



# TREE PLANTING AND APPROVED PLANT LIST POLICY

**THE CORPORATION OF THE TOWN OF AURORA  
PARKS AND RECREATION SERVICES**  
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## **1.0 PURPOSE**

The purpose of this Policy is to make available in one reference all the various aspects of tree planting.

The priorities, requirements, procedures and specifications outlined are to be adhered to when approving and planting trees on municipal lands and on private lands where site development is subject to any required municipal approvals. They apply whether the work is performed by Town staff or contractually by private companies.

Where a conflict exists with either the priorities, requirements, procedures or specifications outlined in this document, it is the responsibility of the proponent to justify the need for an exception and obtain written approval from the Director of Parks and Recreation.

## **2.0 SPECIES DIVERSITY**

A major concern for the tree planting program is the need for species diversity. Diversity is an important element in the long-term health of the urban forest. The effects of Emerald Ash Borer (EAB) in the GTA and a larger area of the province is a tragic example of the need for species diversity.

The following is the recommended species diversity percentage for the Town of Aurora Urban Forest.

*No species represents more than five per cent of the tree population, no genus represents more than 10 per cent of the tree population, and no family represents more than 20 per cent of the intensively managed tree population both municipal-wide and at the neighborhood level.*

*Genus is defined as a category of biological classification ranking between the family and the species comprising structurally or genetically related species.*

## **3.0 SPECIES SELECTION**

Table 2 constitutes the official tree species list for the Town of Aurora. No species other than those included in this table may be planted on public land without the written permission of the Director of Parks and Recreation.

**Table 2: Tree Species and Site Suitability**  
 (applicable to other than Site Plan Development Agreements)

TREE TYPE		SITE SUITABILITY			
		OPEN SPACE <sup>1</sup>	STREET TREES		
		Includes parks open space areas & storm water management areas. (native trees only)	Residential Streets	Turf Areas, Buffers or Planting Beds on Boulevards	Tree Wells/Hardscape (in hard surface areas such as sidewalks, plazas, i.e.: concrete, paving stone) Medians and Traffic Islands
<b>D E C I D U O U S  T R E E S</b>	<b>SHADE TREES</b>		Freeman Maple & cultivars State Street Maple Black Maple & cultivars Sugar Maple & cultivars Silver Maple & cultivars Sunset Maple & cultivars Yellow Buckeye Ohio Buckeye Horse Chestnut Northern Catalpa Common Hackberry Turkish Hazel Maidenhair Tree & cultivars Honey Locust & cultivars Kentucky Coffee Tree – Espresso Tulip Tree Black Gum Ironwood Seedless Amur Cork Trees Planetree & varieties White Oak Swamp White Oak Bur Oak English Oak Chinkapin Oak Lincoln Linden Redmond Linden Little Leaf Linden Glenleven Linden Stirling Silver Linden Princeton Elm Frontier Elm Accolade Elm Prospector Elm Green Vase Zelkova	Freeman Maple & cultivars State Street Maple Black Maple & cultivars Sugar Maple & cultivars Silver Maple & cultivars Sunset Maple & cultivars Yellow Buckeye Ohio Buckeye Horse Chestnut Northern Catalpa Common Hackberry Turkish Hazel Maidenhair Tree & cultivars Honey Locust & cultivars Kentucky Coffee Tree – Espresso Tulip Tree Black Gum Ironwood Seedless Amur Cork Trees Planetree & varieties White Oak Swamp White Oak Bur Oak English Oak Chinkapin Oak Lincoln Linden Redmond Linden Little Leaf Linden Glenleven Linden Stirling Silver Linden Princeton Elm Frontier Elm Accolade Elm Prospector Elm Green Vase Zelkova	Freeman Maple & cultivars State Street Maple Black Maple & cultivars Sugar Maple & cultivars Silver Maple & cultivars Sunset Maple & cultivars Yellow Buckeye Ohio Buckeye Horse Chestnut Northern Catalpa Common Hackberry Turkish Hazel Maidenhair Tree & cultivars Honey Locust & cultivars White Oak Swamp White Oak Bur Oak English Oak Chinkapin Oak Lincoln Linden Redmond Linden Little Leaf Linden Glenleven Linden Stirling Silver Linden Princeton Elm Frontier Elm Accolade Elm Prospector Elm Green Vase Zelkova
		<b>ORNAMENTAL TREES</b>	Mountain ash species Amur maple Japanese tree lilac Calleryana Pear & cultivars Downey Serviceberry Hedge Maple	Mountain ash species Amur maple Japanese tree lilac Calleryana Pear & cultivars Downey Serviceberry Hedge Maple	Mountain ash species Amur maple Japanese tree lilac Calleryana Pear & cultivars Downey Serviceberry Hedge Maple
	<b>CONIFEROUS TREES</b>	White pine Larch Spruce species Balsam Fir Silver Fir Cedar		Spruce Species White Pine Balsam Fir Silver Fir	

#### **4.0 TREE SPACING AND SETBACK REQUIREMENTS**

Listed below are the minimum distances required between trees and setbacks from various infrastructure elements. The Manager of Parks may consider alternatives to these requirements when the developer, contractor or their agents provide a written submission outlining the reasons for waiving the requirements.

##### **4.1 Spacing Between Trees**

- Spacing between trees shall reflect the chosen species' ultimate width, the site conditions and design criteria
- Spacing between ornamental small canopy trees on residential streets shall not exceed 8 metres
- Spacing between larger canopy shade trees on residential streets shall not exceed 10 metres
- Boulevard width for a single tree row - 4 meters
- Boulevard width for a double row of trees is 10 meters
- Minimum setback from curb is 1.75 meters
- Back of walk residential street tree plantings - 1.5 meters minimum

##### **4.2 Street Tree Setbacks from Infrastructure Elements**

- Trees should be planted in accordance with *Appendix 1, Policy "A" Landscape Design Guidelines and By-law Number 4734-05.P* being a by-law to regulate the planting of shade or ornamental trees upon the highways under the jurisdiction of the Town of Aurora.
- Major underground utilities - 1 meter (i.e.: main gas lines, primary cables – 14,000 volts and concrete ducts)
- Street lights - 3 meters
- Fire hydrants – 1.5 metres
- Transformers - 1.5 meters or 3 meters from opening
- Driveways or curb cuts - 1.5 meters
- Regulatory traffic signs - 9 meters
- Bus stops - 2 meters
- Overhead power lines
  - 10 meters offset for trees that grow to a mature height of 10 meters
  - 5 meters offset for trees that grow to a mature height of less than 10 meters
- Intersection curb
  - 10 meters
  - In the vicinity of intersections a minimum vertical clearance to the canopy of 2 meters is desirable to provide clear sightlines for motorists

##### **4.3 Trees Should Not Be Planted In the Following Areas**

- So as to obstruct the stopping sightline distance for motorists approaching a traffic sign or signal
- So as to obstruct the clear line of sight of motorists or pedestrians approaching a street intersection or exiting a curb crossing, walkway or alley on the street
- The use of coniferous trees which block sightlines for both drivers and pedestrians should be avoided in boulevard areas
- Under canopies or overhead signs except for certain small species
- In loading, taxi, bus, police or handicap zones

- In storm channel floodways and storm water swales/ditches
- On the reading side of regulatory signs i.e.: stop signs, no parking signs
- In front of doorways, entrance walkways, show windows, unless spacing requirements permit
- On major arterial roadways where the boulevard is less than 6 meters wide
- Anywhere prior to obtaining underground utility locates indicating that the location is clear of all public or private buried utilities

## **5.0 PLANTING PROCEDURES**

It is essential that proper planting procedures be employed to protect the safety of employees and the Town's investment in the urban forest.

- The safety of employees is important to the Town. Employees must follow established standard operating procedures and safety requirements to minimize the chance of injury
- As outlined in *Appendix 1, Policy "A" Landscape Design Guidelines*

### **5.1 Safety Requirements**

All workers are required to follow the safety procedures outlined in *Appendix 6, Policy "F" Health & Safety Training Requirements*

### **5.2 Protection**

The following requirements shall be adhered to when transporting and planting trees.

- Protect all plant material from damage and breakage. Protect all parts of the plant material from drying out from the time of digging until the time of planting
- Ensure that transported plant material is adequately protected from sun and wind. Trees that are moved by truck shall be moistened with a gentle spray and covered with a tarp
- Trees shall be planted immediately after removal from the nursery. All plants not installed by the end of the shift will be watered

### **5.3 Marking The Site**

- Usually the Forestry Technician marks the site. However, this task may be delegated. For subdivision developments the developer's forces shall mark the site. Marking locations shall be approved by the Town of Aurora Landscape Architect
- Leaflets describing trees to be planted and planting information are to be dropped off at all houses where residential planting is to occur. Leaflets are available from the Town of Aurora Parks Division
- When marking a site, consideration must be given to the following factors:
  - existing trees/species of trees
  - sightline bylaw
  - overhead power lines
  - utility setbacks (call all companies and order locates prior to digging and planting)
  - building and fence set back
  - street setbacks (signage)
  - street light and train utilities setbacks
  - bus stop setback
  - amenity setbacks (i.e. tennis courts, bench, playground)
  - private property setbacks
  - irrigation lines
  - water and service lines

When marking tree holes, use one or a combination of the methods listed below:

1. Spray Paint (pink)
  - convenient
  - will last 3 - 4 weeks when grass is not growing vigorously
  - does not work well if the site has no turf
  - use a mark such as an "X" to avoid confusion with utility locations
  - mark dot on sidewalk adjacent to the location
2. Stakes
  - convenient
  - visible from a distance
  - ideal in loamed areas
  - subject to removal by public
  - pose a potential hazard near playgrounds or athletic field

#### **5.4 Tree Staking**

Staking a tree may be required for the following reasons:

- To provide anchorage for roots while they become established
- To maintain a trunk in vertical position
- To provide support for the trunk and crown
- To provide protection to the trunk

A stake is used to support a tree, not to straighten a crooked one. In most cases, tree staking is not necessary with wire basket planting. However, if the tree will not support itself, staking will be required. The following procedures should be followed when staking a tree.

- Use steel stakes instead of wood
- Stakes must be imbedded in firm ground
- Stakes should not be put through the root ball
- Stakes are to be tied to the tree at one-half to two-thirds of the tree's height
- Use a rubber hose on all guy wires to protect the tree at the point of contact
- Use 2 stakes for deciduous trees and 3 stakes for coniferous trees
- Put one stake on northwest side of the tree
- Tree stakes and ties must be removed after two years

#### **5.5 Watering**

Trees shall be watered immediately after planting. Water must be applied slowly to avoid creating air pockets and eroding soil from the roots. Tree wells shall be made to hold water. They shall be no larger than the circumference of the planting hole and maintained for a minimum of one year regardless of whether the planting is in an irrigated or unirrigated site.

#### **5.6 Planting Procedures**

The Town currently uses three procedures for planting trees.

- 5.6.1 Wire Basket
- 5.6.2 Bare Root
- 5.6.3 Tree Spading

##### **5.6.1 Wire Basket**

This procedure refers to trees that are dug by tree spade or a tree baller and placed into wire baskets. Basketing of trees is done at the nursery by nursery staff or by the supplier. Wire basket trees are usually larger trees with a caliper of 50 mm to 100 mm.

#### Procedures

- 1) **Confirm** arrangements for delivery or pick-up of trees from the nursery through supervisor.
- 2) **Open** prepared tree holes by tree spade or shovel as indicated on the tree planting map.
- 3) **Place** the tree ball in the open hole so that the root collar is at 100 mm above grade and **Plumb** the tree straight.
- 4) **Remove** the top ring of the basket and cut the second ring in three or four places. **Don't leave sharp edges.**
- 5) **Remove** all strapping and burlap from around the base of the tree trunk. To prevent wicking, burlap must be either cut off or peeled back below the soil surface from the top 1/3 of the root ball.
- 6) **Backfill** around tree root ball and tamp. Avoid creating air pockets.
- 7) **Form** the tree well.
- 8) **Stake** the tree if necessary (see staking detail *Appendix 1, Policy "A" Landscape Design Guidelines - detail PL1*).
- 9) **Arrange** for watering immediately. If it is necessary to fertilize in the first year for example, due to poor soil conditions, a fertilizer formulated to suit the soil condition should be used to prevent damage to the tree roots.
- 10) **Recheck** backfilling and add loam where necessary following watering.
- 11) **Remove** or prune broken branches.
- 12) **Clean** up site.
- 13) **Record** all plantings, as they are completed, in the tree inventory.

#### 5.6.2 Bare Root

Bare root are trees primarily dug at the nursery that are in their dormant state. They are usually smaller trees with a caliper of 25 mm - 50 mm.

#### Procedures

- 1) **Confirm** arrangements for delivery or pick-up of trees from the nursery. All bare root trees shall be moistened and covered at all times during transportation and on site when planting.
- 2) **Open** prepared tree holes by auger or a sharp shovel as indicated on the tree planting map. Score holes where an auger or spade is used. The tree hole must be larger than tree roots. Do not cut the tree's roots to fit the hole.
- 3) **Prune** off all damaged roots and branches before planting.
- 4) **Spread** out roots in the hole. Holes should fit the tree roots not vice versa. If necessary, enlarge the hole to accommodate the roots. Do not bend or cut roots to fit hole.
- 5) **Hold** the tree trunk in a vertical position while the helper backfills the tree hole. Top soil shall be used to backfill the hole. While the tree is being backfilled, the person holding the tree shall gently shake the tree up and down to settle loam around the tree roots. Tamp the loam frequently to remove air spaces being careful not to damage the roots. Care must be taken to ensure the tree is planted at the same soil level as it was grown in the nursery. The final soil level in the tree well must be 100 mm above the surrounding grade.
- 6) **Form** the tree well (minimum 150 mm depth and 1 meter diameter).
- 7) **Stake** tree, if necessary (see staking detail *Appendix 1, Policy "A" Landscape Design Guidelines, detail PL1*).



- 8) **Arrange** for watering immediately (fertilize if necessary).
- 9) **Recheck** backfilling and tree well, adding loam where needed.
- 10) **Clean-up** site.
- 12) **Record** all plantings as they are completed.

### 5.6.3 Tree Spading

- 1) **Confirm** arrangements for spading of trees from the nursery through supervisor.
- 2) **Select** appropriate sized tree spade based on diameter size of tree to be spaded. Typical one foot of root area per one inch of tree trunk diameter measured at 1 meter above grade level e.g. 5" diameter tree requires 60" tree spade
- 3) Proceed to first planting location. Open tree planting hole by tree spade as indicated on the tree planting map. Temporarily cover tree planting hole to make safe.
- 4) Proceed to the tree nursery or site of tree to be spaded and dig tree.
- 5) **Place** the tree in the open hole, level and straighten.
- 6) **Backfill** around tree root ball with fine screened top soil and thoroughly water in to fill all air spaces.
- 7) **Form** the tree well with screened top soil followed by mulch.
- 8) **Stake** the tree if necessary (see staking detail *Appendix 1, Policy "A" Landscape Design Guidelines* - detail PL1).
- 9) **Arrange** for additional watering immediately. If it is necessary to fertilize in the first year for example, due to poor soil conditions, a fertilizer formulated to suit the soil condition should be used to prevent damage to the tree roots.
- 10) **Recheck** backfilling and add loam where necessary following watering.
- 11) **Remove** or prune broken branches.
- 12) **Clean** up site.
- 13) **Record** all plantings as they are completed in the tree inventory.

## 6.0 REPLACEMENT TREES

Street Trees that have been removed, damaged or destroyed as a result of a motor vehicle incident or other factors shall be replaced within a one year period from the date that the previous tree was removed from the site.

Where possible, the replacement tree will be of the same or similar species. The Town reserves the right to plant an alternative species should it be determined that an alternative species is better suited to the particular planting site.

Replacement trees will be sized according to Town Standards for street trees with a caliper diameter size ranging between a minimum of 50mm to a maximum of 70mm dug in a wire basket, burlap wrapped root ball, sized according to the particular caliper diameter of the tree.

### 6.1 Property Owners Requests for Town to Plant

- Property owners requests for the Town to plant a new street tree on the road allowance in the vicinity of their property will be considered on an annual basis pending available funding in the annual Parks operational budget
- Tree planting requests will be considered on a first come first serve basis and planting will be scheduled in either the spring or fall planting season

- The municipal Arborist shall coordinate the tree planting with the requestor to determine tree species, planting location and location of buried services. Should it be determined that the proposed planting site is not acceptable due to physical site restrictions associated with buried services or above ground public utilities, the requestor shall be advised that tree planting is not possible

### **6.2 Property Owners Requests to Plant on Town Property**

- Property Owners requesting to plant their own trees or plant material on the Municipal road right of way will not be approved by the Town due to public liability related matters. Alternatively, property owners can request the Town to conduct the planting
- Plant material for planting on municipal property must be selected from the Towns approved species list of plant material and approved by the Manager of Parks
- Upon selection of the appropriate tree species and quantity of trees, the Manager of Parks will provide the property owner with a written price quotation / contract for the planting service and a planting time frame
- Upon receipt of the signed contract and full payment for the tree planting the planting work will be scheduled for the next available spring or fall planting season

### **6.3 Unauthorized Planting on Town Property**

Please refer to by-law # 4734-05 Tree Planting.