### Policy Title:
Tree Management Policy

### Date of Adoption:

### Adoption Method:
- ☒ Council
- ☐ CEO
- ☐ Other *(please specify)*

### CEO Signature:

### Date:

### Responsible Officer and Unit:
Manager Operations

### Nominated Review Period:
- ☐ Annually
- ☒ Other *(please specify)* 2 years

### Last Review Date:
November 2018

### Next Review Date:
November 2020

### Purpose / Objective:
To provide cost-effective, comprehensive best-practice guidelines for managing trees within Macedon Ranges Shire Council’s Urban Boundary.

### Background / Reasons for Policy:
The Policy was developed to enable consistent and effective management of the Shire’s important tree assets.

### Definitions:

1. Immediate Risk - a qualified Arborist has determined that the structural integrity of the tree is in such poor condition that it creates a risk of failure in the near future and may cause injury to the public or damage to property.

2. Community Event - an activity or function that is open to the public and run once or at infrequent occurrences of limited duration that provides the general public with leisure and social opportunities.

3. Legal point of discharge – the legal point of discharge is a point specified by Council where stormwater from a property must be discharged. This point is usually Council’s stormwater drain, where available, or street kerb and channel.

4. TPZ - Tree Protection Zone

5. SRZ - Structural Root Zone

6. ULE - Useful life expectancy

7. DBH - Diameter at Breast Height
8. Significant trees - trees worthy of protection due to unique, historical, rare or environmental importance

9. Urban Boundary - is a concentrated population settlement within the surrounding rural district and in planning terms, is area zoned for urban land use. These zones include the residential, commercial and industrial zones.

10. WSUD – Water Sensitive Urban Design

| References:       | Tree valuation fact sheet. City of Melbourne |
|                  | Tree stock for landscape use. AS 2303:2015. |
|                  | Preferred Tree Species List |

| Related Policies: | Biodiversity Strategy Draft – 2018 |
|                  | Electric Line Clearance Management Plan 2018–2019 |
|                  | Road Management Plan 2017 |
|                  | Roadside Management Plan – (in development) |

| Related Legislation: | Macedon Ranges Planning Scheme |
# Table of Contents

1. **INTRODUCTION** .................................................................................................................. 5
2. **PURPOSE** ........................................................................................................................... 5
3. **SCOPE** .................................................................................................................................. 6
4. **POLICY OBJECTIVE** ........................................................................................................... 6
5. **TREE MANAGEMENT** .......................................................................................................... 6
   5.1 **General** ............................................................................................................................ 6
   5.2 **Tree Inspections** ............................................................................................................... 7
   5.3 **Type and Species Selection** ............................................................................................. 7
      5.3.1 Selection of street trees will aim to: .............................................................................. 8
      5.3.2 Street Trees should not: ................................................................................................. 8
   5.4 **Streetscape Design and Continuity** ................................................................................ 9
   5.5 **Tree Replacement Strategy** .......................................................................................... 10
   5.6 **Tree Stock and Planting** ............................................................................................... 10
   5.7 **Tree Planting** .................................................................................................................. 11
   5.8 **Tree Planting Guidelines** ................................................................................................ 12
   5.9 **Protection of Existing Trees** .......................................................................................... 13
      5.10 Community events – tree protection plan and bonds ......................................................... 14
6. **TREE MAINTENANCE** .......................................................................................................... 14
   6.1 **General Care** ................................................................................................................... 14
   6.2 **Pruning** ........................................................................................................................... 15
   6.3 **Tree Surgery** .................................................................................................................... 16
   6.4 **Crown Lifting – Visibility – clearance** ............................................................................ 16
   6.5 **Overhead Service and Structure Clearance** ................................................................. 17
   6.6 **Pests and Disease** .......................................................................................................... 17
7. **TREE ROOT SYSTEM** .......................................................................................................... 18
   7.1 **General** ........................................................................................................................... 18
   7.2 **Installation of a Root Barrier** ......................................................................................... 18
   7.3 **Tree Root Pruning** .......................................................................................................... 19
8. **TREE REMOVAL** ................................................................................................................ 19
   8.1 **General** ........................................................................................................................... 19
   8.2 **Tree Removal Criteria** .................................................................................................... 20
   8.3 **Tree Removal Process** .................................................................................................... 21
   8.4 **Method of Removal** ........................................................................................................ 22
   8.5 **Dead Trees** ...................................................................................................................... 22
   8.6 **Hazardous Trees** ............................................................................................................. 22
   8.7 **Trees Allegedly Causing Structural Damage** ............................................................... 23
   8.8 **Removal for Infrastructure Development** ...................................................................... 23
      8.8.1 Procedures for tree removal (vehicle crossover) ......................................................... 23
   8.9 **Disputes** ......................................................................................................................... 24
9. **CLAIMS** .............................................................................................................................. 24
   9.1 **Tree Root Damage Claims** .............................................................................................. 24
10 COMMUNITY STAKEHOLDER ENGAGEMENT ................................................................. 25
  10.1 Tree Planting ........................................................................................................ 26
  10.2 Tree Maintenance Activities ............................................................................... 26
  10.3 Tree Removal ....................................................................................................... 27
Appendix A: Tree Valuation in Macedon Ranges Shire Council ........................................ 28
Appendix B: Requirements under Council's Road Management Plan 2017 ....................... 35
Appendix C: Plain-English Fact sheets ............................................................................. 37
1 INTRODUCTION

The Macedon Ranges environment is enhanced by its tree-lined streets and avenues that form an integral part of the Shire’s appeal. Microclimates, with varying rainfall and temperature, across the Shire not only allow for a diverse range of trees to be grown, but also offer the opportunity to establish areas with selected species that provide a sense of identity.

This policy aims to maximise the benefits of trees, which include carbon sequestration, oxygen, cooling, shade and habitat provision, increased biodiversity, increased property values, noise and pollution absorption, improved mental health and reduced rainfall runoff; and to generate community interest in maintaining a healthy tree population across the Shire.

There are over 15,000 street trees within the townships of Macedon Ranges Shire, having an estimated amenity value of over $100 million and therefore an effective tree management system is required. This Tree Management Policy has been developed to enable consistent and effective management of the Shire’s street trees.

Within the Shire, many trees have heritage and conservation values. It is imperative that the Tree Management Policy recognises these values and manages them accordingly.

To perpetuate the Macedon Ranges’ street tree heritage in the long term and to fortify its resilience to a changing climate, Council is progressively planning for and committing to tree planting programs based on the principle of selecting the most appropriate species for a given location – that is, “right tree, right place”. This policy is supported by plain-English fact sheets that detail specific policy requirements (Appendix C).

2 PURPOSE

The purpose of the Tree Management Policy is to provide a cost-effective management program and maintenance guide that is balanced with environmental sensitivity. In order to achieve this, Council considers both the number of trees planted (in streets, parks and reserves) and its ability to maintain the asset.
3 SCOPE

The Policy applies to all planted trees within townships of the Macedon Ranges. This includes all trees on nature strips and in all parks and recreation reserves of the Macedon Ranges Shire. Council therefore has a duty of care for maintenance and standards of these assets.

The Policy also encompasses Council’s open space tree assets but shall not be confined or limited to the recommended tree species lists provided by Council.

This Policy does not apply to conservation or bushland reserves which are managed in accordance with adopted environmental management plans. This Policy also does not apply to remnant native vegetation on roadsides which is managed in accordance with Council’s Roadside Management Plan (in development as of October 2018).

4 POLICY OBJECTIVE

- To strengthen the streetscapes within the Shire by preserving and enhancing streetscape amenity;
- Maintain best-practice tree management and maintenance standards;
- Ensure the protection of existing trees that may be impacted by a community event or proposed development works;
- To define the circumstances under which existing trees may be removed.

5 TREE MANAGEMENT

5.1 General

The management and maintenance standards of Council’s tree assets shall balance the need to maintain and enhance tree canopy cover with public safety.

Council, on an ongoing basis, will continue to review and assess tree assets for the purpose of protection with the appropriate authorities.

Council acknowledges that street trees can, in some circumstances, conflict with other landscape and infrastructure elements, whilst recognising that the streetscape is an essential part of a pleasant functional environment. Where tree asset removal may be required, Council’s estimation of a tree’s amenity value will be in accordance with the valuation method (Appendix A).

All new planting undertaken will be in accordance with Council’s street tree planting program and tree planting policy, including planting in response to customer
requests or from Council’s Arboriculture representative’s recommendations. New plantings must involve consultation with affected residents.

Council will not permit residents to plant trees within Council controlled land. Such tree plantations may be regarded as unauthorised and removed by Council at any time.

Documented cultural and heritage significance will be considered when managing the Shire’s tree assets.

Council managed trees adjacent to roads will be managed in accordance with Council’s Road Management Plan (Appendix B) and Council’s Roadside Management Plan (which is under development).

5.2 Tree Inspections

Inspections of township trees will be undertaken routinely, and all condition data will be recorded in Council’s GIS system.

Proactive inspections of trees at Council owned and managed sites will be carried out routinely, with the frequency based on the risk level of each site. The data collected from these inspections will be recorded in Council’s GIS system.

Reactive inspections of Council tree assets resulting from customer requests, whether internal or external, will be actioned within 7 days of receiving the request. Customer requests that identify any trees posing an immediate risk to public safety will be actioned as soon as reasonably possible. The data collected from these inspections will be recorded in Council’s GIS System.

Inspections associated with Electric Line Clearance (ELC) will be undertaken routinely under contract according to statutory requirements (Section 6.5).

5.3 Type and Species Selection

Where inspections indicate that replacement trees are required, replacement species selection must systematically consider: the suitability and appropriateness to the given area; landscape character; local environmental conditions; and trends in climatic conditions.
The following street characteristics must be considered prior to the selection of the tree species:

- The nature strip, its width and type in relation to growth and ultimate size
- Specific soil conditions or microclimates
- Housing styles and relation of buildings to tree sites
- The existing streetscape and any shade requirements
- Service locations within the street
- Private plantings and their impact upon the street
- Street maintenance and the overall scale of the streetscape in relation to the length and width of the pavement

5.3.1 Selection of street trees will aim to:

- Disguise power lines or service cables
- Characterise a particular precinct or town
- Enhance local biodiversity and provide habitat for native fauna
- Provide scale to the streetscape
- Add to the natural component of the streetscape
- Soften the impact of the hard landscape
- Give contrasts of shape, colour, and form etc.
- Relate buildings to each other or to the landscape site
- Give protection from the natural elements
- Provide a visual barrier against the hard landscape
- Filter environmental pollutants
- Aid in guiding the flow of traffic or pedestrians
- Be climatically suitable for the location, now and in the future

5.3.2 Street Trees should not:

- Obstruct sight clearances at intersections or crossings
- Have frequent abscission characteristics
- Be susceptible to substantial pests and diseases
- Have inappropriate fruits, berries, and poisonous qualities or have major asthma-causing characteristics
Appropriateness is measured by size, scale and form. “Right tree, right place” is the guiding principle for tree selection; that is, select the species most suited to the location rather than an individual's preference.

Where appropriate, local species will be prioritised for new plantings; however, the multitude of climatic zones and resident expectations in the Shire will require flexibility with chosen species. Exotic, native and indigenous species can be used to complement a given landscape.

If a significant or dominant stand of trees is present and the trees are suitable, then the theme will be continued. Otherwise, a new selection will be made.

An onsite assessment will be made by Council’s Arborist to ensure the species selected is consistent with the Policy.

5.4 Streetscape Design and Continuity

Differences in requirements between residential and industrial streetscapes must be considered. In some areas, trees may not be warranted.

When selecting streetscape species for both replacement and new planting, Council will consider the area’s visual, physical and functional components and its interrelationship with surrounding areas.

The following streetscape design objectives will be considered:

- Formality – to unify a given area
- Character – to enhance the features of the streetscape that contribute to its existing character. The selected species should also enhance the history of the built environment
- Scale – to avoid variation in size and achieve a balanced scale between the trees and streetscape

As the role of street trees can be subjective, selection will consider whether the candidate street tree species will enhance its surrounding area, as well as establish and grow successfully.

To achieve the aim of Council in enhancing the streetscape to strengthen both the individual and community amenity, the streetscape will be developed and designed
in consultation with residents and include an assessment of the street and all its features.

5.5 Tree Replacement Strategy

When planning tree maintenance or removal, the following factors require consideration:

- The tree’s natural life span and its useful life expectancy (ULE)
- The cost-effectiveness of replacement of selected trees with advanced specimens

Prior to undertaking maintenance or removal, an arboriculture report will be prepared for Council outlining what work is required and reasons for this work. When Council trees with low or no retention value are identified during proactive and reactive inspections, they will be removed and replaced.

The diversity of the tree planting program will be improved by analysing the tree database. Diversity for a resilient tree population may include: a mix of exotic and native species; a diversity of family groups with upper limits set for any one family, genus or species; and, a diversity of age classes across the municipality. Where appropriate, local species will be prioritised for new plantings.

Future changes include both the foreseeable and the unforeseeable, and include:

- An increase in population density
- Climate change and the resulting changes in rainfall patterns and temperatures that can significantly alter the trees’ growing conditions
- New pest and disease populations

5.6 Tree Stock and Planting

Performance of newly planted trees is highly dependent on the quality of the tree stock at the time of planting. Tree stock sourced for Council will meet the criteria specified in the Australian Standard AS2303:2015 *Tree stock for landscape use.* All tree stock must be in a sound and healthy condition and be self-supporting.

Council will develop, and implement where appropriate, a greater range of planting designs and engineering solutions, for instance; greater use of engineered planting pits; using in-road cut-outs or pits for planting where nature strip conditions limit
planting; and, explore alternatives to standard power lines in key streets, such as Aerial Bundled Cabling or undergrounding of power.

Street tree and park or reserve tree planting will be in accordance with the following setbacks/clearances:

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Minimum setback distance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fence, bollard, lawn-area furniture</td>
<td>3.0 m</td>
</tr>
<tr>
<td>Pedestrian pathway in reserves</td>
<td>3.0 m</td>
</tr>
<tr>
<td>Sewer pit, gas/water valve, service asset or fire hydrant</td>
<td>3.0 m</td>
</tr>
<tr>
<td>Light or electricity pole</td>
<td>3.0 m</td>
</tr>
<tr>
<td>Vehicle crossover or driveway</td>
<td>3.0 m</td>
</tr>
<tr>
<td>(placement should avoid blocking sight lines from driveways)</td>
<td></td>
</tr>
<tr>
<td>Gate</td>
<td>2.0 m</td>
</tr>
<tr>
<td>Stormwater outlet or service pits</td>
<td>2.0 m</td>
</tr>
<tr>
<td>Service lead in</td>
<td>1.0 m</td>
</tr>
<tr>
<td>Overhead power wires (clearance height)</td>
<td>3.0 m</td>
</tr>
<tr>
<td>From kerb line and T-intersection</td>
<td>8.0 m</td>
</tr>
</tbody>
</table>

*Distances provided may be subject to change dependent upon the site and species selected.

All plantings will comply with relevant planning requirements, including Bushfire Management Overlays.

5.7 Tree Planting

Trees will be selected from Council’s Preferred Tree Species List for tree planting programs.

The following criteria will be applied for replacement tree planting:
• All trees removed from the streetscape are to be replaced as quickly as possible depending on the season. Planting shall occur between May to September, not during summer or a period of prolonged drought

• Individual tree requests by residents must be fully assessed for suitability. If deemed appropriate, the request will be placed on the street tree planting list for action when appropriate. If a request is received before and deemed appropriate, planting will take place between May and September of that year. After September, any new planting will take place the following season May to September

Whole street plantings or landscaping will be made in conjunction with Council’s Capital Works Budget and Tree Planting Budget.

Elm Trees

Major new plantings with susceptible species will be avoided. Alternative genera and species with the same aesthetic characteristics will be used.

Only individual Elm trees in avenues will be replaced with the same or similar species to maintain integrity.

5.8 Tree Planting Guidelines

All tree planting is to be carried out between May and September.

Appropriate site selection is crucial to the long-term success of each street tree and the amenity of the streetscape. A poorly positioned tree can cause property and infrastructure damage and diminish the streetscape’s visual appeal.

Planting sites should be selected to allow for functional limitations imposed by the street environment while complying with the existing streetscape.

Trees approved by Council shall be planted in accordance with the setback distances provided in Section 5.6 and as follows:

• Where practical, one tree in front of every property, spaced at 12 metres apart and as near as possible to the centre of the property
• In a position that will allow clear vision at intersections even at mature size
• Away from trees already planted on private property that may interfere with the streetscape
• Away from service lead-ins
• In a position that will not cause sight problems from driveways

Standardising of street tree spacing shall be undertaken when practical to bring the general street tree planting into line with the current spacing guideline.

Council will utilise various sized trees in its planting program. Advanced and semi-advanced stock will be used for street tree planting and tube stock will be used for revegetation plantings. Early maintenance of any tree is paramount for its cost-effective future maintenance.

Council will require the following early maintenance procedures for new plantings:

• Formative pruning (AS4373–2007)
• Irrigation (with more frequent application during summer)
• Staking with wooden stakes only
• Mulch but not directly adjacent to the stem

Appendix C provides information for contractors responsible for new planting maintenance.

5.9 Protection of Existing Trees

During all construction and development works, existing Council tree assets to be retained must be protected in accordance with the Australian Standard AS4970–2009 Protection of trees on development sites.

Any works that would encroach by more than 10% into a tree’s Tree Protection Zone (TPZ), or into its Structural Root Zone (SRZ), will require a consulting arborist to demonstrate, via a non-destructive root investigation, that the affected tree would remain viable.

An endorsed Planning Permit or Asset Protection Permit may require the preparation and submission of a Tree Protection Plan for Council approval. A
bond, based on the tree’s, or trees’, amenity as calculated using the methodology in Appendix A, may be required and held for the duration of the works, which will be held against the Council approved Tree Protection Plan. Should any damage occur to any Council tree as a direct result of development works, Council may withhold part, or all, of the bond.

Further information on tree protection will be available on Protection of Existing Trees fact sheet (in preparation by Environment Unit) – (Appendix C).

5.10 Community events – tree protection plan and bonds

Trees that may be impacted by a community event will require a Tree Protection Plan for Council approval. Event organisers shall contact Council's Parks Unit for any relevant information. A bond maybe imposed on event organisers to ensure trees are protected during an event. The bond shall be retained based on the tree’s, or trees’, amenity as calculated using the methodology in Appendix A and may be required to be held for the duration of the event, as per Council’s approved Tree Protection Plan. Should any damages occur to any trees as a direct result of any activities associated with the event, Council may withhold part, or all, of the bond depending on the extent of the damage.

6 TREE MAINTENANCE

6.1 General Care

Every endeavour shall be made to maintain all trees in a healthy and safe condition.

All tree pruning will be in accordance with Australian Standard AS4373–2007 Pruning of amenity trees.

Clearances between the tree’s foliage and the power lines will be maintained according to the Electricity Safety (Electric Line Clearance) Regulations 2015, Schedule 1–Code of Practice for Electric Line Clearance.
The following clearances need to be maintained for the Safety of vehicles and pedestrians:

- 4 metres over driveways
- 3 metres over footpaths and walkways

For road carriageway clearances, refer to Council’s Road Management Plan.

The clearances above will apply to established trees only. Young trees could be damaged by pruning to the above guidelines.

Property owners are not allowed to prune any branches of Council owned trees outside of their boundary without permission from an authorised Council Officer.

While upholding the rights of property owners to remove vegetation overhanging their property, Council prefers to remove the vegetation as it has the expertise to carry out this work.

Every attempt must be made to protect all established trees against damage through any works associated with underground or construction services.

Where road or infrastructure works are required, all affected tree assets must be inspected by a Council Parks Officer before the works commence. If tree works are required, at least two (2) weeks notification must be given to: residents for removal; or Council’s representative for pruning or general maintenance. The costs of all tree-related works will be factored into the real cost of the infrastructure works to ensure tree value is considered appropriately.

6.2 Pruning

Once a street tree is established, pruning is its major ongoing maintenance requirement.

Pruning of all trees should be as minor as possible.

Trees will be pruned to achieve specific goals and requirements:

- Manage risk to the public
- Maintain tree health

All pruning works shall comply with AS4373–2007 *Pruning of amenity trees* and only qualified persons shall do this work.

### 6.3 Tree Surgery

The term “Tree Surgery” covers only “corrective and repair treatments” to trees. The cost of any such work must be balanced with the cost of the amenity value of the tree. In the case of badly damaged trees, a decision will be required on whether to remove or retain the tree.

“Cabling and Bracing” should be carried out only if the tree needs to be artificially supported for safety reasons. Annual inspections of this work are needed to ensure its ongoing viability. This work must be incorporated into the Maintenance Management system for trees.

### 6.4 Crown Lifting – Visibility – clearance

All council managed trees will be maintained in accordance with Council’s Road Management Plan (*Appendix B*).

Trees shall be maintained to the following clearances:

- Street names to be visible from 50 metres in either direction
- Sight visibility from driveways or intersections

<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 km</td>
<td>40 m</td>
</tr>
<tr>
<td>50 km</td>
<td>60 m</td>
</tr>
<tr>
<td>60 km</td>
<td>80 m</td>
</tr>
<tr>
<td>80 km</td>
<td>120 m</td>
</tr>
<tr>
<td>100 km</td>
<td>180 m</td>
</tr>
</tbody>
</table>

- Road signs must be visible from the distances above

The above works will be carried out only where clearance from the trees is necessary or where growth is likely to impede clearance requirements.
6.5 **Overhead Service and Structure Clearance**

This procedure shall consist of reducing height or spread or both of a street tree by not more than 25%; and, shall be applied to trees only when such work is necessary to ensure safety of overhead wires/lights etc.

Alternatives to tree pruning under powerlines in the short term should be sought, where possible, by pursuing a variation to the Code.

Council will work with supply companies to pursue aerial bundling or undergrounding of lines, where possible.

Council will have input with planning bodies to minimise impact on trees.

In the event of any close development, all trees will be protected using stringent guidelines.

Refer also to Trees Powerline Clearance Code and Council’s Electric Line Clearance Management Plan.

All the above works are to be carried out by qualified staff and comply with AS4373–2007 *Pruning of amenity trees*.

6.6 **Pests and Disease**

All visible/known major pests and diseases are to be reported to Council’s Parks unit for appropriate action. Council’s Arborist will carry out an inspection within 48 hours of the request being reported. All reports will be assessed and treated confidentially.

All tree pests or diseases that pose a threat to the tree health will be reported by Council’s Arborist immediately to the Exotic Plant Pest Hotline on 1800 084 881. Where more details are required a report with photos of the suspected pest and damage and the pest's location shall be sent to plant.protection@ecodev.vic.gov.au

Chemical treatments may be considered where no other alternative exists. Where a chemical treatment is required, Council must notify the affected property occupants at least two (2) days prior to the commencement of works.

Any works carried out must be done with consideration of public and user safety.
A pest control inventory is to be kept and all pest and disease control recorded.

Endemic pests or diseases such as Elm Leaf Beetle will continue to be controlled in co-operation with other surrounding municipalities and authorities.

Dutch Elm Disease could decimate the Shire’s Elm population as it has done in the Northern Hemisphere and New Zealand. Any suspected outbreak of Dutch Elm Disease must be reported immediately to the Exotic Plant Pest Hotline on 1800 084 881.

If a severe pest or disease outbreak occurs, e.g. Dutch Elm Disease, which results in tree removal or chemical application to be performed, affected residents will be advised as soon as possible.

7 TREE ROOT SYSTEM

7.1 General

Council does not undertake proactive maintenance of tree root systems. When a potential impact on public or private property is identified, Council will undertake an inspection of the suspect tree to determine the likelihood of tree root invasion and potential interventions to prevent ongoing damage.

7.2 Installation of a Root Barrier

If determined necessary and appropriate to avoid potential damage from public-owned trees, root barriers between 600–1200 mm deep may be installed. The depth would be determined by site inspections with the appropriate officers; and, would depend on actual site conditions and the tree species involved.

Checking for all underground services is a pre-requisite prior to commencement of any works.

The TPZ of the tree must be taken into consideration.

Root inhibitor may be considered where it is deemed appropriate. If so, the root inhibitor Casoron is to be incorporated into the trenches upon backfilling.
7.3 **Tree Root Pruning**

Tree root pruning should be done only by a qualified arborist and in accordance with AS4373–2007. If roots are severed or removed, the following steps must be taken:

- Prune the root with as little damage as possible
- Remove only the amount of root that is necessary

Any root pruning or root barrier procedure must be recorded.

8 **TREE REMOVAL**

8.1 **General**

Trees are living organisms with a finite lifespan that are susceptible to pests, disease and other environmental stressors. Council therefore follows a clear and fair process to accurately assess tree removals. Any trees that are removed shall be replaced where possible in order to maintain the appearance and consistency of the street or reserve. The replacement species will follow the selection criteria outlined in Section 5.3 of this Policy.

When Council has agreed to the removal of a tree on grounds other than safety, all residents within the immediate vicinity of the tree will be notified. All objections will be assessed by Council’s Arborist.

If trees are removed due to infrastructure works by any other authority, the tree will be valued (Appendix A) and provision will be made to ensure this is done without cost to Council and in line with The Policy.

If a Council-owned tree is removed by any person without authorisation from Council, that person or persons will be required to meet the full cost of its amenity value, its replacement and its maintenance during establishment (Appendix A).

If Council is considering the removal of multiple street plantings for any reason the following factors must be considered:

- The contribution of the plantings to the overall streetscape
- The maintenance requirements of the trees in question
• Whether removal would comply with the tree removal criteria of Section 8.2
• Potential damage from roots to services above and below ground
• The overall condition of the trees
• The replacement species
• The significance of the existing trees
• Residents in the vicinity of the removals require consultation and notification
• Residents will be given 10 days to seek clarification and to make objection or comment
• The number of residents for or against the removals
• If an objection is received, the matter will be re-evaluated, and objectors consulted before any action is taken

8.2 Tree Removal Criteria

Tree removal will occur only if one or more of the criteria listed below are met in an assessment by a qualified arborist:

• The tree is dead, dying, damaged or diseased and remedial action would be ineffective in saving it
• The tree is infested with a pest (e.g. insect) for which the appropriate control would be ineffective
• The tree is a public nuisance or hazard due to its weediness, condition, location or size and cannot be remedied by appropriate techniques
• The tree is interfering with the growth and development of new plantings or a more desirable species
• The aesthetic value of the tree within the given streetscape is very poor or distracting
• Unauthorised works close to the tree have irreparably damaged it
• Preservation of the tree in view of development is not cost effective. The amenity value of the tree shall be compared to the requirements necessary to preserve the tree (Appendix A)
• Removal may be necessary to allow the construction of access to property where no other alternative exists
• It can be demonstrated that the tree has caused, is causing, or is likely to cause, substantial damage to private property or public infrastructure and the estimated cost of ongoing repairs outweighs the value of the tree, and there is no reasonable alternative, e.g. root barrier or pruning, to solve the problem.
• Trees that don’t provide a habitat for wildlife including breeding, foraging or roosting habitat.

Trees cannot be removed on the basis that they cause the following nuisance:
• Drop leaves, fruit or twigs
• Provide habitat for insects or small mammals
• Might harbour termites
• Induce allergies – unless a doctor’s certificate is provided demonstrating cause and effect between the tree and the allergy
• Do not comply with an individual’s species preference – Council’s tree planting plan will be adhered to (Section 5.3)
• Block solar access and views
• Hinder the growth of nearby plants
• “Might” cause damage in future – as outlined above, damage to infrastructure by a tree must be demonstrated to the Responsible Authority

8.3 Tree Removal Process

Residents may submit a request for a tree to be considered for removal due to safety or other concerns. A written request must be submitted to Council for a tree within Council owned land or outside the resident’s property to be considered for removal.

Once the request is received an investigation will be carried out by Council’s Arborist and action decided in the context of Tree Removal criteria (Section 8.2).

A tree report will be prepared by Council’s Arborist and submitted to the Coordinator Parks who will approve or reject the recommendation contained in the report.

• If the recommendation is approved, affected residents are to be notified outlining the reason for removal
• Where a request is not approved, the applicant may wish to object to the decision
• Objections must be submitted in writing within ten (10) business days of the decision made
• Council’s Arborist will assess the objections and respond to the objector/s with the final outcome. If the objector/s is still not satisfied the matter will be referred to the Manager Operations
• If no objections are received, the removal of tree will commence

8.4 Method of Removal

Trees being removed are to be cut to ground level. The removal process must be undertaken by qualified arborists (minimum AQF level 3) with appropriate insurance in a safe and competent manner in compliance with all relevant standards and codes.

In all cases where the public may access the area, the stump must be removed to below ground level and the area made safe. This may require a stump grinder.

All stumps awaiting removal must be fenced off with appropriate safety fencing to alert the public of the tripping danger.

8.5 Dead Trees

Dead trees that become brittle and hazardous are to be removed as soon as possible. The cause of death should be ascertained where disease or human intervention is suspected. All dead trees require assessment by a qualified arborist prior to removal.

8.6 Hazardous Trees

Trees can develop hazards through poor form, borer damage, root problems, storm damage, etc. Where an inspection and risk assessment reveals that a tree poses an unacceptable level of risk that cannot be mitigated to an acceptable level using arboriculture practices, its removal must be prompt. Details and records of the removal should be kept.
Tree removal will occur as a priority where there is an immediate risk to the public or property to ensure public safety. Additionally, trees assessed by Council’s qualified Arborists as being an immediate risk to public safety are exempt from the requirement for a planning permit.

Removal of trees that are of an immediate risk will be undertaken as soon as practicable and therefore any nearby affected residents may not be notified.

8.7 Trees Allegedly Causing Structural Damage

Tree roots may on occasion invade private property, causing damage to structures, pipes and paths. Removal of trees will only be considered where all other arboriculture interventions have been deemed inappropriate.

8.8 Removal for Infrastructure Development

When an application is made for a tree’s removal for infrastructure development, the guidelines for removal shall be the same as in Section 8.3. However, when no other site is available for the infrastructure development and the tree is in good condition and suited to its location, it may be removed provided that:

- Affected residents have been notified and have had the appropriate opportunity to lodge an objection
- A suitable replacement tree is to be provided and maintained at cost by the property owner
- The cost of the tree’s amenity, its removal, replacement and any other works which may be associated with are to be borne by the owner/developer

8.8.1 Procedures for tree removal (vehicle crossover)

Vehicle crossover applications are to be lodged with Council’s Operations department.

- If the tree(s) is affected by the crossover and requires removal and all other avenues have been explored Council will organise removal
- The tree must be assessed by a designated Council Officer. The proposed removal is to be documented in a report and held by Council
• All costings and conditions for the removal are sent to the developer before removal
• The proposed removal is recorded and held by Council’s designated representatives
• A replacement tree will be scheduled for planting at appropriate time in accordance with The Policy

8.9 Disputes

When an objection is received, the removal will be suspended until an appropriate Officer examines the objections and a final decision is made. If no resolution can be found, the matter will be referred to Council’s Manager Operations. The designated Council Officer will advise the objector in writing of the final decision.

9 CLAIMS

Council endeavours to limit potential damage to property from Council owned trees through regular tree audits and prompt response to notification of potential hazards. Council is unable to reimburse costs associated with damage from falling tree branches unless there is a clear case of negligence on behalf of council through failure to adhere to the requirements of this policy.

9.1 Tree Root Damage Claims

Council is not responsible for the remediation of damages caused to properties by tree roots prior to notification of the potential nuisance except to the extent that negligence is proven at law.

All claims for alleged damage to private property from tree roots must be made in writing to the Risk Management Department of Macedon Ranges Shire Council for consideration by Council and/or Council’s insurer.

Claims must be accompanied by professionally documented evidence of the extent of the alleged damage and the cause of damage. For example, a report from a structural engineer and/or a consulting arborist, with photographs of any damage, clearly identifying the link between the alleged damage and Council’s trees.
Any claim received by Council alleging tree root damage must follow this procedure:

- Preliminary inspection of the tree will be undertaken by Parks Department staff to determine the potential impact of the tree on property and possible damage mitigation strategies and a report provided to the Risk Management Unit.
- Reports should, where possible, contain full details of the site, photographs and recommendations for remedial works.
- If the claim involves the potential for significant damage to private property, a consulting arborist may be appointed by the Risk Management Unit to provide an independent report as to the cause of damage and most appropriate mitigation strategies.

Remedial work on trees allegedly causing root damage may include:

- The installation of a tree root barrier. The type and depth will depend on the severity of the problem and the species of tree. Lineal root barriers should be used only in appropriate cases. The roots will be pruned, if practical, to property lines; and, will only be done where the tree’s health and stability are not compromised. Trees of historical value will be considered for this type of work
- Tree root pruning
- Removal of a tree asset will be considered only if: a practical arboriculture solution cannot be implemented effectively; the tree is an inappropriate species; or, it is in an inappropriate location (Section 5.7).

10 COMMUNITY STAKEHOLDER ENGAGEMENT

- All community engagement activities will be governed by Macedon Ranges Shire Council’s Community Consultation Framework.
- The community will be informed and consulted about all major projects involving tree removal and planting and any other specialised projects that involve urban trees.
- The type and extent of community engagement will vary depending on the impact of the works on the local community and will be determined in accordance with a number of factors including; the prominence of the
location, the significance of the tree, the size of the tree, the number of trees being impacted and the visual impact of proposed works.

- Community engagement may include direct contact with the customer, letters to immediately affected residents, signage on site and via information on the Council’s website.
- Macedon Ranges Shire Council will assess customer requests regarding urban trees in line within the parameters of the Customer Service Charter.
- All customer service requests will be responded to in a timely manner in accordance with Macedon Ranges Shire Council’s Customer Service Charter.

10.1 Tree Planting

Council’s annual planting program is made up of individual tree requests, capital projects and tree replacements.

- Individual customer tree planting requests will be followed up with the customer directly as per Council’s Customer Service Charter.
- Council will inform and/or consult affected residents of entire streetscape upgrades.
- Council’s annual tree planting program will be available on the Council’s website.
- All public trees that are removed will be replaced as close as practically possible, subject to compliance with policy requirements, in the following planting season. Planting of replacement trees may not necessitate customer engagement.

10.2 Tree Maintenance Activities

- Council’s routine maintenance program will be displayed on Council’s website.
- For customer service requests, Council’s Arborist will, at the time of assessment, allocate a timeframe for any required works based on the urgency, risk and severity of the defect. This information is generally passed on to the customer in the form of a letter unless specified otherwise. Depending on the
volume of tree works at any one given time, it may not possible to give an exact date and time for specific works.

10.3 Tree Removal

- Council will notify adjoining property owners of the removal of large trees from residential streets.

- Signage will be placed on large park trees notifying users of any upcoming removal works.

- Council will notify the community of unauthorised works and undertake site specific responses following tree poisoning, vandalism or prohibited tree removal.

- Removal of trees that are hazardous will be undertaken as soon as reasonably practicable and therefore it may not be possible to provide a period of notification.
Appendix A: Tree Valuation in Macedon Ranges Shire Council

Where a public tree removal is approved or required by Council for development, construction or works, the associated cost of the tree, its removal and replacement shall be paid by the developer or their representative prior to its removal. The same method applies to trees that have been damaged or vandalised and their retention is no longer viable. The parties responsible for the damage will be required to pay all costs.

The costs associated with removal of a public tree in the Macedon Ranges Shire include:

<table>
<thead>
<tr>
<th>A – Amenity Value</th>
<th>Calculated in accordance with the Council’s adopted Amenity Value Formula</th>
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</thead>
<tbody>
<tr>
<td>B - Removal Costs</td>
<td>The sum of the fees incurred by the Council for physically removing the tree</td>
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<tr>
<td>C – Re-instatement Costs</td>
<td>The cost of all works required to replace the loss of vegetation from the landscape</td>
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</table>

A – Amenity Value

The following formula has been prepared to assist with calculating the monetary amenity value of a tree in the Macedon Ranges Shire Council. This formula is based on the City of Melbourne’s Amenity Value Formula and has been modified for application in the Macedon Ranges.

\[
\text{Amenity Value} = \text{Basic Value (\$)} \times \text{Species (S)} \times \text{Aesthetics (A)} \times \text{Locality (L)} \times \text{Condition (C)}
\]

Base Value ($)

The basic monetary value of a tree was taken from the internationally accepted table of values devised by the American Council of Tree and Landscape Appraisers and the International Society of Arboriculture, which in the base year of 2018 is $AUD 14.07 per square centimetre of trunk basal area. Young trees with a trunk diameter of less than 6 centimetres do not attract an amenity value charge. Base value will increase annually in line with CPI.
### 2018 Base Values

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Species Factor (S)
A tree is assessed according to its known natural life span and its rate of growth in a particular environment. For example, a long-lived tree will be scored higher than a short-lived tree. Significant features of the tree will also modify how the tree is scored. Judgement regarding species factors must consider how that species performs in the Macedon Ranges and must be made by a qualified arborist.

<table>
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<tr>
<th>Group</th>
<th>Characteristics</th>
<th>Example Species</th>
<th>Score</th>
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</thead>
</table>
| 1     | • trees of short life span (less than 50 years)  
       | • fast growth rate | Acacia, Callistemon | 0.5   |
| 2     | • trees of short life span (less than 50 years)  
       | • slow growth rate | Pyrus | 0.6   |
| 3     | • trees of medium life span (50–150 years)  
       | • fast growth rate | Populus, Liquidambar, Fraxinus,  
       |  
       | Eucalyptus spp., Corymbia,  
       | Angophora, Grevillea, Melaleuca,  
       | Casuarina, Hakea, Syzygium | 0.7   |
| 4     | • trees of medium life span (50–150 years)  
       | • slow growth rate | Brachychiton, Jacaranda, Zelkova,  
       | Schinus, Phoenix, Melia,  
       | Lophostemon, Agonis | 0.8   |
| 5     | • trees of long life span (more than 150 years)  
       | • fast growth rate | Cupressus, Platanus, Ficus, Pinus,  
       | Celtis, Eucalyptus camaldulensis | 0.9   |
| 6     | • trees of long life span (more than 150 years)  
       | • slow growth rate | Ulmus, Quercus, Sequoia, Ginkgo,  
       | Araucaria, Agathis | 1.0   |

Modifiers
• noxious or environmental weeds in the Macedon region
• listed as a ‘significant tree’ on the National Trust register
• listed under a schedule of the Macedon Ranges planning scheme
• a large hollow bearing tree
• a rare species in the locality
• a special cultivated variety
• has special historical, cultural or other significance

*Trees named are supplied only as examples in Macedon Ranges conditions*
Aesthetics (A)
The aesthetic value of a tree is determined by the impact on the landscape if the tree were removed. This category is closely tied to the locality factor (L).

<table>
<thead>
<tr>
<th>Aesthetic Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes little to the landscape</td>
<td>0.5</td>
</tr>
<tr>
<td>One of a group of close plantings</td>
<td>0.6</td>
</tr>
<tr>
<td>Wide plantings</td>
<td>0.7</td>
</tr>
<tr>
<td>Irregular spacing between trees; regular spacing one side</td>
<td>0.8</td>
</tr>
<tr>
<td>Street or pathway plantings, regular spacing both sides</td>
<td>0.9</td>
</tr>
<tr>
<td>Solitary feature specimen tree</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Locality (L)
The locality factor is determined by the tree’s geographical situation. Trees within an urbanised environment score highest because of the stressful growing environment in which it must survive. As the location becomes more rural, the significance of the tree diminishes.

<table>
<thead>
<tr>
<th>Locality Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>In rural areas (outside of townships)</td>
<td>0.50</td>
</tr>
<tr>
<td>In a bushland reserve or public open space within a township</td>
<td>0.75</td>
</tr>
<tr>
<td>Residential or commercial street in a township</td>
<td>1.00</td>
</tr>
<tr>
<td>In a neighbourhood park or garden</td>
<td>1.25</td>
</tr>
<tr>
<td>Part of an avenue planting in a township</td>
<td>1.50</td>
</tr>
<tr>
<td>Part of a key boulevard or town entrance planting; Park or garden in a town centre</td>
<td>1.75</td>
</tr>
<tr>
<td>Primary location within a town centre, main street, or civic space</td>
<td>2.00</td>
</tr>
</tbody>
</table>
Tree Condition (C)

The tree condition value is determined by the corresponding total score of the assessment criteria.

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Criteria Condition</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk</td>
<td>- solid and sound</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>- sections of bark damaged/ missing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- extensive decay, hollow trunk</td>
<td>1</td>
</tr>
<tr>
<td>Growth</td>
<td>- &gt;15 cm twig elongation this season</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- 5–15 cm twig elongation</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>- &lt;5 cm twig elongation</td>
<td>1</td>
</tr>
<tr>
<td>Structure</td>
<td>- healthy, stable and sound</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>- some deadwood and dead limbs</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- extensive dieback and deadwood</td>
<td>1</td>
</tr>
<tr>
<td>Pests and Diseases</td>
<td>- no pest/ -disease infestation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- minor symptoms of infestation</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>- advanced symptoms of infestation</td>
<td>1</td>
</tr>
<tr>
<td>Canopy Development</td>
<td>- full and balanced canopy</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>- full but unbalanced canopy</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- unbalanced and lacking full canopy</td>
<td>1</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>- &gt;50 years</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>-10–50 years</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>- &lt;10 years</td>
<td>1</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Total Condition Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
</tr>
<tr>
<td>6–9</td>
</tr>
<tr>
<td>10–13</td>
</tr>
<tr>
<td>14–18</td>
</tr>
<tr>
<td>19–22</td>
</tr>
<tr>
<td>23–26</td>
</tr>
</tbody>
</table>

Amenity Value = Basic Value ($) x Species (S) x Aesthetics (A) x Locality (L) x Condition (C)

B – Removal Costs

Costs will be based on the current costs of tree removal. It includes the physical removal of the tree and the stump.
C – Re-instatement Costs
The level of re-instatement required will be determined by Council and will consider the location, significance, biodiversity provision and the amenity of the removed tree. Re-instatement costs will also include a 24-month tree establishment fee and any treatment or Water Sensitive Urban Design (WSUD) measure deemed necessary to establish suitable replacement trees or vegetation.

Total Costs

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Amenity Value</td>
<td></td>
</tr>
<tr>
<td>B. Removal Costs</td>
<td></td>
</tr>
<tr>
<td>C. Re-instatement Costs</td>
<td></td>
</tr>
<tr>
<td>Total Costs (A+B+C)</td>
<td></td>
</tr>
</tbody>
</table>

Total Costs (A+B+C) =
Appendix B: Requirements under Council’s Road Management Plan 2017

Extract from Intervention Criteria for Sealed Roads and Parking Bays – Schedule 1 – Table 1.1 of the Road Management Plan

**Activity:** Removal and/or trimming back of vegetation to allow clear access by vehicles along the carriageway.

**Defect Repair time**
Reactive inspection: As soon as possible and within 48 hours of being notified.
Category 1 defect repair time: 14 days
Category 2 defect repair time: 28 days
Category 3 defect repair time: 42 days

**Activity:** Mowing / slashing of grass on roadsides, verges and parklands – where trees that have grown to restrict design sight distance to intersections or restrict viewing of regulatory or warning signs.

**Defect Repair time**
Reactive inspection: As soon as possible and within 48 hours of being notified.
Category 1 defect repair time: 14 days
Category 2 defect repair time: 30 days
Category 3 defect repair time: 48 days
Extract from Intervention Criteria for Unsealed Roads– Schedule 2 – Table 2.1 of the Road Management Plan

**Activity:** Removal and/or trimming back of vegetation to allow clear access by vehicles.

**Defect Repair time**
Reactive inspection: As soon as possible and within 48 hours of being notified.
Category 4 defect repair time: 28 days
Category 5 defect repair time: 36 days
Category 6 defect repair time: 42 days

**Activity:** Mowing / slashing of grass on roadsides, verges and parklands – where trees that have grown to restrict design sight distance to intersections or restrict viewing of regulatory or warning signs.

**Defect Repair time**
Reactive inspection: As soon as possible and within 48 hours of being notified.
Category 1 defect repair time: 28 days
Category 2 defect repair time: 36 days
Category 3 defect repair time: 42 days
Appendix C: Plain-English Fact sheets

- Planting detail and specification fact sheet
- Tree selection - refer draft preferred tree species
- Protection of existing trees (in development by Environment Unit)
Tips for caring for your street tree

Macedon Ranges Shire Council has recently planted a tree outside your home as part of Council’s annual planting program.

The following tips outline the ways you can help care for your new street tree:

Watering

During the hot dry months, your tree will need extra water once or twice a week for the first three seasons of its life. Please fill the water saver up to at least two thirds full with water from a bucket or hose. This will help your tree grow and develop into a strong and healthy street tree.

Weed control

Avoid the growth of weeds at the base of your tree, as they use valuable water and nutrients in the ground. You can place a layer of mulch or lawn clippings over the roots, but ensure that no mulch is built up around the trunk as this can contribute to disease.

Private planting

Please don’t plant additional plants at the base as many of these are vigorous and will steal moisture and nutrients.

Fertilising

There is no need to fertilise your tree. At the time of planting your tree was given a slow release fertiliser which will keep it going.

Mowing and maintenance

Try to avoid damage to the trunk when mowing or whipper-snipping as this will create a wound, enabling fungi and diseases to enter the trees system.

Damaged tree

Please let us know if your tree is stressed or damaged so we can respond accordingly. Report any issues by calling 5422 0333 or via email on mrsc@mrsc.vic.gov.au
Street Tree Planting
Preferred Species List
# Contents

<table>
<thead>
<tr>
<th>Contents</th>
<th>Introduction</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acacia melanoxylon</td>
<td>Blackwood</td>
<td>3</td>
</tr>
<tr>
<td>2. Acer campestre</td>
<td>Hedge Maple 'Elsrijk', 'Evelyn' Queen Elizabeth™</td>
<td>4</td>
</tr>
<tr>
<td>3. Acer negundo</td>
<td>Box Elder 'Sensation'</td>
<td>5</td>
</tr>
<tr>
<td>4. Acer platanoides</td>
<td>Norway Maple 'Crimson Sentry'</td>
<td>6</td>
</tr>
<tr>
<td>5. Acer x freemannii</td>
<td>Freemans Maple 'Jeffersred' Autumn Blaze®</td>
<td>7</td>
</tr>
<tr>
<td>6. Acer rubrum</td>
<td>Red Maple 'Fairview Flame', 'October Glory'</td>
<td>8</td>
</tr>
<tr>
<td>7. Acer truncatum x platanoides</td>
<td>'Keiths Form' Norwegian Sunset Maple, 'Warrenred' Pacific Sunset Maple</td>
<td>9</td>
</tr>
<tr>
<td>8. Allocasuarina littoralis</td>
<td>Black Sheoak</td>
<td>10</td>
</tr>
<tr>
<td>9. Banksia marginata</td>
<td>Silver Banksia</td>
<td>11</td>
</tr>
<tr>
<td>10. Brachychiton populneus</td>
<td>Kurrajong</td>
<td>12</td>
</tr>
<tr>
<td>12. x Chitalpa tashkentensis</td>
<td>Chitalpa</td>
<td>14</td>
</tr>
<tr>
<td>13. Callistemon citrinus x viminalis</td>
<td>Hybrid Bottlebrush: ‘Harkness’, ‘Kings Park Special’</td>
<td>15</td>
</tr>
</tbody>
</table>
14. **Celtis australis** ................................................................. 16
   European Nettle Tree .......................................................... 16

15. **Corymbia ficifolia** ........................................................... 17

16. **Corymbia maculata** ........................................................... 18
   Spotted Gum ........................................................................... 18

17. **Eucalyptus leucoxylon** ....................................................... 19
   Yellow Gum Cultivars: ‘Euky Dwarf’, ‘Rosea’ ............................... 19

18. **Eucalyptus mannifera** ......................................................... 20
   Brittle Gum cultivars: ‘Little Spotty’ ........................................ 20

19. **Eucalyptus melliodora** ........................................................ 21
   Yellow Box .............................................................................. 21

21. **Eucalyptus pauciflora** ........................................................ 22
   Dwarf Snow Gum ‘Little Snowman’ ........................................... 22

22. **Eucalyptus polyanthemos** .................................................... 23
   Red Box ................................................................................. 23

23. **Fraxinus ‘Raywood’** .......................................................... 24
   Claret Ash ............................................................................. 24

24. **Fraxinus pennsylvanica** ....................................................... 25
   Green Ash ‘Cimnzam’ Cimmaron™, ‘Urbdell’ Urbanite™ .............. 25

25. **Geijera parviflora** ............................................................. 26
   Wilga / Australian Willow ...................................................... 26

26. **Gleditsia triacanthos var. inermis** ........................................ 27
   Thornless Honey Locust ‘Shademaster’, ‘Ruby Lace’, .................. 27

27. **Koelreuteria paniculata** ....................................................... 28
   Golden Rain Tree .................................................................... 28

28. **Lagerstroemia indica x L. fauriei** .......................................... 29
Crepe Myrtle ‘Biloxi’, ‘Natchez’, ‘Tuscarora’........................................................................29

29. Malus ioensis ‘Plena’ ...........................................................................................................30
Bechtel Crab-apple ..................................................................................................................30

30. Malus trilobata ....................................................................................................................31
Upright Crab-apple ..................................................................................................................31

31. Melia azedarach ..................................................................................................................32
White Cedar ‘Elite’ ..................................................................................................................32

32. Pistacia chinensis ................................................................................................................33
Chinese Pistachio ....................................................................................................................33

33. Platanus orientalis .................................................................................................................34
Oriental Plane cultivar: ‘Digitata’ ............................................................................................34

34. Pyrus betulaefolia ................................................................................................................35
Birch-leaf Pear ‘Southworth’ Dancer ......................................................................................35

35. Quercus canariensis .............................................................................................................36
Algerian Oak ...........................................................................................................................36

36. Quercus palustris ................................................................................................................37
Pin Oak....................................................................................................................................37

37. Tilia americana ....................................................................................................................38
American Linden cultivars: ‘Bailyard’ - Frontyard.................................................................38

38. Ulmus parvifolia ..................................................................................................................39
Chinese Elm cultivars: ‘Todd’, ‘Burnley Select’.......................................................................39
Introduction

The Macedon Ranges are widely recognised for their leafy green landscapes provided by the abundance of scenic rolling hills and mature canopy trees. Visitors and residents alike are drawn to the lush forests of natural vegetation, and to the seasonally deciduous trees that transform the region every autumn with their magnificent colours.

The leafy trees lining the streets and avenues form an integral part of the appeal of living in the Macedon Ranges. With increasing growth in the area, it is Council’s objective to ensure the preservation of the Shire’s defining character.

Our street trees are a very important and valuable community asset as they provide shade and shelter from wind and heat, improve air and water quality, enhance the local ecology, promote community health and well-being, and create a greener, more attractive and valuable place to live.

In 2019, Council developed a Tree Management Policy which states our commitment to effective planning and management to secure the benefits provided by our street trees. To view Council’s Street Trees policy (insert link here). The purpose of the Policy is to generate community interest in maintaining a healthy tree population across the Shire by providing a cost-effective management program and maintenance guide that is balanced with environmental sensitivity.

Identified in the Policy is the aim to strengthen and enhance the individual and community amenity of our streetscape environment by ensuring the selection of suitable tree species for the site, now and in the face of future climate change. Subsequently this Preferred Street Tree Species List has been prepared to help guide the selection process for new and replacement street tree plantings.
The selection of the most appropriate tree for each street requires careful consideration and will be a fine balance between its tolerances and suitability to the site conditions, its maintenance requirements, growth habit, adaptability to future climatic conditions, amenity provided, and enhancement of the streetscape. Ultimately it is critical that the tree chosen will remain healthy, safe, and viable into the future and maintain its function within the streetscape with the resources available. The following table outlines several, but by no mean all, of the considerations required in the street tree selection process:

<table>
<thead>
<tr>
<th>Maintenance required</th>
<th>Drought Tolerance</th>
<th>Frost Tolerance</th>
<th>Site Soil Conditions</th>
<th>Heat Tolerance</th>
<th>Canopy - Summer Shade</th>
<th>Pest/Disease Resistance</th>
<th>Provides Habitat</th>
<th>Aesthetic Form</th>
<th>Seasonal Interest</th>
<th>Toxic / Allergenic Parts</th>
<th>Suckering tendency</th>
<th>Fruit/Leaf Drop (mess)</th>
<th>Weed Potential</th>
<th>Longevity</th>
<th>Previously trialed</th>
<th>Stock health/availability</th>
<th>Clearance from Services</th>
<th>Good Structure</th>
<th>Space Constraints</th>
</tr>
</thead>
</table>

The following document provides a list recommended by Council for all new street plantings within the shire and includes the trees’ eventual mature size¹, growth rate, characteristics, tolerances and a short summary of considerations. A mix of local indigenous, native, and exotic species are recommended in the list however as tree preference and attractiveness is a very subjective issue, final selection is best determined by considering the character of the surrounding neighbourhood in conjunction with the above criteria. Note this list is by no means exhaustive and Council will continually review and investigate the suitability of additional species.

¹ mature size is based on approx. 20+ years under ideal growth conditions
1. *Acacia melanoxylon*

**Blackwood**

**Height:** 12-15 metres  
**Width:** 6-9 metres  
**Growth Rate:** Moderate  
**Origin:** South-eastern Australia. Naturally occurring in the Macedon Ranges in a variety of habitats but is most common in moist woodlands  
**Habit:** Broadly pyramidal to oval. Dense, often ‘cloud-like’ sections of crown when mature  
**Foliage:** Dark, grey-green leathery phyllodes (appears as leaf but modified leaf stem) with 3-5 raised main veins. Juvenile foliage is feather-like. Evergreen  
**Flowers/fruit:** Fragrant pale lemon-yellow globular heads in late winter to spring followed by flat pale brown, and often coiled, seed pods  
**Tolerances:** Moderately tolerant of compacted soils but do best in a sheltered position with moist well-drained soil high in organic matter.  
**Considerations:** Will require formative pruning to develop a single, straight trunk. Good shade tree but not suitable under powerlines. Wide spreading roots that may sucker when disturbed
2. **Acer campestre**

Hedge Maple ‘Elsrijk’, 'Evelyn' Queen Elizabeth™

**Height:** 6-8 metres

**Width:** 4-6 metres

**Growth Rate:** Moderate

**Origin:** Europe to SW Asia

**Habit:** Compact with a dense round to ovate canopy and upright branching habit. Can tend to have a flattish top when mature. Sometimes develops ‘corky’ bark

**Foliage:** Small dark green leaves with rounded lobes turning clear yellow in autumn. Deciduous

**Flowers/fruit:** Inconspicuous green flowers in late spring

**Tolerances:** Full sun to light shade. Generally pest and disease free. Tolerates alkaline and acid soils, some dryness, soil compaction, air pollution and heavy pruning

**Considerations:** Not suitable for very hot, exposed sites. Suitable under powerlines due to natural size but can also be easily maintained in a compact, dense form as it responds well to clipping (hence it's common name as Hedge Maple). ‘Evelyn’ is somewhat shorter and rounder than ‘Elsrijk’.

Images:
- www.Hortipedia.com
- Willow - Wikimedia
- Pixabay
3. *Acer negundo*

**Box Elder 'Sensation'*

**Height:** 9-12 metres

**Width:** 6-8 metres

**Growth Rate:** Moderate

**Origin:** North America

**Habit:** Stately symmetrical shape with oval crown becoming more rounded with age. Uniform branch structure

**Foliage:** New leaves have a reddish-brown tinge changing to green in summer but retain red stalks. Fabulous autumn colours of bright red to orange/yellows. Deciduous

**Flowers/fruit:** Yellowish-green, inconspicuous male flowers, borne early spring. Sterile cultivar

**Tolerances:** Will thrive in a wide range of soil conditions, wet or dry, of varied pH levels. Best in full sun

**Considerations:** This sterile selection is a suitable replacement for an existing streetscape of the true species which can be weedy due to the production of masses of winged seeds (samaras) that carried on the wind, spread and self-seed rapidly. Good shade tree but not suitable under powerlines.

*Images: Winter Hill Tree Farm*
4. **Acer platanoides**

Norway Maple ‘Crimson Sentry’

- **Height:** 5-7 metres
- **Width:** 3-4 metres
- **Growth Rate:** Moderate
- **Origin:** Europe & Western Asia
- **Habit:** Compact small tree with dense upright branching giving a column like appearance
- **Foliage:** Rich dark purple/crimson leaves with five sharp lobes changing to golden-brown in autumn. Deciduous
- **Flowers/fruit:** Small yellow flowers appear on branches before the leaves in spring. Produces pale brown paired winged seeds (samaras).
- **Tolerances:** Full sun and partial shade and does best in moist, well drained soils.
- **Considerations:** Small mature size makes it a useful selection for under higher powerlines and restricted widths. Good alternative to the weedy Black Cherry Plum but not for very hot, dry or exposed sites.
5. *Acer x freemanni*<sup>i</sup>

**Freemans Maple 'Jeffersred' Autumn Blaze®**

**Height:** 9-13 metres

**Width:** 7-9 metres

**Growth Rate:** Moderate to fast

**Origin:** Ornamental hybrid (USA)

**Habit:** Symmetrical upright form with a straight central leader and oval to rounded dense crown

**Foliage:** Leaves with five deeply cut lobes are a rich green changing to vibrant red in early autumn. Stalks are also red. One of the first maples to change colour in autumn. Deciduous

**Flowers/fruit:** Insignificant. Virtually seedless in Australian conditions

**Tolerances:** Wide range of soil and climatic conditions. Relatively tolerant of heat, wet and dry sites.

**Considerations:** Not suitable for nature-strips less than 3 metres in width. Mature size not suitable for under powerlines. Good shade tree and for avenue plantings.
6. **Acer rubrum**

**Red Maple ‘Fairview Flame’, ‘October Glory’**

**Height:** 8-12 metres

**Width:** 6-8 metres

**Growth Rate:** Moderate to fast

**Origin:** Ornamental hybrid

**Habit:** Spreading dense canopy with good branch structure, maturing with an oval crown. October Glory more upright and slightly larger at maturity

**Foliage:** Typical maple shape with three to five lobes. Mid- to dark green shaped changing to brilliant scarlet reds and oranges in Autumn. Deciduous

**Flowers/fruit:** Small red flowers appearing before the leaves emerge in Spring

**Tolerances:** Adapts to a wide range of site and soil types but is the best Maple for wet soils

**Considerations:** Not for excessively dry sites. Not suitable under powerlines due to height at maturity. Excellent shade and avenue tree
7. *Acer truncatum x platanoides*

‘Keiths Form’ Norwegian Sunset Maple, ‘Warrenred’ Pacific Sunset Maple

**Height:** 10-12 metres

**Width:** 6-8 metres

**Growth Rate:** Moderate to fast

**Origin:** Ornamental hybrid

**Habit:** Upright, with good branch structure, maturing with a rounded crown

**Foliage:** Glossy, dark green sharply-lobed leaves, somewhat more leathery than other Maples, changing to yellow-orange to red in autumn. Deciduous

**Flowers/fruit:** Greenish-yellow inconspicuous flowers

**Tolerances:** Confined root spaces, in a wide range of soil types. Relatively drought tolerant.

**Considerations:** Not for very hot, exposed sites. Not suitable under powerlines due to height at maturity

Images: Blerick Tree Farm
8. *Allocasuarina littoralis*

**Black Sheoak**

**Height:** 7-9 metres

**Width:** 3-5 metres

**Growth Rate:** Moderate to fast

**Origin:** Eastern Australia – Naturally occurring in the Macedon Ranges in forests & woodlands of varying soil types

**Habit:** Upright, conical form

**Foliage:** The fine, bright green, foliage contrasts strongly with the dark fissured bark. Fine soft branchlets, called cladodes that resemble pine needles, function as foliage; the actual leaves have been reduced to scales that are arranged in whorls

**Flowers/fruit:** Dioecious; the male tree bears rust brown flowers at the tips in autumn - the female produces small, dark red flowers followed by cylindrical, spiky cones with a flattened top

**Tolerances:** Adaptable to most sites but does best in well-drained soils. Can tolerate wind, heat and dry conditions.

**Considerations:** Difficult to grow grass beneath due to fibrous roots and fallen foliage. Not suitable under powerlines due to mature height. Requires formative pruning so side branches do not become dominant

Images: Libby Woodward
9. *Banksia marginata*

**Silver Banksia**

**Height:** 5-9 metres

**Width:** 3-5 metres

**Growth Rate:** Moderate

**Origin:** South-Eastern Australia. Naturally occurring in the Macedon Ranges in woodlands, open forests and heaths

**Habit:** Dense growth habit but for form can vary greatly from rounded and shrubby to an upright inverted cone shaped small tree.

**Foliage:** Finely-toothed narrow oblong stiffly-branched leaves, dark green above and silvery-white below. Tip notched and margins often with recurved margins and finely toothed.

**Flowers/fruit:** Large yellow cylindrical spikes from spring to autumn attracting native birds and insects. Followed by woody cones.

**Tolerances:** Dry, exposed conditions in a well-drained soil. Will not tolerate high phosphorus fertilisers. A full sun position is preferred

**Considerations:** Tends to develop low lying branches and multiple stems so requires pruning to a single trunk. Suitable under higher powerlines

Images: Libby Woodward
10. *Brachychiton populneus*

**Kurrajong**

**Height:** 10-12 metres

**Width:** 7-9 metres

**Growth Rate:** Slow to moderate

**Origin:** Eastern Australia

**Habit:** Stout upright trunk with a broadly domed, dense crown.

**Foliage:** Glossy green above and paler green below. Shape is variable depending on age and subspecies: can be entire resembling the Poplar leaf or with 3-5 pointed lobes. Sometimes semi-deciduous in early summer.

**Flowers/fruit:** Small greenish-cream bell-shaped flowers with pale pink to purple flecks internally appearing from October to December and followed by a woody ‘boat’ shaped follicle containing the seeds.

**Tolerances:** Very heat and drought tolerant but dislikes exposed waterlogged conditions or root disturbance. Best in full sun.

**Considerations:** Requires well drained soil. Seed follicles contain irritating hairs. Good shade tree. Mature size not suitable under powerlines.
11. *Brachychiton populneus x acerifolius*


- **Height:** 5-8 metres
- **Width:** 3-5 metres
- **Growth Rate:** Slow to moderate
- **Origin:** Australian Native Cultivar
- **Habit:** Trees are upright with a stout trunk and rounded, dense crown.
- **Foliage:** Glossy green poplar-like foliage
- **Flowers/fruit:** Clusters of red or pink bell flowers in late spring and early summer. Can be semi-deciduous
- **Tolerances:** Tolerant to humid, warm and dry conditions. Can tolerate periods of drought once established. Prefers a well-drained soil
- **Considerations:** Not for very frost prone areas. As these are relatively new cultivars they are best considered trial trees. Smaller sized cultivars are suitable for use under powerlines
12. **x Chitalpa tashkentensis**

**Chitalpa**

- **Height**: 6-8 metres
- **Width**: 4-6 metres
- **Growth Rate**: Moderate to fast
- **Origin**: North American hybrid
- **Habit**: Small typically multi-stemmed tree with a rounded and open spreading crown
- **Foliage**: Soft grey-green to 15cm long in spring-summer with golden autumn foliage. Deciduous
- **Flowers/fruit**: Pale lilac trumpet-shaped flowers, with darker purple markings in the throat, are borne throughout summer
- **Tolerances**: Will tolerate hot dry conditions with minimal irrigation once established. Requires well-drained soils in a sunny, airy location.
- **Considerations**: Not for very windy or waterlogged sites. Will require training to a single stem if required. Suitable for under powerlines.

![Image: Wendy Cutler - flickr](Image: Wendy Cutler - flickr)

![Image: Frau Siebenschläfer - Wikimedia](Image: Frau Siebenschläfer - Wikimedia)
13. *Callistemon citrinus x viminalis*

Hybrid Bottlebrush: ‘Harkness’, ‘Kings Park Special’

**Height:** 4-6 metres

**Width:** 3-5 metres

**Growth Rate:** Moderate to fast

**Origin:** Australian Native cultivars

**Habit:** Upright rounded small trees (or large shrubs) with slightly weeping branchlets

**Foliage:** Smooth, mid-green leaves up to 8 cm long tend to be stiff and leathery with a slightly spiky tip. Kings Park Special is somewhat smaller growing with narrower and less leathery leaves than Harkness. Evergreen

**Flowers/fruit:** Masses of multiple drooping, crimson red to 20cm ‘bottlebrush’ spikes during spring and summer.

**Tolerances:** Adaptable to a wide range of soil types but best when grown in an open, sunny position. Responds well to pruning after flowering which also promotes flowering and keeps the plant dense. Very easily grown, tolerating extended dry periods once established.

**Considerations:** New growth can be damaged in areas that receive severe frosts. Mature size is suitable for under higher powerlines.
14. *Celtis australis*

**European Nettle Tree**

**Height:** 10-15 metres

**Width:** 6-9 metres

**Growth Rate:** Moderate

**Origin:** Southern Europe and Western Asia

**Habit:** Pyramidal when juvenile, maturing to a broadly rounded crown with arching and ascending branches.

**Foliage:** Elliptical, 15 cm long smooth mid-green on top and hairy grey-green below with prominently serrated margins, turning pale yellow in autumn. Deciduous

**Flowers/fruit:** Inconspicuous. Female flowers, typically appearing separate to the males on the same plant, are followed by small hard single seeded fruit ripening to purple/black.

**Tolerances:** Prefers moist, well-drained soil in a position receiving full sun but is adaptable to a wide range of site conditions including moderately dry sites. Has good wind tolerance.

**Considerations:** Is a declared weed in ACT and WA although not known to have naturalised in Vic. Good shade tree but not suitable under powerlines.
15. *Corymbia ficifolia*


Height: 4-6 metres

Width: 3-5 metres

Growth Rate: Slow to moderate

Origin: Western Australian hybrid

Habit: A grafted small dense rounded tree

Foliage: Ovate deep green leathery leaves with a prominent midrib and bronzy-green coloured new growth. Evergreen

Flowers/fruit: Prolific bunches of brightly-coloured flowers of red, orange or pink produced at the branch tips in summer followed by large, to 30mm, urn-shaped fruits.

Tolerances: Requires well-drained soils in full sun and is fairly drought tolerant once established. Young growth is easily damaged by frost

Considerations: Not suitable for frost prone areas. Any growth below the graft union needs to be regularly removed. Suitable size for under powerlines.
16. **Corymbia maculata**

**Spotted Gum**

**Height:** 15-20 metres

**Width:** 7-9 metres

**Growth Rate:** Moderate to fast

**Origin:** Coastal and subcoastal NSW to NE Vic

**Habit:** A tall straight tree typically with a single trunk of smooth cream bark shedding n patches revealing shades of of grey and sometimes pink. Develops a dense broadly domed canopy as it matures.

**Foliage:** Narrow, slightly glossy mid-green leaves to 20cm long. Evergreen

**Flowers/fruit:** Small clusters of cream flowers are produced Autumn to Winter

**Tolerances:** Very adaptable to a range of conditions, moderately drought tolerant but susceptible to frosts during early establishment

**Considerations:** Not suitable for nature-strips less than 3 metres in width. Requires formative pruning. Good for avenue plantings but not suitable under powerlines.
17. *Eucalyptus leucoxylon*

**Yellow Gum Cultivars: ‘Euky Dwarf’, ‘Rosea’**

- **Height:** 7-18 metres
- **Width:** 5-10 metres
- **Growth Rate:** Moderate
- **Origin:** Eastern Australia
- **Habit:** Typically a medium irregular tree with a spreading, light canopy however the form can vary greatly depending on origin.

- **Foliage:** The narrow leaves are dull green in colour. The fibrous bark at the base of the trunk usually remains as a ‘sock’ below the smooth yellowish-white trunk or stems. Evergreen

- **Flowers/fruit:** Prolific blossoms of yellow, pink or red in clusters of three from late autumn to early summer.

- **Tolerances:** A very tough adaptable tree suited to most conditions and soil types. Is very tolerant of compaction, drought, and frost.

- **Considerations:** Requires formative pruning to develop good structure as it rarely develops a straight trunk naturally. Small cultivars suitable for under powerlines

Images: Arbornet
18. *Eucalyptus mannifera*

Brittle Gum cultivars: ‘Little Spotty’

**Height:** 7-8 metres

**Width:** 5-7 metres

**Growth Rate:** Moderate

**Origin:** Inland South-Eastern Australia.

**Habit:** Small upright tree with open canopy and typically straight trunk. Smooth powdery white bark shedding with strongly spotted, reddish ornamental bark. Evergreen

**Foliage:** Narrow, blue-green leaves

**Flowers/fruit:** Small creamy white flowers in late winter/early spring

**Tolerances:** Requires free draining soils, good drought tolerance

**Considerations:** Suitable under higher powerlines only. Will require monitoring for safety when mature

[Image: Online Plants: Din San Nursery]

[Image: Online Plants:]
19. *Eucalyptus melliodora*

**Yellow Box**

**Height:** 15-20 metres

**Width:** 8-15 metres

**Growth Rate:** Moderate

**Origin:** Eastern Australia. Naturally occurring in the Macedon Ranges in grassy woodlands and open forest

**Habit:** Wide spreading, irregular form with domed canopy and fibrous bark. Evergreen

**Foliage:** Narrow, pale green to blue-grey green leaves with distinct edge vein

**Flowers/fruit:** Small white, honey-scented flowers in 7's from spring to summer. Australia main honey production source.

**Tolerances:** Will struggle in compacted or alkaline waterlogged soils. Very good dry tolerance

**Considerations:** Only suitable for wide nature-strips, 3 metres or more, without powerlines
20. *Eucalyptus pauciflora*

**Dwarf Snow Gum ‘Little Snowman’**

- **Height:** 4-7 metres
- **Width:** 3-5 metres
- **Growth Rate:** Moderate
- **Origin:** Eastern Australia (Dwarf form)
- **Habit:** A small to medium sized evergreen tree with smooth creamy-white bark and an open semi-weeping rounded crown
- **Foliage:** Thick and waxy grey-green leaves with very distinctive veins parallel with the margins. Evergreen
- **Flowers/fruit:** Masses of small cream-white flowers spring and summer.
- **Tolerances:** Tolerant of most site conditions other than heavily waterlogged soils and very hot, dry sites. Relatively drought tolerant once established.
- **Considerations:** Not suitable for very hot, dry sites. May require formative pruning to maintain a single trunk. Suitable under higher powerlines

*Image: Amanda Slater - Wikimedia*

*Image: Online Plants*
21. *Eucalyptus polyanthemos*

**Red Box**

**Height:** 10-20 metres

**Width:** 8-12 metres

**Growth Rate:** Slow to moderate

**Origin:** Eastern Australia. Subspecies *vestita* naturally occurring in the Macedon Ranges in woodlands of gravelly clay

**Habit:** Upright with a rounded canopy and red-brown rough, fibrous bark on a typically naturally clear trunk

**Foliage:** Slate grey to silvery rounded leaves

**Flowers/fruit:** Large clusters of small white flowers in Spring

**Tolerances:** Very drought tolerant, moderately tolerant of compaction

**Considerations:** Relatively maintenance free if good form with straight trunk selected. Not suitable under powerlines due to eventual mature size.
22. *Fraxinus ‘Raywood’*

**Claret Ash**

<table>
<thead>
<tr>
<th>Height:</th>
<th>9-12 metres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width:</td>
<td>7-10 metres</td>
</tr>
<tr>
<td>Growth Rate:</td>
<td>Moderate to fast</td>
</tr>
<tr>
<td>Origin:</td>
<td>South Australian cultivar (original Sth Europe)</td>
</tr>
<tr>
<td>Habit:</td>
<td>Narrow and upright when young becoming rounded to oval when mature.</td>
</tr>
<tr>
<td>Foliage:</td>
<td>Small narrow pinnate (feather-like leaflets) deep green turning a rich deep claret-purple in autumn. Deciduous</td>
</tr>
<tr>
<td>Flowers/fruit:</td>
<td>Inconspicuous in late winter to spring. Produces little seed</td>
</tr>
<tr>
<td>Tolerances:</td>
<td>Relatively drought and heat tolerant but will perform best in moist, well drained soils. Best autumn colour in cooler areas</td>
</tr>
<tr>
<td>Considerations:</td>
<td>Brittle branches can be prone to wind damage. Ash Die-back has been observed in some trees (particularly Canberra) which may render it short lived in the landscape. Not suitable under powerlines due to mature height</td>
</tr>
</tbody>
</table>

Images: Winter Hill Tree Farm
23. *Fraxinus pennsylvanica*

Green Ash ‘Cimmzam’ Cimmaron™, ‘Urbdell’ Urbanite™

- **Height:** 13-15 metres
- **Width:** 7-9 metres
- **Growth Rate:** Moderate to fast
- **Origin:** North America
- **Habit:** Upright, developing a dense, broad oval crown with age. Uniform branch structure
- **Foliage:** Cimmzam has shiny, dark green leaflets that turn deep burgundy and fiery red while Urbdell foliage is grey-green changing to bronze- gold in autumn. Deciduous
- **Flowers/fruit:** Small yellow-green inconspicuous flowers in spring
- **Tolerances:** Reportedly tolerant of compacted or waterlogged soils, very cold winters and hot summers
- **Considerations:** Any growth below the graft union must be removed so as not to overrun the tree. Not suitable for under powerlines or narrow naturestrips due to size at maturity
24. **Geijera parviflora**

*Wilga / Australian Willow*

**Height:** 7-9 metres

**Width:** 6-8 metres

**Growth Rate:** Slow

**Origin:** Dry inland areas of Vic to Qld

**Habit:** Wide-spreading symmetrical pendulous rounded crown typically with single stout trunk. Evergreen

**Foliage:** Longish linear olive green to greyish leaves on pendulous branchlets. Aromatic when crushed

**Flowers/fruit:** Clusters of white star-shaped strongly scented flowers from winter to spring

**Tolerances:** Extremely drought tolerant but requires well-drained soils. Tolerates hard pruning

**Considerations:** Suitable for very hot, dry sites but will not grow well in dense shade. Can be used under powerlines if hard pruned. Slow growing
25. **Gleditsia triacanthos var. inermis**

Thornless Honey Locust ‘*Shademaster*’, ‘Ruby Lace’,

- **Height:** 10-12 metres
- **Width:** 8-10 metres
- **Growth Rate:** Moderate to fast
- **Origin:** North America
- **Habit:** Erect to spreading deciduous tree with rounded canopy of horizontal, gracefully ascending branches.
- **Foliage:** Dark, emerald green (or Burgundy if Ruby Lace) pinnate to bipinnate (feather-like leaflets) leaves turn yellow in autumn.
- **Flowers/fruit:** Inconspicuous small green flowers in spring followed by a large, flat, leathery ‘pea’.
- **Tolerances:** Wide range of pH and soil types, including urban sites, air pollution, moderately saline soils, low levels of drought and occasional wetness
- **Considerations:** Will tend to sucker if roots are disturbed. Can be considered too low branching/pendulous for streets—will require pruning to contain. Not suitable size for under powerlines. All parts contain potentially dangerous toxins

*Image: Bostonian 13 - Wikimedia
Image: Winter Hill Tree Farm*
26. *Koelreuteria paniculata*

**Golden Rain Tree**

**Height:** 7-10 metres

**Width:** 6-8 metres

**Growth Rate:** Slow to moderate

**Origin:** China and Korea

**Habit:** Broadly ovate to rounded. Branches irregular and spreading. Usually grows as a multi-stemmed tree, but can be trained to a single trunk with pruning.

**Foliage:** Distinctive bright bluish-green pinnate to bipinnate (feather-like leaflets) leaves usually with seven to 15 individual leaflets. The autumn colour is bronze-to-gold.

**Flowers/fruit:** Chains of yellow flowers to 40 cm long at the ends of branches from mid- to late summer followed by small, bladder like seed pods in autumn.

**Tolerances:** Very heat and drought tolerant.

**Considerations:** Not suitable for shady or low maintenance sites due to slow growth habit under these conditions. Not suitable for under powerlines.
27. *Lagerstroemia indica x L. fauriei*

**Crepe Myrtle ‘Biloxi’, ‘Natchez’, ‘Tuscarora’**

**Height:** 6-8 metres

**Width:** 5-6 metres

**Growth Rate:** Moderate

**Origin:** U.S. Hybrid – species China

**Habit:** A small deciduous tree with a multi trunk habit forming a broad vase shaped canopy. Smooth pink-grey bark

**Foliage:** Small oval leaves are light bronze becoming, glossy, dark green then turning orange to dark red in autumn.

**Flowers/fruit:** ‘Crimped’ petalled flowers can be white, pink red or purple, occurring in long clusters late summer to autumn followed by insignificant capsules.

**Tolerances:** Adapts to most soil types and has a moderate to high drought tolerance once established. Requires full sun

**Considerations:** Tends to develop multiple stems so requires pruning if a single trunk is desired. Smaller cultivars suitable for under powerlines
28. *Malus ioensis ‘Plena’*

**Bechtel Crab-apple**

**Height:** 6 metres

**Width:** 5 metres

**Growth Rate:** Slow to moderate

**Origin:** North America

**Habit:** Broad spreading with a rounded crown. Slow growing in the early years

**Foliage:** Green leaves with distinct, coarsely serrated margins. Rich dark red and orange in autumn

**Flowers/fruit:** Masses of mildly fragrant, double flowers in groups of three to five in late spring. The outer petals of the buds are a soft, delicate pink and open to large, rose-like flowers with prominent yellow stamens. At full bloom tree is a floral mass

**Tolerances:** Prefers slightly acidic, well-drained soil in full sun to partial shade. Does not tolerate soils of high pH well

**Considerations:** Requires formative pruning when young and summer irrigation in very dry areas

Images: Winter Hill Tree Farm
29. *Malus trilobata*

**Upright Crab-apple**

Height: 6-7 metres  
Width: 2-4 metres  
Growth Rate: Moderate  
Origin: West Asia to Sth Europe  
Habit: Upright, symmetrical small tree in a pyramid shape  
Foliage: Dark green, deeply lobed leaves changing to burgundy, with yellow, in autumn. Deciduous  
Flowers/fruit: White flowers of summer contrast well against the dark green foliage and are followed by small crab apples.  
Tolerances: Handles heavy clay soils but does best in well drained loamy soil. Full sun to part shade and tolerant of heavy frosts. Relatively drought tolerant once established  
Considerations: Compact mature size suitable for under powerlines. Not commonly available in the past but becoming more popular as proving reliable
30. *Melia azedarach*

White Cedar ‘Elite’

**Height:** 8-10 metres

**Width:** 6-8 metres

**Growth Rate:** Fast

**Origin:** Northern Australia & Sth-East Asia

**Habit:** A broad tree with an umbrella-like canopy, often low branched if not pruned.

**Foliage:** The leaves are pinnate (feather-like leaflets) and vivid green throughout summer. In autumn the foliage turns rich yellow. One of the few winter deciduous native trees.

**Flowers/fruit:** Small fragrant flowers are in clusters growing from leaf axils and branchlet ends forming from September to November

**Tolerances:** Prefers open sun, is hardy to all but the most severe frosts and can endure extended dry periods. Will adapt to a wide range of soil conditions and responds extremely well to formative pruning.

**Considerations:** NOTE: only the non-fruited cultivar ‘Elite’ is to be selected as the original species has weed potential via seed dispersal by birds. Good shade tree. Best to purchase with clear straight trunks to reduce issues of low branching. Not suitable for under powerlines.
31. *Pistacia chinensis*

**Chinese Pistachio**

**Height:** 8-10 metres

**Width:** 6-8 metres

**Growth Rate:** Slow to moderate

**Origin:** China & Taiwan

**Habit:** Rounded. Young trees tend to be narrow and spindly. Can eventually become quite a large tree

**Foliage:** Dark green and glossy, pinnate (feather-like leaflets) changing to a spectacular reddish-orange in Autumn and often held on the tree long into winter.

**Flowers/fruit:** Insignificant yellowish-green flowers in panicles in spring. Male and female flowers are produced on separate plants (dioecious)

**Tolerances:** Very tolerant of dry and sandy conditions, urban stresses and pruning

**Considerations:** Requires formative pruning and training to a single leader with well-spaced branches when young

Images: Winter Hill Tree Farm
### 32. *Platanus orientalis*

**Oriental Plane cultivar: 'Digitata'**

<table>
<thead>
<tr>
<th><strong>Height:</strong></th>
<th>15-30 metres</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width:</strong></td>
<td>15-20 metres</td>
</tr>
<tr>
<td><strong>Growth Rate:</strong></td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Origin:</strong></td>
<td>European cultivar</td>
</tr>
<tr>
<td><strong>Habit:</strong></td>
<td>Pyramidal in youth, becoming rounded with age. Eventually forms a large tree</td>
</tr>
<tr>
<td><strong>Foliage:</strong></td>
<td>The deeply incised foliage becomes yellow-brown in autumn</td>
</tr>
<tr>
<td><strong>Flowers/fruit:</strong></td>
<td>Inconspicuous flowers in early spring</td>
</tr>
<tr>
<td><strong>Tolerances:</strong></td>
<td>Wide range including urban conditions, differing soils and atmospheric pollution. Responds well to heavy pruning and exhibits good disease resistance. Not for very hot, dry sites.</td>
</tr>
<tr>
<td><strong>Considerations:</strong></td>
<td>Only for larger roads and parks within the shire due to eventual mature size. Hairs from the fruits and leaves can cause an allergic reaction in some people. Not for under powerlines</td>
</tr>
</tbody>
</table>

*Image: Blerick Tree Farm*

*Image: Jean-Pol Grandmont - wikimedia*
33. *Pyrus betulaefolia*

Birch-leaf Pear ‘Southworth’ Dancer

Height: 7 metres

Width: 4-5 metres

Growth Rate: Moderate

Origin: North & Central China

Habit: Ovate to broadly pyramidal, with a well-formed crown

Foliage: New growth emerges as silvery-grey, and soon matures to a shining mid-green. Pendulous leaves hang on slender branchlets that ‘dance’ in the wind, changing to yellow in autumn.

Flowers/fruit: Prolific white flowers in late spring flowed by Russet coloured (inedible) fruits.

Tolerances: Adaptable to a wide range of site conditions including relatively dry conditions once established, and slightly alkaline soils. Able to handle intermittently wet, heavy soils

Considerations: Best in full sun. Only suitable under very high powerlines
34. Quercus canariensis

Algerian Oak

**Canley**

**Height:** 20-25 metres

**Width:** 12-20 metres

**Growth Rate:** Slow - Moderate

**Origin:** South Europe & North Africa

**Habit:** A large, rounded-headed tree growing wider than tall with thick branched from a short trunk. Evergreen to semi-deciduous in colder climates

**Foliage:** Leaves to 20cm long are glossy green above and greyish beneath with 6-12 pairs of shallow lobes

**Flowers/fruit:** Small male catkins and female flowers in clusters are separate on the same tree (monoecious) followed by large acorns

**Tolerances:** Will grow in most soil types, and in a wide range of climates including quite dry soils.

**Considerations:** Hybridises freely with *Q. robur* (English Oak) and many trees in Victoria display characteristics of both. Slow to establish but long lived. Suitable only for major roads due to large, mature size and not under powerlines
35. *Quercus palustris*

**Pin Oak**

**Height:** 20 metres

**Width:** 8 -12 metres

**Growth Rate:** Moderate to fast

**Origin:** North America

**Habit:** A large deciduous tree that forms a strongly conical formed canopy, typically with a central leader.

**Foliage:** Leaves are around 20cm long with 5 to 7 deeply dissected ‘lobes’. They appear dark green in colour above and lighter green beneath, turning bronze to crimson red in autumn.

**Flowers/fruit:** Small male catkins and female flowers in clusters are separate on the same tree (monoecious) followed by 10-15mm wide acorns

**Tolerances:** Established readily and tolerates most conditions including a good tolerance to drought and heat

**Considerations:** Some trees retain the dead leaves in the crown for months - an ‘early defoliating form’ is available that completely sheds each winter. Good tree for shade and avenues but only for large nature strips, 3 metres or greater. (unless the fastigiate form ‘Green Piller’ is used). Not suitable for under powerlines.
36. **Tilia americana**

**American Linden cultivars: 'Bailyard' - Frontyard™**

- **Height:** 12 metres
- **Width:** 7 metres
- **Growth Rate:** Moderate
- **Origin:** North America
- **Habit:** Broadly pyramidal, becoming rounded with age. Symmetrical branching habit
- **Foliage:** Dense foliage provides good shade. Dark green, heart-shaped leaves, turning pale yellow in autumn.
- **Flowers/fruit:** Fragrant, pendulous, yellow flower clusters in early to mid-summer
- **Tolerances:** Requires moist, well-drained fertile soils.
- **Considerations:** Not suitable for hot, dry sites. Can be slow to establish after transplanting. Not suitable under powerlines due to mature height

Image: Virens - Flickr
37. *Ulmus parvifolia*

**Chinese Elm cultivars: ‘Todd’, ‘Burnley Select’,**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>8-12 metres</td>
</tr>
<tr>
<td>Width</td>
<td>8-15 metres</td>
</tr>
<tr>
<td>Growth Rate</td>
<td>Moderate to fast</td>
</tr>
<tr>
<td>Origin</td>
<td>China &amp; Japan</td>
</tr>
<tr>
<td>Habit</td>
<td>A spreading, semi-pendulous, tree with rounded crown at maturity. Is semi-deciduous tree in cold climates, evergreen in milder climates. Attractive flaking orange/brown bark.</td>
</tr>
<tr>
<td>Foliage</td>
<td>Small, 2.5-5cm in length, glossy green leaves with finely toothed margins turning gold in cool climates.</td>
</tr>
<tr>
<td>Flowers/fruit</td>
<td>Small red flowers in autumn followed by a small flat samara (winged seed)</td>
</tr>
<tr>
<td>Tolerances</td>
<td>Adaptable and tolerant of most conditions including compaction, dryness and a complete pH range although performs best in moist, fertile soils. An alternative for heritage Elm plantings as resistant to attack by Elm Leaf Beetle</td>
</tr>
<tr>
<td>Considerations</td>
<td>Requires formative pruning when young as is prone to developing more than one dominant leader. Can sucker if roots are damaged. Not suitable for under powerlines</td>
</tr>
</tbody>
</table>

*Image: R. Nijboer - Flickr*

*Image: Metro Trees*

*Image: Daderot - wikimedia*