy dark green foliage. Reddish stringy bark.	Summer Autumn	High Nectar Med Pollen Seeds	Bees, Birds	
<i>Eucalyptus goniocalyx</i>	Ego	20 x 15	ASV Class 4 ≥70m ³ Poorly drained sites. Wet sites.	1	2.5	High frost and drought tolerance. Prefers well drained, gravel or stony soils.	Long-leaved box, bundy. Local species. Rough and persistent grey-brown bark. Keystone local species that provides wildlife habitat.	Autumn- Mid Winter	Nectar Pollen Seeds	Bees, Birds Keystone local species that provides wildlife habitat.	Ngunnawal people would use the bark to make shields and coolamons.
# <i>Eucalyptus macrorhyncha</i>	Ema	15-20 x 10	ASV Class 3 ≥45m ³ Urban areas. Agistment areas.	1	2.5	Grows on a range of soils but prefers well drained sites. Can require regular removal of dead branches. Susceptible to root rot.	Red stringybark. Deeply fissured red spring bark. Local species. Suitable only for use in wildlife corridors for habitat.	Autumn	M/H Nectar Med Pollen Seeds	Bees, Birds Suitable for use in wildlife corridors for habitat.	Ngunnawal people would use the tree to make shelters and rope.
# <i>Eucalyptus maidenii</i> (<i>E. globulus</i> subsp. <i>maidenii</i>)	Emd	25-30 x 15-20	ASV Class 5 ≥100m ³ Suburban street verges. Dry sites. Exposed sites. Natural areas.	1	3	High frost and moderate drought tolerance. Tops die out. Prone to early limb failure. Many pest and fungal disease problems.	Maiden's blue gum. Heavy foliage texture. Long, dark green leaves. Fast growing.	March-Sept	High Nectar Seeds	Good species for wildlife corridors. Flowers are attractive to birds and bees .	
<i>Eucalyptus mannifera</i>	Emf	20 x 12-15	ASV Class 4 ≥70m ³	1	2.5	High frost and drought tolerance. Has performed very well in Canberra.	Red-spotted gum. Local species. Very reliable street tree. White bark. Keystone local species that provides wildlife habitat.	Summer	Low Honey Med Pollen Seeds	Bees, Birds Keystone local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.
<i>Eucalyptus melliodora</i>	Eme	20-25 x 20	ASV Class 5 ≥100m ³	1	3	High frost and drought tolerance. Tolerates a wide range of soils.	Yellow box. Grey-green foliage. Keystone local species that provides wildlife habitat.	Summer	High Honey Nil Pollen Quality Honey Seeds	Bees, Birds Keystone local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.
<i>Eucalyptus melliodora</i> (<i>Tarcutta</i> form)	Emt	20-25 x 20	ASV Class 5 ≥100m ³	1	3	High frost and drought tolerance. Tolerates a wide range of soils.	Tarcutta yellow box. Blue foliage. Important for wildlife habitat. Examples at Old Parliament House.	Spring- Early Summer	Med Nectar Low Pollen Seeds	Bees, Birds Important for wildlife habitat.	
<i>Eucalyptus microcarpa</i> (<i>E. woollsiana</i>)	Emc	20 x 12-15	ASV Class 4 ≥70m ³	1	2.5	High frost and drought tolerance. Adaptable to a wide range of sites. Formative pruning required to encourage a single trunk.	Grey box. Tall tree with straight trunk. Fibrous grey bark. Fast growth rate.	Feb-May	Med Nectar Med Pollen Seeds	Bees, Birds	Ngunnawal people would use the tree to make shields, coolamans and canoes and as a marker tree for pathways.
<i>Eucalyptus polyanthemus</i> subsp. <i>Polyanthemus</i>	Epo	20 x 15	ASV Class 4 ≥70m ³	1	2.5	High frost and drought tolerance. Prefers gravelly free draining sites. Tolerates exposed sites. Can be affected by scale and lerp.	Red box. Blue-grey coin shaped foliage. Very reliable street tree. Keystone local species that provides wildlife habitat.	Oct - Feb	Med Honey Low Pollen Seeds	Bees, Birds Keystone local species that provides wildlife habitat	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
* <i>Eucalyptus radiata</i> <i>New species</i>	Era	20-25 x 15-20	ASV Class 5 ≥100m ³ Screening. Shelter belts.	1	3	High frost and drought tolerance. Tolerates a range of site and soil conditions.	Narrow-leaf peppermint. Fibrous bark. Fast growth. Keystone local species that provides wildlife habitat.	Oct-Dec	Low Honey Med Pollen Seeds	Bees, Birds Keystone local species that provides wildlife habitat.	
<i>Eucalyptus rossii</i>	Ero	15-18 x 15	ASV Class 4 ≥70m ³ Poorly drained sites Wet sites.	1	2.5	High frost and drought tolerance. Grows on poor quality skeletal soils. Does not tolerate shade.	Scribbly gum. White bark with distinctive scribbles. Can have unpredictable growth rates. Local species that provides wildlife habitat.	Jan	Low Honey Low Pollen Seeds	Bees, Birds Local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.
<i>Eucalyptus rubida subsp. Rubida</i>	Eru	15-18 x 10-15	ASV Class 4 ≥70m ³ Dry sites. Exposed sites. Screening. Shelter belts.	1	2.5	High frost and moderate drought tolerance. Prefers deeper soils. Sheds bark in ribbons in late summer. May require formative pruning to prevent multiple leader growth.	Candlebark. Blue-grey foliage. White and red ribbon bark. Local species that provides wildlife habitat.	Sum-Aut	Low Nectar Med Pollen Seeds	Koalas, Birds Local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.
<i>Eucalyptus sideroxylon</i>	Esi	18 x 12	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites.	1	3	High frost and drought tolerance. Tolerates hard sites. Susceptible to common pests but tolerates them well. Formative pruning can reduce acute branching.	Red ironbark. Dark reddish-black fissured bark. Cream flowers.	Winter	High Nectar Low Pollen Seeds	Bees, Birds	
<i>Eucalyptus sideroxylon 'Rosea'</i>	Esr	18 x 12	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites.	1	3	High frost and drought tolerance. Prefers well drained sites and tolerates shallow infertile soils. Formative pruning will reduce acute branching.	Red ironbark. Dense reddish-black fissured bark. Pink flowers.	Early Aut- Mid Spring	High Nectar Low Pollen Seeds	Bees, Birds	
# <i>Eucalyptus viminalis</i>	Evi	20-25 x 15-20	ASV Class 5 ≥100m ³ Dry sites. Exposed sites. Paved areas. Screening. Shelter belts.	1	3	High frost and drought tolerance. Preferably used in open space. Local form has greater drought tolerance.	Manna gum, ribbon gum. Smooth bark that sheds in ribbons. Local species suitable for habitat plantings.	Autumn	Med Nectar Med Pollen Seeds	Bees, Birds Local species suitable for habitat plantings	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.

Table 25-3 Native 10 to 15 metres high

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia melanoxylon</i>	Aml	8-15x5-8	ASV Class 2 ≥30m ³	1	2.5	Survives well on moist sites.	Longer lived than other acacias. Local species.	Late Winter - Spring	High Pollen Seeds	Bees, Butterflies, Beetles, Birds	Ngunnawal people would use the leaves to make soap; the wattle seed is edible.
# <i>Allocasuarina glauca</i>	ALg	12-15x8	ASV Class 2 ≥30m ³ Dry sites.	1	2	High frost and drought tolerance. Forms root suckers. Good for use in shelterbelts.	Grey buloke, swamp oak. Pendulous blueish- green foliage. Fast growing.	Spring	Med Pollen Seeds	Bees, Birds	
# <i>Allocasuarina littoralis</i>	ALI	8-12x4	ASV Class 3 ≥45m ³ Suburban street verges. Poorly drained sites.	1	N/R	High frost and drought tolerance.	Black she-oak. Ornamental tree with upright form. Dusky green foliage. Showy dark red flowers in spring. Local species.	Spring	Med Pollen Seeds	Bees, Birds	Black she-oak used by Ngunnawal people in the ACT region for the making of Boomerangs and axe handles. Young shoots and cones are chewed to create saliva when water is in short supply. Mature cones used to make childrens toys. When you were a child you were told by elders if you get lost to find this tree and stay as the needles would keep snakes away.
# <i>Angophora floribunda</i>	APf	10-15x10	ASV Class 3 ≥45m ³ Dry sites.	1	2	Low frost tolerance when young. Moderate drought tolerance. Prefers alluvial soils.	Rough-barked apple. Dense foliage. White flowers in December and January. Provides habitat and food for fauna. Superb shade tree.	December- January.	Med Nectar Med Pollen Seeds	Bees, Birds, Bats Provides habitat and food for fauna	
* <i>Brachychiton populneus</i> <i>New species</i>	BRp	10-12x8-10	ASV Class 3 ≥45m ³	1	3	High frost and drought tolerance. Tolerates a range of soils, preferring gravel, shale and sand. Has shown variable performance as a street tree.	Kurrajong tree. Glossy green foliage and large, hard shelled seed pods. Evergreen. Long lived. Local ACT tree.	Autumn- Summer	Med Nectar Med Pollen	Bees, Birds	Ngunnawal people would use the bark to make string and rope. Seeds are edible roasted after the yellow bristly coat is removed. Pods are used to make children toys.
# <i>Callitris endlicheri</i>	CLe	12-15x3-4	ASV Class 4 ≥70m ³ Suburban street verges.	3	N/R	High frost and drought tolerance. Does not tolerate heavy clays soils. Formative pruning to ensure single leader Susceptible to canker.	Black cypress pine. Brown furrowed bark. Local species. Relatively slow growing.		Pollen Seeds	Birds Wildlife habitat for nesting	Ngunnawal people would use the trees to make spears.
* <i>Callitris glaucophylla</i> <i>New species</i>	CLg	15x8-10	ASV Class 3 ≥45m ³ Suburban street verges. Screening. Shelter belts.	4	2.5	Slow to moderate growth. High frost tolerance. Grows in a range of soils. Occasionally affected by Callitris Sawfly.	White cypress pine. Smooth bark. Attractive blue-grey glaucous foliage. Timber is resistant to termites.	Winter- Spring	Pollen Seeds	Birds, Mammals	
<i>Eucalyptus aggregata</i>	Eag	15x15	ASV Class 4 ≥70m ³ Dry sites. Screening. Shelter belts.	1	2.5	Prefers well drained sites. High frost and drought tolerance. Borers can be a problem.	Black gum. Slightly glossy foliage. Dark fibrous bark on trunk, becoming smooth in higher branches.	Summer	Low Nectar Low Pollen Seeds	Provides browsing and protective habitat for wildlife	
# <i>Eucalyptus cinerea</i>	Eci	10-15x15	ASV Class 4 ≥70m ³ Suburban street verges, except to replace existing plantings. Large plantings. Single species. Planting less than 4 metres from hydraulic services.	1	3	High frost tolerance. Prefers soils with good drainage. Formative pruning required to reduce low branching to the ground. Subject to sawfly larvae. Minimal use in urban settings.	Argyle apple. Silver-blue foliage. Fibrous red stringy bark. Useful for screen plantings.	Spring	Low Nectar Med Pollen Seeds	Bees, Birds, Butterflies	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Eucalyptus dealbata</i>	Ede	12x8	ASV Class 2 ≥30m ³ Suburban street verges.	1	2.5	High frost and drought tolerance. Parks and open space use. Tolerates dry stony sites with shallow soils. Can be subject to psyllid attack.	Tumbledown red gum. Green-grey glaucous foliage. Mallee-like on poor sites.	Spring	Med Nectar Med Pollen Seeds	Bees, nectar eating Birds	Ngunnawal people would use the tree to make shields, coolamans and canoes and as a marker tree for pathways.
<i>Eucalyptus dives</i>	Edi	12-15x10	ASV Class 3 ≥45m ³ Screening. Shelter belts.	1	2.5	High frost and drought tolerance. Prefers dry well drained sites. Can require formative pruning.	Broad-leaved peppermint. Fibrous bark. Keystone local species that provides wildlife habitat.	Early Spring	Low Honey Low Pollen Seeds	Bees, Birds Keystone local species that provides wildlife habitat.	Ngunnawal people would treat people with fever exposing them to smoke from burning leaves to bring relief; oil can be used as a mouth wash.
<i>* Eucalyptus gracilis</i> <i>New species</i>	Egr	6-12x4-8	ASV Class 2 ≥30m ³ Car parks. Paved areas. Suburban street verges.	2	N/R	High frost and drought tolerance. Subject to pests such as scale and psyllids. Useful as a feature plant in parks or in shelter belts.	White mallee, red mallee. Can be either a mallee form or a small tree. Pendulous foliage.	April-Sept	High Nectar High Pollen Seeds	Bees, Mahogany glider (NSW), Yellow tailed black cockatoo	
<i># Eucalyptus leucoxylon 'Rosea'</i>	Elr	10-15x6-10	ASV Class 3 ≥45m ³ Suburban street verges. Wet sites. Poorly drained sites.	1	2.5	Moderate frost and high drought tolerance. Prefers sandy loams to clay-based soils. Susceptible to pests and disease. Historically variable performance in Canberra. Limited use in mixed plantings.	Red-flowering yellow gum. Cream to grey bark, shedding in flakes. Prominent red flowers March-December. Provides habitat for birds.	March Dec	Med Honey Low Pollen Seeds	Provides habitat for birds	
<i>* Eucalyptus michaeliana</i> <i>New species</i>	Emh	15x10	ASV Class 3 ≥45m ³	1	2.5	Moderate frost and high drought tolerance. Tolerates a range of soils.	Hillgrove gum. Rare species. Dark green foliage. Attractive grey and white blotched bark. Should be an attractive street tree.	Late Winter-Spring Aug - Nov	High Nectar High Pollen Seeds	Bees, Birds	
<i>Eucalyptus mitchelliana</i>	Emi	10x10	ASV Class 3 ≥45m ³ Suburban street verges.	2	2.5	High frost and drought tolerance. Useful as a feature plant in parks or in shelter belts.	Mount Buffalo Sallee. Multi-stemmed, mallee habit. Smooth white-grey bark.	Summer	High Nectar Seeds	Bees, Birds	
<i>Eucalyptus nortonii</i>	Eno	12-15x12-15	ASV Class 4 ≥70m ³ Large plantings. Screening. Shelter belts.	1	2.5	High frost and drought tolerance. Suitable for dry and exposed sites. Susceptible to pests such as scale.	Long-leaved box, mealy bundy. Fibrous, grey bark. Long lived. Local species.	March-June	Nectar Pollen Seeds	Bees, Birds	Ngunnawal people would use the tree to make shields, coolamans and canoes and as a marker tree for pathways.
<i># Eucalyptus pauciflora</i> subsp. <i>pauciflora</i> <i>(E. pauciflora)</i>	Epp	15x10	ASV Class 3 ≥45m ³ Dry sites. Screening. Shelter belts.	1	N/R	Very high frost and moderate drought tolerance. Prefers well drained clay soils. Survival rate can be low during establishment.	Snow gum. Thick glossy leaves. Smooth white bark. Local species that provides wildlife habitat.	Oct-Dec	High Nectar High Pollen Seeds	Bees, Birds Local species that provides wildlife habitat	
<i>Eucalyptus scoparia</i>	Esc	12 x12	ASV Class 3 ≥45m ³ Inner asset protection zone or ember zone. Screening. Shelter beds.	1	2.5	High frost and moderate drought tolerance. Tolerant of waterlogged soils. Susceptible to pests and diseases, particularly insect defoliation when young. Formative pruning required to develop a strong central leader.	Wallangarra white gum. Smooth white bark. Narrow, glossy peppermint scented leaves.		Nectar Pollen Seeds	Bees, Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Eucalyptus stellulata</i>	Est	10x10	ASV Class 3 ≥45m ³ Dry sites.	1	2.5	High frost and moderate drought tolerance. Prefers wetter soils or low-lying damp areas. Can be susceptible to scale. Sheds large quantities of bark that may require clearing.	Black sallee. Glossy green foliage. Olive green bark in the upper part of the tree. Star-like clusters of flowers autumn to spring. Local species that provides wildlife habitat.	Late Autumn-Spring.	Med Nectar Med pollen Seeds	Bees, Birds Local species that provides wildlife habitat.	Ngunnawal people would use the tree to make shields, coolamans and canoes and as a marker tree for pathways.
<i>* Melaleuca bracteata</i> <i>New species</i>	Mba	8-12x6-8	ASV Class 2 ≥30m ³	1	2	High frost and drought tolerance. Prefers soils with good drainage. Tolerates heavy clays and waterlogged sites. Formative pruning will enhance line of sight on street and road verge plantings.	Black tea tree. Hard fissured bark. White flowers in spring.	Spring	High Nectar High Pollen Seeds	Bees, Birds	

Table 25-4 Native trees less than 10 metres high

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia covenyi</i>	Acy	6x6	ASV Class 1 ≥15m ³ Suburban street verges. Paved areas.	2	2	High frost and drought tolerance. Prefers alkaline soils with good drainage. Good for use as a screening plant or in shelter belts.	Blue bush. Small rounded tree. Yellow flowers. Grey-bluish foliage. Rare plant.	Spring	Med Pollen Seeds	Bees, Birds, Butterflies, Beetles	
<i>* Acacia pendula</i> <i>New species</i>	Ape	8x5	ASV Class 1 ≥15m ³ Poorly drained sites.	2	2	High frost and drought tolerance. Tolerates a range of soils but prefers well drained soils. Not affected by any local pests.	Myall, weeping myall. Small elliptical tree with pendulous branches. Drooping silvery glaucous phyllodes. Hard grey bark.	Winter-Spring	Med Pollen Seeds	Bees, Birds, Butterflies, Beetles	
<i># Allocasuarina verticillata</i>	ACv	6x4	ASV Class 1 ≥15m ³ Poorly drained sites.	2	N/R	High frost and drought tolerance. Grows in most soils. Susceptible to psyllids, particularly when young. Can appear poorly as a young plant.	Drooping she-oak. Pendulous branches of dusky green foliage. Horizontally striped trunk. Local species that provides wildlife habitat.	Winter	Med Pollen Seeds	Birds Local species that provides wildlife habitat.	Drooping she-oak used by Ngunnawal people for the making of boomerangs and axe handles. Young shoots and cones are chewed to create saliva when water is in short supply. Mature cones used to make childrens toys. When you were a child you were told by elders if you get lost to find this tree and stay as the needles would keep snakes away.
<i>* Callistemon citrinus</i> <i>'Splendens'</i> <i>New species</i> <i>(C. Endeavour)</i>	Csp	3x3	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	2	N/R	High frost and moderate drought tolerance. Adaptable to a wide range of soils but prefers deeper soils. Respond to severe pruning. Can be used under powerlines.	Brilliant red bottlebrush flowers. Fast initial growth rate. Useful for wildlife habitat.	Oct-Nov	High Nectar Med Pollen Seeds	Bees, Birds, Butterflies. Useful for wildlife habitat.	Not to be planted around cultural sites.
<i>Callistemon 'Harkness'</i>	Cha	3-6x2-3	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	2	N/R	Moderate frost and drought tolerance. Tolerates a wide range of soils but prefers deeper moist soils. Respond to severe pruning. Can be used under powerlines.	Dense crimson red bottlebrush flowers. Glossy green foliage and bronze new growth. Fissured brown bark. Fast initial growth rate. Useful for wildlife habitat, particular the flowers as a food source.	Early Spring	High Nectar Med Pollen Seeds	Bees, Birds, Butterflies Useful for wildlife habitat. Flowers as a food source	Ngunnawal people would use fresh flowers as paint brushes; flowers can also be soaked in water to make a sweet energy drink.
<i>Callistemon 'King's Park Special'</i>	Ckp	4-6x4-5	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	2	N/R	Moderate frost and drought tolerance. Tolerates a wide range of soils but prefers deeper moist soils. Respond to severe pruning. Can be used under powerlines.	Dense crimson red bottlebrush flowers. Blackish-grey bark. Fast initial growth rate. Useful for wildlife habitat, particular the flowers as a food source.	Spring	High Nectar Med Pollen Seeds	Bees, Birds, Butterflies Useful for wildlife habitat, Flowers as a food source.	Not to be planted around cultural sites.
<i>* Callistemon viminalis 'Dawson River Weeper'</i> <i>New species</i>	Cdr	4-6x3-5	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	2	N/R	Moderate frost and drought tolerance. Tolerates a wide range of soils but prefers deeper moist soils. Can prune when young to promote good tree form. Suitable for use under powerlines.	Bright red bottlebrush flowers. Long pendulous grey foliage. Blackish-grey bark. Fast growing. Useful for wildlife habitat, particular the flowers as a food source.	Spring and Autumn	High Nectar Med Pollen Seeds	Bees, Birds, Butterflies, Beetles Useful for wildlife habitat.	
<i>* Callitris muelleri</i> <i>New species</i>	CLm	5x3	ASV Class 1 ≥15m ³ Suburban street verges. Poorly drained sites. Wet sites.	3	2	Moderate frost and high drought tolerance. Excels on well drained sites. Cone drop may be a nuisance in pedestrian areas. Suitable for use in parks.	Mueller's cypress. Small low growing ornamental conifer. Smooth grey bark. Provides habitat for wildlife.		Popular source of resin.	Provides habitat for wildlife.	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Eucalyptus apiculata</i>	Eap	6x4	ASV Class 1 ≥15m ³ Suburban street verges. Poorly drained sites. Wet sites.	2	N/R	High frost and moderate drought tolerance. Tolerates rocky sites with shallow well drained soils. Likely to be susceptible to defoliating insects.	Narrow-leaved mallee ash. Attractive compact mallee. Narrow glossy foliage.	Late Winter - Early Spring	Med Nectar Med Pollen Seeds	Bees, Birds	
<i>Eucalyptus cunninghamii</i> (<i>E. rupicola</i>)	Ecu	3x4	ASV Class 1 ≥15m ³ Suburban street verges. Poorly drained sites. Wet sites.	2	N/R	High frost and drought tolerance. Succeeds on dry, hard, stony sites. Susceptible to scale. Bark sheds in ribbons.	Cliff mallee ash. Multi-stemmed mallee. Dense greyish foliage. Prominent cream/white flowers. Epicormic shoots can appear untidy. Provides habitat for wildlife.	Autumn	Nectar Pollen Seeds	Bees, Birds	
# <i>Eucalyptus lacrimans</i> (<i>E. pauciflora</i> Tantangera form)	Elm	8-12x6-8	ASV Class 2 ≥30m ³ Suburban street verges. Dry sites. Exposed sites.	2	N/R	Very high frost and low drought tolerance. May require supplementary irrigation. Historically survival rate can be low during establishment. Susceptible to scale and pests.	Adaminaby snow gum, weeping snow gum. Distinctive pendulous branches. Smooth white-grey powdery bark. Glossy grey-green foliage. Slow growing.	Spring- Early Summer	High Nectar Pollen Seeds	Bees, Birds	Ngunnawal people would use the tree to make shields, coolamans and as a marker tree for pathways.
* <i>Eucalyptus mannifera</i> 'Little Spotty' <i>New species</i>	Emfl	8x7	ASV Class 1 ≥15m ³ Screening. Shelter belts.	2	2	High frost and drought tolerance. Susceptible to usual eucalypt pests and diseases.	Little Spotty. Selected small form of Red spotted gum. Bluish-green foliage. Smooth white bark. Provides habitat for local wildlife.	Summer	Low Nectar Med Pollen Seeds	Bees, Birds Provides habitat for local wildlife.	Ngunnawal people would use the tree to make coolamans and as a marker tree for pathways.
<i>Eucalyptus moorei</i>	Emo	5x6	ASV Class 1 ≥15m ³ Suburban street verges. Screening. Shelter belts.	2	N/R	High frost and moderate drought tolerance. Tolerates cold wet sites and shallow soils. Susceptible to scale. Can be pruned to a single stem.	Narrow-leaved sallee, little sallee. Multi-stemmed mallee or small tree. Smooth white or blotched bark.	March- April	High Nectar High Pollen Seeds	Bees, Birds Habitat for wildlife and wildlife corridors	
* <i>Eucalyptus parvula</i> <i>New species</i>	Epa	6-10x5-10	ASV Class 3 ≥45m ³ Dry sites. Exposed sites.	2	N/R	High frost and moderate drought tolerance. Prefers deeper moist soils. Formative pruning may be required to create a single trunk.	Small-leaf gum. Small bushy tree. Smooth grey bark. White flowers. Good wildlife habitat for small birds.	Summer	Nectar Pollen Seeds	Bees, Birds Good wildlife habitat for small birds.	Ngunnawal people would use the tree around campsites in groups for wind protection, excellent tree for cold damp positions.
<i>Melaleuca linariifolia</i>	Mli	8x7	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	2	2	Moderate frost and drought tolerance. Tolerates a range of soils. Prefers moistures and tolerates occasional flooding. Formative pruning will enhance line of sight on street and road verge plantings.	Flax leaf paperbark, snow-in-summer. Beige-cream papery bark. Dense white flowers in summer.	Summer	High Nectar Med Pollen Seeds	Bees, Birds	Ngunnawal people would use the tree to treat coughs, colds, wounds, sore throats and skin ailments.

Table 25-5 Introduced trees higher than 15 metres

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Liquidambar styraciflua</i>	LQs	15-20x12	ASV Class 3 ≥45m ³ Paved areas*. Dry sites. Alkaline soils.	4	4	High frost and moderate drought tolerance. Tolerates a range of soils but prefers moist deep soils. Shallow, vigorous root system. Formative pruning may be required to create a single leader. Can be affected by armoured scale.	American sweet gum. Star shaped leaves, with autumn colours including red, yellow and orange. Corky grey-brown bark. Long lived.	Spring	Nectar Pollen	Bees	
<i>Liquidambar styraciflua</i> 'Festeri'	LQf	20x12	ASV Class 3 ≥45m ³ Paved areas. Dry sites. Alkaline soils.	4	4	High frost and moderate drought tolerance. Tolerates a range of soils but prefers moist deep soils. Shallow vigorous root system. Formative pruning may be required to create a single leader. Can be affected by armoured scale	Festeri sweet Gum. Star shaped leaves with variable autumn colours. Holds autumn colour well into winter. Long lived.	Spring	Nectar Pollen	Bees	
<i>Platanus (orientalis) x 'Chilensis'</i>	PLch	18x12	ASV Class 4 ≥70m ³ Paved areas*.	1	4	High frost and drought tolerance. Tolerates a wide range of soils. Lower susceptibility to Anthracnose than other <i>Platanus</i> species. Fruit drop may be a nuisance in pedestrian areas.	Chilensis oriental plane. Flaking mottled bark. Leaf similar to <i>Platanus acerifolia</i> . Round burr-like fruit. Excellent shade tree when appropriate space is available.	Spring	High Nectar High Pollen	Bees	
<i>Platanus orientalis</i>	PLo	20x12-15	ASV Class 4 ≥70m ³ Paved areas*.	1	4	High frost and drought tolerance. Tolerates a range of soils but prefers deeper well drains soils. Has performed well in Canberra. Vigorous root system. Fruit drop may be a nuisance in pedestrian areas.	Oriental plane. Deep green foliage, turning red /yellow in autumn. Smooth light grey-white bark. Round burr-like fruit.	Spring	High Nectar High Pollen	Bees	
<i>Platanus orientalis</i> var. 'Digitata'	PLd	18x12-15	ASV Class 4 ≥70m ³ Paved areas*.	1	4	High frost and drought tolerance. Tolerates a range of soils. Has performed well in Canberra. Vigorous root system. Fruit drop may be a nuisance in pedestrian areas.	Cut-leaf oriental plane. Bright green cut leaf foliage, turning yellow in autumn. Mottled bark. Round burr-like fruit.	Spring	High Nectar High Pollen	Bees	
* <i>Populus deltoides</i> 'Weetangera' New species	POdw	20x15	ASV Class 4 ≥70m ³ Paved areas. Creeks and watercourses (incl. floodplain). Playing fields. Natural areas.	1	5	High frost and drought tolerance. Tolerates a range of soils but prefers deep loams. Can sucker to a small extent, usually only when roots are disturbed.	Weetangera eastern cottonwood. Shiny green foliage; bright red in spring and turning yellow in autumn. Silvery-white bark, becoming deeply fissured with age. Fast growth rate.	Spring	Pollen	Bees	
<i>Populus yunnanensis</i> 'Gundaroo'	POg	15-20x10	ASV Class 3 ≥45m ³ Paved areas. Creeks and watercourses (incl. floodplain). Playing fields. Natural areas.	1	5	High frost and drought tolerance. Tolerates a wide range of soils. Can sucker when roots are disturbed.	Yunnan poplar. Yellow-brown autumn colour. Brown bark. Catkins up to 15cm long. Fast growing	Spring	Pollen	Bees	
* <i>Quercus bicolor</i> New species	Qbi	15-20x15-20	ASV Class 5 ≥100m ³ Paved areas.	1	2.5	High frost and moderate drought tolerance. Tolerates wet boggy sites and soil compaction. Moderately susceptible to oak leaf miner. Formative pruning may be required to develop a strong structure. Acorn drop may be a nuisance in pedestrian areas.	Swamp white oak. Large spreading canopy. Dark green glossy foliage, turning yellow/brown to red in autumn. Deeply furrowed brown bark. Long lived.	Spring	Pollen	Wind pollinated	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
* <i>Quercus canariensis</i> <i>New species</i>	Qca	20x15-18	ASV Class 5 ≥100m ³ Paved areas.	1	2.5	High frost and drought tolerance. Tolerates a wide range of soils. Susceptible to oak leaf miner, aphid and leaf hopper attack. Formative pruning may be required to develop a strong structure. Acorn drop may be a nuisance in pedestrian areas	Algerian oak. Semi-evergreen habit. Broad spreading canopy. Yellow to brown autumn colour. Deeply fissured bark. Slow growing.	Spring	Pollen	Wind pollinated	
<i>Quercus cerris</i>	Qce	15-20x12-15	ASV Class 4 ≥70m ³ Paved areas.	1	2.5	High frost and drought tolerance. Tolerates a wide range of soils. Susceptible to oak leaf miner. Leaf retention may cause problems where solar access is required. Acorn drop may be a nuisance in pedestrian areas.	Turkey oak. Dark green foliage turning yellow-bronze in autumn. Retains leaves into winter. Deeply furrowed bark. Small acorns covered in long bristles.	Spring	Pollen	Wind pollinated	
<i>Quercus coccinea</i>	Qco	15-20x12-15	ASV Class 4 ≥70m ³ Paved areas.	1	2.5	High frost and drought tolerance. Tolerates most soils found in Canberra. Leaf retention may cause problems where solar access is required. Acorn drop may be a nuisance in pedestrian areas.	Scarlet oak. Brilliant red autumn colour. Retains leaves into winter. Acorns have a deep bowl-like cap.	Spring	Pollen	Wind pollinated	
* <i>Quercus frainetto</i> <i>New species</i>	Qfr	20x20	ASV Class 5 ≥100m ³ Paved areas. Wet sites. Poorly drained sites.	1	2.5	High frost and drought tolerance. Suits local loams and clay loams soils. Suitable for semi shade and sun. Leaf retention may cause problems where solar access is required. Acorn drop may be a nuisance in pedestrian areas.	Hungarian oak, Italian oak. Broad spreading crown. Glossy green foliage turning yellow-brown in autumn. Can hold leaves through winter. Slow growing. Long lived.	Spring	Pollen	Wind pollinated	
* <i>Quercus lobata</i> <i>New species</i>	Qlo	18x15	ASV Class 4 ≥70m ³ Paved areas. Poor soils.	1	2.5	High frost and drought tolerance. Suitable for dry sites. Tolerates a range of soils, but prefers rich deep soils. Acorn drop may be a nuisance in pedestrian areas.	Valley oak. Dull green foliage. Thick, deeply furrowed bark. Large long acorns. A faster growing oak.	Spring	Pollen	Wind pollinated	
* <i>Quercus lusitanica</i> <i>New species</i>	Qlu	16x12	ASV Class 3 ≥45m ³ Paved areas	1	2.5	High frost and drought tolerance. Has performed very well in Canberra. Acorn drop may be a nuisance in pedestrian areas.	Lusitanian oak. Distinguished from <i>Q. robur</i> by regular and less deeply lobed leaves. Later autumn colour than other oaks and semi-evergreen. Slow growing but hardy and persistent.	Spring	Pollen	Wind pollinated	
* <i>Quercus macrocarpa</i> <i>New species</i>	Qma	20-5x15-20	ASV Class 5 ≥100m ³ Paved areas.	1	2.5	High frost and drought tolerance. Adapts to a wide range of soils. Tolerates minor root disturbance. Susceptible to powdery mildew, aphids and oak leaf miner. Acorn drop may be a nuisance in pedestrian areas.	Burr oak, bur oak. Distinctive shaggy bark. Large acorns almost completely covered with a burr-like cap. Long lived. Slow growing. Impressive specimen tree.	Spring	Pollen	Wind pollinated	
<i>Quercus palustris</i>	Qpa	18x12-15	ASV Class 4 ≥70m ³ Paved areas.	1	2.5	High frost and drought tolerance. Has performed very well in Canberra. Leaf retention may cause problems where solar access is required. Acorn drop may be a nuisance in pedestrian areas.	Pin oak. Green foliage turning rust-red in autumn. Retains brown foliage through winter. Grey-brown bark. Small acorns.	Spring	Pollen	Wind pollinated	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Quercus palustris</i> 'Freefall'	Qpaf	18x15	ASV Class 4 ≥70m ³ Paved areas.	1	2.5	High frost and drought tolerance. Tolerates a wide range of soils and drainage conditions. Acorn drop may be a nuisance in pedestrian areas.	Pin oak. Deep green foliage turning red-brown in autumn. Leaves drop quickly in autumn unlike <i>Quercus palustris</i> . Grey-brown bark. Dense shade tree.	Spring	Pollen	Wind pollinated	
<i>Quercus robur</i>	Qro	20x20-25	ASV Class 5 ≥100m ³ Paved areas.	1	2.5	High frost and moderate drought tolerance. Tolerates water logging and prefers soils with a higher level of moisture. Susceptible to oak leaf miner and powdery mildew. Acorn drop may be a nuisance in pedestrian areas.	English oak. Wide spreading tree with a dense crown. Small leaves turning yellow-brown in autumn. Blackish-grey fissured bark. Excels with appropriate space.	Spring	Pollen	Wind pollinated	
<i>Tilia x europaea</i>	Tle	18x12	ASV Class 3 ≥45m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites.	1	3	High frost and moderate drought tolerance. Prefers soils with good drainage. Tolerates full sun and semi shade. Flowers are an excellent source of nectar.	Common linden, lime tree. Bright green leaves turning orange-brown in autumn. Finely textured grey-green bark. Yellow flowers in summer. Long lived.	Spring	High Nectar Pollen	Bees, Birds	
# + <i>Ulmus americana</i>	Uam	20x15	ASV Class 4 ≥70m ³ Paved areas. Creeks and watercourses. Playing fields. Natural areas.	5	3	High frost and moderate drought tolerance. Prefers soils with good drainage. Grows well in full sun and light shade. Highly susceptible to Dutch elm disease – restricted use.	American elm. Vase shaped crown. Yellow autumn colour. Ashy grey bark. Can only be used in replacement plantings. New cultivars are available with good Dutch elm disease resistance.	Spring	Pollen	Wind pollinated	
# + <i>Ulmus procera</i>	Upr	25-30 x18-20	ASV Class 5 ≥100m ³ Paved areas. Creeks and watercourses. Playing fields. Natural areas. Poorly drained sites. Wet sites.	1	3	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils. Susceptible to Dutch elm disease and elm leaf beetles – restricted use.	English elm. Dark green leaves turning yellow in autumn. Dark brown bark with vertical ridges. Dense shade tree. Should be limited to specimen and replacement plantings only.	Spring	Pollen	Wind pollinated	

+ Use of some *Ulmus* species restricted to replacements in existing plantings only. No new designs using these species will be approved.

* May be used in paved areas if measures are put in place to provide adequate space and to protect hardstand infrastructure.

Table 25-6 Introduced trees 10 to 15 metres high

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acer buergerianum</i>	ACb	10x8	ASV Class 2 ≥30m ³ Poorly drained sites. Wet sites. Natural areas.	1	N/R	High frost and drought tolerance. Tolerates clayey soils but prefers well drained soils. Grows in sun and part shade. Not susceptible to pests and diseases. Formative prune to encourage a single trunk.	Trident maple. Glossy green foliage, turning red and yellow in autumn. Mottled grey-brown bark. Vigorous early growth rate.	Spring	Nectar Pollen	Bees and other pollinators	
<i>* Acer x freemanii 'Jeffersred' Autumn Blaze New species</i>	ACab	12x10	ASV Class 3 ≥45m ³ Dry sites. Exposed sites.	1	2	High frost and moderate drought tolerance. Tolerates a range of soils. Possibly susceptible to rust fungus. Low potential for root damage.	Autumn blaze maple. Green leaves, turning intense red in autumn. Greyish-brown bark. Fast growing.	Spring	High Nectar Pollen	Bees and other pollinators	
<i>* Acer griseum New species</i>	ACg	10x6	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Natural areas.	1	3	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils.	Paperbark maple. Peeling bark revealing orange bark underneath. Red-orange autumn colour. Slow growing.	Spring	Nectar Pollen	Bees and other pollinators	
<i>* Acer grosseri var. hersii New species</i>	ACgh	10-12 x5-6	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Natural areas.	1	3	High frost and moderate drought tolerance. Prefers well drained soils. Formative prune to encourage a single trunk.	Snake bark maple. Green foliage turning red in autumn. Green and white marbled bark. Vigorous early growth rate.	Spring	Nectar Pollen	Bees and other pollinators	
<i>Acer platanoides</i>	ACp	15x10	ASV Class 3 ≥45m ³ Poor soils. Dry sites. Exposed sites. Natural areas.	1	2.5	High frost and low drought tolerance. Prefers well drained, fertile soils with regular moisture. May require irrigation. Grows best in full sun.	Norway maple. Broad round crown. Yellow to orange autumn colour. Grey-brown bark with shallow furrows.	Spring	High Nectar Pollen	Bees and other pollinators	
<i>* Acer platanoides 'Crimson King' New species</i>	ACpk	15x10	ASV Class 3 ≥45m ³ Dry sites. Exposed sites. Natural areas.	1	2.5	High frost and moderate drought tolerance. Tolerates a range of soils including clays. Shallow root system may cause future maintenance.	Purple Norway maple. Purple foliage changing to red, brown and orange in autumn. Greyish-black bark.	Spring	High nectar Pollen	Bees and other pollinators	
<i>Betula pendula</i>	BTp	12-15 x6-8	ASV Class 2 ≥30m ³ Suburban street verges. Dry sites. Exposed sites. Poorly drained sites. Poor soils. Creeks and watercourses. Natural areas. Planting less than 4 metres from hydraulic services.	1	2.5	High frost and low drought tolerance. Requires rich deep soils with good soil moisture but does not tolerate water logging. Susceptible to rust fungus. Vigorous root growth. Care needed when pruning as does not readily reshoot.	Silver birch. Pendulous branches. Glossy green leaves, turning yellow in autumn. Smooth white-grey bark. Best used as a specimen tree or in small group plantings. Best used on irrigated sites.	Spring	Pollen	Wind pollinated	
<i>Betula pendula 'Laciniata'</i>	BTl	12-15 x6-8	ASV Class 2 ≥30m ³ Suburban street verges. Dry sites. Exposed sites. Poorly drained sites. Poor soils. Creeks and watercourses. Natural areas. Planting less than 4 metres from hydraulic services.	1	2.5	High frost and low drought tolerance. Requires rich deep soils with good soil moisture but does not tolerate waterlogging. Susceptible to rust fungus. Vigorous root growth. Care needed when pruning as does not readily reshoot.	Cut-leaf silver birch. Pendulous branches. Distinctive cut leaves turning yellow in autumn. Smooth white-grey bark. Best used as a specimen tree or in small group plantings. Best used on irrigated sites	Spring	Pollen	Wind pollinated	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Catalpa bignonioides</i>	CATb	15x12-15	ASV Class 4 ≥70m ³ Suburban street verges. Exposed sites. Dry sites. Poorly drained sites. Wet sites.	1	2.5	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained sites. Can perform better on sheltered sites.	Indian bean tree. Wide spreading, superb shade tree. Distinctive large heart-shaped leaves. Brown-grey bark. Cream foxglove-like flowers. Long thin bean-like fruit pods.	Spring	Nectar Pollen	Bees, Butterflies	
<i>* Crataegus 'Smithiana' New species</i>	CRs	10x6	ASV Class 1 ≥15m ³ Paved areas. Creeks and watercourses. Natural areas.	1	2	High frost and drought tolerance. Tolerates a wide range of soils. Susceptible to scale and pear/cherry slug. Fruit drop may be a nuisance in pedestrian areas.	Red Mexican Hawthorn. Dark green foliage. White flowers in spring. Red-yellow fruit which is used as a food source by some birds.	Spring	Nectar	Bees, Birds	
<i>* Davidia involocrata New species</i>	DAi	12x8-10	ASV Class 3 ≥45m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites.	1	3	High frost and moderate shade tolerance. Prefers well drained soils and sheltered conditions. Long lived.	Dove tree. Broad conical crown. Bright green heart shaped leaves. Scaly orange-brown bark. Superb shade tree.	Spring	Nectar Pollen	Bees	
<i>* Fagus sylvatica 'Purpurea' New species</i>	Fsp	12x8	ASV Class 2 ≥30m ³ Paved areas. Dry sites. Exposed sites. Creeks and watercourses. Natural areas.	1	2	High frost and moderate drought tolerance. Tolerates a range of soils but does not grow well in sandy soils. Susceptible to oak leaf miner and aphids. Could require irrigation during establishment.	Copper beech, purple beech. Attractive purple foliage. Smooth grey bark. Long lived. Superb specimen tree.	Spring		Wind pollinated	
<i>* Fraxinus americana New species</i>	FRa	15x12	ASV Class 3 ≥45m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	1	3	High frost and low drought tolerance. Prefers deep, well drained moist soils. Susceptible to ash whitefly, Honey Dew and Sooty Mould.	American ash, white ash. Rounded canopy. Dark green leaves. Grey to brown bark.	Spring		Wind pollinated	
<i>Fraxinus angustifolia subsp. oxycarpa 'Raywood'</i>	FRar	15x12-15	ASV Class 4 ≥70m ³ Creeks and watercourses. Natural areas. Paved areas.	1	4	High frost and drought tolerance. Has performed well in Canberra. Tolerates a wide range of soils. Suffers dieback with insufficient moisture. Vigorous root system.	Claret ash. Claret red leaves in autumn. Grey-brown bark.	Spring		Wind pollinated	
<i>Fraxinus excelsior 'Aurea'</i>	FRa	10-12 x8-10	ASV Class 3 ≥45m ³	2	2.5	Easily damaged when small. Slow growing shoots.	Golden ash. Yellow branches. Black buds in winter. Yellow autumn foliage.	Spring		Wind pollinated	
<i>* Fraxinus excelsior 'Westhof's Glorie' (F. velutina rootstock) New species</i>	FRew	15x8	ASV Class 2 ≥30m ³ Creeks and watercourses. Natural areas. Paved areas.	1	3	High frost and drought tolerance. Suitable for cold exposed sites. Tolerates a range of soils. Likely to be susceptible to Ash Whitefly, scale, aphids, Honey Dew and Sooty mould.	Westhof's Glorie ash. Glossy green foliage, turning yellow in autumn. Smooth grey-brown bark. Fast growing.	Spring		Wind pollinated	
<i>Fraxinus ornus</i>	FRo	10-12x10	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites. Dry sites. Exposed sites. Creeks and watercourses. Natural areas.	1	2.5	High frost and moderate drought tolerance. Prefers well drained soils. Could require irrigation during early establishment.	Manna ash. Yellow to reddish-brown autumn colour. Dark grey bark. Scented white flowers in spring.	Spring		Wind pollinated	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
* <i>Fraxinus pennsylvanica</i> 'Cimmzam' (Cimmaron) <i>New species</i>	FRpc	10-12 x8-10	ASV Class 3 ≥45m ³ Creeks and watercourses. Natural areas.	4	3	High frost and moderate drought tolerance. Tolerates a range of soils.	Cimmaron green ash. Dark green leaves turning burgundy in autumn. Greyish-brown fissured bark. Seedless variety.	Spring		Wind pollinated	
* <i>Fraxinus pennsylvanica</i> 'Urbdell' (Urbanite) <i>New species</i>	FRpu	10-15 x8-10	ASV Class 3 ≥45m ³ Creeks and watercourses. Natural areas.	4	3	High frost and moderate drought tolerance. Tolerates a range of soils but dislikes compacted soils. Formative pruning can strengthen structure.	Urbanite green ash. Uniform upright branching. Pale green foliage turning yellow/gold in autumn. Greyish-brown fissured bark. Considered seedless.	Spring		Wind pollinated	
* <i>Fraxinus pennsylvanica</i> 'Wasky' Skyward <i>New species</i>	FRpw	10x6	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas.	4	3	High frost and moderate drought tolerance. Tolerates a range of soils, including compacted soils.	Skyward green ash. Dense green foliage turning bronzed to purple in autumn. Greyish-brown fissured bark. Considered seedless.	Spring		Wind pollinated	
<i>Fraxinus velutina</i>	FRv	10-12 x10m	ASV Class 3 ≥45m ³ Creeks and watercourses. Natural areas. Paved areas. Poorly drained sites. Wet sites. Dry sites. Exposed sites.	1	3	Moderate frost and drought tolerance. Vigorous root system. Can grow on poorer soils if additional irrigation is provided during establishment, but prefers deeper well drained soils. Frequency of pruning may be high once decline begins.	Arizona ash, velvet ash, modesto ash. Compact tree with upright branching. Green leaves 20-25cm long, turning clear yellow in autumn. Velvet buds. Grey-brown fissured bark. Declines quickly once in decline.	Spring		Wind pollinated	
# <i>Ginkgo biloba</i>	Glb	15x8-12	ASV Class 3 ≥45m ³ Exposed sites. Dry sites.	1	N/R	High frost and moderate drought tolerance. Prefers rich, well drained soils with irrigation. Only plant male form; female form produces pungent fruit (rarely).	Maidenhair tree. Fan shaped leaves. Yellow autumn colour. Slow growing.	Spring		Wind pollinated	
<i>Gleditsia triacanthos</i> 'Shademaster'	GLsh	11x12	ASV Class 3 ≥45m ³ Creeks and watercourses. Natural areas. Paved areas.	1	3	High frost and drought tolerance. Tolerates all soils. Can sucker when roots are disturbed. Various cultivars have been listed declared weeds in parts of Australia.	Shademaster honey locust. Dark green foliage turning yellow in autumn. Dark grey thornless bark. Can seasonally produce seed pods. Fast growing.	Spring	Nectar	Bees	
<i>Liquidambar styraciflua</i> 'Palo Alto'	LQp	12-15x12	ASV Class 3 ≥45m ³ Paved areas. Poorly drained sites. Poor soils.	4	3	High frost and drought tolerance. Tolerates a range of sites including well drained wet sites. Formative prune to encourage a single leader. Vigorous root system. Fruit drop may be a nuisance in pedestrian areas.	Palo Alto sweet gum. Pyramidal shape. Dark green maple-like leaves turning purple-crimson and orange in autumn. Corky ridged bark. Hard spiky seed pods.	Spring	Nectar	Bees	
<i>Liquidambar styraciflua</i> 'Tiriki'	LQt	12x10	ASV Class 3 ≥45m ³ Paved areas. Poorly drained sites. Poor soils.	4	3	High frost and drought tolerance. Tolerates a range of sites including well drained wet sites. Vigorous root system. Fruit drop may be a nuisance in pedestrian areas.	Tiriki sweet gum. Maple-like foliage turning deep red in autumn. Corky ridged bark. Hard spiky seed pods. Canberra selection.	Spring	Nectar	Bees	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Liriodendron tulipifera</i>	Lit	15x15	ASV Class 4 ≥70m ³ Creeks and watercourses. Natural areas. Paved areas. Dry sites. Exposed sites.	1	2.5	High frost and low drought tolerance. Prefers irrigated or moist sites. Prefers full sun.	Tulip tree. Specimen tree. Distinctive tulip shaped leaves. Yellow autumn colour. Large green/orange flowers in spring. Brown furrowed bark. Long lived. Slow growing.	Spring	Nectar	Bees, Birds, Butterflies	
<i>* Nyssa sylvatica</i> <i>New species</i>	Nys	11x6	ASV Class 1 ≥15m ³ Suburban street verges. Dry sites. Exposed sites.	1	2	High frost and moderate drought tolerance. Tolerant of waterlogged conditions but also suits well drained soils. Fruit drop may be a nuisance in pedestrian areas.	Tupelo. Specimen tree in parks. Shiny green leaves, turning purple the intense red in autumn. Brown furrowed bark.	Spring	Pollen	Bees	
<i>* Paulownia tomentosa</i> <i>New species</i>	PAt	12-15x10	ASV Class 3 ≥45m ³ Natural areas. Exposed sites. Dry sites. Poorly drained sites. Wet sites. Poor soils.	1	3	Moderate frost and drought tolerance. Could require additional irrigation during early establishment to prevent leaf burn. Fruit drop may be a minor nuisance in pedestrian areas.	Empress tree. Vase to rounded shape. Very large heart-shaped leaves. Showy purple tubular flowers. Heliotropic. Form/habit variable in response to competition and light.	Spring	Nectar	Bees	
<i>* Platanus orientalis</i> var. <i>insularis</i> 'Autumn Glory' <i>New species</i>	PLag	15 x 10	ASV Class 3 ≥45m ³ Paved areas*.	1	4	High frost and medium to high drought tolerance. Tolerates a wide range of soils. Responds to severe pruning. Lower susceptibility to Anthracnose than other <i>Platanus</i> species. Fruit drop may be a nuisance in pedestrian areas.	Autumn glory oriental plane. Relatively small foliage with bright gold autumn colour. Mottled flaking bark. Round burr-like fruit.	Spring			
<i>* Populus x canescens</i> 'Tower' <i>New species</i>	POt	15x3	ASV Class 4 ≥70m ³ Paved areas. Creeks and watercourses (incl. floodplain). Playing fields. Natural areas.	3	5	High frost and drought tolerance. Tolerates a range of soils. Has an improved level of disease and insect resistance. Known to sucker with age.	Tower poplar. Green foliage, turning yellow in autumn. Furrowed grey bark. Fast growing. Good alternative to Lombardy Poplar.	Spring	Pollen	Wind pollinated	
<i>Populus simonii</i>	POs	15x4-5	ASV Class 4 ≥70m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Creeks and watercourses (incl. floodplain). Playing fields. Natural areas.	1	3	High frost and drought tolerance. Tolerates most soils but prefers well drained sites. Does not suit shaded areas. Little to no suckering habits.	Chinese poplar, Simon's poplar. Deep green foliage with a silvery green underside. Silvery Bark. Fast growing.	Spring	Pollen	Wind pollinated	
<i>* Prunus padus</i> <i>New species</i>	Ppa	10-12x6	ASV Class 1 ≥15m ³ Paved areas, Natural areas.	1	N/R	High frost and moderate drought tolerance. Tolerates ACT soils. Fruit drop may be a nuisance in pedestrian areas.	Bird cherry, hackberry. Upright growing branches. Dark green leaves turning red/yellow in autumn. Drooping white flowers. Small black fruit.	Spring	Good Nectar	Bees Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
* <i>Pyrus calleryana</i> 'Aristocrat' <i>New species</i>	PYca	11x7	ASV Class 1 ≥15m ³	1	2	High frost and drought tolerance. Tolerates a range of soils including waterlogged sites. Preferable cultivar due to wider branching angles.	Aristocrat callery pear. Green leaves turning red and orange in autumn. Greyish-brown bark. White flowers in spring. Horizontal branches with wide angles that are less likely to split.	Spring	Pollen Little Nectar		
* <i>Pyrus calleryana</i> 'Capital' <i>New species</i>	PYcc	11x3-4	ASV Class 1 ≥15m ³	3	2	High frost and drought tolerance. Tolerates a range of soils including waterlogged sites. Suits areas with restricted space.	Capital callery pear. Narrow fastigiated form. Green leaves turning reddish-purple in autumn. White flowers in spring. Can be used as an alternative to Lombardy Poplar. Better branching structure.	Spring	Pollen Little Nectar		
* <i>Pyrus calleryana</i> 'Chanticleer' syn. 'Cleveland Select' <i>New species</i>	PYcl	11x5-6	ASV Class 1 ≥15m ³	1	2	High frost and drought tolerance. Tolerates a range of soils including waterlogged sites. Grows in full sun or part shade.	Cleveland select callery pear. Green leaves turning red and orange in autumn. Greyish-brown bark. White flowers in spring. Better branching structure and less susceptible to wind damage than other <i>Pyrus</i> cultivars.	Spring	Pollen Little Nectar		
* <i>Pyrus calleryana</i> 'Red Spire' <i>New species</i>	PYcr	10x7	ASV Class 1 ≥15m ³	1	2	High frost and drought tolerance. Tolerates a range of soils including waterlogged sites. Suckering can be an inconvenience. Suits areas with limited space.	Red spire callery pear. Green leaves turning gold, red and plum in autumn. Greyish-brown bark. White flowers in spring.	Spring	Pollen Little Nectar		
<i>Quercus acutissima</i>	Qac	15x15	ASV Class 4 ≥70m ³ Paved areas. Dry sites. Exposed sites.	1	2.5	High frost and moderate drought tolerance. Tolerates poor soils but prefers moist, acidic soils. Acorn drop may be a nuisance in pedestrian areas.	Sawtooth oak. Unusual bright green foliage, turning golden in autumn. Deep brown bark becoming deeply fissured with age. Slow growing.	Spring		Wind pollinated	
* <i>Quercus douglasii</i> <i>New species</i>	Qdo	15x12	ASV Class 3 ≥45m ³ Paved areas.	1	2.5	High frost and drought tolerance. Grows well on dry slopes and in shallow sites. Susceptible to powdery mildew. Acorn drop may be a nuisance in pedestrian areas.	Blue oak. Slender trunk. Small blue-green foliage. Light grey bark. Slow growing.	Spring		Wind pollinated	
* <i>Quercus engelmannii</i> <i>New species</i>	Qen	15x14	ASV Class 4 ≥70m ³ Paved areas. Poorly drained sites. Wet sites.	1	2.5	High frost and drought tolerance. Has grown well in Canberra in shaley to clay loam soils. Leaf retention may cause problems where solar access is required. Susceptible to oak leaf miner. Acorn drop may be a nuisance in pedestrian areas.	Mesa oak. Semi-evergreen to evergreen. Small green foliage. Grey-green bark. Slow growing. Long lived.	Spring		Wind pollinated	
<i>Quercus ilex</i>	Qil	12-15 x12-15	ASV Class 4 ≥70m ³ Wet sites. Poorly drained sites. Paved areas.	1	2.5	High frost and drought tolerance. Tolerates a range of soils but prefers deep soils. Acorn drop may be a nuisance in pedestrian areas.	Holm oak, holly oak. Evergreen. Dense crown. Dark leathery foliage. Finely fissured bark.	Spring		Wind pollinated	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
* Quercus palustris 'Pringreen' Green Pillar New species	Qpap	14x3	ASV Class 4 ≥70m ³ Paved areas.	3	2.5	High frost and drought tolerance. Tolerates a range of soils but prefers moist, well drained acidic soils. Acorns may be a nuisance in pedestrian areas. Suits areas with restricted space.	Green pillar pin oak. Narrow upright shape. Dark green foliage turning red in autumn. Furrowed grey bark.	Spring		Wind pollinated	
# <i>Quercus phellos</i>	Qph	12x9	ASV Class 4 ≥70m ³ Paved areas.	1	2.5	High frost and drought tolerance. Tolerates a range of soils. Acorn drop may be a nuisance in pedestrian areas.	Willow oak. Distinctive willow like leaves turning yellow to orange in autumn. Reddish-brown bark when young, becoming grey. Small acorns. Long lived.	Spring		Wind pollinated	
<i>Quercus robur</i> 'Fastigiata'	Qrf	12-15x6	ASV Class 1 ≥15m ³ Paved areas.	3	2.5	High frost and drought tolerance. Tolerates a range of soils. Formative prune to encourage a single trunk. Acorn drop may be a nuisance in pedestrian areas. Suits areas with restricted space.	Columnar English oak. Dense upright branching. Dark green foliage turning yellowish-brown in winter. Dark greyish-brown bark. Long lived. A good alternative to Lombardy Poplar.	Spring		Wind pollinated	
* Quercus rubra (Q. borealis) New species	Qru	8-10 x 9	ASV Class 2 ≥30m ³	1	2.5	High frost and moderate drought tolerance. Tolerant of compacted soils and wind, performs best in moist, well drained acid soils in cooler areas. Ideal for larger park and garden situations or as a street tree where space permits.	Red oak. Rounded to broad-spreading well structured tree with dense dark green foliage turning red in autumn. Dark reddish grey brown bark with broad, thin, rounded ridges that appear to have shiny stripes down the center. Long lived.	Spring		Wind pollinated	
<i>Quercus suber</i>	Qsu	15x15	ASV Class 4 ≥70m ³	1	2.5	High frost and drought tolerance. Tolerates a range of soils. Leaf retention may cause problems where solar access is required. Acorn drop may be a nuisance in pedestrian areas, but they are infrequently produced.	Cork oak. Evergreen. Spreading canopy. Leathery grey-green foliage. Corky bark. Slow growing. Long lived.	Spring		Wind pollinated	
# <i>Quillaja saponaria</i>	Qls	10x6	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poor soils.	1	N/R	Moderate frost and low drought tolerance. Tolerates a range of soils but prefers deep soils. Could require irrigation during establishment.	Chilean soap bark. Thick evergreen leathery leaves. Thick dark coloured bark. Large white flowers. Slow growing.	Spring		Insects	
<i>Styphnolobium japonicum (Sophora japonica)</i>	Sja	12-15x10	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites. Dry sites. Poor soils. Paved areas. Planting less than 4 metres from hydraulic services	1	2	Moderate frost and drought tolerance. Prefers deeper, moist well drained soils. Susceptible to canker. Formative pruning required to develop a single trunk. Fruit drop may be a nuisance in pedestrian areas.	Pagoda tree. Dark green leaves. Light grey-brown bark. Yellow/cream flowers in summer. Tolerant of pollution.	Summer		Insects	
* Tilia cordata New species	Tlc	12-15x10	ASV Class 3 ≥45m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites.	4	2.5	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained sites.	Small-leaved lime, small-leaved linden. Dark green heart-shaped leaves. Grey ridged bark.	Spring	Nectar Pollen	Bees	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Toona sinensis</i>	TOs	15x6	ASV Class 1 ≥15m ³ Paved areas. Dry sites. Exposed sites. Natural areas. Creeks and watercourses.	3	N/R	High frost and moderate drought tolerance. Prefers moist clay loam soils. Responds to severe pruning. Known to sucker profusely. Suits areas with restricted space and the cool damp side of buildings.	Chinese cedar, Chinese mahogany. Foliage is pink in spring and yellow in autumn. Brown scaly bark. Fast growing	Spring		Insects	
# + <i>Ulmus glabra</i> 'Lutescens'	Ugl	10x12	ASV Class 3 ≥45m ³ Suburban street verges. Dry sites. Exposed sites. Poorly drained sites. Wet sites. Paved areas. Creeks and watercourses. Natural areas.	1	3	High frost and drought tolerance. Grows in full or part sun. Formative pruning required to reduce low branching if service access is required. Can sucker when roots are disturbed. Susceptible to elm leaf beetle.	Golden scotch elm. Greenish-gold leaves turning yellow in autumn. Dark grey-brown bark. Branches low to the ground. Fast growing.	Spring		Beetles Wind pollinated	
* <i>Ulmus parvifolia</i> 'Emer II' Alee <i>New species</i>	Upa	13x10	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites. Paved areas. Creeks and watercourses. Natural areas.	1	3	High frost and very high drought tolerance. Tolerates a range of soils. Resistance to Dutch elm disease. Can sucker when roots are disturbed.	Emerald vase, alee Chinese elm. Green foliage turning yellow in autumn. Peeling bark reveals a mosaic pattern. Long lived.	Spring		Wind pollinated	
* <i>Ulmus parvifolia</i> 'Todd' <i>New species</i>	Upt	10x11	ASV Class 3 ≥45m ³ Paved areas. Creeks and watercourses. Natural areas.	1	3	High frost and drought tolerance. Tolerates a wide range of soils. Can grow vigorously if irrigation is provided during establishment. Formative pruning required to encourage a single trunk and good branch structure. Resistant to Dutch elm disease and elm leaf beetle. Vigorous root system which can sucker if disturbed.	Todd Chinese elm. Wide spreading branches. Dark green leaves turning bronze/yellow in autumn. Grey-brown bark, exfoliating to reveal brown-orange bark.	Spring		Wind pollinated	
<i>Ulmus parvifolia</i> 'Yarralumla Clone'	Upy	15x12-15	ASV Class 4 ≥70m ³ Creeks and watercourses. Natural areas. Street verges.	1	3	High frost and moderate drought tolerance. Tolerate a range of soils. Has performed well in Canberra. Formative prune to ensure a single leader.	Yarralumla Chinese elm. Weeping form of <i>Ulmus parvifolia</i> . Small glossy green leaves turning yellow in autumn. Attractive peeling bark. Can have a slow establishment period.	Spring		Wind pollinated	
* <i>Ulmus</i> 'Sapporo Autumn Gold' <i>New species</i>	Uag	12x8	ASV Class 2 ≥30m ³ Creeks and watercourses. Natural areas.	1	3	High frost and drought tolerance. Tolerates a range of soils. Resistant to Dutch Elm Disease	Sapporo autumn gold elm. Dark green foliage turning bright gold in autumn. Pale grey fissured bark. Long lived. One of the most successful hybrid elm cultivars.	Spring		Wind pollinated	
* X <i>Chitalpa tashkentensis</i> <i>New species</i>	CHt	10x8	ASV Class 2 ≥30m ³ Poorly drained sites. Wet sites.	1	2.5	High frost and drought tolerance. Prefers well drained soils. Can have vigorous growth in early years. Susceptible to powdery mildew in the USA. Formative pruning may be required to create a single trunk.	Chitalpa. Dark green leaves and turning yellow in autumn. Grey-brown fissured bark. Pale lilac trumpet shaped flowers in summer. A sterile hybrid so does not produce fruit.	Spring	A sterile hybrid so does not produce fruit.		

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Zelkova serrata</i>	ZEs	12-15 x10-12	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites.	1	2.5	High frost and moderate drought tolerance. Tolerates a range of soils but needs good drainage. Possibly susceptible to elm leaf beetle.	Japanese zelkova, keyaki. Excellent uniformity and branch structure. Dark green foliage turning red/orange in autumn. Smooth grey bark. Good alternative to elms.	Spring			
* <i>Zelkova serrata</i> 'Green Vase' New species	ZEgv	14x10	ASV Class 3 ≥45m ³ Poorly drained sites. Wet sites.	1	2.5	High frost and drought tolerance. Tolerates a range of soils but needs good drainage. Prefers full sun but tolerates part shade.	Green vase zelkova. Upright vase shape habit. Green foliage turning yellow and copper bronze in autumn. Smooth grey bark. Good alternative to <i>Celtis australis</i> .	Spring			
* <i>Zelkova serrata</i> 'Musashino' New species	ZEmu	14x5	ASV Class 3 ≥45m ³ Wet sites. Poorly drained sites.	3	2.5	High frost and drought tolerance. Tolerates a range of soils but needs good drainage. Grows in full sun or part shade. Good for use as a screening tree and in restricted spaces.	Musashino zelkova. Narrow compact habit. Green foliage turning yellow and copper bronze in autumn. Smooth grey bark. A possible alternative to <i>Celtis australis</i> .	Spring			

+ Use of some *Ulmus* species restricted to replacements in existing plantings only. No new designs using these species will be approved.

∞ May be used in paved areas if measures are put in place to provide adequate space and to protect hardstand infrastructure.

Table 25-7 Introduced trees less than 10 metres high

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acer japonicum</i>	ACj	7x7	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and medium drought tolerance. Tolerates a range of soils but prefers well drained sites. Susceptible to aphid account on new growth. Formative pruning required when ground clearance is necessary. Prefers sheltered sites.	Japanese maple. Brilliant red autumn colour. Rough scaly bark. Often low branching.	Spring	Nectar	Bees	
* <i>Acer japonicum</i> 'Vitifolium' <i>New species</i>	ACjv	5x5	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and medium drought tolerance. Tolerates a range of soils but prefers well drained sites. Prefers sheltered sites; more suited to sheltered, established suburbs.	Downy Japanese maple, full moon maple. Vase shaped tree. Foliage is bronze in spring, turning green in summer and brilliant scarlet in autumn. Greyish-brown bark. Large purplish-red flowers.	Spring	Nectar	Bees	
* <i>Acer palmatum</i> 'Trompenburg' <i>New species</i>	ACt	4-6x5	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Does not tolerate heavy clay soils. Could require additional irrigation during establishment to prevent leaf burn. Prefers sheltered sites; more suited to sheltered, established suburbs.	Trompenburg Japanese maple. Purple leaves turning bright crimson in autumn. Fast growing.	Spring	Nectar	Bees	
* <i>Acer platanoides</i> 'Crimson Sentry' <i>New species</i>	ACps	7x4	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poorly drained sites. Wet sites. Paved areas. Creeks and watercourses. Natural areas.	3	2	High frost and low drought tolerance. Prefers well drained fertile soils with reliable moisture. Vigorous surface roots. Could be susceptible to rust fungus.	Upright purple Norway maple. Dense red to purple foliage. Greyish-black bark.	Spring	Nectar	Bees	
* <i>Acer rubrum</i> 'October Glory' <i>New species</i>	ACro	9x5	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poorly drained sites. Wet sites. Paved areas. Creeks and watercourses. Natural areas.	3	2	High frost and moderate drought tolerance. Tolerates occasional flooding. Irrigation may be required in prolonged hot, dry summers. Vigorous surface roots.	Lipstick tree. Dark green leaves turning dark pink-red then vivid red in autumn. Thin dark grey bark. Fast growing.	Spring	Nectar	Bees, Birds	
* <i>Arbutus andrachne</i> <i>New species</i>	ARan	8x7	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Creeks and watercourses. Natural areas.	2	2	High frost and moderate drought tolerance. Tolerates a range of soils. Provides habitat and food for fauna. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Grecian strawberry tree. Shiny leaves. Smooth cinnamon coloured bark. White flowers followed by orange fruit. Often multi-trunked. Hybridises with <i>Arbutus unedo</i> to form <i>Arbutus x andrachnoides</i> .	Spring	High Nectar	Bees, Birds, Other fauna	
# <i>Arbutus x andrachnoides</i>	ARa	10x8	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Creeks and watercourses. Natural areas.	2	2	High frost and very high drought tolerance. Tolerates a range of soils. Provides habitat and food for fauna. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Hybrid strawberry tree. Often multi-trunked. Dense dark green foliage. Cinnamon coloured bark, shedding in strips. White flowers in spring. Small red fruit in autumn. Slow growing.	Spring	Nectar	Bees, Birds, Other fauna	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunawal cultural notes
* <i>Arbutus menziesii</i> <i>New species</i>	ARm	8x6	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Creeks and watercourses. Natural areas.	2	2	Moderate frost and high drought tolerance. Prefers well drained soils. Could benefit from elevated sites for frost protection. Fruit drop may be a minor nuisance in pedestrian / paved areas. Shade intolerant.	Pacific madrone. Can be multi-trunked with crooked growth. Thick glossy green leaves. Smooth red-brown peeling bark. White flowers in spring. Red to orange fruit. Long lived.	Spring	Nectar	Bees, Birds, Other fauna	
<i>Arbutus unedo</i>	ARu	5x4	ASV Class 1 ≥15m ³ Exposed sites. Dry sites. Poor soils. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	2	High frost and drought tolerance. Tolerates a range of soils but prefers well drained sites. Occasionally attacked by black scale. Provides food for fauna. Useful for low windbreaks. Also listed as a shrub.	Strawberry tree, Irish strawberry tree. Glossy dark green foliage. Attractive red-brown bark, peeling to reveal white underneath. White flowers. Yellow/red fruit.	Spring	Nectar	Bees, Birds	
* <i>Crataegus laevigata</i> (syn. <i>oxycantha</i>) 'Paul's Scarlet' <i>New species</i>	CRps	6x5	ASV Class 1 ≥15m ³ Paved areas. Creeks and watercourses. Natural areas.	2	2	High frost and drought tolerance. Tolerates a range of soils. Could be susceptible to cherry tree slug. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Midland hawthorn. Glossy dark green leaves. Smooth greyish-brown bark. Double scarlet flowers. Red berries. Slow to moderate growth.	Spring		Bees, Birds	
<i>Fraxinus excelsior</i> 'Aurea Pendula'	FRp	7x8	ASV Class 2 ≥30m ³ Dry sites. Exposed sites. Poor soils. Creeks and watercourses. Natural areas. Planting less than 4 metres from hydraulic services.	2	2	High frost and low drought tolerance. Prefers good soil fertility and moist soils conditions; tolerates wet soils. Formative pruning can create a small formal specimen tree.	Golden weeping ash. Rounded tree with a pendulous habit. Bright green leaves turning golden yellow in autumn. Lightly fissured grey-brown bark.	Spring	Nectar	Bees, Birds, Butterflies	
<i>Gleditsia triacanthos</i> 'Sunburst'	GLsu	9x8-10	ASV Class 3 ≥45m ³ Creeks and watercourses. Natural areas. Paved areas [∞] .	2	3	High frost and very high drought tolerance. Tolerates a range of soils. Shallow, vigorous root system; can sucker when roots are disturbed. Seed pods may be a minor nuisance in pedestrian areas.	Sunburst honey locust. Semi weeping habit. Green foliage with golden yellow new growth. Thornless dark grey bark. Can seasonally produce seed pods.	Spring	High Nectar	Bees, Birds, Small mammals	
* <i>Gleditsia triacanthos</i> var. <i>inermis</i> 'Continental' <i>New species</i>	GLco	9x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Poorly drained sites. Wet sites.	2	2.5	High frost and drought tolerance. Tolerates a range of soils but prefers deeper well drained soils. May sucker if roots are disturbed. Seed pods may be a minor nuisance in pedestrian areas when produced.	Continental honey locust. Upright form and narrow growth habit. Dark green leaves turning yellow in autumn. Dark green thornless bark. Occasionally produces seed pods seasonally.	Spring	Nectar Pollen	Bees, Birds	
<i>Juglans nigra</i>	JUn	6-10 x4-8m	ASV Class 2 ≥30m ³ Paved areas.	1	2	High frost and moderate drought tolerance. Tolerates a wide range of soils. Fruit drop of edible nuts may be a nuisance in pedestrian areas.	Black walnut. Yellow autumn colour. Furrowed brown bark. Long lived. Excellent shade tree.	Spring	Nectar Pollen Fruit	Bees, Birds	
<i>Koelreuteria paniculata</i>	KOp	7-10x7	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites.	2	2	High frost and drought tolerance. Tolerates a range of soils but prefers deep well drained soils. Could require irrigation during establishment. Has performed well in Canberra.	Golden rain tree. Foliage is yellow/orange in autumn and bronze in spring. Greyish-brown bark. Yellow flowers. Striking pendulous seed pods. Slow growing.	Spring	Nectar Pollen	Bees, Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunawal cultural notes
<i>* Lagerstroemia fauriei</i> 'Kiowa' <i>New species</i>	LAk	8x8	ASV Class 2 ≥30m ³ Poorly drained sites. Wet sites.	3	3	High frost and drought tolerance. Tolerates a range of soils but prefers well drained sites.	Crepe myrtle. Vase shape. Glossy green foliage turning orange/yellow in autumn. Cinnamon coloured peeling bark. Large showy white flowers.	Autumn	Low Nectar	Bees	
<i>* Lagerstroemia x L. fauriei</i> 'Biloxi' <i>New species</i>	LAB	7x5	ASV Class 1 ≥15m ³	5	2	High frost and drought tolerance. Tolerates a range of soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Biloxi crepe myrtle. Open vase shaped form. Leaves turn yellow/orange in autumn. Exfoliating cinnamon coloured bark. Pale pink flowers late summer to autumn.	Late Summer-Autumn	Low Nectar	Bees	
<i>* Lagerstroemia x L. fauriei</i> 'Muskogee' <i>New species</i>	LAm	6x5	ASV Class 1 ≥15m ³ Car parks.	5	2	High frost and drought tolerance. Tolerates a range of soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Muskogee crepe myrtle. Open vase shaped form. Leaves turn yellow/orange in autumn. Exfoliating cinnamon coloured bark. Lavender flowers late summer to autumn.	Late Summer-Autumn	Low Nectar	Bees	
<i>* Lagerstroemia x L. fauriei</i> 'Natchez' <i>New species</i>	LAn	8x6	ASV Class 1 ≥15m ³	5	2	High frost and drought tolerance. Tolerates a range of soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Natchez crepe myrtle. Open vase shaped form. Leaves turn red/bronze in autumn. Exfoliating cinnamon coloured bark. White flowers late summer to autumn.				
<i>* Lagerstroemia x L. fauriei</i> 'Osage' <i>New species</i>	LAo	8x8	ASV Class 2 ≥30m ³	5	2	High frost and drought tolerance. Tolerates a range of soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Osage crepe myrtle. Open vase shaped form. Leaves turn red/orange in autumn. Exfoliating cinnamon coloured bark. Pale pink flowers late summer to autumn.	Late Summer-Autumn	Low Nectar	Bees	
<i>* Lagerstroemia x L. fauriei</i> 'Sioux' <i>New species</i>	LAs	5x3	ASV Class 1 ≥15m ³	5	2	High frost and drought tolerance. Tolerates a range of soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Sioux crepe myrtle. Vase shaped form. Dark green leaves turning coppery brown/red in autumn. Dark bark exfoliating to reveal pinkish bark underneath. Intense pink flowers in summer.	Summer	Low Nectar	Bees	
<i>* Lagerstroemia x L. fauriei</i> 'Tuscarora' <i>New species</i>	LAt	6x4	ASV Class 1 ≥15m ³ Dry sites. Exposed sites.	5	2	High frost and drought tolerance. Tolerates a range of soils but prefers moist well drained soils. Mildew resistant. Formative pruning can be undertaken to promote a high canopy.	Crepe myrtle. Open vase shaped form. Leaves turn reddish-orange in autumn. Exfoliating cinnamon coloured bark. Deep pink flowers late summer to autumn.	Late Summer-Autumn	Low Nectar	Bees	
<i>Laurus nobilis</i>	LRn	6x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas.	2	N/R	High frost and drought tolerance. Tolerates a range of soils. Formative pruning required to encourage a single trunk. Fruit drop may be a minor nuisance in pedestrian / paved areas. Also listed as a shrub.	Bay laurel, bay tree. Dark green aromatic foliage. Shiny grey bark. Small shiny black berries. Slow growing.	Spring	Nectar Pollen	Bees	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunawal cultural notes
<i>Malus floribunda</i>	MAf	5x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Paved areas. Planting less than 2 metres from hydraulic services.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils. Formative pruning is required to reduce low branching if service access is required or if used in streets. Flowers best in full sun. Fruit drop may be a nuisance in pedestrian / paved areas.	Japanese flowering crab. Bright green leaves turning yellow in autumn. Shiny reddish-brown bark. Conspicuous pink flowers early in the season. Small fruit.	Early Spring	Good Nectar Pollen	Bees, Birds	
<i>Malus ioensis</i> 'Plena'	MAi	6x5	ASV Class 1 ≥15m ³ Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas. Planting less than 2 metres from hydraulic services.	2	N/R	High frost and drought tolerance. Does not tolerate waterlogged soils, prefers good drainage. Formative pruning required to encourage a single trunk and if service access is required. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Bechtel's crab apple. Green leaves turning orange to dark red in autumn. Conspicuous double pink flowers in late spring. Low fruit production. Slow growing.	Late Spring	Good Nectar Low fruit production	Bees, Birds	
<i>Malus spectabilis</i>	MAs	7x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Poorly drained sites. Wet sites. Planting less than 2 metres from hydraulic services.	1	N/R	High frost and drought tolerance. Tolerates a range of soils but prefers good drainage. Grows in full sun to part shade. Susceptible to woolly aphids. Formative prune to encourage a single trunk.	Chinese flowering crab apple. Bright green leaves Conspicuous double pink flowers. Can seasonally produce fruit in low levels, which is a food source for some birds.	Spring	Good Nectar	Bees, Birds	
* <i>Malus tschonoskii</i> <i>New species</i>	MAt	8x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Poorly drained sites. Wet sites.	3	2	High frost and moderate drought tolerance. Tolerates a range of soils, except wet sites subject to flooding. Good for confined spaces.	Chonosuki crab apple. Dark green leaves turning purple-orange to yellow in autumn. Smooth greyish bark. White flowers in spring. Resistant to apple scab and powdery mildew.	Spring	Nectar Pollen	Bees, Birds	
* <i>Malus x purpurea</i> <i>New species</i>	MAp	6-8x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Paved areas. Planting less than 2 metres from hydraulic services.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils. Grows in full sun and part shade. Fruit drop may be a minor nuisance in pedestrian / paved areas. Fruit is used as food by some birds.	Purple flowered crab apple. Bronze leaves when young, becoming purplish-green. Wine-red flowers. Light crimson fruit.	Spring	Nectar Pollen	Bees, Birds	
* <i>Melia azedarach</i> 'Caroline' <i>New species</i>	MEc	8x7	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Paved areas.	2	2.5	High frost and drought tolerance. Tolerates a range of soils. Fruit drop may be a minor nuisance in pedestrian / paved areas. Not suitable for creeks and water courses.	Chinaberry, cape lilac. Deep green glossy foliage turning yellow in autumn. Grey-brown fissured bark. Lilac flowers. Grafted form reported to be a low fruiting variety.	Spring	Med Nectar Med Pollen	Bees	
* <i>Melia azedarach</i> 'Elite' <i>New species</i>	MEe	8x9	ASV Class 2 ≥30m ³ Creeks and watercourses. Natural areas. Paved areas.	2	2.5	High frost and drought tolerance. Tolerates a range of soils. Responds well to formative pruning. Low weed potential due to lack of fruit / flowers. Not suitable for creeks and water courses.	Chinaberry, cape lilac. Deep green glossy foliage turning yellow in autumn. Grey-brown fissured bark. Reputed to have very low numbers of fruit and flowers.	Spring	Med Nectar Med Pollen	Bees	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunawal cultural notes
<i>* Parrotia persica</i>	PAp	6x4	ASV Class 1 ≥15m ³	2	N/R	Shade/sun. Adapts to most soils, prefers moist, partly acidic well drained soil. Subject to leaf burn from hot winds. Requires formative pruning.	Persian witch hazel. Red/gold autumn colour with striking winter bark. Often low-branched and multi-stemmed.	Spring	Med Nectar Med Pollen	Bees	
<i>* Phellodendron amurense</i> <i>New species</i>	PHa	8x9	ASV Class 2 ≥30m ³ Creeks and watercourses. Natural areas. Dry sites. Exposed sites. Paved areas.	2	3	High frost and drought tolerance. Tolerates wet sites and prefers moist locations. Vigorous surface roots. Fruit drop may be a minor nuisance in pedestrian / paved areas. A declared weed in parts of north east USA.	Amur cork tree. Glossy green foliage turning yellow in autumn. Attractive corky bark. Clusters of black fruit on female plants through summer and autumn. Fast growing.	Spring	High Nectar	Bees	
<i>Pistacia chinensis</i> 'Male Form' (<i>P. sinensis</i>)	PSc	8-10x6	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas.	2	2	High frost and drought tolerance. Tolerates a range of soils. Has performed very well in Canberra. Fruit drop may be a minor nuisance in pedestrian / paved areas. Female plants are recognised as weeds in part of Australia.	Chinese pistachio. Green foliage turning brilliant red, orange and yellow in autumn. Reddish berries on female plants in autumn. A superb specimen tree.	Spring			
# <i>Prunus</i> 'Amanogawa'	Pag	5x2	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites.	3	N/R	High frost and moderate drought tolerance. Tolerates most soils but prefers well drained soils. Could require additional irrigation during establishment. Susceptible to pear and cherry slug. Suits restricted areas.	Flowering cherry. Fastigate form. Green leaves turning gold and red in autumn. Green and red flaky bark. Clusters of semi-double shell-pink flowers.	Spring	Good Nectar	Bees, Birds	
<i>Prunus amygdalus</i> (<i>P. dulcis</i>)	Pam	5-7x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Poorly drained sites. Wet sites.	2	N/R	High frost and drought tolerance. Tolerates a range of soils but prefers well drained sites. Can be susceptible to shot hole. Formative prune for service access. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Flowering almond. Yellow autumn colour. Pale brown fissured bark. White or pale pink flowers in spring. Fruit is used as a food source by some birds.	Spring	Good Nectar	Fruit is used as a food source by some birds.	
<i>Prunus x blireana</i>	Pbl	4x4	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas.	5	N/R	High frost and drought tolerance. Tolerates a range of soils. Has performed very well in Canberra. Flowers best in full sun. Formative pruning required to encourage a single trunk.	Flowering plum, purple-leaf plum. Vase like canopy. Pale purplish-green leaves. Dark purple-red branches. Double rose-pink flowers. Does not produce fruit. Fast growing when young.	Spring	Good Nectar Does not produce fruit.	Bees	
<i>Prunus campanulata</i>	Pca	5-7x5-8	ASV Class 2 ≥30m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Prefers well drained sites. Susceptible to pear and cherry slug. Formative pruning may be required for service access. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Taiwan flowering cherry. Bright green leaves turning orange in autumn. Shiny reddish-brown bark. Deep pink-red flowers in spring. Small round cherries. Fast growing.	Spring	Good Nectar	Bees, Birds	
<i>Prunus cerasifera</i> 'Nigra'	Pcn	6x5	ASV Class 1 ≥15m ³ Creeks and watercourses. Natural areas. Paved areas.	2	N/R	High frost and drought tolerance. Tolerates a range of soils. Has performed very well in Canberra. Susceptible to pear and cherry slug. Fruit drop may be a minor nuisance in pedestrian / paved areas. Formative pruning required to encourage a single trunk.	Black cherry plum. Dark purple leaves. Dark brown bark. Pink flowers before foliage. Small dark red-purple fruit.		Good Nectar	Bees, Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunawal cultural notes
* <i>Prunus cerasifera</i> 'Oakville Crimson Spire' <i>New species</i>	Pcos	6x2	ASV Class 1 ≥15m ³ Wet sites. Poorly drained sites. Creeks and watercourses. Natural areas.	3	N/R	High frost and moderate drought tolerance. Prefers well drained soils. Flowers best in full sun. Good for use in areas with limited space.	Oakville crimson spire cherry plum. Fastigate form. Dark plum coloured leaves. Smooth purple-grey bark. Abundance of white flowers.	Spring	Good Nectar	Bees, Birds	
<i>Prunus cerasifera</i> 'Pissardii'	Pcp	6x4	ASV Class 1 ≥15m ³ Wet sites. Poorly drained sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils. Tolerates full sun to shade. Susceptible to pear and cherry slug. Formative pruning required to encourage a single trunk.	Cherry plum, white flowering plum. Dark red young foliage turning bronze-purple into summer. Rough dark brown bark. White flowers in profusion.	Spring	Good Nectar	Bees, Birds	
<i>Prunus mume</i>	Pmu	4-5x4	ASV Class 1 ≥15m ³ Wet sites. Poorly drained sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils. Susceptible to shot hole and leaf curl. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Flowering apricot, Japanese apricot. Light green foliage. Smooth grey-brown bark. Single pink or white flowers early in the season. Golden yellow fruit.	Spring	Good Nectar	Bees, Butterflies	
<i>Prunus persica</i>	Ppe	5x5	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils. Susceptible to curly leaf. Seasonal pruning encourages greater flower set for the next season. Only male non-fruiting cultivars are to be used.	Flowering peach. Yellow autumn colour. Smooth grey bark. Pale pink, white or red flowers in spring before leaves. Often non-fruiting cultivars.	Spring	Good Nectar	Bees, Birds	
# <i>Prunus</i> 'Sekiyama' ('Kanzan')	Psk	5x3	ASV Class 1 ≥15m ³ Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained soils. Susceptible to pear and cherry slug. Grows in full sun to part shade. May require supplementary irrigation. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Kanzan flowering cherry. Vase shaped crown. Young leaves are coppery-red, becoming dark green. Smooth bark with horizontal lenticels. Double purplish-pink flowers in spring.	Spring	Good Nectar	Bees, Birds	
<i>Prunus serrulata</i>	Pse	8x5	ASV Class 1 ≥15m ³ Dry sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained loams. Susceptible to pear and cherry slug. Pruning not recommended, allowing unique growth habit to flourish. Fruit drop may be a minor nuisance in pedestrian / paved areas.	Ornamental flowering cherry. Flat topped tree with spreading branches. Green leaves turning yellow to red in autumn. Smooth chestnut brown bark. Large double white or pink flowers.		Good Nectar	Bees, Birds	
# <i>Prunus</i> 'Shirofugen'	Psf	6x6	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained sites. Susceptible to pear and cherry slug. Formative pruning is best carried out in summer.	Japanese flowering cherry. Young leaves are bronze, turning yellow to tawny-bronze in autumn. Coppery-red bark. White to pale rose-purple flowers in large clusters late in the season. Fast growing.	Late Spring	Nectar	Bees	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
# <i>Prunus</i> 'Shirotae' ('Mt. Fuji')	Pst	5x5	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained sites. Susceptible to pear and cherry slug. Could require additional irrigation during establishment.	Mt Fuji cherry. Strong horizontal branching. Green foliage turning bronze-red and orange in autumn. White flowers in drooping clusters. Fast growing.		Good Nectar	Bees, Birds	
* <i>Prunus x yedoensis</i> <i>New species</i>	Pys	7x5	ASV Class 1 ≥15m ³ Dry sites. Poorly drained sites. Creeks and watercourses. Natural areas.	2	N/R	High frost and moderate drought tolerance. Tolerates a range of soils but prefers well drained sites. Susceptible to pear and cherry slug. Flowers best in full sun.	Yoshino cherry, Tokyo cherry. New leaves are bronze in spring, changing to green in summer and turning yellow in autumn. Smooth grey bark. White to pale pink flowers in large clusters.	Spring	Good Nectar	Bees, Birds, Butterflies	
# + <i>Ulmus glabra</i> 'Horizontalis'	Ugh	9x5	ASV Class 1 ≥15m ³ Dry sites. Exposed sites. Poorly drained sites. Wet sites. Paved areas. Creeks and watercourses. Natural areas.	2	N/R	Shade/sun. Susceptible to Dutch elm disease.	Horizontal elm. Specimen tree. Yellow autumn foliage.	Spring		Wind pollinated	
* <i>Zelkova serrata</i> 'Schmidtlow' (Wireless) <i>New species</i>	ZEsw	7x9	ASV Class 2 ≥30m ³ Wet sites. Poorly drained sites.	5	2	High frost and drought tolerance. Tolerates a range of soils but prefers well drained sites. Prefers full sun but tolerates part shade. Ideal for use under power lines.	Wireless zelkova. Broad spreading habit. Green foliage turning yellow/copper bronze in autumn. Exfoliating bark to reveal orange inner bark. Superb shade tree.	Spring			

+ Use of some *Ulmus* species restricted to replacements in existing plantings only. No new designs using these species will be approved.

∞ May be used in paved areas if measures are put in place to provide adequate space and to protect hardstand infrastructure.

Table 25-8 Conifer trees

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Cedrus atlantica</i> 'Glauca'	CDa	20x15-20	ASV Class 5 ≥100m ³ Poorly drained sites. Wet sites. Screening. Shelter belts.	4	N/R	High frost and drought tolerance. Has performed very well in Canberra. Tolerates a range of soils but prefers well-drained loamy soils.	Blue atlas cedar. Low branching habit. Stiff silvery blue needles. Rough, plated dark grey bark. Slow growing. Long lived.		Pollen Seeds	Birds	
<i>Cedrus deodara</i>	CDd	20x15-20	ASV Class 5 ≥100m ³ Poorly drained sites. Wet sites.	4	N/R	High frost and drought tolerance. Has performed very well in Canberra. Tolerates a range of soils but prefers well-drained sites.	Deodar cedar, Himalayan cedar. Tall spreading tree. Bright green needles. Grey furrowed bark. Slow growing. Long lived.		Pollen Seeds	Birds	
<i>Cedrus libani</i>	CDI	20x15	ASV Class 4 ≥70m ³ Poorly drained sites. Wet sites.	4	N/R	High frost and drought tolerance. Tolerates a range of soils but prefers well drained sites. Susceptible to rust fungus.	Cedar of Lebanon. Tall tree with horizontal spreading branches. Dark green to blue green needles. Grey green fissured bark. Slow growing, Long lived.		Pollen Seeds	Birds	
<i>Cupressus arizonica</i>	CUa	20x12-15	ASV Class 4 ≥70m ³ Suburban street verges. Paved areas.	4	N/R	High frost and drought tolerance. Tolerates a range of soils. Formative pruning is required to reduce low branching if service access is required.	Arizona cypress. Dense bluish foliage. Bark sheds in strips to reveal reddish-brown patches. Can have drooping branches to the ground. Resistant to canker. Long lived.		Pollen Seeds	Birds	
* <i>Cupressus cashmeriana</i> New species	CUC	20x12-15	ASV Class 4 ≥70m ³ Suburban street verges. Poorly drained sites. Wet sites. Dry sites. Exposed sites. Paved sites.	4	N/R	High frost and moderate drought tolerance. Requires well drained loamy soils. Cone drop may be a nuisance in paved areas. Beautiful specimen tree.	Kashmir Cypress. Graceful pendulous branches. Blue-green foliage. Reddish-brown fibrous bark. Long lived.		Pollen Seeds	Birds	
<i>Cupressus sempervirens</i> 'Glauca'	CUs	10-15x3-5	ASV Class 4 ≥70m ³	3	2.5	High frost and drought tolerance. Has performed very well in Canberra. Tolerates a wide range of soils. Susceptible to canker problems. Suits areas with restricted space.	Italian cypress, pencil pine. Upright form. Dense green to blue-green foliage. Grey lightly fissured bark. Long lived. Formal appearance.		Pollen Seeds	Birds	
<i>Cupressus sempervirens</i> 'Stricta'	CUs	10-15x3-5	ASV Class 4 ≥70m ³	3	2.5	High frost and drought tolerance. Has performed very well in Canberra. Tolerates a wide range of soils. Susceptible to canker problems. Suits areas with restricted space.	Italian cypress, pencil pine. Upright form. Dense green to blue-green foliage. Grey lightly fissured bark. Long lived. Formal appearance.		Pollen Seeds	Birds	
<i>Cupressus sempervirens</i> 'Swane's Golden'	CUg	10-15x3-5	ASV Class 4 ≥70m ³	3	N/R	High frost and drought tolerance. Should perform comparatively to <i>Cupressus sempervirens</i> 'Stricta'. Tolerates a wide range of soils. Susceptible to canker problems. Suits areas with restricted space.	Italian cypress, pencil pine. Upright form. Dense golden foliage. Grey lightly fissured bark. Long lived. Formal appearance.		Pollen Seeds	Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Cupressus torulosa</i>	CUt	15-20x8-10	ASV Class 3 ≥45m ³ Suburban street verges. Poorly drained sites. Wet sites. Paved areas.	4	N/R	High frost and very high drought tolerance. Tolerates a range of soils but prefers well drained sites. Vigorous root system. Cone drop may be a nuisance in paved areas.	Bhutan cypress. Slender drooping branches. Scale-like green/blue-green foliage. Greyish brown fibrous bark. Long lived.		Pollen Seeds	Birds	
<i>* Larix decidua</i> <i>New species</i>	LXd	12x8	ASV Class 2 ≥30m ³ Poorly drained sites. Wet sites. Paved areas.	4	4	High frost and low drought tolerance. Requires deep, moist well-drained soils and does not tolerate high pH. Could require irrigation during establishment and beyond, particularly during dry periods. Susceptible to mite and scale.	European larch, common larch. Deciduous. Upwardly curved branches. Bright green needle-like foliage turning yellow-brown in autumn. Greyish-brown bark. Slow growing. Impressive specimen tree.		Pollen Seeds	Birds	
<i>* Pinus brutia</i> <i>New species</i>	PIb	20x15	ASV Class 4 ≥70m ³ Suburban street verges. Paved area. Creeks and watercourses. Natural areas.	4	N/R	High frost and drought tolerance. Tolerates a range of soils. Cone drop may be a nuisance in pedestrian areas.	Cyprus pine, Turkish pine. Bright green to yellowish-green needles. Thick orange-red bark. Heavy cones 6 to 11cm long. Long lived. Fast growing. Specimen tree.		Pollen Seeds	Birds	
<i>Pinus canariensis</i>	PIc	25x15	ASV Class 5 ≥100m ³ Suburban street verges. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	4	N/R	High frost and very high drought tolerance. Tolerates most soils but prefers well drained sites. Pruning can renew its crown from epicormic growth. Cone drop can be a nuisance in pedestrian areas.	Canary Island pine. Long, green to yellow-green drooping needles. Reddish-brown furrowed bark. Brown cones 10-20cm long. Specimen tree.		Pollen Seeds	Birds	
<i>* Pinus eldarica</i> <i>New species</i>	PIe	15x10	ASV Class 3 ≥45m ³ Suburban street verges. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	4	N/R	High frost and drought tolerance. Tolerates most soils but prefers well drained sites. Cone drop may be a nuisance in pedestrian areas. Useful as a windbreak.	Mondell pine. Needles are 8-14cm long. Silvery-grey bark. Reddish-brown oblong cones. Long lived. Specimen tree.		Pollen Seeds	Birds	
<i>Pinus halepensis</i>	PIh	15-20x12	ASV Class 4 ≥70m ³ Suburban street verges. Poorly drained sites. Wet sites. Creeks and watercourses. Natural areas.	4	N/R	High frost tolerance and very high drought tolerance. One of the most suitable pines for dry areas. Tolerates a range of soils except light sandy soils. Cone drop may be a nuisance in pedestrian areas.	Aleppo pine. Bushy windswept appearance. Yellowish-green needles. Reddish-brown furrowed bark. Cones point downwards on branches. The lone pine of ANZAC tradition. Silver/grey bark.		Pollen Seeds	Birds	
<i>Pinus patula</i>	PIp	15x10	ASV Class 3 ≥45m ³ Suburban street verges. Creeks and watercourses. Natural areas.	4	N/R	High frost tolerance and very high drought tolerance. Tolerates a range of soils. Cone drop may be a nuisance in pedestrian areas.	Mexican pine. Distinctive drooping habit. Slender pale green to yellow needles. Reddish-brown bark. Reddish-brown cones. Fast growing. Superb specimen tree.		Pollen Seeds	Birds	

Botanical Name	Code	Height x width (m)	Target Soil Volume (m ³) & site restrictions	Tree shape category	Root barrier zone (m)	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Pinus pinea</i>	PIpi	15x12	ASV Class 4 ≥70m ³ Suburban street verges. Creeks and watercourses. Natural areas.	1	N/R	High frost and drought tolerance. Tolerates a range of soils. Cone drop, including edible nuts, may be a nuisance in pedestrian areas.	Stone pine, umbrella pine. Distinctive umbrella shaped crown. Green needles 10-20cm long. Reddish-brown bark. Large cones. Edible seeds. Long lived. Superb specimen tree.		Pollen Seeds	Birds	
<i>Pinus sabiniana</i>	PIs	15x10	ASV Class 3 ≥45m ³ Suburban street verges. Car parks. Playing fields. Creeks and watercourses. Natural areas.	4	N/R	High frost and drought tolerance. Tolerates a range of soils. Grows in full or part sun. Large cone drop may be a nuisance in pedestrian areas and urban parks, particularly around playgrounds.	Digger pine. Long light grey-green needles. Dark brown deeply furrowed bark. Large heavy cones.		Pollen Seeds	Birds	
<i>Pinus torreyana</i>	PIt	15-20x15	ASV Class 4 ≥70m ³ Suburban street verges. Paved areas. Creeks and watercourses. Natural areas.	4	N/R	High frost and drought tolerance. Tolerates a wide range of soils. Cone drop, including edible nuts, may be a nuisance in pedestrian areas.	Torrey pine. Dark green needles. Dark grey to black with deep furrows. Long lived.		Pollen Seeds	Birds	
<i>Taxodium distichum</i>	TAd	20x10	ASV Class 3 ≥45m ³ Suburban street verges. Dry sites. Exposed sites.	4	3	High frost and moderate drought tolerance. Prefers damp/wet sites such as lake edges. Irrigation can be beneficial.	Bald cypress, swamp cypress. Deciduous. Light green feathery foliage turning rich brown in autumn. Reddish-brown bark. Often seen with woody protuberances from the roots, up to 1m above the ground. Slow growing. Long lived.		Pollen Seeds	Birds	

ANNEXURE B – SHRUBS

Table 25-9 Native shrubs higher than 4 metres

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia dealbata</i>	Adl	6x4	Road verges.	Root suckers. Responds to severe pruning. Lives up to 10 years.	Local species. Good screen plant. Re-vegetation.	Spring	Low Pollen Med Nectar	Bees, Birds, Butterflies	Ngunnawal people know <i>Acacia dealbata</i> is connected to Women's Business.
<i>Acacia howittii</i>	Aho	5x4	Shelter belts. Road verges.	Scale. Low frost tolerance.	Useful hedge. Fragrant foliage.	Spring	Pollen	Bees, Birds, Butterflies	
<i>Acacia mearnsii</i>	Amr	7x5	Road verges.	Alternative for <i>Acacia decurrens</i> . Subject to borers.	Local species. Bipinnate leaves. A nitrogen fixing tree, useful as a pioneer species on degraded sites.	Spring	Good Pollen	Bees, Birds, Butterflies	Ngunnawal people would use the bark to make coarse string; infused in hot water it can be drunk as a remedy for indigestion; seeds used to make bread.
<i>Acacia pycnantha</i>	Apy	4x3	Road verges.	Subject to rust galls. Low frost tolerance.	Local species. A fast-growing nitrogen fixing tree.	Spring	Pollen	Bees, Birds, Butterflies	Ngunnawal people would use the bark to make coarse string; infused in hot water it can be drunk as a remedy for indigestion; seeds used to make bread.
<i>Acacia spectabilis</i>	Asp	4x3	Natural areas. Road verges.	Shade/sun.	Bluish foliage. Grey-white bark.	Spring	Pollen	Bees, Birds, Butterflies	
<i>Banksia ericifolia</i>	BNe	5x5	Road verges. Planting less than 2 metres from hydraulic services.	Responds to severe pruning.	Orange flower spikes in winter.	Autumn-Winter-Spring	High Nectar	Bees, Birds, Small mammals	
<i>Banksia ericifolia</i> x <i>spinulosa</i> 'Giant Candles'	BNg	5x5	Road verges.	Responds to severe pruning.	Larger winter flower spikes than BNe (up to 400 mm).	Winter	High Nectar High Pollen	Bees, Birds, Small mammals	
<i>Banksia integrifolia</i>	BNi	6x4	Road verges.	Responds to severe pruning. Bird attractor.	Upright growth. Yellow flowers.	Autumn-Winter	High Nectar High Pollen	Bees, Birds	
<i>Banksia marginata</i>	BNm	5x4	Road verges.	Shade/sun.	Local form available. Green/silver leaves.	Autumn-Winter	High Nectar High Pollen Seeds	Bees, Birds	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Banksia serrata</i>	BNs	6x4	Road verges.	Shade/sun. Responds to severe pruning. Medium frost tolerance. Frost sensitive when young.	Light green foliage. Gnarled habit with age. Old cones are silver. Yellow flower spikes.	Winter-Spring-Summer	High Nectar High Pollen	Bees, Birds	
<i>Callistemon salignus</i>	Csa	4x3		Medium frost tolerance (protect from frost when young). Responds to severe pruning.	Pinkish new leaves. White & red flower forms. Papery bark.	Spring	High Nectar Pollen	Bees, Birds, Butterflies Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Callistemon viminalis</i> 'Hannah Ray'	Cvh	4x3	Dry sites.	Responds to severe pruning. Medium frost tolerance	Dense weeping foliage to the ground. Long red flower spikes in spring.	Spring-Summer-Autumn	High Nectar Pollen	Bees, Birds, Butterflies Small mammals	
<i>Hakea eriantha</i>	Her	4x4	Exposed sites.	Medium frost tolerance. Screening plant.		Spring		Bees, Birds,	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Hakea salicifolia</i>	Hsa	5x4	Exposed sites. Dry sites	Avoid planting in mounds (moisture insufficient). Medium frost tolerance. Prefers adequate moisture. Screening plant.	Broad and fine leaf form available.	Winter-Spring		Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Lomatia arborescens</i>	LMa	6x3	Dry sites.	Leaf miner problems. Prefers adequate moisture.	Flowers in summer.	Summer			

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Lomatia myricoides</i>	LMm	5x3	Dry sites.	Shade/sun. Responds to severe pruning. Prefers adequate moisture. Leaf miner problems.	Flowers in summer. Local species.	Summer			Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Melaleuca ericifolia</i>	Mer	4x3		Shade/sun. Root suckers assist spread. Good for wet sites, problem areas.	Good screen plant. Small cream flowers.	Spring-Summer	Nectar Pollen	Bees, Birds	Ngunnawal people used the bark of this tree for paintings, blankets and roofing for shelters; oil from the leaves was used for medicine and nectar from the flowers was used to make sweet drinks.
<i>Melaleuca styphelioides</i>	Mst	8x4	Sites near people. Planting less than 4 metres from hydraulic services.	Prickly foliage. Medium frost tolerance.	Thick papery bark. Cream flowers. Excellent habitat plant.	Spring-Summer	Nectar Pollen	Bees, Birds Excellent habitat plant.	

Table 25-10 Native shrubs 2 - 4 metres high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia buxifolia</i>	Abu	2.5x2	Planting less than 2 metres from hydraulic services.	Shade/sun. Responds to severe pruning.	Local species.	Spring	Pollen Seeds	Bees, Birds, Butterflies	Ngunnawal people would use the seeds to make bread.
<i>Acacia cardiophylla</i>	Aca	3x4		Shade/sun.	Attractive soft feathery leaves. Yellow flowers in spring. Reddish bark.	Spring	Pollen	Bees, Birds, Butterflies	Seeds used to make bread.
<i>Acacia decora</i>	Ade	2x2		Shade/sun.	Blue foliage. Bright yellow flowers.	Late Winter-Early Spring	Pollen	Bees, Birds, Butterflies	Seeds used to make bread.
<i>Acacia iteaphylla</i>	Ait	3x3	Shelter belts.	Shade/sun. Medium frost tolerance.	Blue foliage. Semi-weeping. Bright yellow winter flowers.	Winter	Pollen	Bees, Birds, Butterflies	Seeds used to make bread.
<i>Acacia triptera</i>	Atr	2x2		Shade/sun.	Prickly foliage. Bright gold flowers.	Winter-Spring	Pollen	Bees, Birds, Butterflies	
<i>Acacia vestita</i>	Ave	3x5		Shade/sun.	Soft weeping foliage.	Late Winter-Early Spring	Pollen	Bees, Birds, Butterflies	
<i>Atriplex nummularia</i>	ATn	3x2	Poorly drained sites.	Full sun. Medium frost tolerance. Adapted to alkaline and highly saline soils.	Grey foliage.	Summer	Nectar	Bees	
<i>Baeckea virgata</i>	BKv	3x3		Shade/sun. May seed prolifically. Responds to severe pruning. Hardy.	Good for wet areas. Fine leaf. Background evergreen. Mass of white summer flowers.	Autumn-Winter	High Nectar High Pollen	Bees, Birds, Butterflies	
<i>Banksia spinulosa</i>	BNsp	3x2		Shade/sun. Very hardy. Responds to severe pruning.	Narrow leaves. Yellow orange flowers with black styles.	Spring	Pollen Seeds	Bees, Birds, Butterflies	
<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i>	BSl	3x2		Shade/sun.	Local species.		High Nectar Low-High Pollen	Bees, Beneficial wasps	Ngunnawal people used the leaves for skincare and as a sunscreen.
* <i>Callistemon 'Burgundy'</i>	Cbu	3x3		Full sun to dappled shade. Tolerates most soils. Light prune after flowering.	Dark red flowers. Pink new growth.	Spring-Summer	Nectar Pollen	Bees, Birds	
<i>Callistemon citrinus</i>	Cci	3x2	Dry sites.	Tolerates moist soils. Responds to severe pruning. Plant no closer than 2 metres from hydraulic services.	Red flowers.	Spring-Autumn	High Nectar Pollen	Bees, Birds, Butterflies, Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Callistemon</i> 'Mauve Mist'	Cmm	3x3		Medium frost tolerance.	Mauve-pink flowers in summer.	Spring-Summer	High Nectar Pollen	Bees, Birds, Butterflies, Small mammals	
<i>Callistemon pallidus</i>	Cpa	3x3	Dry sites.	Shade/sun. Tolerates moist soils.	Pale yellow flowers.	Spring-Summer	High Nectar Pollen	Bees, Birds, Butterflies, Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Callistemon phoeniceus</i>	Cph	2x3	Dry sites.	Shade/sun.	Red flowers.	Summer-Autumn	Med Nectar Med Pollen	Bees, Birds, Butterflies, Small mammals	
<i>Callistemon</i> 'Reeve's Pink'	Crp	3x3		Medium frost tolerance.	Pink flowers - summer.	Nov-Dec-Jan	High Nectar Pollen	Bees, Birds, Butterflies, Small mammals	
<i>Callistemon sieberi</i> (<i>C. paludosus</i>)	Csi	3x2		Responds to severe pruning.	White flowers.	Summer	High Nectar Pollen	Bees, Birds, Butterflies, Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Correa backhouseana</i>	CRb	2x1	Poorly drained sites.		Green/white flowers in winter.	Summer	High Nectar	Bees, Birds, Butterflies, Small mammals	
* <i>Dodonea viscosa</i> 'Purpurea'	Dvp	3x1.5		Shade/sun. Drought tolerant, light frost tolerance. Well drained soil.	Purple hop bush. Copper purple foliage. Quick growing, good hedging/screening plant for tough sites.	Winter	Nectar	Bees, Birds	Ngunnawal people would chew the leaves to relieve toothache.
<i>Grevillea acanthifolia</i> subsp. <i>acanthifolia</i>	Gac	3x4		Hardy, bird attracting. Tolerant of heavy frosts. Prefers sunny position.	Mauve-pink toothbrush flowers. Broad dark green leaves.	Spring-Summer		Moths, Butterflies, Other insects.	
<i>Grevillea arenaria</i>	Gar	2-5x4		Shade/sun. Strong bird attractor.	Red and green flowers. Soft, grey/blue or green leaf.		High Nectar	Bees, Birds	Ngunnawal people would use the flower as a toy spider to frighten misbehaving children.
<i>Grevillea asplenifolia</i>	Gas	3x4			Red toothbrush flowers. Long, strap-like leaves, grey.	All year	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> 'Audrey'	Gau	2x2			Orange/red flowers.	Winter-Spring	High Nectar	Good bird attractor	
<i>Grevillea</i> 'Canberra Gem'	Gcg	2x2		Shade/sun. Scale with age. Sooty mould	Spiky green foliage. Pink flowers. Hedge/barrier plant.	Long flowering	High Nectar	Bees, Good bird attractor	A Manipulated hybrid from <i>Grevillea juniperina</i> R. Br. XG. <i>rosmarinifolia</i> A. cunn. sens. lat. raised in the early 1960's by Mr P Moore then Chief Nurseryman at Yarralumla Government Nursery.
<i>Grevillea dimorpha</i>	Gsd	3x2		Shade/sun.	Bright red flowers. Two forms, broad or narrow leaves.	Spring	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> 'Evelyn's Coronet'	Gec	2x1.7		Shade/sun.	Pink flowers. Soft, grey round leaves.	Winter-Spring	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> x 'Hookeriana'	Gho	2x5	Exposed sites.		Long red flowers. Hybrid of unknown origin. Large leaf.	Winter-Spring-Summer	High Nectar	Bees, Good bird attractor	
<i>Grevillea iaspicula</i>	Gia	1.5-4x1.5-4		Shade/sun. Suitable for rocky limestone sites and heavy well drained soils.	Local species.	Autumn-Winter-Spring		Good bird attractor	Ngunnawal people would soak the fresh flowers in water to make a sweet energy drink.
<i>Grevillea juniperina</i>	Gju	2x2		Shade/sun. Suited to natural areas.	Local species. Prickly foliage. Red, orange or yellow flowers.	Winter-Spring	High Nectar	Bees, Good bird attractor	<i>Grevillea juniperina</i> 'Molonglo' was developed during hybridization experiments in 1964 by Mr R Willing of the Australian National University, Canberra.
<i>Grevillea longifolia</i>	Glo	3x4			Red and green flowers. Long strap-like leaf.	Spring	High Nectar	Bees, Good bird attractor	
<i>Grevillea manglesii</i> subsp. <i>manglesii</i> (<i>G. glabrata</i>)	Gmm	3x4			White scented flowers. Small green leaf.	Autumn	High Nectar	Bees, Bird attractor	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Grevillea obtusifolia</i>	Gob	2x2			Red and green flowers. Soft, light green foliage.	Spring	High Nectar		
<i>Grevillea parvula</i>	Gpa	2x2	Poorly drained sites.	Good drainage. Sensitive to root rot. Excellent long-lived screening plant and bird attractor	Narrower, blunt leaf compared with Gvi. Smaller, paler flowers.	Spring, Autumn	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> 'Poorinda Constance'	Gpc	2x2		Sharp pointed leaf. Hardy. Adaptable.	Orange/red flowers. Prolific blooming. Dark green leaves.	Winter-Spring-Summer	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> 'Poorinda Elegance'	Gpe	2x2			Shiny, narrow leaves. Yellow-orange flowers with pink styles.	Summer-Autumn	High Nectar	Bees, Bird attractor	
<i>Grevillea</i> 'Poorinda Leanne'	Gpl	2x2			Narrow, glossy leaves. Orange/red flowers. Spreading habit.	Spring-Summer	High Nectar	Bees, Bird attractor	
<i>Grevillea</i> 'Poorinda Peter'	Gpp	3x5			Lobed leaves. Rosy-pink toothbrush flowers. Spreading.	Spring-Summer	High Nectar	Bees, Good bird attractor	
<i>Grevillea</i> 'Poorinda Queen'	Gpq	2x2			Pale pink flowers. Similar to G. 'Poorinda Leanne'.	Spring-Summer	High Nectar	Bees, Good bird attractor	
<i>Grevillea rivularis</i>	Gri	2x6		Medium frost tolerance. Threatened plant species in the wild.	Pale pink/green flowers. Spiky foliage.	Spring-Summer	High Nectar	Bees, Bird attractor	
<i>Grevillea shiressii</i>	Gsr	3x3		Shade/sun. Medium frost tolerance. Threatened plant species in the wild.	Greenish/blue flowers. Strap-like leaf	Winter-Spring	High Nectar	Bees, Good bird attractor	
<i>Grevillea victoriae</i>	Gvi	2x4	Poorly drained sites.	Shade/sun. Good drainage Sensitive to root rot.	Deep red flowers. Variable leaf width, green above, silvery hairs underneath. Local species.	Winter-Spring	High Nectar	Bees, Good bird attractor	Ngunnawal people would soak the fresh flowers in water to make a sweet energy drink.
<i>Grevillea willisii</i>	Gwi	2x3		Shade/sun. Medium frost tolerance.	Spiky foliage. Pale green/yellow toothbrush flowers.	Spring	High Nectar	Bee, Birds	
<i>Hakea gibbosa</i>	Hgi	3x3	Poorly drained sites. Car parks.	Unsuited to areas of high pedestrian use.	Narrow, prickly leaves. White flowers.	Early Winter	Nectar	Bees, Birds	
<i>Hakea nodosa</i>	Hno	3x4		Shade/sun.	Tiny, scented yellow flowers. Needle like leaves, not prickly.	Autumn-Winter	Nectar	Bees, Birds	
<i>Hakea propinqua</i>	Hpr	2x1	Car parks.	Unsuited to areas of high pedestrian use.	Prickly leaves. White or yellow flowers.	Winter-Early Spring	Nectar	Bees, Birds	
<i>Hakea teretifolia</i>	Hte	3x2	Car parks.	Unsuited to areas of high pedestrian use.	Very prickly leaves. White flowers.	Spring-Summer	Nectar	Bees, Birds	
<i>Indigofera adesmiifolia</i> (<i>I. australis</i> var. <i>signata</i>)	IND	2x2	Poorly drained sites.	Shade/sun. Responds to severe pruning. Tolerates hot, dry sites.	Purple flowers. Local species.	Spring			
<i>Kunzea ambigua</i>	KUa	3.5x4		Responds to severe pruning.	Fine foliage. Massed white flowers.	Spring-Summer	Nectar	Bees, Good bird attractor	Ngunnawal people would use this plant to relieve irritated skin, muscle tightness and pain.
<i>Leionema elatius</i> subsp. <i>beckleri</i>	Leb	2x1		Shade/sun.	Terminal white flowers. Rounded form.	Summer	V High Nectar	Bees, Flower wasps	
<i>Leptospermum continentale</i>	Lcn	2x2		Responds to pruning.	White flowers. Varies in width from very narrow to more bushy.	Autumn-Winter	V High Nectar	Bees, Birds	Ngunnawal people would crush the leaves and apply as a paste to wounds, skin abrasions; oil from the crushed leaves used to treat coughs and colds.
<i>Leptospermum lanigerum</i>	Llg	3x3			Conspicuous white flowers. Local species. Various forms which have either dark green or grey tomentose foliage.	Spring	High Nectar High Pollen	Bees, Birds	Ngunnawal people made implements from stems including pegs for kangaroo skins, hunting spears and eel spears.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Leptospermum obovatum</i>	Lob	3x1.5	Waterlogged sites	Shade/sun.	Blunt-leaf tea tree. Dense upright shrub. Aromatic white flowers in summer.	Summer	High Nectar High Pollen	Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Leptospermum squarrosum</i>	Lsq	2.5x1.5			Pink flowers in Feb-May on old wood only.	Spring-Summer	High Nectar High Pollen	Bees, Birds	
<i>Melaleuca cuticularis</i>	Mcu	3x2			White flowers. Narrow leaves.	Winter-Spring	High Nectar	Bees, Good bird attractor	
<i>Melaleuca erubescens</i>	Meb	3x1.5			Pink flowers. Needle leaves.	Spring	High Nectar	Bee, Birds	
<i>Melaleuca squarrosa</i>	Msq	2.5x2.5	Dry sites.		Dense foliage. Cream flowers.	Early Winter	Nectar	Bees, Birds	
<i>Melaleuca viminea</i>	Mvi	3x3	Dry sites.		Fragrant cream flowers. Soft, needle leaves.	Spring	High Nectar High Pollen	Bees, Birds	
<i>Myoporum viscosum</i>	MYv	2x2	Poorly drained sites.	Suits dry, rocky sites.	White flowers with purple spots.	Spring-Summer	High Nectar	Bees	
<i>Polyscias sambucifolia</i>	POLs	3x2	Dry sites.	Shade/sun. Some gum oozing noted at Botanic Gardens. Responds to severe pruning.	Terminal white flowers. Fern-like leaves in the local subspecies.	Sept-Dec		Birds	Ngunnawal people would use this plant around camps for wind breaks and shade. Has an edible blue grey succulent fruit in summer.
<i>Spyridium parvifolium</i>	SDp	3x1.5	Poorly drained sites.		Spreading habit. Terminal white flowers.	Winter-Spring-Summer			
<i>Westringia longifolia</i>	WEI	2x1.5	Poorly drained sites.	Medium frost tolerance. Good hedge if pruned. Shade/sun. Responds to severe pruning.	White to purple flower forms available.	Spring	High Nectar	Bees, Birds (Top 10 for native bees of Sydney region)	

Table 25-11 Native shrubs 1 – 2 metres high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>* Acacia cognata 'Green Mist'</i>	Acg	1.5x2		Shade/sun. Light frost tolerance. Fast growing, no pruning required.	Dwarf weeping habit Soft lemon flowers in spring.	Spring	Pollen	Bees	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Acacia costiniana</i>	Aco	1.5x3		Shade/sun.	Bright green foliage.	Spring	Pollen	Bees	Ngunnawal people would use the seeds to make bread.
<i>Anigozanthos flavidus</i>	ANf	1.5x.4		Shade/sun. Inkspot. Medium frost tolerance.	Many cultivars are now available. Contact the Botanic Gardens for advice.	Spring-Summer	Nectar	Bees, Birds, Butterflies	
<i>Astartea fascicularis</i>	ASf	1.3x1.3		Shade/sun. Responds to severe pruning.	White-pink flowers.	All year	Nectar	Bees	
<i>Baeckea linifolia</i>	BKI	1.75x2		Shade/sun. Responds to severe pruning.	Weeping habit. White flowers.	Summer	Nectar	Birds, Bees	
<i>Banksia oblongifolia</i>	BNo	1.5x2	Dry sites.	Shade/sun. Prefers well-drained sites.	Yellow/green flowers in autumn/winter.	Autumn-Winter	High Nectar High Pollen	Birds, Bees	
<i>Bauera rubioides</i>	BUr	1x1.5	Dry sites.	Shade/sun. Good for wet, shady sites. Regular pruning retains leafy appearance.	Pink or white flower forms available.	Spring-Summer	Nectar		Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Callistemon subulatus</i>	Csu	1.5x2		Shade/sun.	Red flowers.	Spring-Summer	High Nectar	Bees, Birds, Butterflies, Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Callistemon viminalis 'Captain Cook'</i>	Cvc	1.5x1.5	Dry sites.	Shade/sun. Some webbing caterpillar. Medium frost tolerance.	Profuse red flowers. Variable size.	Spring-Summer-Autumn	High Nectar	Bees, Birds, Butterflies, Small mammals	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Calytrix tetragona</i>	CALt	1.5x1	Poorly drained sites.	Shade/sun. Responds to severe pruning.	White to deep pink flowers.	Spring-Summer			Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Correa alba var. alba</i>	CRa	1.5x1.5		Shade/sun.	White bell flowers. Grey-green foliage.	Spring	Nectar	Bees, Nectar feeding birds	
<i>Correa 'Canberra Bells'</i>	CRcb	1x1		Sun/part shade. Drought and frost tolerant.	Two tone red and cream bell-like flowers. Autumn colour.				
<i>Daviesia mimosoides</i>	DVm	1x0.8		Shade/sun. Straggly. Responds to severe pruning. Revegetation use.	Blue foliage. Yellow flowers. Local species.		Nectar Pollen	Birds, Insects	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Dodonaea viscosa subsp. angustissima (D. attenuata)</i>	DDa	1.5x1		Shade/sun.	Red and yellow fruit (females only).				Ngunnawal people would chew the leaves to relieve toothache.
<i>Grevillea aquifolium</i>	Gaq	1x2		Shade/sun.	Holly-like bluish foliage. Pale red toothbrush flowers.	Late Winter-Spring	High Nectar	Bees, Birds, Butterflies	
<i>Grevillea confertifolia</i>	Gco	1x1.5		Shade/sun.	Scented, pink-red flowers. Three forms, prostrate to upright.	Spring-Early Summer	High Nectar	Bees, Birds, Butterflies	
<i>Grevillea diminuta</i>	Gdi	1x2		Shade/sun.	Local species. Red flowers. Silver foliage.	Spring-Early Summer	High Nectar	Bees, Birds, Butterflies	Ngunnawal people would soak the fresh flowers in water to make a sweet energy drink.
<i>Grevillea lanigera</i>	Gla	1.5x1.5		Shade/sun.	Local species. Red flowers.	Late Winter-Early Spring	High Nectar	Bees, Birds, Butterflies	Ngunnawal people would soak the fresh flower in water to make a sweet energy drink.
<i>Grevillea lavandulacea</i>	Glv	1x1		Shade/sun.	White to pink flowers. Grey-green foliage.	Long flowering	High Nectar	Bees, Birds, Butterflies	
<i>Grevillea 'Shirley Howie'</i>	Gsh	1.3x1.3		Shade/sun.	Deep pink flowers.	All year	High Nectar	Bees, Birds, Butterflies	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Indigofera australis</i>	INu	1.5x1.5	Poorly drained sites.	Shade/sun. Open, straggly habit. Responds to severe pruning.	Local species. Purple pea flowers. White form also exists.	Spring	Pollen Nectar	Native insects, Bees, Butterflies, Wasps	Ngunnawal people used this plant as a fish poison. The leaves are crushed and added to pools of water stunning and disabling fish for easy capture; purple/pink flowers used as a dye.
<i>Isopogon anemonifolius</i>	ISa	1x1	Wet sites.	Shade/sun. Responds to severe pruning.	Finely divided foliage. Yellow flowers.	Spring-Summer	Pollen Nectar	Bees	
<i>Kunzea 'Badja Carpet'</i>	KUb	1.2x1.5		Shade/sun. Responds to severe pruning. Requires periodic pruning.	Dark green foliage. White terminal flowers.	Summer	Nectar Pollen	Birds, Bees	
<i>Kunzea parvifolia</i>	KUp	1.2x1.5		Shade/sun. Responds to severe pruning.	Terminal mauve flowers.	Summer	Nectar Pollen	Birds, Bees	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Olearia phlogopappa</i>	OlP	1.5x1	Poorly drained sites.	Shade/sun. Requires pruning. Short-lived. Responds to severe pruning.	Blue or white flowers.		Pollen	Non-flying mammals	
<i>Phebalium squamulosum subsp. argenteum</i>	PHs	1.5x2		Hardy.	Attractive foliage. Upright dense habit. White flowers in terminal clusters.	Spring			
<i>Philothea myoporoides subsp. acuta</i> (<i>Eriostemon myoporoides subsp. acutus</i>)	Pma	1.3x2		Shade/sun. Responds to severe pruning.	Scented foliage, white flowers.	Spring	Nectar	Pollinators	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Philothea myoporoides subsp. myoporoides</i> (<i>Eriostemon myoporoides subsp. myoporoides</i>)	Pmm	1.5x2		Shade/sun. Responds to severe pruning.	Scented foliage, white flowers.	Spring	Nectar	Pollinators	
<i>Podocarpus lawrencei</i>	PDI	1x1		Shade/sun. Long lived but slow growing. Responds to severe pruning.	Local species. Dark green foliage. Male and female plants. Red berries on female plants.	Spring	Pollen	Bees, Birds, Small lizards	
<i>Rhagodia spinescens var. deltophylla</i>	RHs	1x1	Wet sites.	Good for exposed, dry sites. Responds to severe pruning.	Blue/grey foliage. Pungent foliage.	Spring		Bees, Birds, Butterflies Nest and shelter for lizards	
<i>Thelionema glauca</i> (<i>Stypandra glauca</i>)	Sgc	1x1		Shade/sun.	Tufted habit. Blue flowers, blue foliage.	Summer			Ngunnawal people would collect the edible red plum in summer.
<i>Westringia fruticosa</i>	WEf	1.5x3		Hardy - tolerates exposure. Brittle wood. Requires periodic pruning. Responds to severe pruning.	Dark green foliage. White flowers.	Year around	Nectar Pollen	Bees	
<i>Westringia 'Wynyabbie Gem'</i>	WEw	1.3x1.5			Blue-mauve flowers throughout the year.	All year	Nectar Pollen	Bees	
<i>Zieria cytisoides</i>	Zlc	1.5x1.5	Poorly drained sites.	Responds to severe pruning.	Pink flowers. Grey foliage.	Winter-spring	Nectar Pollen	Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.

Table 25-12 Native shrubs less than 1 metre high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Allocasuarina nana</i> (<i>Casuarina nana</i>)	ALn	1x1.5		Responds to severe pruning.	Open habit.	Spring	Pollen Cones	Birds	Ngunnawal people ate the leaves and young cones from the hard wood.
* <i>Banksia 'Birthday Candles'</i>	BNbc	0.5x1.2		Shade/sun. Drought and frost tolerant.	Orange-yellow flower spikes. Dense dark green foliage.	Autumn-Winter-Spring	High Nectar High Pollen	Bees, Birds	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>* Callistemon 'Little John'</i>	Clj	1x1		Prefers full sun, tolerant of part shade. Fast growing. Drought and frost tolerant once established.	Red flowers. Low compact form.	Spring	High Nectar Pollen	Bees	
<i>* Callistemon 'White Anzac'</i>	Cwa	1x3		Prefers full sun, tolerant of part shade. Fast growing. Drought and frost tolerant. Can be pruned after flowering.	White flowers. Low spreading	Spring	High Nectar Pollen	Bees	
<i>Correa 'Dusky Bells'</i>	CRdb	0.5x.75	Exposed sites.	Shade/sun. Medium frost tolerance.	Pink/red flowers.		Nectar	Bees	
<i>Grevillea juniperina 'Molonglo'</i>	Gjm	0.5x3		Good on exposed sites.	Spiky dark green foliage. Orange flowers. Local selection.		High Nectar	Bees, Birds, Butterflies	
<i>Grevillea 'Little Thicket'</i>	GlT	0.8x0.8		Scale. Root suckers assist spread.	Grey foliage. Insignificant pale pink flowers.	All year	High Nectar	Bees	
<i>Micromyrtus ciliata</i>	Mlc	0.5x0.7		With age, loses leaves in centre of the plant. Responds to severe pruning.	Pink buds and white flowers. Tiny overlapping leaves.	Aug-Dec	High Nectar	Bees, Birds, Butterflies	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.

Table 25-13 Introduced shrubs higher than 4 metres

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>* Camellia japonica</i>	CAMj	1.5-6x3	Full sun.	Prefers dappled shade. Very slow growing. Prefers acid soils. Drought tolerant once established.	Evergreen with dark green leaves. Variety of cultivars and colours, flowering from April to October.	April-October	Low Nectar Low Pollen		
<i>Camellia sasanqua</i>	CAMs	4x3		Shade/sun. Prefers acid soils. Moderate drought tolerance.	Evergreen with dark green leaves. Variety of cultivars and colours, flowering from April to July (or later).	Winter	Pollen Nectar	Bees	
<i>Cordyline australis</i>	CDYa	4x2	Poorly drained sites.	Well drained soils. Remove spent leaves.	Palm-like plant, with long leaves bunched at end of naked branches.	Spring	Nectar	Bees	
<i>Cornus florida 'Rubra'</i>	CNr	4x3	Dry sites. Poor soils.	Shade preferred. Requires wind protection.	Red autumn foliage. Pink spring flowers. Deciduous.	Spring	Pollen Nectar	Bees	
<i>Cornus kousa</i>	CNk	5x3	Dry sites. Poor soils.		Bronze autumn foliage. Cream flowers. Deciduous.	Spring	Nectar	Bees	
<i>Garrya elliptica</i>	GAe	5x4		Requires cool roots.	Evergreen. Green catkins (male) in winter.	Winter	Pollen		
<i>Photinia 'Robusta'</i>	PNr	4x3		Hardy evergreen. Powdery mildew. Responds to severe pruning.	Red new growth. White pungent flowers. Hedge.	Spring	Nectar	Bees, Birds, Butterflies	
<i>Pittosporum eugenioides (variegated)</i>	PTe	5x2	Poorly drained sites.	Prefers semi-shade. Needs well drained soils. Scale. Responds to severe pruning.	Green/white foliage.	Spring	Pollen		
<i>Pittosporum tenuifolium 'Screen Master'</i>	PTTs	5-6x2-4	Poorly drained sites.	Sun/semi shade. Frost tolerant.	Medium green foliage and dark stems.	Spring	Med Nectar Low Pollen	Bees	

Table 25-14 Introduced shrubs 2 to 4 metres high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acca sellowiana</i> (<i>Feijoa sellowiana</i>)	FES	3x2		Requires semi-shade.	Green/woolly white leaves. Red flowers, edible fruit. Evergreen.	Spring	Pollen	Bees	
<i>Ceanothus</i> 'Blue Pacific'	CEb	2x1.5	Wet sites. Poorly drained sites.	Needs periodic pruning. Short lived (10 years). Pear and cherry slug. Leaf miner.	Dark blue flowers.	Summer	Nectar Pollen	Bees	
<i>Ceanothus papillosus</i> subsp. <i>roweanus</i>	CEp	2-4x2	Wet sites. Poorly drained sites.	Short lived (10 years).	Light blue flowers.	Summer	Nectar Pollen	Bees	
<i>Chaenomeles speciosa</i>	CHs	2x2	Paved areas.	Large fruit. Fruit drop.	Deciduous. Red, pink & white flower forms, winter/spring flowering. Attractive twisting spiny branches.	Spring	Nectar Pollen	Bees	
<i>Cornus sanguinea</i>	CNs	2x2		Medium frost tolerance.	Purple autumn colour. Deciduous. Red stems.	Spring	Nectar Pollen Seeds	Bees, Birds	
<i>Elaeagnus pungens</i> 'Marginata'	Elm	3x3		Prefers semi-shade.	Inconspicuous, pink scented flowers. Leaves with silver edge.	Summer	Nectar Pollen	Bees, Insects	
<i>Escallonia rubra</i>	ESr	2x1	Dry sites. Wet sites.	Good drainage required. Responds to severe pruning.	Red flowers.	Summer	Nectar Pollen	Bees, Insects	
<i>Escallonia rubra</i> var. <i>macrantha</i>	ESm	3x2	Dry sites. Wet sites.	Good drainage required. Responds to severe pruning.	Dense dark green leaves. Deep pink flowers.	Summer	Nectar Pollen	Bees, Insects	
<i>Euonymus japonicus</i>	EUj	3x2	Planting less than 2 metres from hydraulic services.	Powdery mildew. Requires pruning.	Evergreen. Useful hedge. White flowers. Red berries.	Late Spring	Nectar Pollen	Bees	
<i>Forsythia</i> 'Lynwood Gold'	FOI	2x1.5		Needs regular pruning. Responds to severe pruning.	Deciduous. Prolific yellow flowers in spring.	Early Spring	Nectar Pollen	Bees	
<i>Jasminum mesnyi</i>	JAM	2x2		Requires semi-shade. Medium frost tolerance.	Dark green leaves. Semi-deciduous. Yellow flowers.	Winter	Nectar	Bees	
<i>Lagerstroemia indica</i>	LAi	3x2		Powdery mildew in shaded sites. Plant no closer than 2 metres from hydraulic services.	Purple, pink or white flowers in late summer. Attractive mottled bark.	Late Summer-Autumn	Pollen	Bees	
<i>Osmanthus delavayi</i>	OSd	2.5x2			Very fragrant white flowers. Evergreen.	Late Winter-Spring	Nectar Pollen	Bees	
<i>Philadelphus</i> x 'Virginalis'	PHlv	2x1		Medium frost tolerance.	Double white fragrant flowers. Deciduous.	Spring	Nectar Pollen	Bees	
<i>Photinia glabra</i> 'Rubens'	PNg	2.5x4		Powdery mildew - minimal. Hedge.	Red spring foliage. Dull white flowers.	Spring	Nectar Pollen	Bees	
<i>Prunus laurocerasus</i>	Pla	3.5x3	Natural areas.	Prefers full shade. Leaves, fruit poisonous. Attracts bees.	Evergreen/glossy leaves. Good screen. White flowers in spring. Blue/black autumn berries.	Spring	Nectar Pollen	Bees	
<i>Raphiolepis</i> x <i>delacourii</i>	RAAd	2x1	Dry areas	Shade/sun. Slow growing.	Evergreen. Pink flowers.	Late Winter			
<i>Viburnum</i> x <i>bodnantense</i>	Vbo	3x2		Shade/sun.	Sweet scented rose-pink flowers in winter.	Late Winter	Nectar Pollen	Bees	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Viburnum x burkwoodii</i>	Vbu	2x1.5		Shade/sun.	Conspicuous, scented, pink/white flowers in spring. Semi-deciduous. Bronze autumn foliage.	Spring	Nectar Pollen	Bees	
<i>Viburnum opulus</i> 'Sterile'	Vop	3x2		Shade/sun.	White flowers in summer. Deciduous. Red autumn foliage.	Spring	Nectar Pollen	Bees	
<i>Viburnum tinus</i>	Vti	3x2.5	Planting less than 2 metres from hydraulic services.	Shade/sun. Red spider, thrip. Good hedge.	Flowers pink/white. Evergreen.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Viburnum tomentosum</i>	Vto	2x2.5		Shade/sun.	Sweet scented pink tinted flowers. Red autumn foliage.	Spring	Nectar Pollen	Bees	
<i>Weigela florida</i> (<i>W. rosea</i>)	Wfl	2x2		Requires pruning after flowering.	Pink flowers. Deciduous.	Summer	Good Nectar Pollen	Bees	

Table 25-15 Introduced shrubs 1 to 2 metres high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Abelia x grandiflora</i>	ABg	1.5x1.2		Responds well to regular pruning.	Semi-deciduous. Green/bronze foliage. Pink and white flowers.	Summer-Autumn	High Nectar	Bees	
<i>Abelia rupestris</i>	ABr	1.5x1.2		Shade/sun.	Deciduous.	Autumn	High Nectar	Bees	
<i>Abelia schumannii</i>	ABs	1.2x1		Shade/sun.	Deciduous. Better flower (pink) than ABg, ABr.	Spring	High Nectar	Bees	
<i>Chaenomeles japonica</i>	CHj	1x1	Paved areas.	Small fruit. Fruit drop.	Deciduous. Reddish orange flowers in winter/spring. Spiny branches.	Early Spring	Nectar	Bees	
<i>Choisya ternata</i>	CYt	1.5x1.5	Poorly drained sites.	Attracts citrus white butterfly.	Glossy green foliage. White flowers. Aromatic.	Spring-Summer	Nectar	Bees	
<i>Cistus ladanifer</i> (<i>Cistus ladaniferus</i>)	Cll	1x1		Good on dry sites and in poor soils. Drought tolerant.	Attractive white flowers.	Spring	Nectar Pollen		
<i>Deutzia gracilis</i>	DEg	1.8x2		Shade/sun. Prune after flowering.	Pink/white flowers.	Spring	Nectar	Bees	
<i>Hebe</i> 'Blue Gem'	HBb	1x1		Responds to pruning.	Blue flowers.	Spring	Nectar Pollen	Bees	
<i>Hebe</i> 'La Seduisante'	HBl	1.25x1		Responds to pruning. Leaf spot in wet winters.	Purple flowers. Leaf underside purple/red.	Spring	Nectar Pollen	Bees	
<i>Hypericum patulum</i> var. 'Henryi'	HYp	1x1	Exposed sites.		Semi-deciduous. Buttercup yellow flowers	Spring	Pollen	Bees	
<i>Nandina domestica</i>	NNd	1.7x1		Shade/sun. Responds to severe pruning. Root suckers are not a problem.	Red tinged leaves in spring and autumn. Red berries turn white.			Bees	
<i>Phormium tenax</i>	PMt	1.2x1.2			Long, strap-like leaves.	Summer	Pollen Nectar	Bees	
<i>Phormium tenax</i> 'Rubrum'	PMr	1.2x1.2			Reddish long leaves.	Summer	Pollen Nectar	Bees, Birds	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Rosmarinus officinalis</i>	RSO	1x1		Good for dry sites. Responds well to pruning. Useful hedge.	Rosemary - 'ANZAC bush'. Fragrant leaves, blue flowers.	Autumn-Winter-Spring	Pollen Nectar	Bees	
<i>Spiraea cantoniensis</i>	Sic	1.5x1.5		Requires pruning after flowering.	Semi-deciduous. White summer flowers.	Spring-Summer	High Nectar	Bees, Butterflies	
<i>Spiraea thunbergii</i>	Sit	1.5x1.5		Slow growing. Semi-deciduous.	Profuse white flowers in spring.	Spring			
* <i>Teucrium fruticans</i>	Tfr	1.5x2		Full sun. Good drainage. Drought tolerant. Marginal frost tolerance. Clip for formal hedge.	Aromatic upright blue grey foliage. Mauve flowers.	Summer	Nectar Pollen	Bees, Birds, Butterflies	
<i>Viburnum carlesii</i>	Vca	1.5x1		Shade/sun.	Fragrant white flowers in late spring. Deciduous.	Late Spring-Summer	Low Pollen Low Nectar		

Table 25-16 Introduced shrubs less than 1 metre high

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Coleonema pulchrum</i> 'Compactum'	COLc	0.75 x0.5		Very hardy. Good for dry sites. Pungent smell.	Pink flowers.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Coleonema pulchrum</i> 'Sunset Gold'	COLs	0.6x1		Use low form.	Gold foliage.	July-August	Nectar Pollen	Bees, Butterflies	
<i>Lavandula angustifolia</i>	LVa	0.3x0.3		Good for exposed sites. Requires pruning after flowering.	Fragrant grey foliage. Fragrant blue flowers.	Summer	High Nectar Pollen	Bees, Butterflies	
<i>Nandina domestica</i> 'Nana'	NNn	0.3x0.3		Shade/sun.	Compact form. Red autumn foliage.	Spring	High Nectar Pollen	Bees, Butterflies	

Table 25-17 List of special plants: Shrubs

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia filicifolia</i>	Aff	1x1.5		Adaptable	Yellow flowers.	Summer	Pollen	Bees	Ngunnawal people would use the bark to make coarse string; bark infused in hot water can be drunk as a remedy for indigestion; seeds used to make bread.
<i>Acacia parramattensis</i>	Apm	7x5	Road verges.	Alternative for <i>Acacia decurrens</i> .	Local species. Bipinnate leaves.	Spring	Pollen	Bees	
<i>Acacia rubida</i>	Aru	5x4	Single species plantings.	Acacia bug. Use only in mixed plantings.	Local species. Native revegetation use.	Winter-Spring	Pollen	Bees, Butterflies Native revegetation use.	Ngunnawal people would use the bark to make coarse string; bark infused in hot water can be drunk as a remedy for indigestion; seeds used to make bread.
<i>Banksia robur</i>	BNr	2x1.5	Dry sites.	Shade/sun. Medium frost tolerance, low when young. Requires wet, cool sites. South aspect.	Green/yellow flowers. Coarse texture due to broad leaves.	Summer-Autumn-Winter	High Nectar High Pollen	Bees, Birds, Butterflies	
<i>Boronia denticulata</i>	BOD	1x1.5		Shade/sun. Moist site.	Pink flowers. Scented foliage.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Boronia heterophylla</i>	BOh	1.5x1	Poorly drained sites. Dry sites.	Shade/sun. Susceptible to drying out.	Bright pink flowers. Scented flowers and foliage.	Spring	Nectar Pollen	Bees, Butterflies	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Boronia mollis</i> 'Lorne Pride'	BOm	2x1.5		Shade/sun.	Pink flowers. Scented foliage. Improved compact form.	Late Winter-Spring	Nectar Pollen	Bees, Butterflies	
<i>Boronia</i> 'Telopea Valley Star'	BOt	1.5x1		Shade/sun.	Pink flowers.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Callistemon regidus</i>	Cgd	3x2		Sun. Moist and dry sites. Drought tender.	Stiff leaved bottlebrush. Narrow leaves. Red brush flowers.	Spring-Summer	High Nectar Pollen	Bees, Birds, Butterflies	Ngunnawal people would use the fresh flowers as paint brushes; flowers soaked in water to make a sweet energy drink.
<i>Calothamnus quadrifidus</i>	Cqd	1.5x2		Sun. Well drained sandy soils.	Evergreen with deep green pine like leaves. Crimson spiky flowers.	Spring-Summer	Nectar Pollen	Birds	
<i>Cassinia longifolia</i>	CSSl	2x2	Urban areas.	Shade/sun. Brittle branches. Responds to severe pruning. Suitable for revegetation.	Sticky scented foliage. White flowers. Local species.	Summer	Nectar Pollen	Butterflies Habitat for birds and other native fauna	Ngunnawal people would burn the plant for use in smoking ceremonies to cleanse areas for misplaced spirits; the seeds and leaves can be eaten.
<i>Cassinia quinquefaria</i>	CSSq	2x2	Urban areas.	Shade/sun. Brittle branches. Responds to severe pruning. Use for revegetation.	Local species.	Summer-Autumn	Nectar Pollen	Butterflies Habitat for birds and other native fauna	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Cornus capitata</i>	CNc	3x3	Poor soils.	Requires irrigation.	Evergreen. Cream flowers Red fruit.				
<i>Cornus florida</i> 'Alba'	CNa	4x3	Dry sites. Poor soils.	Shade preferred. Requires wind protection.	Deciduous. White spring flowers. Red autumn foliage.				
<i>Correa glabra</i>	CRg	2x2	Exposed sites.	Shade/sun. Drought and frost tolerant. Prune to shape.	Glossy green foliage. Green flowers in winter.	Winter	Nectar Pollen	Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Correa pulchella</i>	Cpu	1x1	Moist sites.	Shade/sun	Evergreen slender stem shrub. Long flowering season.	Long flowering season	Nectar Pollen	Bees, Birds	
<i>Correa reflexa</i> var. <i>reflexa</i>	CRr	1x1	Exposed sites.	Shade/sun.	Many forms, some hardier than others.	May-Nov	Nectar Pollen Seeds	Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and shade.
<i>Correa schlechtendalii</i>	CRs	1.5x1.5	Exposed sites. Poorly drained sites.	Shade/sun.	Red flowers.		Nectar Pollen	Bees, Birds	
<i>Crowea exalata</i>	CWe	0.7x0.7		Shade/sun. Medium frost tolerance.	Pink flowers.	Autumn-Winter	Nectar Pollen	Bees, Other insects	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Crowea exalata</i> 'Ginninderra Falls'	CWg	0.5x0.5	Poorly drained sites.	Shade/sun. Medium frost tolerance.	Pink flowers in summer / autumn. Local species.	Autumn-Winter	Nectar Pollen	Bees, Other insects	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Crowea</i> 'Festival'	CWf	1x1	Exposed sites. Dry sites. Poorly drained sites.	Shade only. Medium frost tolerance.	Profuse pink flowers.	Autumn-Winter	Nectar Pollen	Bees, Other insects	
<i>Crowea saligna</i>	CWs	1.2x1.2	Exposed sites. Dry sites. Poorly drained sites.	Shade only. Medium frost tolerance.	Pink flowers.	Autumn-Winter	Nectar Pollen	Bees, Other insects	
<i>Dampiera purpurea</i>	DAp	0.8x1	Poorly drained sites.	Shade/sun. Root suckers assist spread. Powdery mildew.	Blue/grey foliage. Blue/purple flowers.	September-December		Bees, Butterflies	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Dicksonia antartica</i>	DCa	2x3	Dry sites.	Shade only. Requires moist/ irrigated site. Low frost tolerance.	Local species. Special design feature.				Ngunnawal people would eat the white pith from within the trunk, can be eaten raw or cooked.
<i>Diospyros kaki</i>	DYk	5x4		Shade/sun.	Orange edible fruit. Orange autumn foliage.				
<i>Euonymus japonicus (variegated)</i>	EUjv	3x2		Powdery mildew. Requires pruning.	Evergreen, variegated. Useful hedge. White flowers, red berries.				
<i>Grevillea crithmifolia</i>	Gcf	0.3x1.5	Wet sites.	Well drained sites. Withstands dry periods.	Compact evergreen shrub with needle leaves. Cream white flowers.	Spring-Winter	High Nectar	Bees, Birds, Butterflies	
<i>Grevillea macleayana</i>	Gma	3x2		Low/medium frost tolerance.	Pink flowers.		High Nectar	Bees, Birds, Butterflies	
<i>Grevillea 'Pink Lady'</i>	GPd	0.5x1-3		Adaptable.	Pink flowers.	Winter-Spring-Summer	High Nectar	Bees	
<i>Hebe glaucophylla</i>	Hgu	0.5x0.5		Sun. Tolerates dry periods. Good border plant. Trimmed for edging. No maintenance.	Small evergreen shrub with profusion of white flowers in spring.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Hebe 'Inspiration'</i>	Hlp	1x1		Shade/sun. No maintenance.	Evergreen compact bush. Dark green leaves. Spikes of purple flowers in summer, winter and spring.	Summer	Nectar Pollen	Bees, Birds, Butterflies	
<i>Hebe salicifolia</i>	Hsf	2-3x1-2		Sun. Tolerant to dry conditions. Suitable for screening, embankments and mixed border.	Dramatic white flowers in spring/autumn.	Spring-Autumn	Nectar Pollen	Bees, Birds, Butterflies	
<i>Hebe 'Autumn Glory'</i>	Hag			Sun. Useful for autumn flower colour.	Showy evergreen with violet blue flowers from late summer into winter.	Autumn	Nectar Pollen	Bees, Birds, Butterflies	
<i>Homoranthus papillatus</i>	HOp	0.75x1	Poorly drained sites.	Pungent smell in flower.	Horizontal blue/grey foliage. Yellow flowers.				
<i>Kunzea capitata</i>	Kct	1x1.5		Sun. Well drained soil.	Pink buttons. Evergreen rounded shrub. Mauve pink flowers.	Early Summer	Nectar Pollen	Bees, Birds, Butterflies	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Kunzea ericifolia</i>	KUe	3x4	Natural areas. Creeks.	Shade/sun. Responds to severe pruning. Scale. Invasive potential near woodland. Suitable revegetation.	Linear leaves and cream to pale yellow flowers in clusters at the ends of branches.	Summer	Nectar Pollen	Bees, Birds, Butterflies	
<i>Lambertia formosa</i>	Lfo	2x2	Poorly drained sites.	Sun. Well drained soils. Withstand dry periods. Useful as a barrier plant.	Mountain devil. Rounded evergreen shrub. Pink, red flowers. Stiff pointy leaves.	Spring-Summer	Nectar	Birds	
<i>Leionema coxii (Phebalium coxii)</i>	Lco	4x3		Shade/sun. Short lived - root rot susceptible. Medium frost tolerance.	Scented foliage.	Late Spring-Early Summer		Bees, Birds, Butterflies	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Leptospermum 'Aphrodite'</i>	Lah	2.5x2		Shade/sun. Wind tolerant. Likes wet conditions. Good for hedge/screenage or as a specimen plant. Bred for resistance to webbing moth.	Dense bushy shrub with mass of bright pink flowers in late spring.	Spring	High Nectar Pollen	Bees, Birds, Butterflies	
<i>Leptospermum brachyandrum</i>	Lbr	4x2	Dry sites.	Scale.		Spring	High Nectar Pollen	Bees, Birds	
<i>Leptospermum laevigatum</i>	Lla	4x3		Scale. Medium frost tolerance.		Spring	High Nectar Pollen	Bees, Birds, Butterflies	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Leptospermum rotundifolium</i> (<i>Leptospermum scoparium</i> var. <i>rotundifolium</i>)	Lrf	2x3		Very prone to webbing caterpillar. Limited use.	Conspicuous pink/white flowers.	Spring	High Nectar Pollen	Bees, Birds	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Leptospermum</i> 'Rudolph'	LRd	3x2		Shade/sun. Tolerates wet conditions. Breed for resistance to webbing moth. Good for hedges/screenage purposes.	Large red flowers in December.	Spring	High Nectar Pollen	Bees, Birds	
<i>Leptospermum polygalifolium</i> (<i>Leptospermum flavescens</i>)	Lpg	4x4		Scale. Webbing caterpillar.	Conspicuous white flowers.	Spring	High Nectar Pollen	Bees, Butterflies	
<i>Linnaea amabilis</i> (<i>Kolkwitzia amabilis</i>)	Lmb	1.5-2.5x	Poorly drained sites.	Sun. Fertile well drained soil.	Beauty bush. Deciduous. Abundant flowers in spring for long period.	Mid Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Melaleuca armillaris</i>	Mar	5x4		Frost susceptibility - mass plantings liable to failure. Medium/low frost tolerance. Plant no closer than 4 metres from hydraulic services.	Dark green foliage. White flowers.	Summer	Nectar Pollen	Bees, Birds, Moths	Ngunnawal people would use this plant around camps for wind breaks and shade; flowers would be soaked in water to make a sweet drink.
<i>Melaleuca incana</i>	Min	2.5x2.5	Wet sites. Poorly drained sites.	Shade/sun. Prefers dry, protected sites. Medium frost tolerance.	Silver foliage. Pale yellow flower.	Spring-Summer	Nectar Pollen	Bees, Birds, Butterflies	
<i>Melaleuca thymifolia</i>	Mth	1x1	Poorly drained sites.	Webbing moth caterpillar.	Mauve flowers. Bluish foliage.	Early Winter	Nectar Pollen	Bees, Birds, Butterflies	
<i>Melaleuca violacea</i>	Mvo	1x1	Poorly drained sites.	Webbing moth caterpillar.	Mauve flowers. Bluish foliage.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Micranthemum hexandrum</i>	MCh	1x1			Local species. Cream terminal flowers. Uncommon.	Autumn-Winter	Nectar Pollen		Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Nerium oleander</i>	Nol	2.5x2	Planting less than 2 metres from hydraulic services.	All parts of plant poisonous.	Conspicuous flowers.	Spring		Harms Bees Harms Butterflies http://www.countryfile.com/countryside/top-ten-plants-are-bad-bees	
<i>Nerium oleander</i> 'Pink'	Nolp	2.5x2	Poorly drained sites. Planting less than 2 metres from hydraulic services.	All parts of plant poisonous. Medium frost tolerance.	Conspicuous flowers.	Spring		Harms Bees Harms Butterflies	
<i>Nerium oleander</i> 'White'	Nolw	2.5x2	Poorly drained soils. Planting less than 2 metres from hydraulic services.	All parts of plant poisonous. Medium frost tolerance.	Conspicuous flowers.	Spring		Harms Bees Harms Butterflies	
<i>Ozothamnus diosmifolius</i> (<i>Helichrysum diosmifolia</i>)	OZd	2.5x1		Shade/sun. Requires regular pruning.		Spring-Summer	Nectar Pollen	Bees, Butterflies	Ngunnawal people would use this plant around camps for wind breaks and fragrant flowers.
<i>Photinia</i> x 'Robusta Red Robin'	PNrr	4x3		Hardy evergreen. Powdery mildew. Responds to severe pruning. Hedge.	Reddish foliage as well as red new growth. White flowers.	Spring	Nectar	Bees, Birds	
<i>Podocarpus elatus</i>	PDe	4+x4	Dry sites.	Medium frost tolerance. Slow growing. Prefers moist sites.	Attractive foliage. Catkins (male flowers), blue fruits (female).		Pollen	Bees, Birds	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Polygala grandiflora</i>	Pgi	1.5x2	Poorly drained sites.	Warm protected position. Not frost tolerant.	Blue pea shaped flower and compact shrub.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Polygala myrtifolia</i>	Pmy	1.2x2	Poorly drained sites.	Warm protected position. Not frost tolerant.	Blue pea shaped flower and compact shrub.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Prostanthera cuneata</i>	Pcu	0.5x1.5		Shade/sun. Needs good drainage.	Mint bush. Dark green rounded aromatic leaves. White flowers.	Summer Autumn	Nectar	Bees	Ngunnawal people would use the leaves for colds and chest infections.
<i>Prostanthera lasianthos</i>	PRSI	2x2	Dry sites. Poorly drained sites.	Shade/sun. Root rot susceptible.	Flowers white, tinged pink/purple in summer. Local species.	Spring-Summer	Nectar	Bees	Ngunnawal people would use the leaves for colds and chest infections.
<i>Rhytidosporum procumbens</i>	RHp	0.4x0.4		Naturally found in rocky terrain and near streams in low open forest.	Local species. White flowers.	Summer	Nectar Pollen	Butterflies	
<i>Scaevola aemula</i>	SVa	1x1		Shade/sun. Short lived. Medium frost tolerance.	Mauve/blue flowers.	Spring-Summer-Autumn	Nectar	Bees	Ngunnawal people would use this plant as a herb.
<i>Syringa vulgaris</i> 'Ludwig Spaeth'	SYI	3x2			Double flowers, fragrant dark purple. Deciduous.	Spring	Nectar	Bees, Birds, Butterflies	
<i>Syringa vulgaris</i> 'Madam Lemoine'	SYm	3x2			White scented flowers. Deciduous.	Spring	Nectar	Bees, Birds, Butterflies	

Table 25-18 Native ground covers

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Astartea fascicularis</i> (prostrate form)	ASfp	0.3x1.5		Responds to severe pruning.	White/pink flowers.	Summer	Nectar	Bees, Birds	
* <i>Banksia integrifolia</i> 'Roller Coaster'	BNrc	0.7x2-4		Shade/sun. Drought tolerant, medium frost tolerance.	Yellow flowers. Low mounding or prostrate spreading groundcover.	Spring-Summer-Autumn	Nectar Pollen	Bees, Butterflies	
<i>Brachyscome multifida</i>	BRm	0.3x0.5	Poorly drained sites.	Shade/sun. Short-lived perennial. Requires pruning at times.	Mauve flowers for long periods. Plant at close intervals.	Summer	Nectar	Bees, Birds	
<i>Correa decumbens</i>	CRd	0.3x1.2	Exposed sites.	Shade/sun.	Small red/green flowers.	Summer	High Nectar	Bees	
<i>Grevillea australis</i>	Gau	0.2x0.4		Good on exposed sites.	Dark green foliage. Small white flowers.	Spring	High Nectar	Bees, Birds	Ngunnawal people would soak the fresh flowers in water to make a sweet energy drink.
<i>Grevillea curviloba</i>	Gcl	1x2.5	Exposed sites.	Requires pruning. Some shoots grow to 1-2 metres high. Medium frost tolerance.	Light green foliage. White flowers.	Spring-Autumn-Winter	High Nectar	Bees, Birds	
<i>Grevillea juniperina</i> (prostrate form)	Gjp	0.3x1.5		Good on exposed sites.	Prickly dark green foliage. Yellow or red flowers.	All year except mid Winter	High Nectar	Bees, Birds	Ngunnawal people would soak the fresh flowers in water to make a sweet energy drink.
<i>Grevillea</i> 'Poorinda Royal Mantle'	Gpr	0.2x2		Some iron deficiency shown in some soils, usually alkaline soils.	Dense foliage. Many red toothbrush flowers.	Spring-Summer	Nectar	Bees, Butterflies	
<i>Hardenbergia</i> 'Flat White'	HAFw	0.2-0.5 x2-4	Wet sites. Poorly drained sites.	Sun/part shade. Drought and frost tolerant (less when young). May get some leaf burn from extreme cold.	White flowers from Autumn to Spring. Trailing ground cover Does not climb.	Summer	Nectar	Bees, Birds	
* <i>Hardenbergia</i> 'Meema'	HAm	0.5x2	Wet sites. Poorly drained sites.	Sun/part shade. Drought and frost tolerant (less when young). May get some leaf burn from extreme cold. Will climb other plants if permitted. Longer lived cultivar.	Purple pea flowers from winter to spring. Upright form and grows into shrubby groundcover.	Spring-Summer-Autumn	Nectar Pollen	Bees, Butterflies	Ngunnawal people would boil the leaves to make a sweet tea; flowers were eaten to treat liver and kidney complaints.
<i>Myoporum parvifolium</i>	MYp	0.1x2	Exposed sites.	Usually short lived. Fungal leaf spot. Medium frost tolerance. Responds to severe pruning.	White flowers. Variable leaf width. Prostrate.	Spring-Summer	Nectar Pollen	Bees	
* <i>Myoporum parvifolium</i> 'Fine Leaf Form'	MYpf	0.2x1-2		Sun/semi-shade. Well drained soils. Fast growing. Drought and frost tolerant.	White star shaped flowers. Fine narrow foliage. Prostrate.	Spring-Summer	Nectar Pollen	Bees	
* <i>Myoporum parvifolium purpurea</i>	MYpp	0.1-0.4x1.5		Sun/semi-shade. Well drained soils. Fast growing. Drought and frost tolerant.	White star shaped flowers. Purple tinged foliage, deepening in colour during winter. Fine leaf purpurea also available.	Spring-Summer	Nectar Pollen	Bees	
* <i>Platysace lanceolata</i> 'Edna Walling Flower Girl'	Plew	.2x.3		Shade/sun. Hardy. Medium frost tolerance.	Creamy flower heads open from pink buds. Tightly set tiny rounded leaves. Lightly suckering.	Summer	Nectar Pollen	Bees, Butterflies	
<i>Viola hederacea</i>	Vlh	0.2x0.2	Dry sites.	Shade only. Hardy. Requires moist site. Medium frost tolerance.	Local species. Spreads by runners.	Spring-Summer	Nectar Pollen	Bees	Ngunnawal people would eat the flowers.

Table 25-19 Introduced ground covers

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Agapanthus africanus</i>	AGa	1x1		Removal of spent flower heads required. Tolerates shade. Medium frost tolerance.	Blue and white flower forms (summer). Tufted habit. Dwarf form also.	Summer	Nectar Pollen	Bees, Birds, Butterflies	
<i>Ajuga reptans</i>	AJr	0.1x0.3	Dry sites.	Requires shade. Spreads by runners. Medium frost tolerance.	Green/purple foliage. Upright purple flowers.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Arctostaphylos uvaursi</i>	AYu	0.3x3		Hardy.	Evergreen, shiny dark green foliage. White/pink flowers. Prostrate.	Spring	Nectar Pollen	Bees, Birds, Butterflies	
<i>Baccharis pilularis</i> 'Twin Peaks'	BAp	0.7x2		Hardy, drought resistant. Spreads by layering.	Bright green foliage. Insignificant flowers.				
<i>Cistus pulverulentus</i> 'Sunset'	Clp	0.75x0.75		Good on dry sites.	Grey green foliage. Orange flowers.	Spring	Nectar Pollen	Bees	
<i>Convolvulus mauritanicus</i>	CVm	0.5x1		Medium frost tolerance. Hardy.	Evergreen. Blue/mauve flowers.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Coprosma x kirkii</i>	COPk	0.6x1		Good on exposed sites. Intolerant of trampling. Medium frost tolerance.	Olive green leaves. Inconspicuous purple flowers.	Spring	Nectar Pollen	Bees	
<i>Juniperus conferta</i>	JNc	0.2x2	Exposed sites.	Very vigorous.	Evergreen. Green/blue foliage. Light green berries.		Pollen		
<i>Juniperus sabina</i>	JNs	1x1		Good for exposed sites. Resin smell. Good high ground cover.	Prostrate conifer.		Pollen		
<i>Phlox subulata</i>	PXs	0.2x1		Full sun required for flowering.	White, pink, purple and blue flower forms.	Spring	Nectar Pollen	Bees	
<i>Rosmarinus lavandulaceus</i>	RSI	0.3x0.3		Good for exposed sites.	Fragrant foliage. Mauve flowers.				
<i>Thymus serpyllum</i>	THs	0.1x0.4	Dry sites.	Very prostrate: mat-forming.	Mauve, pink and white flower forms. Fragrant foliage. Perennial herb.	Winter	Nectar Pollen	Bees	

Table 25-20 List of special plants: ground covers

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Acacia</i> 'Austraflora Cascade'	Aac	0.3x2.4		Groundcover. Will tolerate heavier soils.	Yellow flowers	Spring	Pollen	Bees	
<i>Baekea virgata</i> (Dwarf Form)	Bvr	0.2-1x1-1.5	Poorly drained sites.	Shade/sun. Tolerates dryness. Well drained soil.	White abundant flowers. Heath like shrub.	Spring	Nectar Pollen	Bees	
<i>Blechnum nudum</i>	Bnu	1x0.7	Dry, exposed sites.	Shade. Good water. Remove spent fronds. Fertilise in spring. Well composted soils.	Fishbone water fern. Attractive common fern with upright green fronds. Mature plant may develop stout trunk.				Ngunnawal people would use the leaves as a bandage.
<i>Brachyscome multifida</i> 'Break O'Day'	BRmb	0.3x0.5	Poorly drained sites.	Shade/sun.	Improved flower colour and foliage density (compared with BRm).	Spring-Summer-Autumn	Nectar Pollen	Bees, Butterflies	
<i>Bracteantha bracteata</i>	Bbtt	0.8x0.8	Revegetation.	Sun. Prune in spring.	Everlasting daisy. Large green leaves iwth yellow paper daisy. Flowers spring/summer.	Spring-Summer-Autumn	Nectar Pollen	Bees, Butterflies	No known use.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Bracteantha viscosa</i>	Bvi	0.8x0.8		Shade/sun. Suitable for revegetation and ornamental purposes. Cut back and fertilise in spring.	Sticky everlasting daisy. Open upright perennial herb with golden yellow paper flowers. Flowers in spring/summer. Local species.	Spring-Summer	Nectar Pollen	Bees	No known use.
<i>Calocephalus citrius</i>	Ccit			Shade/sun. Remove spent flowers. Suitable for revegetation and ornamental purposes.	Lemon beauty heads. Lemon yellow flowers with silver grey foliage.	Spring-Summer	Nectar Pollen	Bees	No known use.
* <i>Casuarina glauca</i> 'Cousin It'	Cgci	0.15x1		Shade/sun. Tolerates dry conditions. Moderate frost tolerance. Well drained soils.	Vibrant grey-green needle-like foliage.				
<i>Chrysocephalum apiculatum</i> (<i>Helichrysum apiculatum</i>)	Hap	0.15x0.3	Poorly drained sites.		Yellow buttons. Grey woolly stems and leaves. Dense yellow flowers.	Spring	Nectar Pollen	Bees, Butterfly larva, Other insects	No known use.
<i>Chrysocephalum semipapposum</i>	Cse	0.6x0.6	Poorly drained sites.	Shade/sun. Used for revegetation and ornamental purposes. Prune and fertilise in spring.	Cluster daisy. Silvery/green upright foliage with yellow button like flowers in summer/autumn.	Spring-Summer	Nectar Pollen	Bees, Butterfly larva, Other insects	No known use.
<i>Dampiera diversifolia</i>	DAd	0.1x0.5	Exposed sites. Poorly drained sites.	Well drained sites. Root suckers assist spread. Medium frost tolerance.	Deep blue flowers.	Spring-Summer	Nectar Pollen	Bees, Butterflies	
<i>Enchylaena tomentosa</i>	Ett	0.5x1	Poorly drained sites.	Sun. Tolerates dryness.	Red berries. Good foliage contrast with succulent grey leaves.				
<i>Grevillea</i> 'Bronze Rambler'	Gbr	0.3x2			Dissected leaf with red/ green tinges. Red stems. Dense foliage. Red toothbrush flowers.	All year	High Nectar	Bees, Birds	
<i>Kunzea pomifera</i>	Kpf	0.3x1-2		Sun. Good drainage.	White flowers in spring. Woody shrub.	Spring	Nectar Pollen	Bees, Birds	
<i>Leucochrysum albicans</i>	Laia	0.15x0.1-0.15		Shade/sun. Remove spent flowers. Suitable for annual flower bed.	Golden sunray. Silver grey foliage with white paper flowers (spring -summer). Local species.	Spring-Summer		Bees	No known use.
<i>Phyla nodiflora</i>	PFn	0.1x1.2	Dry sites. Exposed sites.	Shade/sun. Requires good drainage. Medium frost tolerance.	Prostrate. Pink flowers. Deciduous in winter.	Spring-Autumn		Bees, Butterflies	
<i>Pimelea filiformis</i>	Pff	prostratex1		Shade/sun. Adaptable. Tolerates dryness.	Rice flower. Pink/white flowers. Evergreen shrub.	Spring-Early Summer		Bees, Butterflies	
<i>Polystichum proliferum</i>	Ppf	1x1	Dry exposed sites.	Shade/sun. Moist at all times.	Common fern with lush green fronds. New growth covered with attractive brown scales. Forms clumps.				No known use.
<i>Scaevola albidia</i>	SVI	0.2x0.5	Dry sites.	Shade/sun. Short lived. Medium frost tolerance.	White or blue flowers.	Summer	Nectar	Bees, Butterflies	No known use.
<i>Trachelospernum asiaticum</i>	Taa				Evergreen self clinging twiner. Fragrant creamy-white flowers in summer.	Summer	Nectar	Bees, Butterflies	
<i>Vinca minor</i>	Vci	0.2x1	Natural areas. Dry sites. Creeks.	Shade/sun. Invasive. NOT to be used near any watercourses. Planting area needs to be contained.	Blue flowers.		Nectar	Bees, Butterflies	
<i>Vinca minor</i> 'Alba'	Vca	0.2x1	Natural areas. Dry sites. Creeks.	Shade/sun. Invasive. NOT to be used near any watercourses. Planting area needs to be contained.	White flowers.		Nectar	Bees, Butterflies	

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Wahlenbergia communis</i>	Wcm	0.2-0.3x0.1		Shade/sun. Dormant over winter. Hardy. Remove spent foliage. Can be overtaken by weeds - use in mass planting. Use as an annual.	Blue bells. Blue flowers in summer and autumn. Local species.	Summer-Autumn.	Nectar	Bees	No known use.

Table 25-21 Native climbers

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Billardiera scandens</i>	Bsc		Natural areas	Well drained soils. Frost tolerant. Drought tolerant.	Requires host or trellis. Planted under Eucalyptus, can thrive under conditions challenging for most garden plants.	Spring	Nectar Pollen	Bees, Birds	Ngunnawal people would eat the fruit either in their ripened state or by roasting the unripened fruit.
<i>Clematis aristata</i>	CMA			Shade/sun. Not very vigorous - needs support. Medium frost tolerance. Variable species.	Profuse white flowers in spring.	Spring	Nectar	Bees, Butterflies	Ngunnawal people would crush the leaves to make a paste for headaches.
<i>Hardenbergia 'Rosea'</i>	HAr		Wet sites. Poorly drained sites.	Sun/part shade. Drought and frost tolerant (less when young). May get some leaf burn from extreme cold. Will climb other plants if permitted.	Pink flowers. Deep green leaves.	Spring-Summer	Nectar	Bees, Butterflies	
<i>Hardenbergia violacea</i>	HAv		Wet sites. Poorly drained sites.	Shade/sun. Low climber. Training required. Medium/low frost tolerance.	Local species. Deep green leaves. Purple flowers.	Spring	Nectar	Bees	Ngunnawal people would use the leaves as a tea; vines were used as rope.

Table 25-22 Introduced climbers

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Akebia quinata</i>	AKa			Needs support.	Deciduous. Fragrant purple/pink flowers.				
<i>Campsis grandiflora</i>	CAG		Natural areas.	Needs support. Can be invasive.	Deciduous. Orange flower.	Spring-Summer	Nectar	Bees, Butterflies, Birds	
<i>Celastrus scandens</i>	CELs		Natural areas.	Vigorous. Needs support. Invasive.	Deciduous: Yellow autumn foliage. Small yellow flowers.	Spring		Bees	
<i>Clematis montana 'Rubens'</i>	CMm			Requires cool, moist root run. Medium frost tolerance.	Deciduous. Rose coloured flowers.	Spring	Nectar Pollen	Bees, Butterflies	
<i>Fallopia baldschuanica</i> (<i>Polygonum baldschuanica</i>)	Fba			Needs support.	White/pink flowers in summer and autumn.	Summer-Autumn.	Nectar Pollen		
<i>Gelsemium sempervirens</i>	GES		Exposed sites.	Shade/sun. Needs support. Black leaf spot. Medium frost tolerance.	Evergreen. Yellow fragrant flowers.				
<i>Jasminum polyanthum</i>	JAp		Exposed sites.	Shade/sun. Sheltered wall only. Needs support. Frost tender when young. Low frost tolerance.	Fragrant pink/white flowers. Evergreen, if protected from frost.				
<i>Parthenocissus quinquefolia</i>	PRq		Natural areas.	Self-clinging.	Virginia creeper. Deciduous. Red autumn foliage, 5-lobed leaf.				

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Parthenocissus Tricuspidata</i> 'Veitchii'	PRT		Natural areas.	Self-clinging.	Boston ivy. Deciduous. Scarlet autumn foliage, 3-lobed leaf. Coppery young leaves and coarsely toothed mature leaves.				
<i>Rosa banksiae</i>	ROb			Needs support. Thornless. Medium frost tolerance	White or yellow flowers.	Summer-Autumn.		Bees	
<i>Trachelospermum jasminoides</i>	TRj		Dry sites. Natural areas.	Prefers shade. Needs support.	Evergreen, glossy leaves. White scented flowers.	Spring	Nectar Pollen	Bees	
<i>Wisteria sinensis</i>	WIs		Natural areas	Needs support.	Deciduous. Conspicuous purple or white flowers.	Spring	Nectar	Bees	

ANNEXURE C – GRASSES

Native grasses are identified as either ornamental or rehabilitation species. Native grasses are only considered to be adequate for rehabilitation purposes if the seed for the plants has been sourced locally.

Definitions

Cool season grass: Grass that can be planted year-round.

Warm season grass: Grass that can only be planted from November to February as they are susceptible to cold weather and frost at an immature age.

Table 25-23 List of Special Plants: Native Grasses

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Austrostipa bigeniculata</i>	Abi	1				Spring	Nectar	Bees	No known use.
<i>Austrostipa densiflora</i> (<i>Stipa densiflora</i>)	Adf	0.25x0.25		Shade/sun. Suitable for revegetation and ornamental purposes. Remove spent seed heads.	Feather spear grass. Ornamental seed head - feather stalks resemble bamboo. Seed head to 1 metre. Local species.				No known use.
<i>Austrostipa ramoissima</i> (<i>Stipa ramoissima</i>)	Arm	0.3x0.3	Ornamental purposes.	Shade/sun. Remove spent seed heads. Cool season grass.	Tall spear grass. Leaves green. Basal clump. Local species.				No known use.
<i>Austrostipa scabra</i> (<i>Stipa scabra</i>)	Asc	0.3x0.3	Wetland sites. Ornamental purposes.	Suitable of revegetation purposes. Good on exposed sites with poor soils. Can be sown directly on site.	Rough spear grass. Stays green in frost. Local species.				No known use.
<i>Bothriochloa macra</i>	Bma	0.2x0.2	Ornamental planting. Not a good competitor with weeds.	Suitable for revegetation. Remove spent seed heads. Warm season grass.	Red leg grass. Turns a reddish colour in frosts and brown under heavy frosts. Grass grows very low. Local species.				No known use.
<i>Cenchrus purpurascens</i> (<i>Pennisetum alopecuroides</i>)	CCp	1x1	Shale.	Shade/sun. Moist and dry soils. Better planted in mulched garden beds. NOT invasive. Frost will brown leaves. Warm season grass.	Swamp foxtail. Large tuft grass. Ornamental seed heads. Holds its colour during summer and winter.				
<i>Chloris truncata</i>	Ctr	0.05-0.15x0.1-0.2	Annual coloniser.	Suitable for revegetation and ornamental purposes. Drought tolerant. Will multiply from initial stock and good seeder. Warm season grass.	Windmill grass. Flowers in response to rain.				No known use.
<i>Cymbopogon refractus</i>	CYr	0.3x0.3		Shade/sun. Suitable for revegetation and ornamental purposes. Very tough. Remove frosted foliage in spring. Warm season grass.	Barbed wire grass. Seed heads resemble barb wire. Goes brown with frosts.			Provides shelter to wildlife and butterflies	Ngunnawal people would eat the seed.
<i>Dianella caerulea</i>	Dlc	1x2.5		Full sun. Can tolerate damp conditions, prefers dry. Frost resistant. Prefers unmulched sites.	Tufted habit with strap like leaves. Blue star shaped flowers on long stems in spring followed by purple berries.				
<i>Dianella longifolia</i>	Dll	1x0.5		Shade/Sun. Drought and frost tolerant.	Tufted habit with strap like leaves. Local species. Blue star shaped flowers on long stems in spring followed by blue berries.				Ngunnawal people would eat the purple fruit; the long leaves are used for weaving.
<i>Dianella revoluta</i>	Dir	0.3x0.5		Shade/sun. Suitable for both ornamental and rehabilitation purposes.	Tufted habit. Local species. Blue star shaped flowers on long stems in spring followed by blue berries.		Nectar Pollen Berries	Bees, Birds, Butterflies	Ngunnawal people would use as a tea ingredient in Aboriginal medicine, both root and leaf were used to remedy colds and headaches.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Dianella tasmanica</i>	DIt	0.7x1		Suitable for both ornamental and rehabilitation purposes. Prefers shade.	Tufted habit. Blue star shaped flowers on long stems in spring followed by blue berries.			Bees, Birds, Butterflies	
<i>Dichelachne crinita</i>	Dcr	0.25x0.25	Ornamental planting as a monoculture.	Shade/sun. Suitable for revegetation. Grown in open and cleared areas in grasslands and woodlandson sand of soil. Cool season grass.	Long hair plume grass. Ornamental pink-purple plumes. Local species.				Ngunnawal people would eat the seed.
<i>Dichelachne micrantha</i>	Dmi	0.2x0.2	Maybe taken over with weeds if planted as a monoculture.	Shade/sun. Suitable for revegetation and ornamental purposes. Very common in dry or wet sclerophyll forests. Drought tolerant. Cool season grass.	Short hair plume grass. Ornamental purple plume flowers in spring/summer. Local species.				No known use.
<i>Imperata cylindrica</i>	Icy	1x0.3		Suitable for wet sites, though will tolerate dry conditions. Suitable for revegetation and ornamental purposes.	Blady grass. Ornamental white flower heads in spring /summer.				
<i>Lomandra hystrix 'Tropicbelle'</i>	LDht	0.8x0.8	Heavy frost.	Shade/sun. Suitable for wet sites, though will tolerate dry conditions. Suitable for revegetation and ornamental purposes.	Tufted habit. Slightly arching light green foliage. Compact, uniform height. Yellow flow spikes.	Spring		Bees, Other insects, Lizards	
<i>Lomandra longifolia</i>	LDI	0.5x1		Shade/sun. Suitable for revegetation and ornamental purposes. Drought and frost tolerant.	Tufted habit. Light green foliage. Fragrant flowers. Local species.	Spring		Bees, Butterflies, Other insects, Lizards	Ngunnawal people would chew the white leaf base to obtain a sweet, starchy morsel; seed was ground into flour with honey to make a high protein food.
<i>* Lomandra longifolia 'Cassica'</i>	LDlc	1.2x0.8	Clay soil. Seed heads are prickly	Shade/sun. Suitable for revegetation and ornamental purposes. Well prepared drained soils. Fertilise in spring.	Mat rush. Glaucous-blue upright foliage.	Spring		Bees, Butterflies, Other insects, Lizards	Ngunnawal people would use the long leaves to make baskets and fishtrips.
<i>Lomandra longifolia 'Katrinus'</i>	LDIk	1x0.7		Shade/sun. Suitable for revegetation and ornamental purposes. Heavier clay-based soils.	Mat rush. Fine deep green to lime foliage with weeping habit. Performs better in clay soil that common form. Seed heads are prickly.	Spring	Seeds	Bees, Butterflies, Other insects, Lizards	
<i>Microlaena stipoides</i>	Msti	0.2x0.2	Ornamental sites. Dry sites	Suitable for revegetaiton. Grows under trees in open moist sites. Remove spent seed heads and fertilise after pruning. Cool season grass.	Weeping grass. Tuft perrenial. Year long green lawn like appearance. Local species.			Seeds for small birds	No known use.
<i>Poa labillardierei</i>	POAI	1.5x1	Weedy sites. Dry sites.	Suited to higher maintenance sites. Prefers adequate moisture all year.	Tussock Grass. Long slender leaves and large open seed heads. Dome-shaped form. Year long green grass.			Buterflies	Ngunnawal people would use this plant to make string and bags, nets and mats.
<i>Poa labillardierei cv 'Erindale'</i>	POAle	0.2-0.8 x0.2-0.4		Shade/sun. Suitable for revegetation and ornamental purposes. Good under eucalypts. All soil types. Cut spent heads in autumn and fertilise. Cool season grass.	Tussock grass. Holds its colour over summer and winter. Good at weed suppression. Local species. More ornamental than <i>P. labillardiere</i> .			Butterflies	Ngunnawal people would use this plant to make string and bags, nets and mats.
<i>Poa sieberiana 'Aranda'</i>	POAs	0.3x0.3	Rehabilitation sites. Wet sites. Slow to establish and can be overtaken by exotic weeds	Shade/sun. Suitable for both ornamental and revegetation purposes. Ornamental mass planting at high planting density. More ornamental than <i>P. siebriana</i> . Prune back after spent seed heads and fertilise. Cool season grass.	Blue snow tussock. Fine lead blue form. Holds its colour during summer and winter. Local species.		Leaves	Butterflies	No known use.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Rytidosperma bipartita</i> (<i>Danthonia linkii</i>) (<i>Notodanthonia bipartite</i>) (<i>Austrodanthonia bipartite</i>)	RYb	0.15x0.15	Wetland or damp sites. Suitable for ornamental purposes only when used as a mix with <i>Poa labillardiere</i> 'Erindale'.	Shade/sun. Suitable for revegetation. Cool season grass.	Wallaby grass. Stays green in frosts. Seed heads to 0.6 metres. Local species.				Ngunnawal people use the stems and leaves to make string for fishing nets; seed can be crushed into flour.
<i>Rytidosperma caespitosum</i> (<i>Danthonia caespitosa</i>) (<i>Notodanthonia caespitosa</i>)	RYc	0.15x0.15	Suitable for ornamental purposes only when used as a mix with <i>Poa</i> sp. Poorly drained sites	Shade/sun. Remove spent heads.	Wallaby grass. Stays green in frosts. Seed head to 0.5 metres.				Ngunnawal people use the stems and leaves to make string for fishing nets; seed can be crushed into flour.
<i>Rytidosperma</i> 'Canberra Blend' (<i>Notodanthonia</i> 'Canberra Blend') (<i>Austrodanthonia</i> 'Canberra Blend')	RYcb	0.1-0.3 x0.1-0.3	Suitable for ornamental purposes only when used as a mix with <i>Poa</i> sp. Short lived and transitional sp.	Shade/sun. Remove spent flowers. Suitable for revegetation.	Wallaby grass. Seed heads to 0.2 - 0.6 metres.				Ngunnawal people use the stems and leaves to make string for fishing nets; seed can be crushed into flour.
<i>Rytidosperma erianthum</i> (<i>Notodanthonia eriantha</i>) (<i>Austrodanthonia eriantha</i>)	RYe	0.2x0.2	Suitable for ornamental purposes only when used as a mix with <i>Poa labillardiere</i> 'Erindale'.	Shade/sun. Suitable for revegetation. Remove spent seed heads.	Hill wallaby grass. Stays green in frost. Seed heads to 0.6 metres. Local species.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Rytidosperma fulvum</i> (<i>Danthonia linkii</i>) (<i>Austrodanthonia fulva</i>) <i>R. fulvum</i> is in Canberra	RYf	0.15x0.15	Wetland or damp sites. Suitable for ornamental purposes only when used as a mix with <i>Poa labillardiere</i> 'Erindale'.	Shade/sun. Suitable for revegetation. Cool season grass.	Wallaby grass. Stays green in frosts. Seed heads to 0.6 metres. Local species.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Rytidosperma pallidum</i> (<i>Chionachloa pallida</i>) (<i>Joycea pallida</i>)	RYp	0.7x0.7		Suitable for revegetation and ornamental purposes. Acid soils of low fertility and drought tolerant. Wet and dry areas. Remove spent flower heads. Cool season grass.	Red anther wallaby grass. Holds colour in frosts. Green leaf with orange and white seed head.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Rytidosperma racemosum</i> (<i>Notodanthonia racemosa</i>) (<i>Austrodanthonia racemosa</i>)	RYr	0.1-0.15 x0.1-0.15	Ornamental purposes. Short lived.	Shade/sun. Remove spent seed heads.	Wallaby grass. Seed heads to 0.5 metres.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Rytidosperma setaceum</i> (<i>Danthonia setacea</i>) (<i>Notodanthonia setacea</i>) (<i>Austrodanthonia setacea</i>)	RYs	0.3x0.05	Weedy sites.	First used at Tuggeranong Office Park. Suited to open space use and poor soils. Victorian origin.	Small-flower wallaby grass. Shortly tufted perennial. Widespread and abundant grass in natural pastures in southern Australia.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Sorghum leiochladum</i>	Slc	0.4x0.4		Shade/sun. Ornamental and revegetation purposes. Warm season grass.	Native sorghum. Local species. Green-blue foliage with ornamental brown seed heads.				No known use.

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Flowering times	Nectar, Pollen, Fruit	Forager	Ngunnawal cultural notes
<i>Themeda triandra</i> (<i>Themeda australis</i>)	Ttr	0.4x0.3	Weedy sites.	Shade/sun. Warm season grass.	Kangaroo grass. Grows November-March. Flowers December/January. Green foliage turns reddish in autumn. Attractive seed heads. Can look messy and browns under frosts. Local species.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.
<i>Themeda triandra</i> 'Mingo' (<i>Themeda australis</i> 'Mingo')	Ttrm	0.2x0.5	Revegetation purposes.	Shade/sun. Drought tolerant. Prune back after winter and fertilise. Warm season grass.	Dwarf blue kangaroo grass. Foliage changes to purple in cool weather. Will brown with heavy frosts. Prostrate habit. Sterile seed.				Ngunnawal people use the stems and leaves to make string for fishing nets, seed can be crushed into flour.

Table 25-24 List of Special Plants: Introduced Grasses

Botanical Name	Code	Height x width	Not suitable for	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>Festuca glauca</i>	Fgl	0.25x0.25		Shade/sun. Ornamental purposes. Fertilise in spring. Cool season grass.	Blue fescue. Green blue foliage.	

ANNEXURE D – WATER PLANTS

The introduction of emergent water plants into constructed water bodies is a critical part of the establishment of an artificial wetland. These plants aid in controlling erosion and precipitate or trap suspended soil particles. They improve the general aesthetics of the water body and provide habitat for wildlife as well as a place to teach wetland ecology. Wetlands help to remove undesirable micro-organisms and reduce biological oxygen demand. Natural and constructed wetlands can remove nutrients from water that flows through them.

This list contains water plants thought to be suitable for use in artificial water bodies within the ACT. Designers need to be extremely careful when specifying water plants since some native and introduced water plants can be invasive and have serious impacts on aquatic ecosystems.

The introduction of free-floating or submerged anchored plant species is not encouraged because they can create serious ecological and management problems. As valuable components in urban water bodies, submerged water plants are often introduced by natural means. Deliberate introduction of these submerged water plants is seen as unnecessary.

None of the emergent aquatic plants in the ACT are classed as serious weeds. However, from time to time native emergent and submerged plants may require control for management purposes.

Definitions

The following definitions have been used for the list of water plants.

Edge zone plants: water plants found in water saturated or boggy soils.

Margin zone plants: water plants found between the water edge and water depths of up to 1.6 metres.

Water zone plants: water plants largely found on the surface of water bodies either attached to the soil substrate or free floating.

Table 25-25 Edge zone plants

Botanical Name	Code	Height x width	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>Alisma plantago-aquatica</i>	Apt	1	Grows beside creeks, lakes and in swamps. Persists in drying mud. Rarely obstructs water flow.	Water plantain. Emergent perennial with large leaves which emerge at ground level. Large inflorescence with whorled (arising at the same node) branches ending in flowers with pink petals.	
<i>Carex appressa</i>	Cpp	1.2 (usually less than 1m)	Damp areas, lake and creek banks, ephemeral swamps. Can survive periodic inundation. Useful for erosion stabilisation.	Tall sedge. Dome shaped tussock plant. Orange/brown inflorescence. Leaves flattened.	No known use.
<i>Carex bichenoviana</i>	Cbn	1.2 (usually less than 1m)	Damp areas, lake and creek banks, ephemeral swamps. Can survive periodic inundation. Useful for erosion stabilisation.	Dome shaped tussock plant. Orange/brown inflorescence. Leaves flattened.	No known use.
<i>Carex tereticaulis</i>	Cte	1x1	Damp areas, lake and creek banks, ephemeral swamps. Can survive periodic inundation. Useful for erosion stabilisation.	Spike like panicles in spring/summer.	No known use.
<i>Crassula helmsii</i>	Chm	0.25	In or on the margins of stationary or slowly flowing water usually less than 400mm deep.	Crassula or swamp crassula. Light green mat-like growth. Stems intertwined to 500mm long. Small white flowers.	No known use.
<i>Eleocharis acuta</i>	Eaca	0.7	In or alongside perennial wetlands.	Spikerush. Rhizomes which produce erect culms 1-3mm wide trigonous (triangular stems) below the spikelet. Forms a dense mid-green reed-like mass. Attractive all year round.	No known use.
<i>Gahnia subaequiglumis</i>	Gsb	0.6	Grows near swamps and in drier situations.	Flowers spring/summer	No known use.
<i>Gratiola peruviana</i>	Gpu		Shade. Moist soils to shallow water.	Small pink flowers.	No known use.

Botanical Name	Code	Height x width	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>Juncus australis</i>	Jas	1.2	Damp areas, lake and creek banks, ephemeral swamps. Can survive periodic inundation. Useful for erosion stabilisation. Pruning promotes new growth.	Long lived ornamental plant with striking form.	Ngunnawal people would use the leaves to make baskets and small fish traps.
<i>Juncus flavidus</i>	Jfl	1.2x1	Moist to wet soils, will tolerate dry periods and periodic inundation.	Clumping rush.	No known use.
<i>Juncus flockeii</i>	Jfk	0.5	Moist soils, swamps.	Slender Joint-leaf Rush. Erect growth habit.	No known use.
<i>Juncus pallidus</i>	Jpl	1-1.5x1	Tussock in appearance. Common on nutrient poor sandy soils, in moist situations.	Pale rush. Good verticle accent. Attract butterflies. Flowers 70% of the year.	No known use.
<i>Lycopus australis</i>	Las	1.5	Moist soils, edges of waterways. Companion plant for sedges and rushes.	Interesting light leafy foliage. Dies back in winter.	No known use.
<i>Lythrum salicaria</i>	Lsl	1-2	Thrives in damp conditions but can withstand drt periods. Responds well to heavy pruning in winter.	Purple flower spikes in summer. Dies back in winter.	No known use.
<i>Paspalum distichum</i>	Pdi	0.5	Wet or damp situation in shallow water, or if slowly flowing water, floating across the water surface.	Water couch. Dense mats of leaves from vigorous stolons and rhizomes. Small seed head of 2 racemes. Foliage frosted to straw colour in winter.	No known use.
<i>Ranunculus papulentus</i>	Rpa	0.25	Grows in edge zone and shallow water.	Small yellow flower.	No known use.

Table 25-26 Margin zone plants

Botanical Name	Code	Height x width	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>*Baloskion australe</i>	Bau	0.7	Sun. Grows in waterlogged or boggy soils.	Mountain cord rush. Erect, evergreen soft-wooded perennial rush	No known use.
<i>Baloskion tetraphyllum syn Restio tetraphyllum</i>	Bte	1-2	Shade/sun. Grows very well in wet condition or moving water.	Tassel cord rush. Decorative rush with soft delicate weeping foliage. Rusty brown flowers in spring/summer.	No known use
<i>Baumea articulata</i>	Bat	2.5	Grows in lagoons and swamps in water to 1m. Still to slow moving freshwater bodeies on a mud substrate. Provides suitable habitat for birds. Valuable component of swamp and lake flora.	Jointed twig-rush. Forms a large dense clump. Inflorescence open drooping panicle mostly in summer to early autumn.	
<i>*Baumea rubiginosa (Machaerina rubiginosa)</i>	Bru	1	Shade/sun. Tolerant of frosts, innundation, low nutrient soils, poor water quality.	Soft twig-rush. Compressed ribbon like green leaves. Inflorescence reddish brown clusters of spikelets.	No known use.
<i>Bolboschoenus caldwellii</i>	Bcl	1	Desirable plants for landscape purposes. No problems to date.	Marsh club-rush. Yellow-green, upright leaves 2-7mm wide from rhizomes forming clumps. Small brown clustered inflorescence. Medium textured attractive plant.	
<i>Bolboschoenus fluviatilis</i>	Bfv	1.6	In shallow water along creeks and in shallow swamps. Survives periodic inundation and period of dry. Shelter for wildlife and useful for stabilising banks. Generally does not spread into deeper water.	Marsh club-rush. Vigorous medium-course textured plant that forms large clumps. Dark green foliage with leaves to 12mm wide. Large brown inflorescence. More attractive during the growing season.	Ngunnawal people would dig up the walnut size bulbs to roast then pounded and formed into small bread.
<i>*Bolboschoenus medianus</i>	Bme	2	In shallow water along creeks and in shallow swamps. Shelter for wildlife and useful for stabilising banks.	Marsh club-rush. Rhizome creeping, woody sedge bearing hard globose tubers with three-sided stems. Grass-like leaves often to 50 cm long and 11 mm wide.	
<i>Carex fascicularis</i>	Cfl	1	Grows in swamps, near dams, lakes, creek banks and flood plains. Survives periodic inundation and survive periods of dryness. Prune when messy or to control growth.	Tassel sedge. A low growing, weeping ornamental carex. Attractive seeds. Flowers in Spring/summer.	

Botanical Name	Code	Height x width	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>Cyperus exaltatus</i>	Cex	1.5	Robust plant which seems able to compete with grasses given sufficient reliable water.	Sedge. Medium textured handsome plant with olive or brown green foliage. Distinctive inflorescence. Sufficiently attractive for suggested use in horticulture.	No known use.
<i>Eleocharis sphacelata</i>	Esh	2	Able to grow in both shallow and deep water (2m).	Tall spike-rush, Kaya. Thick stems (to 15mm) which can reach 2m high. Attractive perennial which forms dense stands.	No known use.
<i>Juncus usitatus</i>	Jut	1	Short rhizome which helps anchorage. Upright stems rarely obstruct water flow. May 'filter' at water outfalls.	Common rush. Upright dark green tufted perennial with dark green 1-2mm diameter stems. Open brown inflorescence subtended by a bract which appears to be a continuation of the stem.	No known use.
<i>Phragmites australis</i>	Pau	3	Vegetative spreading. Can easily be controlled if required. Appears to provide excellent bird habitat. Attractive screen plant during the growing season where there is room.	Common reed. A plant with hollow stems which can spread into large stands. It has verticle and horizontal rhizomes. It is frosted in winter. It has large, feathery seed heads.	Ngunnawal people would dig up the roots to roast them for eating; stems were used to make spears and flutes; leaves were used for weaving baskets.
<i>Philydrum lanuginosum</i>	Plg	0.6	Component of native wetland and good for bird habitat. May become a weed of rice crops. Non invasive for ornamental purposes.	Woolly frogmouth. Attractive yellow flower on spike. Flowers to 1.5 metres high.	
<i>Schoenoplectus pungens</i>	Spu	1.2	Upright perennial with long rhizomes which enables rapid spread in good conditions.	Club-rush, Common three-square. Mid green foliage with flowers produced near the ends of the three-sided stems. Tends to form small clumps and spread along the shoreline.	No known use.
<i>Schoenoplectus validus</i>	Svd	2	Large plant providing good bird habitat. May prefer slow-moving waterbodies.	River club-rush, great bullrush. Grey-green tapering stems with cylindrical cross section which are frosted and brown in winter. Terminal, open inflorescence.	No known use.

Table 25-27 Water zone plants

Botanical Name	Code	Height x width	Management and siting notes	Design Characteristics	Ngunnawal cultural notes
<i>Marsilea mutica</i>	Mmu	Floating leaf.	Can form dense beds of plants to 1.6m depth which may require management action at some sites.	Nardoo. Perennial rhizomatous fern with four terminal leaflets which float on the water surface. Attractive in the growing season.	Ngunnawal people would ground the dry capsules to produce flour for baking small bread.
<i>Potamogeton ochreatus</i>	Poc	Floating leaf	Grows in waters up to 4.5m deep. Pruning beneficial to restrict spread.	Perennial rhizomatous herb.	No known use.

ANNEXURE E – DELETED PLANT LIST

The following plants have been removed from the plant list and should not be used in public landscape works.

Deleted Species	Reason
<i>Acacia baileyana</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Acacia beckleri</i>	Low frost tolerance
<i>Acacia boormanii</i>	Spreading locally.
<i>Acacia cultriformis</i>	Spreading locally.
<i>Acacia decurrens</i>	Fungal rust galls. Invasive.
<i>Acacia floribunda</i>	Acacia bug susceptible.
<i>Acacia implexa</i>	Fungal rust galls.
<i>Acacia longifolia</i>	Acacia bug susceptible. Invasive.
<i>Acacia pravissima</i>	Spreading locally.
<i>Acer negundo</i>	Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Acer rubrum</i>	Unsuited to ACT dry summers. Better alternatives.
<i>Albizia julibrissin</i>	Short-lived, susceptible to borers.
<i>Allocasurina torulosa</i>	Not suited to the Canberra conditions
<i>Alnus glutinosa</i>	Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Alnus jorullensis</i>	Invasive root system, particularly in sewers/storm water pipes.
<i>Austrodanthonia richardsonii</i> ‘Hume’ (previously <i>Danthonia</i>)	Not released.
<i>Azolla</i> sp.	Invasive.
<i>Berberis aquifolium</i> (<i>Mahonia aquifolium</i>)	Invasive.
<i>Berberis darwinii</i>	Invasive.
<i>Berberis thunbergii</i>	Invasive. Drought susceptible. Better alternatives.
<i>Berberis thunbergii</i> f. <i>atropurpurea</i>	Invasive.
<i>Betula pendula</i> ‘Youngii’	Not suitable for urban settings.
<i>Callitris rhomboidea</i>	Requires irrigation for good growth, better suited to coastal areas.
<i>Carpinus betulus</i>	Requires irrigation; local climate too dry.
<i>Celtis australis</i>	Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.

Deleted Species	Reason
<i>Cercocarpus betuloides</i>	Better alternatives.
<i>Chamaecyparis lawsoniana</i>	Susceptible to root rot
<i>Chamaecyparis lawsoniana</i> 'Alumnii'	Susceptible to root rot
<i>Chamaecyparis lawsoniana</i> 'Stewartii'	Susceptible to root rot
<i>Commersonia fraseri</i>	Leaf miner. High pruning requirements.
<i>Correa</i> 'Mannii'	Better alternatives.
<i>Corylus avellana</i>	Medium to large deciduous shrub.
<i>Cotoneaster dammeri</i>	Invasive.
<i>Cotoneaster franchetii</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Cotoneaster glaucophyllus serotina</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Cotoneaster horizontalis</i>	Invasive.
<i>Cotoneaster microphyllus</i>	Invasive.
<i>Cotoneaster</i> 'Yarralumla'	Invasive.
<i>Cotoneaster salicifolius</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Cotula coronopifolia</i>	Invasive.
<i>Crataegus oxyacantha</i>	Pear and cherry slug. Invasive. Thorns.
<i>Crataegus oxyacantha</i> var. <i>rosea</i>	Invasive. Pest Problems.
<i>Crataegus phaenopyrum</i>	Invasive. Long thorns.
<i>Crataegus pubescens</i>	Invasive.
<i>Cryptomeria japonica</i> 'Elegans Aurea'	Unsuited to ACT dry summers, has shown poor past performance.
<i>Cytisus</i> x 'Burkwoodii'	Invasive. All <i>Cytisus</i> species have been declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Elaeagnus pungens</i>	Thorny. Better alternatives.
<i>Elaeocarpus holopetalus</i>	Low frost tolerance.
<i>Escallonia</i> 'Iveyi'	Better alternatives.
<i>Eremophila glabra</i>	Fungal disease causes defoliation.
<i>Erica carnea</i>	Invasive.
<i>Eucalyptus aromaphloia</i>	Better local alternatives.
<i>Eucalyptus bajensis</i>	Only grows on optimal sites. Better alternatives. May have uncertain supply or availability.

Deleted Species	Reason
<i>Eucalyptus bicostata</i>	Not suitable for Canberra's soils or climate. Very susceptible to leaf damaging insects. Prone to rot.
<i>Eucalyptus caliginosa</i>	Has not been well trialed. Better alternatives.
<i>Eucalyptus cephalocarpa</i>	Has not been well trialed. Better alternatives.
<i>Eucalyptus chapmaniana</i>	Canberra climate is too dry for good performance
<i>Eucalyptus crenulata</i>	Subject to windthrow. High maintenance.
<i>Eucalyptus dawsonii</i>	Better local alternatives.
<i>Eucalyptus haemastoma</i>	Frost sensitive. Borers.
<i>Eucalyptus gregsoniana</i>	Requires irrigation, suited to alpine regions.
<i>Eucalyptus leucoxylon</i>	Poor performance, pest problems.
<i>Eucalyptus nicholii</i>	Prone to bark included branch unions that may result in failure.
<i>Eucalyptus perriniana</i>	Scale.
<i>Eucalyptus pilligaensis</i>	Related to a local species better suited to the local climate.
<i>Eucalyptus polybractea</i>	Grows naturally in red clay/sand based soils. Not suited to Canberra.
<i>Eucalyptus pulchella</i>	Scale. Poor performance in the past.
<i>Eucalyptus pulverulenta</i>	Susceptible to pest problems/attack.
<i>Eucalyptus tricarpa</i>	Closely related to <i>E. sideroxylon</i> , no additional benefits.
<i>Eucalyptus youmanii</i>	Closely related to <i>E. macroryncha</i> , no additional benefits.
<i>Firmiana simplex</i>	Invasive.
<i>Fraxinus angustifolia</i> subsp. <i>oxycarpa</i>	Invasive. Limited commercial availability.
<i>Genista tinctoria</i>	Invasive. All <i>Genista</i> species have been declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Grevillea barklyana</i> subsp. <i>barklyana</i>	Low frost tolerance.
<i>Grevillea baueri</i>	Spreading locally.
<i>Grevillea</i> x <i>gaudichaudii</i>	Poor performance, deficiencies, fungal spots.
<i>Grevillea</i> x 'Ivanhoe'	Cold sensitive. Better alternatives for ACT.
<i>Grevillea rosmarinifolia</i>	Hybridises with local <i>Grevillea</i> sp. Better alternatives.
<i>Grevillia rosmarinifolia</i> 'Rankin Springs'	No longer commercially grown.
<i>Hedera helix</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Hedera helix</i> 'Pittsburgh'	Invasive.
<i>Hedera canariensis</i> (form: 'Tricolor')	Invasive.

Deleted Species	Reason
<i>Hypericum calycinum</i>	Invasive.
<i>Leptospermum juniperinum</i> (prostrate form)	Scale. Webbing caterpillar.
<i>Leptospermum scoparium</i>	Prone to webbing caterpillar.
<i>Ludwigia peploide</i> subsp. <i>montevidensis</i>	Invasive.
<i>Mahonia bealei</i>	Better alternatives.
<i>Melia azedarach</i>	Fruit drop. Poisonous fruit.
<i>Metasequoia glyptostroboides</i>	Too drought sensitive for ACT climate.
<i>Muehlenbeckia complexa</i>	Invasive.
<i>Periploca graeca</i>	Weedy.
<i>Pinus radiata</i>	Declared C3 pest plant on ACT Pest Plants and Animals (Pest Plants) list.
<i>Pistacia atlantic</i>	Low drought tolerance, not suited to local climate.
<i>Populus alba</i>	Suckers profusely. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Populus nigra</i> 'Italica'	Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Populus tremula</i>	Suckers freely.
<i>Populus yunnanensis</i>	'Gundaroo' cultivar has a better form.
<i>Potentilla anserina</i>	Weedy. No longer commercially available.
<i>Prunus cerasifera</i> 'Elvins'	Small shrubby tree too small for streets.
<i>Prunus glandulosa</i> 'Alba Plena'	Concerns from Weeds Advisory Group. Limited availability.
<i>Prunus glandulosa</i> 'Rosea'	Concerns from Weeds Advisory Group. Limited availability.
<i>Prunus mume</i> 'Pendula'	Small weeping tree too small for streets.
<i>Punica granatum</i>	Thorns. Fruit drop.
<i>Punica granatum</i> 'Nana'	Thorns. Fruit drop.
<i>Pyracantha angustifolia</i>	Thorns. Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Pyracantha fortuneana</i>	Thorns. Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Pyracantha koidzumii</i> 'Weston Compact'	Pear and cherry slug. Invasive.
<i>Pyracantha rogersiana</i>	Thorns. Invasive.
<i>Pyrus ussuriensis</i>	Prone to splitting.
<i>Pyrus ussuriensis</i> 'Winter Glow'	Prone to splitting.

Deleted Species	Reason
<i>Quercus nigra</i>	Low drought and frost tolerance.
<i>Robinia pseudoacacia</i>	Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Rosa wichuriana</i>	Invasive.
<i>Salix alba</i> subsp. <i>alba</i>	Highly invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Salix babylonica</i>	Invasive.
<i>Salix alba</i> subsp. <i>vitellina</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Salix caprea</i>	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Salix matsudana</i> 'Pendula'	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Salix matsudana</i> 'Tortuosa'	Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Sequoia sempervirens</i>	Unsuited to ACT climate. Poor survival rate.
<i>Sequoiadendron giganteum</i>	Unsuited to ACT climate. Poor survival rate.
<i>Sollya heterophylla</i>	Invasive
<i>Sorbus aucuparia</i>	Fruit drop. Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Sorbus domestica</i>	Fruit drop. Invasive. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Spartium junceum</i>	Regular pruning required. Caterpillar defoliation. Declared prohibited (C4) on the ACT Pest Plants and Animals (Pest Plants) list.
<i>Tamarix juniperina</i>	Use discontinued.
<i>Teucrium fruticans</i>	Frost sensitive.
<i>Thuja plicata</i>	Use discontinued.
<i>Thuja occidentalis</i> 'Fastigata'	Use discontinued.
<i>Typha domingensis</i>	Invasive
<i>Ulmus parvifolia</i> (seedling form)	Better cultivars available.
<i>Ulmus parvifolia</i> 'Emer I' Athena	Emer II' Alee improved cultivar.
<i>Ulmus procera</i> 'Argenteovariegata'	Better cultivars available
<i>Ulmus procera</i> 'Special Clone'	Better cultivars available
<i>Vinca major</i>	Invasive
<i>Vinca major</i> 'Variegata'	Invasive

ANNEXURE F – NAME CHANGES FROM PREVIOUS LIST

From	To
<i>Arbutus menziesii</i>	<i>Arbutus x andrachnoides</i>
<i>Banksia ericifolia</i> 'Giant Candles'	<i>Banksia ericifolia x spinulosa</i> 'Giant Candles'
<i>Brachycome</i>	<i>Brachyscome</i>
<i>Bursaria spinosa</i>	<i>Bursaria spinosa</i> subsp. <i>lasiophylla</i>
<i>Callistemon</i> 'Anzac'	<i>Callistemon citrinus</i> 'White Anzac'
<i>Callistemon paludosus</i>	<i>Callistemon sieberi</i>
<i>Casuarina cunninghamiana</i>	<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>
<i>Casuarina nana</i>	<i>Allocasuarina nana</i>
<i>Casuarina stricta</i>	<i>Allocasuarina verticillata</i>
<i>Casuarina torulosa</i>	<i>Allocasuarina torulosa</i>
<i>Cedrela sinensis</i>	<i>Toona sinensis</i>
<i>Chaenomeles lagenaria</i>	<i>Chaenomeles speciosa</i>
<i>Citrus ladaniferus</i>	<i>Citrus ladanifer</i>
<i>Clematis montana</i> 'Rubra'	<i>Clematis montana</i> var. <i>rubens</i>
<i>Coleonema compacta</i>	<i>Coleonema pulchrum</i> 'Compactum'
<i>Correa alba</i>	<i>Correa alba</i> var. <i>alba</i>
<i>Correa reflexa</i>	<i>Correa reflexa</i> var. <i>reflexa</i>
<i>Cotoneaster microphylla</i>	<i>Cotoneaster microphyllus</i>
<i>Dodonea attenuata</i>	<i>Dodonea viscosa</i> subsp. <i>angustissima</i>
<i>Elaeagnus marginata</i>	<i>Eleagnus pungens</i> 'Marginata'
<i>Erica mediterranea</i>	<i>Erica carnea</i>
<i>Eriostemon myoporoides</i> subsp. <i>acutus</i>	<i>Philotheca myoporoides</i> subsp. <i>acuta</i>
<i>Eriostemon myoporoides</i> subsp. <i>myoporoides</i>	<i>Philotheca myoporoides</i> subsp. <i>myoporoides</i>
<i>Eriostemon</i> 'Stardust'	<i>Philotheca myoporoides</i> subsp. <i>acuta</i>
<i>Escallonia macrantha</i>	<i>Escallonia rubra</i> var. <i>macrantha</i>
<i>Eucalyptus bauerana</i>	<i>Eucalyptus baueriana</i>
<i>Eucalyptus globulus</i> subsp. <i>bicostata</i>	<i>Eucalyptus bicostata</i>
<i>Eucalyptus globulus</i> subsp. <i>maidenii</i>	<i>Eucalyptus maidenii</i>
<i>Eucalyptus mannifera</i> subsp. <i>maculosa</i>	<i>Eucalyptus mannifera</i>

From	To
<i>Eucalyptus polyanthemus</i>	<i>Eucalyptus polyanthemus</i> subsp. <i>polyanthemus</i>
<i>Eucalyptus rubida</i>	<i>Eucalyptus rubida</i> subsp. <i>rubida</i>
<i>Eucalyptus rupicola</i>	<i>Eucalyptus cunninghamii</i>
<i>Eucalyptus woollsiana</i>	<i>Eucalyptus microcarpa</i>
<i>Feijoa sellowiana</i>	<i>Acca sellowiana</i>
<i>Fraxinus oxycarpa</i>	<i>Fraxinus angustifolia</i> subsp. <i>oxycarpa</i>
<i>Fraxinus oxycarpa</i> 'Raywood'	<i>Fraxinus angustifolia</i> subsp. <i>oxycarpa</i> 'Raywood'
<i>Grevillea acanthifolia</i>	<i>Grevillea acanthifolia</i> subsp. <i>acanthifolia</i>
<i>Grevillea aquifolia</i>	<i>Grevillea aquifolium</i>
<i>Grevillea biternata</i>	<i>Grevillea curviloba</i>
<i>Grevillea barklyana</i> (Jervis Bay form)	<i>Grevillea macleayana</i>
<i>Grevillea glabella</i>	<i>Grevillea rosmarinifolia</i> (Rankin Springs)
<i>Grevillea glabrata</i>	<i>Grevillea manglesii</i> subsp. <i>manglesii</i>
<i>Grevillea obtusifolia</i>	<i>Grevillea thelmaniana</i> subsp. <i>obtusifolia</i>
<i>Grevillea hookerana</i>	<i>Grevillea</i> x 'Hookeriana'
<i>Grevillea speciosa</i> subsp. <i>dimorpha</i>	<i>Grevillea dimorpha</i>
<i>Grevillea thelemanniana</i> subsp. <i>obtusifolia</i>	<i>Grevillea obtusifolia</i>
<i>Grevillea victoriae</i> var. <i>leptoneura</i>	<i>Grevillea parvula</i>
<i>Helichrysum apiculatum</i>	<i>Chrysocephalum apiculatum</i>
<i>Helichrysum diosmifolia</i>	<i>Ozothamnus diosmifolius</i>
<i>Indigofera australis</i> var. <i>signata</i>	<i>Indigofera adesmiifolia</i>
<i>Joycea pallida</i>	<i>Rytidosperma pallidum</i>
<i>Kolkwitzia amabilis</i>	<i>Linnaea amabilis</i>
<i>Leptospermum flavescens</i>	<i>Leptospermum polygalifolium</i>
<i>Leptospermum phyllicoides</i>	<i>Kunzea ericifolia</i>
<i>Leptospermum scoparium</i> var. <i>rotundifolium</i>	<i>Leptospermum rotundifolium</i>
<i>Malus x floribunda</i>	<i>Malus floribunda</i>
<i>Notodanthonia bipartita</i>	<i>Rytidosperma bipartita</i>
<i>Notodanthonia bipartite</i> spp. <i>fulva</i>	<i>Rytidosperma fulvum</i>
<i>Notodanthonia caespitosa</i>	<i>Rytidosperma caespitosum</i>
<i>Notodanthonia</i> 'Canberra Blend'	<i>Rytidosperma</i> 'Canberra Blend'

From	To
<i>Notodanthonia eriantha</i>	<i>Rytidosperma erianthum</i>
<i>Notodanthonia racemosa</i>	<i>Rytidosperma racemosum</i>
<i>Notodanthonia setacea</i>	<i>Rytidosperma setaceum</i>
<i>Paspalum paspalodes</i>	<i>Paspalum distichum</i>
<i>Pennisetum alopecuroides</i>	<i>Cenchrus purprascens</i>
<i>Phebalium coxii</i>	<i>Leionema coxii</i>
<i>Phebalium elatius</i> subsp. <i>beckleri</i>	<i>Leionema elatius</i> subsp. <i>beckleri</i>
<i>Phyllidrum laniginosum</i>	<i>Philydrum lanuginosum</i>
<i>Platanus digitata</i>	<i>Platanus orientalis</i> var. 'Digitata'
<i>Platanus orientalis</i> 'Chilensis'	<i>Platanus</i> x 'Chilensis'
<i>Polygonum baldschuanica</i>	<i>Fallopia baldschuanica</i>
<i>Populus</i> 'Gundaroo'	<i>Populus yunnanensis</i> 'Gundaroo'
<i>Quercus palustris</i> (grafted form)	<i>Quercus palustris</i> 'Free Fall'
<i>Quercus palustris</i> (seedling form)	<i>Quercus palustris</i>
<i>Restio tetraphyllus</i>	<i>Baloskion tetraphyllum</i>
<i>Rhytidospermum procumbens</i>	<i>Rhytidosporum procumbens</i>
<i>Scirpus caldwellii</i>	<i>Bolboschoenus caldwellii</i>
<i>Scirpus fluviatilis</i>	<i>Bolboschoenus fluviatilis</i>
<i>Scirpus validus</i>	<i>Schoenoplectus validus</i>
<i>Salix alba</i>	<i>Salix alba</i> subsp. <i>alba</i>
<i>Salix vitellina</i>	<i>Salix alba</i> subsp. <i>vitellina</i>
<i>Sophora japonica</i>	<i>Styphnolobium japonicum</i>
<i>Stypandra glauca</i>	<i>Thelionema glauca</i>
<i>Ulmus procera</i> 'Louise van Houttei'	<i>Ulmus glabra</i> 'Lutescens'
<i>Themeda australis</i>	<i>Themeda triandra</i>
<i>Themeda australis</i> 'Mingo'	<i>Themeda triandra</i> 'Mingo'
<i>Weigela rosea</i>	<i>Weigela florida</i>

ANNEXURE G – PEST PLANTS IN THE ACT

The following species are declared pest plants within the ACT according to the Pest Plants and Animals (Pest Plants) Declaration 2015 (No 1) made under the Pest Plants and Animals Act 2005, section 7 (Declaration of pest plant).

Name	Common Name
<i>Acacia baileyana</i>	Cootamundra Wattle
<i>Acacia nilotica ssp. indica</i>	Prickly Acacia
<i>Acer negundo</i>	Box Elder
<i>Achnatherum caudatum</i>	Broad-kernel Espartillo
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Alnus glutinosa</i>	Black Alder
<i>Alternanthera philoxeroides</i>	Alligator Weed
<i>Andropogon gayanus</i>	Gamba Grass
<i>Annona glabra</i>	Pond Apple
<i>Anredera cordifolia</i>	Madeira Vine
<i>Asparagus aethiopicus</i>	Ground Asparagus Fern
<i>Asparagus africanus</i>	Climbing Asparagus Fern
<i>Asparagus asparagoides</i>	Bridal Creeper
<i>Asparagus asparagoides</i> Western Cape Form	Bridal Creeper – Western Cape Form
<i>Asparagus declinatus</i>	Bridal Veil
<i>Asparagus plumosa</i>	Climbing Asparagus Fern
<i>Asparagus scandens</i>	Asparagus Fern
<i>Austrocylindropuntia (ALL species)</i>	Coral Cacti
<i>Cabomba caroliniana</i>	Cabomba
<i>Carduus nutans</i>	Nodding Thistle
<i>Carduus pycnocephalus</i>	Slender Thistle
<i>Carduus tenuiflorus</i>	Slender Thistle
<i>Carthamus lanatus</i>	Saffron Thistle
<i>Celtis australis</i>	Nettle Tree
<i>Centaurea maculosa</i>	Spotted Knapweed
<i>Chrysanthemoides monilifera</i>	Bitou Bush / Boneseed
<i>Cortaderia jubata</i>	Pampas Grass

Name	Common Name
<i>Cortaderia selloana</i>	Pampas Grass
<i>Cotoneaster franchettii</i>	Cotoneaster
<i>Cotoneaster glaucophyllus</i>	Cotoneaster
<i>Cotoneaster pannosus</i>	Cotoneaster
<i>Cotoneaster salicifolius</i>	Willow-leaf Cotoneaster
<i>Cotoneaster simonsii</i>	Cotoneaster
<i>Crataegus monogyna</i>	Hawthorn
<i>Cryptostegia grandiflora</i>	Rubber Vine
<i>Cylindropuntia</i> (ALL species)	Pear Cacti
<i>Cytisus</i> (ALL species)	Broom species
<i>Echium plantagineum</i>	Paterson's Curse
<i>Echium vulgare</i>	Viper's Bugloss
<i>Eichornia crassipes</i>	Water Hyacinth
<i>Equisetum species</i>	Horsetail
<i>Eragrostis curvula</i>	African Love Grass
<i>Genista</i> (ALL species)	Broom species
<i>Gymnocoronis spilanthoides</i>	Senegal Tea Plant
<i>Hedera helix</i>	English Ivy
<i>Hieracium aurantiacum</i>	Orange Hawkweed
<i>Hieracium pilosella</i>	Mouse-ear Hawkweed
<i>Hymenachne amplexicaulis</i>	Hymenachne
<i>Hypericum perforatum</i>	St John's Wort
<i>Jatropha gossypifolia</i>	Bellyache Bush
<i>Kochia scoparia</i>	Kochia
<i>Lagarosiphon major</i>	Lagarosiphon
<i>Lantana camara</i>	Lantana
<i>Ligustrum lucidum</i>	Broad-leaf privet
<i>Ligustrum sinense</i>	Narrow-leaf privet
<i>Lonicera japonica</i>	Japanese Honeysuckle
<i>Lycium ferocissimum</i>	African Boxthorn
<i>Macfadyena unguis-cati</i>	Cat's Claw Creeper

Name	Common Name
<i>Mimosa pigra</i>	Mimosa
<i>Miscanthus sinensis</i> (ALL varieties)	Chinese Fairy Grass
<i>Myriophyllum aquaticum</i>	Parrot's Feather
<i>Nasella tenuissima</i>	Mexican Feather Grass
<i>Nassella charruana</i>	Lobed Needlegrass
<i>Nassella neesiana</i>	Chilean Needle Grass
<i>Nassella trichotoma</i>	Serrated Tussock
<i>Onopordum acanthium</i>	Scotch Thistle
<i>Onopordum illyricum</i>	Illyrian Thistle
<i>Opuntia</i> (ALL species) (excludes <i>O. ficus-indica</i>)	Prickly Pears
<i>Parkinsonia aculeata</i>	Parkinsonia
<i>Parthenium hysterophorus</i>	Parthenium Weed
<i>Pennisetum setaceum</i>	African Fountain Grass
<i>Phyllostachys aurea</i>	Yellow Bamboo
<i>Pinus radiata</i>	Radiata Pine
<i>Pistia stratiotes</i>	Water Lettuce
<i>Populus alba</i>	White Poplar
<i>Populus nigra</i> 'Italica'	Lombardy Poplar
<i>Prosopis</i> spp.	Mesquite
<i>Pyracantha angustifolia</i>	Firethorn
<i>Pyracantha coccinea</i>	Scarlet Firethorn
<i>Pyracantha fortuneana</i>	Firethorn
<i>Robinia pseudoacacia</i>	False Acacia
<i>Rosa rubiginosa</i>	Sweet Briar, Briar Rose
<i>Rubus fruticosus</i> (aggregate) All species except for the permitted cultivars:	All Blackberry except for the permitted cultivars:
<i>R. armeniacus</i> and <i>R. ulmifolius</i> species hybrid	Black satin
<i>R. armeniacus</i> species hybrid	Chester Thornless
<i>R. ursinus</i> and <i>R. armeniacus</i> species hybrid	Dirksen Loch Ne Chehale
<i>Sagittaria platyphylla</i>	Sagittaria
<i>Salix</i> ALL species of willow, except for the permitted species:	All Willows except for the permitted species:
<i>Salix babylonica</i>	Weeping Willow

Name	Common Name
<i>Salix x calodendron</i> <i>Salix x reichardtii</i>	Pussy Willow Sterile Pussy Willow
<i>Salvinia molesta</i>	Salvinia
<i>Senecio madagascariensis</i>	Fireweed
<i>Solanum elaeagnifolium</i>	Silverleaf Nightshade
<i>Sorbus sp.</i>	Service Tree, Rowan
<i>Spartium junceum</i>	Spanish Broom
<i>Tamarix aphylla</i>	Athel Pine
<i>Toxicodendron succedaneum</i>	Rhus Tree
<i>Ulex europaeus</i>	Gorse
<i>Vinca major</i>	Periwinkle
<i>Xanthium occidentale</i>	Noogoora Burr
<i>Xanthium spinosum</i>	Bathurst Burr

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