



CITY OF WHITEHORSE

# Interim Urban Forest Policy and Tree Management Plan



# Urban Forest Policy

## Revision table

Updates	Date
<p>This Urban Forest Policy was adopted by Council as part of the Whitehorse Urban Forest Strategy at the Ordinary Council Meeting 20<sup>th</sup> August 2018 in Appendix 1.</p> <p>Corrections in this version include:</p> <ol style="list-style-type: none"><li>Inserting the policy into the corporate policy template</li><li>Ordering the policy sections into a logical sequence</li><li>Updated Electricity safety (electrical line clearance) Regulations to reflect 2020 guidelines</li><li>Removed and replaced reference to the Whitehorse Streetscape Policy and Strategy with the Whitehorse Urban Forest Strategy.</li></ol>	10/9/2020

## 1. PURPOSE

Council recognises the environmental, social, economic and aesthetic contribution that trees afford to our residents. There are also significant complexities in the effective and sustainable management of the Urban Forest. This policy has been developed in order to provide clarity and direction to the ongoing management of trees in the municipality. This policy replaces the previous Streetscape Policy and Strategy, 2002.

## 2. SCOPE

This policy relates to trees on public land, owned and managed by Council including street trees and park trees. This policy does not incorporate trees on private land or trees managed by other agencies.

## 3. POLICY

The Urban Forest Policy covers:

- Street Tree Planting and establishment
- Street Tree Pruning
- Street Tree removal
- Objections

## 4. RESPONSIBILITIES

Responsibility for the delivery, maintenance and updating of this policy rests with Manager ParksWide supported by:

- Co-ordinator – Natural Environment; and,
- Council Arborists

## 5. RELATED POLICIES & LEGISLATION

This policy has been developed with consideration to the following legislation:

- Local Government Act 1989 (Vic)
- Electricity Safety Act 1998 Victoria – [Electricity safety \(electrical line clearance\) Regulations 2020](#)
- Disability Act, 2006 (Vic)

## A. Street Tree Planting and Establishment Policy

The purpose of the tree planting policy is to set guidelines for the planting of street trees at:

- Individual sites,
- Multiple sites in a street or a whole street.

The aim is to improve the physical environment of the City through the planned planting of appropriate tree species while providing opportunities for the community to have input to the process and to have a tree planted in all available sites within the municipality.

### Targets

Council commits through this policy to:

- a. A target of a minimum of one (1) tree adjacent to each residential property, including both nature strips in the case of a corner block; and,
- b. Replacement of any tree removed.

In some cases, a nature strip may not be an appropriate site for planting due to other constraints. These sites may be excluded from the planting program.

An annual tree planting program will be developed taking into account resident requests. The Urban Forest Strategy will guide the prioritisation of planting locations.

### Species Selection

Appropriate tree species will be chosen by Council staff. Tree selection shall take into account:

- |   |  |
|---|--|
| a. The Whitehorse Urban Forest Strategy   | h. New species previously trialled in other locations    |
| b. Its potential size at maturity   | i. Its contribution to urban biodiversity                |
| c. Resistance to pests and diseases   | j. Linkages to natural indigenous corridors and reserves |
| d. Its suitability and adaptability to drought and climate change                       | k. Growing conditions and                                |
| e. Historical character of the street and the use of existing species wherever possible | l. Availability of species                               |
| f. Existing street trees  | m. Urban heat vulnerability index                        |
| g. Available growing area   |  |

Council may provide opportunity for residents to input into the specific species selection where more than one species is determined to be suitable.

### Planting constraints

Minimum distances of trees from objects should be:

- a. 2.0m from driveways;
- b. 3.0 metres from power poles;
- c. 8 metres from corner of property boundary at intersections (15 metres on main roads);
- d. 2.0 metres from fire hydrants;
- e. 2.0 metres from service pits; and,
- f. 3.0 metres from service wires.

Trees should not be planted over incoming gas and water services.

### Legislation

All trees planted must ensure compliance with the Disability Act, 2006 (Vic)

### Tree stock

Council will only use quality nursery stock from its approved suppliers according to latest best practice and Australian Standards (AS 2303:2015 - Tree stock for landscape use). All trees supplied will conform to the NATSPEC guide "Specifying Trees – a guide to assessment of tree quality", and be grown by accredited nurseries that carry the appropriate Nursery & Garden Industry Victoria accreditation.

### Tree Establishment

Tree planting will occur on an annual basis with an establishment period of three years.

In order to improve tree establishment and longevity, the following program will be undertaken:

- Year 1, tree is planted, pruned, mulched twice, watered, fertilised and maintained weed free;
- Year 2, tree is mulched, watered, fertilised and maintained weed free, stakes are removed; and,
- Year 3, tree is formatively pruned, mulched, watered if required.

This program will operate for all newly planted trees. By the end of Year 3, the tree should be well established and able to become part of the standard city wide pruning program. Residents will be encouraged to assist in the establishment of street trees, by additional watering.

## B. Pruning Policy

### Principles

All trees will be inspected by Councils Arborists prior to any pruning being undertaken. Any pruning deemed to be required will be undertaken in accordance with relevant Australian Standards and the principles of modern arboriculture:

1. Do no harm. Any arboriculture intervention should not do harm to the tree. No intervention should contribute to making the condition of the tree worse in the medium to long term.
2. Trees are living organisms and all arboriculture management practices should accord with basic biological principles. Any pruning activity should minimize the area of an open wound and capitalize upon the tree's natural mechanisms of growing over and sealing off.
3. Trees are sophisticated organisms. Their large structures and longevity demonstrate a complex biology and effective biological defence mechanisms. These defence mechanisms against pests and diseases are the strongest and most effective available. Arboriculture practices must not undermine, but rather complement them.
4. Stressed and aged trees have a reduced capacity for defence and so are prone to attack by pests and diseases. Their management requires greater care than for young healthy vigorous trees.
5. Prevention is better than cure', which suggests that preventing structural deformity, disease or decay is a superior management approach than trying to remedy problems once they arise.
6. A non-or minimal-interventionist approach will be followed. Intervention in the natural growth of the tree should only occur through necessity, and under conditions where the biology and the physiology of the trees are understood such that intervention will have clear and predictably beneficial outcomes.
7. All interventions must be done in such a way as to minimize the spread of pests and disease. This necessitates the adoption of basic hygiene when dealing with trees that have been attacked by pests or diseases.

Incorporating the above principles, all pruning undertaken on trees within the municipality will comply with AS 4373-2007 - Pruning of Amenity Trees. All work shall be performed so as to maintain a well-balanced, healthy and safe tree, pruned in a manner that is as aesthetically pleasing as practicable, to maintain the shape and character of the tree and the streetscape in general.



## Formative Pruning

Young trees in an urban environment will at some point compete for above and below-ground space with infrastructure such as buildings, footpaths, roads and power-lines. Trees require formative pruning to achieve and maintain clearance from this infrastructure and for the development of a strong scaffold branch structure.

To protect and enhance its tree population, Council sets and maintains very high standards for pruning of its trees. All tree pruning shall be carried out using industry best practice standards, and shall be to the satisfaction of the Designated Officer.

All work shall be performed so as to maintain a well-balanced, healthy and structurally sound tree, pruned in a manner that is as aesthetically pleasing as practicable, to maintain the shape and character of the tree and the streetscape in which it is situated.

Trees must be pruned to train young trees for the development of a strong scaffold branch structure in accordance with the following requirements:

- dead, diseased, damaged, poorly structured and crossing branches must be removed to improve
- structure, this includes undesirable root stock growth and water shoots;
- do not remove more than 30% of an individual trees canopy;
- Trees with natural strong single leader growth shall be pruned to encourage lateral and main leader growth;
- Trees which are naturally multi-trunked shall be pruned to enable balanced lateral and main leader growth;
- under prune laterals for no more than 30% of the height of the tree from ground level; and
- treat co-dominant stems (V-Crotches) during formative pruning thus allowing growth to continue as a single leader or multiple leaders rather than twin bifurcated leaders.

## Shaping

The shaping of trees will occur;

- to encourage good healthy branch structure within the tree canopy, as per criteria defined for formative pruning in this Council's Specification;
- for clearances around power lines in accordance with the Electrical Safety (Electric Line Clearance) Regulations 2005; and
- for height clearances over roads, paths and driveways etc;.

For those young trees beneath electricity supply lines, pruning shall be undertaken to lateral branches using directional pruning techniques, at a point/s 2 metres beneath main electricity lines, to allow for the tree to grow around the supply at the specific distances required by the Electrical Safety (Electric Line Clearance) Regulations 2015.

## Road and Footpath Clearance

Trees will receive crown/canopy lifting to achieve the following clearances in line with relevant standards and legislation:

- Over Footpaths 3.0 metres
- Over Front Gardens 3.0 metres
- Over Driveways: 3.0 metres
- Over Roadway: 4.3 metres
- Over Roadways which are arterial roads (Road Management Act 2004) - 4.5 metres
- Over Nature Strips: 3.0 metres
- Traffic Lights and Signage: Clear visibility

### Private Property Clearance

All branches overhanging private property boundaries shall be pruned to a height of three (3) metres above private boundaries. Branches/foliage in contact with buildings shall where possible, be pruned to achieve a three (3) metre clearance unless pruning would affect a major structural limb and or major canopy reduction (over 30%).

### Remedial pruning

Trees will be pruned if deemed appropriate by Councils Arborists to remove the following:

- deadwood and/or dying branches 25 mm diameter or larger;
- all suckering growth back to the main trunk. Remove epicormic (weakened) growth;
- branch stubs from previous pruning, where 25 mm diameter or larger;
- crossing and/or cracked limbs;
- branches less than 75 mm diameter cleared up to 600 mm around service wires;
- any mistletoe in trees;
- clearance of branches from single trunk to a height of 1500 mm above ground level where possible; and
- any structurally weak branches or poorly formed co-dominant stems.

### Street Lights

Foliage trees around street lights must be cleared to enable reasonable lighting levels at night.

### Topiary pruning

These trees (mostly Ficus species) existing within shopping precincts shall be pruned to maintain their round ball shape twice a year. No more than one third of canopy shall be pruned at any one time.

## C. Street Tree Removal Policy

The General Manager – Infrastructure may approve the removal of a tree that does not fit these circumstances under exceptional circumstance. Residents may make an application in writing to the GM – Infrastructure to have a decision reviewed.

A tree is considered **dead** or **dying** if more than 50% of the tree is dead and the tree is no longer capable of sustaining a full healthy canopy regardless of all possible remedial actions that could be undertaken to regenerate the tree.

A tree is considered **hazardous** (or **structurally unsound**) if it has a defect that may cause injury or property damage if not removed. Where remedial measures can be implemented to remove (or reduce) that hazard, consideration should be given to these measures prior to tree removal.

Whether a tree is dead, dying or hazardous can only be determined by Council's appointed qualified Arborists which may include consultant Arborists appointed by Council.

In some situations, such as Bushland Reserves, Council may elect to retain a dead or dying tree if it is considered a Habitat Tree of significant value or if it were to fail would fall in to an area not accessible to the public.

## D. Objections

Trees can be an emotive issue amongst a small portion of the community.

The benefits of trees in the landscape far outweigh the common objections raised by the community. Council will not remove or delay planting of trees based on any of the following or similar objections:

- a. Tree litter/debris, Leaf, Berry and Fruit fall
- b. Resident requesting an inappropriate species
- c. A perceived danger that a tree might fall in a storm
- d. A desire to re-landscape
- e. Previous failures of limbs
- f. Aesthetics/size of a particular species
- g. Access for solar panels or to increase the capacity of solar panels
- h. House re locations
- i. House alterations requiring the relocation of the crossover
- j. Swimming pool installation and perceived problems with roots and/or falling leaves
- k. Shading of lawns, pools and gardens
- l. Improvement of views (including advertising and signage)
- m. The reduction or the impact from any bird, bat other animal waste or noise
- n. To reduce minor allergenic or irritant responses
- o. Re location of utility services ie: power/service lines
- p. Unjustified/unproven property damage claims
- q. Root intrusion in to gardens
- r. Reduce the overhang of foliage over properties beyond the levels as set within the pruning policy.
- s. The perceived height of newly planted trees
- t. The damage a newly planted tree may cause in the future
- u. An aversion to the species of a newly planted tree

# Tree Management Plan

## Risk Management

To date, risk management has been based on a reactive service of responding to customer requests and the cyclic pruning program to identify faults in trees. The cyclic pruning program will allow for recording of defects or development of databases to identify trends with species or specimens over time.

Risk management will be substantially enhanced with the introduction of a city wide tree inventory/data collection and regular auditing. Risk can be mapped, hot spots identified and proactive measures taken across the city to reduce the risk posed by defective/problem trees. It is envisaged that this would have a corresponding effect on reducing insurance claims against council and reducing exposure to liability.

A comprehensive risk analysis and evaluation will be undertaken during any inspection. The objectives of risk analysis is to separate the minor acceptable risks from the major risks and to provide data to assist in the evaluation and treatment of risks. Risk analysis involves consideration of the sources of risk, their consequences and the likelihood that these consequences may occur. Factors which affect consequences and likelihood may be identified. Risk is analysed by combining estimates of consequences and likelihood in the context of existing control measures. The majority of inspections will be undertaken from the ground. Aerial inspections may be undertaken when more than one of the following criteria is met:

- The upper canopy is full, dense and obscured from the ground
- The tree is not accessible from the ground
- An excessive amount of deadwood is present
- There is a suspicion of a major pest or disease outbreak
- The tree is amongst a group of close plantings
- Access for a ground inspection is restricted
- Weather conditions restricts visibility
- Current risk registers for all tree related works will be reviewed/updated annually.
- In determining the risks and risk control methods associated with trees and tree roots, Council will inspect the tree to ascertain:
  - The tree's Structural Root Zone (SRZ)
  - The proximity of the tree to the damaged asset
  - Obvious visual signs of tree root related damage at the site
  - The maturity of the tree
- If the tree is classified as an approved species for the location/size of planting site within the current tree planting policy
- Soil Profile / Reactivity
- Previously removed trees
- Drainage
- Proper construction methods of the damaged asset have been adopted
- Environmental factors
- Age of asset

Appropriate remedial works, if deemed necessary, are likely to include:

- Tree pruning
- Root pruning, root barriers;
- Installation of passive irrigation; and,
- Cabling.

Council will undertake two levels of inspections when assessing trees.

### Level One inspection

A Visual Tree Assessment (VTA) is a world-wide arboricultural industry standard of assessing trees from ground level looking for any external signs of decay, physical damage or growth related structural defects. The majority of all inspections undertaken are from ground level (level one inspection).



## Level Two inspection

This type of inspection is undertaken by physically climbing the tree or other aerial means such as use of an elevated work platform. The need for a level 2 inspection will be determined by the attending arborist based on the following criteria:

- the ground surrounding the tree inhibits the arborist from standing near the tree;
- the upper canopy is full and obscured from the ground making it difficult to fully observe the internal canopy;
- the suspicion of decay or structural faults;
- a branch failure in the extremities of the canopy where the detachment point is not visible from the ground; or,
- failed limbs still present within the canopy.

## Infrastructure conflict

It is recognised that the interface between trees and other assets can result in damage to one or other of the assets. Council's maintenance regime will address the majority of this issue in new plantings, but there are legacy planting issues while will require management in the future.

Council has an inspection regime for publicly owned assets which identifies remedial measures to be taken. This occurs on a biennial basis.

In addition Council responds to service requests for damaged infrastructure such as footpaths that represent trip or other hazards. Neighbouring trees and root networks will be inspected when damage is apparent. These are inspected and rectified by council on an as needs basis.

It is recognised that there is potential for damage to private assets from Council's street and park trees. Where this occurs, Council will investigate solutions for reasonable repairs.

In many cases the cause is not the tree. Infrastructure damage can occur due to other factors. For example:

### Brick fences

- a) The plantings within the property, against a fence, have the potential to cause and may have caused damage to fences. Removal of significant vegetation that may have caused damage to the fence in the past can not be discounted.
- b) Soil build against a fence. This would certainly cause or have the potential to cause pressure against a fence, particularly if insufficient drainage was lacking. Weep holes to enable sufficient drainage is essential in keeping the integrity of any wall.
- c) The tree on the naturestrip could be semi mature and roots found within the property and the crack and damage to a fence are inconsistent in their extent and magnitude.
- d) No plans for the construction of a fence have been provided, (footings and pillars may not be adequate). Poor construction may be attributed to the condition of the fence in its present form.
- e) The fence has an outwardly lean, leaning from the property towards the footpath, suggesting the failure in the fence lies from within the property. Either in the initial construction of the fence or having used the fence for the wrong purpose i.e.: a retaining wall.
- f) The fence is of some age and is in disrepair due to its age.
- g) Roots from private vegetation found near the fence and piers. These roots could be in direct contact with the fence.

### Tree roots and pipes

- h) Any roots that have entered any pipe do so due to the fact that a point of entry has been created (ie: damaged or improperly sealed pipe) roots do not actively seek out water by cracking pipes and then entering them, it is fair to say roots do not enter properly maintained pipes.
- i) Root pruning works can be undertaken as a preventative measure. This in no part suggests or guarantees that roots will be found within the excavation. All root pruning works will be undertaken in accordance with the AS 4970-2009, Protection of Trees on Development Sites.

- j) A homeowner remains responsible for the care and upkeep of their underground services. Terra cotta plumbing may for various reasons permit cracks to form allowing moisture to escape into the soil thereby quite naturally attracting tree roots to the source of the leak.
- k) Tree roots are not known to enter a functional service but rather will exploit points of leakage.
- l) Tree roots rarely grow to the depth of underground services, their lateral root structure being incapable of exerting pressure on a sealed service. Soil softened however by escaping moisture will in contrast attract roots toward the source. Plumbers recommend the installation of PVC fittings to more adequately prevent these difficulties arising.
- m) Councils are required to maintain uniform streetscapes and are not considered liable for naturally occurring actions such as tree roots entering a leaky pipe system.

### Determining liability

As part of the process for determining damage to private assets, the landholder must submit some or all of the following:

- An arborist report detailing the species of the tree/s implicated in the damage and any other trees that could also be contributing to the damage. The report may also contain:
  - Results from recent excavation detailing the presence of tree roots in the vicinity of the damages structure
  - Mitigation measures that may be implemented to stop or reduce the potential for tree damage. – Measures required to make good.
  - Photographic evidence.

#### In the case of damage to built infrastructure:

- A report from a suitably qualified engineer that may detail:
  - o Adequacy of the strength of the structure in accordance with current legislation, regulations, guidelines or Australian Standards
  - o Suitability of the footings of the structure in accordance with current legislation, regulations, guidelines or Australian Standards and in context with soil type
  - o The type of soil, its reactivity and any implications
  - o The results of a long-term level survey detailing how the structure has moved over time.
- The plans for the construction of the fence/dwelling etc.
- The permit issued by Council
- The year the fence/dwelling etc. was built
- Depth of footings
- Any works undertaken to the fence/dwelling etc. since construction
- Soil profile
- Any vegetation removed since the construction of the fence

#### In the case of perceived damage to pipes:

- A report from a plumber or other professional detailing the results of excavation or CCTV footage in relation to damage to underground utilities or assets.
- The location of the pipe o Soil profile
- The location of the damage/leak
- The type of pipe ie: plastic, etc
- The year of installation

Sufficient evidence must be supplied to Council in order that a decision can be made based on fact and not on supposition and assumptions.

### Trees and Power Lines

The Electricity Safety (Electric Line Clearance) Regulations 2015 became law and operational on Sunday, 28 June 2015. The new regulations incorporate a number of significant changes from the 2010 Regulations that will help achieve a better balance between safety, amenity and environmental considerations when managing vegetation around power lines.

Council will prune trees beneath overhead electrical supply lines working towards compliance with Energy Safe Victoria, the current Electric Line Clearing Regulations and Councils current Electric Line Clearance Management Plan (ELCMP).

Council will undertake its duties as the responsible person as set out in the Electricity Safety Regulations (2015). The following are the key objectives of Council fulfilling its stated duties:

- Safety to public and property.
- Maintain a safe work environment for staff and contractors.
- Management of trees for aesthetic, cultural, ecological or environmental significance.
- Maintain continuity of power supply.
- Customer satisfaction.
- Minimise the fire risk from electrical conductors.

Management procedures adopted by Council to ensure compliance with the Code of Practice is:

- Biennial assessment of all tree's under powerlines
- Biennial pruning of all tree's under powerlines, in some circumstances annual pruning will be undertaken
- Through the development of the specification for the maintenance and management of street and reserve trees has identified pruning outcomes that will over a number of years work towards compliance of the code
- Work in conjunction with the power supply authority to achieve better outcomes
- Applying for exemptions under the 2015 Regulations (Part 2—Prescribed Code of Practice and related provisions).

The development of Council's internal database and its biennial audit will allow the efficient search of trees that require pruning for powerline clearance outside the current program.

Following identification of trees that are potentially in conflict with powerlines, Council will program the associated works with its current contractors. In the event that there are no works required this will be noted and the tree reinspected in two years.

Council will continue to review its Electric Line Clearance Management Plan annually and have it available to residents and Energy Safe Victoria.

## Tree planting and establishment

Council is known for its formal tree-lined boulevards and avenues and informal natural corridors of indigenous tree species, which link its high quality open space and native bushland reserves.

Council has an estimated 75,000 street trees, located within road reserves, generally in naturestrips, medians and park frontages. Tree replacement will be considered at the end of a trees safe useful life expectancy. The average expected life of a street tree in Whitehorse is approximately 50 years with a range of 10 to 70 years, species dependent.

Council intends to increase its population through strategic street tree planting by way of whole street upgrades, an aging urban forest renewal program as well as selective infill tree planting. Planting occurs between April and September every year with watering and maintenance on newly planted trees commencing in November, earlier if warranted.

When determining the designated species for streets, Council will endeavour to select the most appropriate species for the location and will consider factors including but not limited to;

- naturestrip widths;
- surrounding and underground infrastructure;
- Resilience to climate change;
- Overall contribution urban forest resilience;
- over head powerlines; and,
- Existing street character.

Council will maintain the tree and undertake all pruning requirements to adhere to all clearance, statutory and legislative obligations. The tree will be maintained by Council, both during the establishment phase and in to its maturity.

Semi-advanced and advanced tree stock, (nominally trees from 1.5 metres to 5metres in height), shall be planted at various locations in the municipality. Typical sites shall be:

- a) Naturestrips in residential streets
- b) Strip shopping centres
- c) Median strips in main roads

## Aging Urban Forest Renewal Program

Council has a number of significant avenues of the same species that are ageing and will need replacement. The significant street tree avenues in Whitehorse have been identified and trees will be inspected and assessed, for their useful life expectancy, health and structural integrity. Once trees have been identified as being a high priority for removal, they will be removed and replaced with established trees in the following planting season to ensure that there are no large gaps in our avenues. The intent of this planting program is to systematically remove trees that have reached their Safe Useful Life (SULE) and replace them with advanced stock. It is envisaged that approximately 30 trees per year be removed and replaced. Streets with an established theme species, ie: *Quercus palustris* (Pin Oak) will be replaced with the same or similar species, resulting in the continuation of the existing avenue and theme. Trees considered to be a lower priority for removal will be monitored and programmed for removal in following years once all the high priority trees have been removed. This is a long term program aimed at ensuring that we can maintain our significant avenues for generations to come.

## In Fill Program

Throughout the year, Council will remove nature strip trees that are dead, dying or hazardous. The residents of the adjoining property are advised of the removal. Site inspections to identify vacant sites where trees have previously been removed will be undertaken annually. All vacant sites will be listed on Councils database once 30 established with the location (address), species of tree to be planted and the number of trees required for the site.

## Tree Establishment

Tree planting will occur on an annual basis with an establishment period of three years. In order to improve tree establishment and longevity, the following program will be undertaken:

- Year 1, tree is planted, pruned, mulched twice, watered, fertilised and maintained weed free;
- Year 2, tree is mulched, watered, fertilised and maintained weed free, stakes are removed; and,
- Year 3, tree is formatively pruned, mulched, watered if required.

This program will operate for all newly planted trees. By the end of Year 3, the tree should be well established and able to become part of the standard city wide pruning program. Residents will be encouraged to assist in the establishment of street trees, by additional watering.

## Planting Procedure

For all semi-advanced and advanced trees, excavate and remove soil to create a hole 300mm larger than the rootball. Backfill hole with excavated clean soil with approved soil conditioner, or imported topsoil if specified. Ensure all excavated material is broken down to 50mm diameter clods maximum.

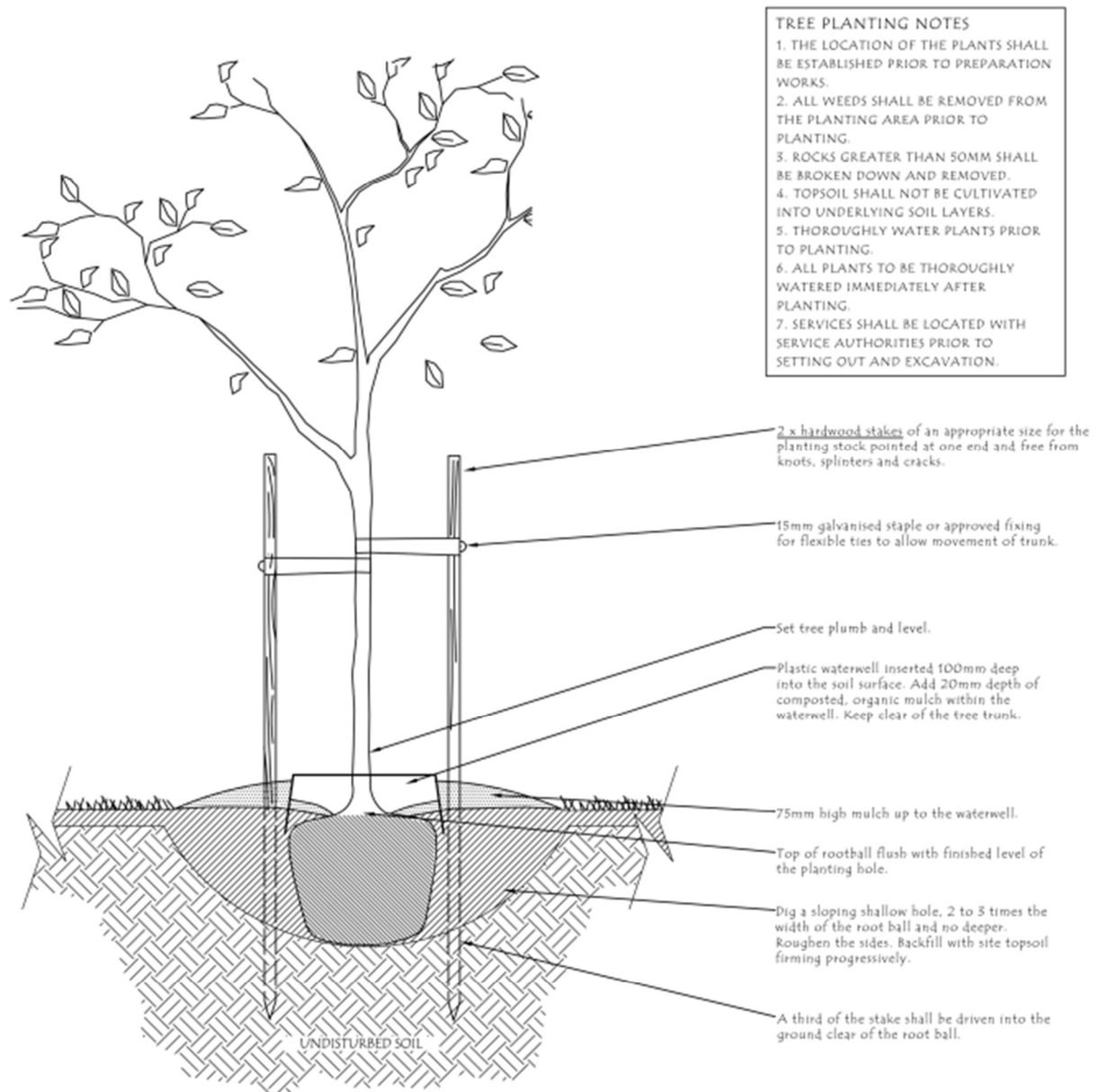
Where planting is shown in straight or curved rows ensure that trees are placed straight and true to line – use a string line where required.

A raised ring of soil capable of holding at least 10 litres of water, shall be constructed at the base of each tree, as detailed, to provide a basin for watering. Mulch is to be placed around the basin and shall not be placed around the base of the trunk.

Trees shall be watered immediately on backfilling to ensure the rootball is fully moistened and the surrounding area is soaked to 200mm from the rootball all around the plant. Install stakes and ties as per detail in planting detail. Stakes shall be structurally and visually free from defects.

## Tree Stock

All tree stock will be sourced from Councils approved list of contracted suppliers. Trees purchased for planting will be in accordance with guidelines of NATSPEC -Specifying Trees – a guide to assessment of tree quality – Ross Clark, in accordance with Draft Australian Standard DR 101589 CP Tree Stock for Landscape Use and sourced from nurseries with Nursery & Garden Industry Victoria accreditation. Tree stock will also be sourced from Councils nursery.



## - LO1 TREE PLANTING DETAIL --- N.T.S.

## Tree Protection

All possible opportunities will be explored to accommodate Council managed trees as part of any future or current development. Developments will not encroach above 10% of the Tree Protection Zones (TPZ) of any Council managed tree in line with the permitted AS 4970 (2009) Protection of Trees on Development Sites. When designing any development the construction of any crossover shall have minimal impact on any trees health. Clearance distances should be adequate to sustain the future of the trees health, root network, vigour and structure to senescence (old age). Any excavation within the Tree Protection Zone (TPZ) should be undertaken by hand, hydro excavation or air spading to ensure adequate protection of the trees root network. Any tree recommended to be retained as part of any development should be protected during the construction phase with temporary fencing.

The following conditions apply within TPZ's

1. No building material shall be permitted to be stored or stockpiled within the Tree Protection Zone.
2. No soil or building debris shall be permitted or stored or stockpiled within the Tree Protection Zone.
3. No alteration to soil levels will be permitted within the Tree Protection Zone.
4. No compaction of the ground within the Tree Protection Zone will be permitted.
5. No vehicles shall be permitted within the Tree Protection Zone.
6. No fuel, oils or chemicals shall be permitted, used or stored within the allocated Tree Protection Zone. Any spills shall be cleaned up immediately.
7. Any pruning required shall be undertaken in accordance with Australian Standard AS 4373-2007 – Pruning of Amenity Trees.
8. No fixtures, wiring or building materials shall be attached to the tree during, before or after the construction phase.
9. Additional watering shall be provided throughout any dry periods during and after the construction phase.

Council will provide feedback to developers and residents on how a tree can be retained as part of any development. Recommendations may include;

- minimum clearance distances to trees
- alternative construction methods
- re-designing of the development
- trenching options ie: boring, hand excavation, hydro excavation etc.

Where a Council managed tree is required to be removed (after being approved by Council's arborist) in relation to a development, the associated amenity valuation (cost) of the tree, its removal, replacement and maintenance for a period of 3 years shall be paid by the property owner or representative prior to the removal.

No council tree may be pruned unless authorised by Council. The pruning of roots and branches will be in accordance with AS 4373-2007, Pruning of Amenity Trees.

The following formula has been prepared to assist with calculating the monetary amenity value of a tree in the City of Whitehorse. This value will be charged to the developer by the City of Whitehorse when a tree is removed. The Amenity Value Formula used by the City of Whitehorse was developed from the formula used by the City of Melbourne. This formula was prepared by Dr. Peter Yau (1990) from the Maurer-Hoffman Formula. The basic monetary value of a tree is determined by matching the trunk diameter at breast height (DBH) with its 33 corresponding value. This Amenity Valuation will cease to be valid after a period of 12 months from the date of the valuation after which time a new valuation must be obtained by the developer.

Council will update the basic value of trees annually in line with the Consumer Price Index (CPI).



## Tree Amenity Value Formula

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

- **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 to the tree will also modify how the tree is scored. Judgement regarding species factor must be made by a qualified Arborist.
- **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.
- **Locality (L)** – The locality factor is determined by the tree's geographical situation. Trees in a bushland area or important tree lined avenue score highest because of the importance of the tree to the growing environment in which the tree is located.
- **Tree Condition (C)** - The tree condition value is determined by the trees: trunk, growth rate, pests and diseases, structure, canopy development and life expectancy.

When young trees with a 5cm trunk diameter or less will be replaced by another tree, there will be no amenity value charge. The removal of trees with a trunk diameter greater than 5cm however, if replaced with another tree, will be calculated and charged, the average amenity value of a young replacement tree.

## Management of trees on reserved roads

Within the municipality, there are a number of reserved roads. Historically these roads, not being on Council's Road Register have not been pruned. In 2014 Council made a commitment to prune trees within reserved roads. The pruning undertaken within these streets will be undertaken annually and be pruned keeping in mind the species (native and indigenous) and the specific requirements when pruning trees of this age and species. Council from time to time will be required to perform additional pruning of these trees outside of its annual program.

Streets include:

- Linum Street, Blackburn
- Laurel Grove, Blackburn
- Boongarry Avenue, Blackburn
- Laurel Grove, Blackburn
- Furness Street, Blackburn
- Jeffery Street, Blackburn
- Sanders Road, Box Hill
- Hovea Street, Mitcham
- Irvine Street, Mitcham
- The Glade, Mitcham
- Grove Street, Vermont
- Moore Road, Vermont
- Canowindra Close, Vermont South

Council is responsible for maintaining trees on nature strips and within the road reservation whether it is clearly defined as a naturestrip or not.

Furthermore, Council is required to prepare and present for approval to Energy Safe Victoria (ESV) an annual Power Line Vegetation Management Plan. The Plan describes how Council will manage vegetation in the vicinity of power lines to ensure compliance with the Electricity Safety Act 1998 and the current Electricity Safety (Electric Line Clearance) Regulations 2015. Under Section 84C of the Electricity Safety Act 1998 it is Council's responsibility to prune the vegetation clear of the power lines on a bi annual cycle.

Under the Electricity Safety Act 1998, Council is responsible for the clearance of vegetation from powerlines (under a statutory duty and a common law duty) growing within roads in the municipal district so long as –

- a) The roads are vested in Council;
- b) The trees are situated on the land that is vested in Council;
- c) The electric lines are not privately owned; and,
- d) It is reasonably required to clear the trees from the electric lines because the trees are affecting the safe supply of electricity or the reliable and secure supply of electricity.

The electrical distribution businesses and Energy Safe Victoria conduct inspections and audits of power lines and foliage in the municipality to ensure the Council tree maintenance regime is compliant with the Power Line Vegetation Management Plan.

## Pest and disease

Managing pests and disease is vital in maintaining the canopy coverage of the existing Urban Forest. This will involve monitoring, containment, treatment and in some instances eradication. Council will establish and maintain a diverse tree population so that the Urban Forest is less prone to pest and disease attacks. Continual monitoring of the tree population through its data collection will enable Council to contain and where necessary treat any significant pest and disease outbreaks. Biological control will be the preferred option. Major pests and diseases threats to the Whitehorse tree population include:

DISEASE	CONTROL/ERADICATION MEASURE
Elm Leaf Beetle	Current measures will continue. Soil injection periodically from late autumn to spring. This treatment is the preferred method being the safest option and effective for 2-3 years. Biological control options are also available.
Myrtle Rust	Detected in Victoria in 2011 no cases observed within Whitehorse. Implement a fungicide spray program
Cypress Canker	The most significant of the pathogens currently affecting exotic conifers in Victoria. The canker has been found to have spread rapidly in both urban and rural areas alike. There is no proven cure for this disease. Council has removed effected trees to control the spread of the pathogen.
Giant Pine Scale	Detected in Victoria in 2014 no cases observed within Whitehorse. Monitoring of the Pine population will continue.
Borer/termites	There are very few proven treatments for the treatment of borer. Council will consider removal of effected trees to control the spread of borer. Requests received about termites in trees in Council managed trees will be inspected by Councils arborist. However, as termites are a natural part of the environment, Council may not take any action to treat termites. It is the responsibility of the property owner to protect their own assets from termite infestation.
Bracket Fungi	There is no treatment for the removal of bracket fungus. The removal of infected branches to prevent further spread will be undertaken. Further monitoring of the tree to ascertain deterioration and declining health.

## Action Plan for Plan for Pest and Disease Control

- Council will implement a register of locations where significant out breaks of pests and diseases exist through its tree inventory.
- Bi-monthly inspections will be undertaken on the condition of the trees.
- Any works required particularly removal should be undertaken immediately to stem the spread of the pest or disease.
- All pruning implements that are used to remove or prune trees should be sterilised to inhibit the spread of any pest or disease.
- Alternative species other than the affected species should be planted to replace the trees that are removed.

## Trees in Parks and Reserves

Council has more than 690 hectares of open space including bushland reserves, parks, gardens, recreation reserve, trails and streetscapes that create a pleasant urban environment. These open space sites equates to 10.7% of the area of the municipality.

### Bushland

Council manages a number of bushland parks throughout the municipality. Many of these areas are natural remnants of the original vegetation that existed on the site before developments occurred. Some areas are recreated or revegetated through the introduction of native plants. Sizes of bushland areas vary from small clumps that may only be few square metres through to vegetation that occupies a number of hectares.

Bushland parks provide a home for local native wildlife and also ensure that native and other indigenous, or local vegetation, is preserved. There is a significant commitment by the local community to help practically in the management of bushland sites.

Council is responsible for ensuring public safety in open space areas. The pruning and /or removal of trees is a sensitive issue. Dead trees and branches, especially over pathways, playgrounds and high activity areas can pose a threat to public safety. Council has seen a significant increase in requests for dead branch removal, especially in bushland areas.

A Bushland tree hazard/habitat pruning program is currently in place. Trees are pro-actively inspected and audited for their health, hazardous rating and pruning/removal requirements. Inspections are undertaken on a three year cycle.

Council has developed a formalized “walk through” process which informs the Community / Advisory Committees of the decision-making process relating to the safety of individual trees. The process balances Council’s responsibility to ensure safety of park users, and the environmental / ecological benefits of vegetation including dead branches / trees in open space areas.

Individual reports / requests regarding dangerous trees will continue to be investigated on a case by case basis with Parkland Advisory Committees and related community groups being notified prior to impending works. In emergency situations Advisory Committees and related groups will be advised as soon as practicable.

### Habitat

Trees in bushland sites are managed differently to those situated in amenity parks and streetscapes. Trees are valued for their habitat value in bushland sites and are often pruned rather than removed. Logs are often left remaining on site to mimic natural environments. Habitat Trees are those that have significant habitat value – i.e. specific features or attributes, such as nesting hollows or perches, which provide habitat for fauna.

Council may elect to retain a tree – usually a dead or dying tree – if it is considered to have the above attributes suitable for habitat purposes and the tree may require pruning to reduce the risk that a dead or dying tree might otherwise present to “targets” within its vicinity.

“Habitat Pruning” is carried out to remove any hazardous limbs, such as dead or structurally defective limbs, and retain habitat features such as hollows, which are usually found in the main trunk or secondary leaders. The formation of decay within the limbs is necessary in order for hollows to form, thus increasing the habitat value.

Habitat Trees are usually confined to Bushland sites however Council may nominate any tree as a suitable Habitat tree.

### Woody Weeds

A natural bushland setting relies on the plants within the landscape being of local indigenous origin. When settlement occurred many exotic species of trees were introduced that have thrived in our local environment. Seed can often be spread by wind, birds, water courses and other means resulting in unwanted trees, plants and grasses. These unwanted trees are referred to as ‘Exotic Woody Weeds’. A three year woody weed program currently exists to eradicate species like Pittosporum, Cotoneaster etc. from the natural environment. Under the Vegetation Management in Parks Policy (2009), removal of these trees will reduce the amount of introduced exotic species and lower the amount of seed generated in the natural environment.

## Fuel Reduction

An annual site inspection of all reserves will be conducted to identify fuel reduction work needed for the upcoming fire season. This inspection is to be based on bushfire risk management criteria, in addition to meeting the statutory requirements of the Metropolitan Fire Brigade. The works program shall be signed off to ensure completion at a satisfactory standard before the fire danger period commences.

## Powerlines

An annual inspection shall be made of power lines that abut or pass through any reserve any pruning work needed is undertaken to comply with Electricity Safety Regulations (2015).

## Management of significant Streetscapes

A significant streetscape within the City of Whitehorse is defined as a street that is planted with trees generally of the same species or cultivar, so as to give a uniform appearance along the full length of the street. They can be of historical, social, visual, geographical, species and or size significance. Replacement plantings within these streets will be of the same existing species within the street to keep the integrity and consistency of the avenue intact. Established trees within these avenues will be inspected annually to assess their health and any change to their safe useful life (SULE). Trees that require removal will be removed and replaced under Councils Aging Urban Forest Renewal Program. All residents within the street will be notified of any removal. The following provides a list of the currently identified significant street scapes within the municipality.

STREET	SUBURB	SPECIES
Pakenham Street	Blackburn	Eucalyptus cinerea
Maple Street	Blackburn	Quercus plaustris
Laburnum Street	Blackburn	Quercus plaustris
Goodwin Street	Blackburn	Quercus plaustris
Cottage Street	Blackburn	Quercus plaustris
Surrey Road – between Springfield Rd and Whitehorse Rd	Blackburn	Quercus plaustris
Maple Street	Blackburn	Quercus plaustris
Pope Road	Blackburn	Quercus plaustris
Vine Street	Blackburn	Phoenix canariensis
Kintore Crescent	Box Hill	Quercus plaustris
Margaret Street	Box Hill North	Quercus plaustris
Frank Street	Box Hill South	Quercus plaustris
Haig Street	Box Hill South	Quercus plaustris
Burnett Street	Mitcham	Quercus plaustris / melaleuca styphelioides
Doncaster East Road	Mitcham	Quercus plaustris
Vernal Avenue	Mitcham	Quercus plaustris
Mont Albert Road	Mont Albert	Quercus plaustris
Windsor Crescent	Mont Albert	Quercus plaustris
Balmoral Grove	Mont Albert	Quercus plaustris
Tunstall Avenue	Nunawading	Quercus plaustris / Lophostemon confertus
Laughlin Avenue	Nunawading	Melaleuca styphelioides
Nicholson Street	Nunawading	Quercus plaustris / Lophostemon confertus
Park Road	Surrey Hills	Quercus plaustris
Shepherd Street	Surrey Hills	Platanus acerifolia
Broughton Road	Surrey Hills	Quercus rubra

This list will be updated following the completion of Council's street tree inventory.