

# Chapter 4 : Landscaping

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## 4.1. Purpose and Intent

To provide a comprehensive guide on permitted plant materials that are compatible with the landscape standards in the Town of Aberdeen Unified Development Ordinance, and to help educate the public about the appropriate types of trees and shrubs to plant in the community.

### 4.1.1. - Introduction

The purpose of this section is for use in conjunction with the landscape requirements found in Section 5.5 – Landscaping of the Town of Aberdeen Unified Development Ordinance. It is also designed for general use to educate the public about the appropriate types of trees to plant in the community. It should be noted, although the species on this list were compiled from a variety of reputable sources (listed at the end of this introduction), these are only recommendations, and there may be other plant materials that might be considered acceptable. If there is a particular species of tree or shrub not listed that you would like to plant to meet the Town's landscaping requirements, contact the Planning & Inspections Department to request approval..

### 4.1.2. - Utilities

- A. Overhead.** A major challenge when maintaining trees in an urban setting is preventing their limbs from conflicting with overhead utilities, especially electric lines. Only certain trees are appropriate to plant within 20 feet of overhead utility lines, because they typically do not exceed 20 feet in height. However, since the height of utility lines vary considerably, each site should be examined carefully before deciding what and where to plant.
  
- B. Underground.** Roots can also impact underground utilities, such as water/sewer lines. Only vegetation with shallow root systems should be planted near below ground utilities, but never closer than 3 feet.

## 4.2 - Acceptable Plant Materials

### 4.2.1. - Canopy Trees

<b>Table 4.2.1 : Canopy Trees</b>		
Canopy Trees		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Acer barbatum (floridanum)</i>	Southern sugar or Florida maple	Deciduous
<i>Acer negundo</i>	Boxelder	Deciduous
<i>Acer rubrum</i>	Red maple	Deciduous
<i>Acer saccharinum</i>	Silver maple	Deciduous
<i>Acer saccharum</i>	Sugar maple	Deciduous
<i>Aesculus flava (octandra)</i>	Yellow buckeye (Horse chestnut)	Deciduous
<i>Betula nigra</i>	River birch	Deciduous
<i>Calocedrus decurrens</i>	Incense Cedar	Evergreen
<i>Carya cordiformis</i>	Bitternut hickory	Deciduous
<i>Carya glabra</i>	Pignut hickory	Deciduous
<i>Carya illinoensis</i>	Pecan	Deciduous
<i>Carya lacinoisa</i>	Shellbark hickory	Deciduous
<i>Carya ovata</i>	Shagbark hickory	Deciduous
<i>Carya tomentosa</i>	Mockernut hickory	Deciduous
<i>Catalpa bignonioides</i>	Southern catalpa	Deciduous
<i>Catalpa speciosa</i>	Northern) catalpa	Deciduous
<i>Celtis laevigata</i>	Southern (or sugar) hackberry	Deciduous
<i>Celtis occidentalis</i>	Common hackberry	Deciduous
<i>Chamaecyparis thyoides</i>	Atlantic white (swamp) cedar	Evergreen
<i>Cladrastis kentuckea</i>	American yellowwood	Deciduous
<i>Cladrastis lutea</i>	Yellowwood	Deciduous
<i>Cryptomeria japonica</i>	Japanese Cedar	Evergreen
<i>Diospyros virginiana</i>	Common persimmon	Deciduous
<i>Fagus grandifolia</i>	American beech	Deciduous
<i>Fraxinus americana</i>	White ash	Deciduous

<b>Table 4.2.1 : Canopy Trees</b>		
Canopy Trees		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Fraxinus pennsylvanica</i>	Green ash	Deciduous
<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Thornless honeylocust	Deciduous
<i>Gymnocladus dioicus</i>	Kentucky coffeetree	Deciduous
<i>Ilex opaca</i>	American holly	Evergreen
<i>Juglans cinerea</i>	Butternut	Deciduous
<i>Juglans nigra</i>	Black walnut	Deciduous
<i>Juniperus Communis</i>	Common Juniper	Evergreen
<i>Liquidambar styraciflua</i>	Sweetgum	Deciduous
<i>Liriodendron tulipifera</i>	Tulip (yellow) poplar	Deciduous
<i>Magnolia acuminata</i>	Cucumbertree magnolia	Deciduous
<i>Magnolia virginiana</i>	Sweetbay magnolia	Evergreen
<i>Nyssa ogeche</i>	Ogeechee tupelo	Deciduous
<i>Nyssa sylvatica</i>	Black gum (tupelo)	Deciduous
<i>Pinus palustris</i>	Longleaf Pine	Evergreen
<i>Platanus occidentalis</i>	Sycamore	Deciduous
<i>Populus deltoides</i>	Eastern cottonwood	Deciduous
<i>Prunus sargentii</i>	Sargent cherry	Deciduous
<i>Prunus serotina</i>	Black cherry	Deciduous
<i>Quercus alba</i>	White oak	Deciduous
<i>Quercus bicolor</i>	Swamp white oak	Deciduous
<i>Quercus coccinea</i>	Scarlet oak	Deciduous
<i>Quercus falcata</i>	Southern red oak	Deciduous
<i>Quercus hemisphaerica</i>	Laurel (Darlington) oak	Deciduous
<i>Quercus imbricaria</i>	Shingle oak	Deciduous
<i>Quercus laurifolia</i>	Swamp laurel (diamond leaf) oak	Deciduous
<i>Quercus lyrata</i>	Overcup oak	Deciduous
<i>Quercus macrocarpa</i>	Bur oak	Deciduous
<i>Quercus michauxii</i>	Swamp chestnut oak	Deciduous
<i>Quercus muehlenbergii</i>	Chinkapin oak	Deciduous
<i>Quercus nigra</i>	Water oak	Deciduous

<b>Table 4.2.1 : Canopy Trees</b>		
Canopy Trees		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Quercus nuttallii</i>	Nuttal oak	Deciduous
<i>Quercus palustris</i>	Pin oak	Deciduous
<i>Quercus phellos</i>	Willow oak	Deciduous
<i>Quercus prinus/ montana</i>	Chestnut oak	Deciduous
<i>Quercus rubra</i>	(Northern) Red oak	Deciduous
<i>Quercus shumardii</i>	Shumard oak	Deciduous
<i>Quercus stellata</i>	Post oak	Deciduous
<i>Quercus velutina</i>	Black oak	Deciduous
<i>Quercus virginiana</i>	(Southern) Live oak	Evergreen
<i>Robinia pseudoacacia</i>	Black locust	Deciduous
<i>Sassafras albidium</i>	Sassafras	Deciduous
<i>Taxodium ascendens</i>	Pond cypress	Deciduous
<i>Taxodium distichum</i>	Bald cypress	Deciduous
<i>Thuja occidentalis</i>	American arborvitae (White cedar)	Evergreen
<i>Thuja canadensis</i>	Canadian Hemlock	Evergreen
<i>Thuja plicata</i>	Giant arborvitae (Western redcedar)	Evergreen

## 4.2.2. - Understory Trees

<b>Table 4.2.2 : Understory Trees</b>		
Scientific Name	Common Name	Deciduous / Evergreen
<i>Aesculus glabra</i>	Ohio buckeye	Deciduous
<i>Aesculus pavia</i>	Red buckeye	Deciduous
<i>Aesculus sylvatica</i>	Painted buckeye	Deciduous
<i>Alnus sarrulata</i>	Tag (hazel) alder	Deciduous
<i>Amelanchier arborea</i>	Downy serviceberry	Deciduous
<i>Amelanchier canadensis</i>	Shadblow (Shadbush) serviceberry	Deciduous
<i>Asimina triloba</i>	Pawpaw	Deciduous
<i>Carpinus caroliniana</i>	American hornbeam	Deciduous
<i>Castanea pumila</i>	(Alleghany) Chinquapin	Deciduous

<b>Table 4.2.2 : Understory Trees</b>		
Scientific Name	Common Name	Deciduous / Evergreen
<i>Cercis canadensis</i>	Eastern redbud	Deciduous
<i>Chionanthus virginicus</i>	(White) Fringe tree	Deciduous
<i>Cornus kousa</i>	Kousa Dogwood	Deciduous
<i>Cornus florida</i>	Flowering dogwood	Deciduous
<i>Cotinus obovatus</i>	American smoketree	Deciduous
<i>Crataegus phaenopyrum</i>	Washington hawthorn	Deciduous
<i>Crataegus viridis</i>	Green hawthorn	Deciduous
<i>Franklinia alatamaha</i>	Franklin Tree	Deciduous
<i>Halesia carolina</i> ( <i>Halesia tetraptera</i> )	Carolina silverbell	Deciduous
<i>Ilex cassine</i>	Dahoon holly	Evergreen
<i>Ilex decidua</i>	Possumhaw holly	Deciduous
<i>Ilex vomitoria</i>	Yaupon holly	Evergreen
<i>Juniperus virginiana</i>	Eastern red cedar	Evergreen
<i>Maclura pomifera</i>	Osage orange	Deciduous
<i>Magnolia grandiflora</i> 'Little Gem'	Little Gem magnolia	Evergreen
<i>Magnolia macrophylla</i>	Bigleaf magnolia	Deciduous
<i>Ostrya virginiana</i>	American hophornbeam	Deciduous
<i>Oxydendrum arboreum</i>	Sourwood	Deciduous
<i>Pinus virginiana</i>	Virginia pine	Evergreen
<i>Prunus virginiana</i>	Common chokecherry	Deciduous
<i>Quercus marilandica</i>	Blackjack oak	Deciduous

### 4.2.3. - Shrubs

<b>Table 4.2.3 : Shrubs</b>		
Large Shrubs (> 10-feet at Maturity)		
Shrubs		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Aesculus parviflora</i>	Bottlebrush buckeye	Deciduous
<i>Agarista</i> ( <i>Leucothoe</i> ) <i>populifolia</i>	Florida (Coast) leucothoe	Evergreen

<b>Table 4.2.3 : Shrubs</b>		
Large Shrubs (> 10-feet at Maturity)		
Shrubs		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Fothergilla major</i>	Larger fothergilla	Deciduous
<i>Hamamelis virginiana</i>	Common witch hazel	Deciduous
<i>Ilex verticillata</i>	Winterberry holly	Deciduous
<i>Illicium floridanum</i>	Florida anise tree	Evergreen
<i>Kalmia latifolia</i>	Mountain laurel	Evergreen
<i>Myrica cerifera</i>	(Southern) Wax myrtle	Evergreen
<i>Rhododendron</i> spp.	Rhododendron or azalea	Evergreen
<i>Rhododendron calendulaceum</i>	Flame azalea	Deciduous
<i>Rhododendron canescens</i>	Hoary (Piedmont) azalea	Evergreen
<i>Rhododendron minus</i>	Dwarf rhododendron	Evergreen
<i>Stewartia ovata</i>	Mountain camellia	Deciduous
<i>Viburnum dentatum</i>	Arrowwood viburnum	Deciduous
<i>Viburnum prunifolium</i>	Black haw (nannyberry) viburnum	Deciduous
Medium Shrubs (5-feet to 10-feet at Maturity)		
Shrubs		Deciduous / Evergreen
Scientific Name	Common Name	
<i>Aronia arbutifolia</i>	Red chokeberry	Deciduous
<i>Callicarpa americana</i>	American beautyberry	Deciduous
<i>Calycanthus floridus</i>	Carolina allspice (sweetshrub)	Deciduous
<i>Cephalanthus occidentalis</i>	Buttonbush	Deciduous
<i>Fothergilla gardenii</i>	Dwarf fothergilla	Deciduous
Shrubby St. Johnswort	Shrubby St. Johnswort	Deciduous
<i>Ilex glabra</i>	Inkberry holly	Evergreen
<i>Itea virginica</i>	Virginia sweetspire	Evergreen
<i>Leucothoe fontanesiana</i>	Drooping leucothoe	Evergreen
<i>Nandina domestica</i>	Nandina	Evergreen
<i>Rhododendron alabamense</i>	Alabama azalea	Evergreen
<i>Rhododendron atlanticum</i>	Coastal (dwarf) azalea	Evergreen
<i>Rhododendron austrinum</i>	Florida azalea	Evergreen

Medium Shrubs (5-feet to 10-feet at Maturity)		
Shrubs		Deciduous / Evergreen
Scientific Name	Common Name	
Rhododendron bakeri	Cumberland azalea	Evergreen
Rhododendron carolinianum	Carolina rhododendron	Evergreen
Rhododendron catawbiense	Catawba rhododendron	Evergreen
Rhododendron periclymenoides	Pink (pinxter) azalea	Deciduous
Rhododendron vaseyi	Pinkshell azalea	Evergreen
Rhododendron viscosum	Clammy (swamp) azalea	Deciduous
Rhus aromatica	(Fragrant) Sumac	Deciduous
Rosa carolina	Carolina (pasture) rose	Deciduous
Rosa palustris	Swamp rose	Deciduous
Viburnum acerifolia	Mapleleaf viburnum	Deciduous
Viburnum nudum	Possomhaw viburnum	Deciduous
Viburnum rafinesquianum	Downy arrowwood viburnum	Deciduous
Yucca gloriosa	Spanish dagger (mound-lilly) yucca	Evergreen

  

Small Shrubs (< 5-feet at Maturity)		
Shrubs		Deciduous / Evergreen
Scientific Name	Common Name	
Ilex vomitora 'Nana'	Dwarf yaupon holly	Evergreen

### 4.2.4. - Street Trees

Table 4.2.4 : Street Trees					
Large Trees (> 50-feet at Maturity)					
Tree Species		Shape	Growth Rate		
Scientific Name	Common Name		Slow	Medium	Fast
Eucommia ulmoides	Hardy rubber tree	Rounded	✓		
Fraxinus pennsylvanica	Green ash	Rounded		✓	
Gleditsia triacanthos var. inermis	Thornless honeylocust	Rounded		✓	
Gymnocladus dioicus	Kentucky coffeetree	Rounded		✓	
Liquidambar styraciflua	Sweetgum	Pyramidal		✓	

<b>Table 4.2.4 : Street Trees</b>					
Large Trees (> 50-feet at Maturity)					
Tree Species		Shape	Growth Rate		
Scientific Name	Common Name		Slow	Medium	Fast
<i>Metasequoia glyptostroboides</i>	Dawn redwood	Pyramidal		✓	
<i>Nyssa sylvatica</i>	Black gum	Pyramidal		✓	
<i>Platanus x acerifolia</i>	London planetree	Rounded			✓
<i>Quercus bicolor</i>	Swamp white oak	Rounded	✓		
<i>Quercus imbricaria</i>	Shingle oak	Rounded		✓	
<i>Quercus lyrata</i>	Overcup oak	Rounded		✓	
<i>Quercus palustris</i>	Pin oak	Pyramidal		✓	
<i>Quercus phellos</i>	Willow oak	Pyramidal			✓
<i>Quercus rubra</i>	Northern red oak	Rounded			✓
<i>Quercus shumardii</i>	Shumard oak	Rounded		✓	
<i>Quercus virginiana</i>	Live oak	Rounded	✓		
<i>Sophora japonica</i>	Japanese pagodatree	Rounded		✓	
<i>Taxodium distichum</i>	Baldcypress	Pyramidal		✓	
<i>Tilia tomentosa</i>	Silver linden	Rounded		✓	
<i>Ulmus parvifolia</i>	Lacebark elm	Rounded		✓	
<i>Zelkova serrata</i>	Japanese zelkova	Rounded		✓	

<b>Table 4.2.4 : Street Trees</b>					
Medium Trees (35-feet to 50-feet at Maturity)					
Tree Species		Shape	Growth Rate		
Scientific Name	Common Name		Slow	Medium	Fast
<i>Acer rubrum</i>	Red maple	Rounded		✓	
<i>Aesculus hippocastanum</i>	Horsechestnut	Rounded	✓		
<i>Aesculus x carnea</i>	Red horsechestnut	Rounded	✓		
<i>Carpinus betulus</i>	European hornbeam	Narrow		✓	
<i>Carpinus caroliniana</i>	American hornbeam	Pyramidal	✓		
<i>Celtis laevigata</i>	Sugar hackberry	Rounded		✓	
<i>Corylus colurna</i>	Turkish filbert	Narrow		✓	
<i>Juniperus virginiana</i>	Easter redcedar	Pyramidal		✓	

<b>Table 4.2.4 : Street Trees</b>					
Medium Trees (35-feet to 50-feet at Maturity)					
Tree Species		Shape	Growth Rate		
Scientific Name	Common Name		Slow	Medium	Fast
Koelreuteria paniculata	Goldenraintree	Rounded		✓	
Phellodendron amurense	Amur corktree	Rounded		✓	
Prunus sargentii	Sargent cherry	Narrow			✓
Small Trees (< 35-feet at Maturity)					
Tree Species		Shape	Growth Rate		
Scientific Name	Common Name		Slow	Medium	Fast
Acer campestre	Hedge maple	Rounded	✓		
Amelanchier arborea	Serviceberry	Rounded		✓	
Cercis canadensis	Eastern redbud	Rounded			✓
Chionanthus retusus	Chinese fringetree	Rounded	✓		
Cornus kousa	Kousa dogwood	Rounded	✓		
Crataegus viridis	Green hawthorn	Rounded		✓	
Halesia tetraptera	Carolina silverbell	Rounded		✓	
Lagerstromia spp.	Crapemyrtle	Rounded			✓
Maackia amurensis	Amur maackia	Rounded	✓		
Malus spp.	Flowering crabapple	Rounded		✓	
Pistacia chinensis	Chinese pistache	Pyramidal		✓	
Prunus caroliniana	Carolina Cherry Laurel	Pyramidal			✓
Prunus virginiana	Chokecherry	Narrow			✓
Syringa reticulata	Japanese tree lilac	Pyramidal		✓	

## 4.3. - Trimming and Pruning Standards

### 4.3.1. - General Practices

Trees should be periodically inspected to identify structural issues (broken branches, damage to trunk, gaps in the wood, etc.), signs of disease, or damage from pests. Additional inspections are important following adverse weather conditions or other

events that could cause specific stress to the tree. These events may cause a variety of issues, including failures of the main stem, adjoining branches or the root system. Storm damaged trees may also be more susceptible to pest attacks and to additional damage from wind. Inspections of mature trees should be done more frequently than younger trees, given available resources.

- A. Keep pruning equipment sharp, clean and in good operating condition.
- B. Trees do not heal damaged or infected areas, rather they seal off these sections. Avoid activities that create open wounds in the tree that cannot be sealed properly by the tree.
- C. If instances of infestations or disease are discovered, generally the only options will be to remove the section of tree affected (if this does not jeopardize overall tree health) or remove the entire tree if it is in serious decline or its continued presence would encourage the spread of disease or infestation to other nearby trees.
- D. Tree topping is prohibited.
- E. If required plantings are removed, appropriate and approved planting shall be installed per Removal or Relocation of Trees and Shrubs (Section 5.5.16) requirements in the UDO.

### 4.3.2. - Pruning

#### **A. Young Trees (Planted within Previous 5 Years).**

- 1. Pruning trees in the early stages of life encourages proper growth that establishes a strong central trunk and network of evenly spaced scaffolding branches (12-18 inches apart) to support the tree's canopy and overall branch and leaf network.
- 2. Water the tree on a regular basis for about two years after planting to establish a strong root system.
- 3. Periodic fertilization, using slow release materials, for newly planted trees located in limited growth planting spaces (such as areas with a high concentration of impervious surface) is appropriate.
- 4. Periodic replacement of mulch placed around the tree at the time of planting is optional as the need for mulch diminishes as the tree establishes itself.
- 5. Avoid the removal of more than  $\frac{1}{4}$  of a tree's canopy at any one time unless necessary to remove a competing branch to the central leader or if apparent structural weaknesses must be addressed through heavier pruning. If it is possible to address such issues over several growing seasons, this is preferable, so the pruning does not prove overly stressful to the tree.

**B. Established Trees (Planted within Over 5 Years).** An arborist certified by the International Society of Arboriculture is best qualified to identify appropriate maintenance needs for more mature trees and to oversee these activities.

However, if a certified arborist is not available, these Guidelines should be followed to ensure proper tree maintenance.

1. Prune mature trees only as a corrective or preventative measure or to address damage. Pruning of more mature trees may be done to remove dead branches, to remove crowded or rubbing limbs, and to eliminate hazards. Mature trees may also be pruned to increase light and air penetration to the inside of the tree's crown or to the landscape below.
2. Avoid heavy pruning just after the spring growth flush.
3. Larger limbs should be pruned using the three-cut method:
  - a. An undercut 12-18 inches from the limb's point of attachment,
  - b. A second cut made from the top, directly above or a few inches further out on the limb, and
  - c. Removal of the 12-18 inch stub, making sure to stay just outside the tree's branch collar.
  - d. Remove no more than  $\frac{1}{4}$  of a tree's leaf bearing crown during any season and even less at any one time as the tree ages or is stressed.

## 4.4. Tree Protective Fencing

### 4.4.1. - Potential Issues Requiring Protective Measures

- A. Significant alteration in flow of water to the tree due to site clearance and grading operations;
- B. Compaction of soil within the tree's critical root zone due to constant passage of vehicles or persons in this area, or storage of equipment or materials;
- C. Root damage within the critical root zone due to grading or trenching for the installation of utilities;
- D. Damage to the tree's trunk or broken limbs from passage of vehicles or equipment; or
- E. Release of materials or substances hazardous to a tree's health within the tree's critical root zone due to placement of areas to clean equipment.

### 4.4.2. - Standards for Tree Protection Zone

**A. General Information.** A tree protection zone includes the entire area around the tree equal to one (1) foot of radius for every one inch in DBH of the tree's trunk. This area contains the tree's critical root zone and none of the construction related activities listed in Section 4.4.1 of the Development Guide is allowed to take place within this area. If multiple trees in close proximity to one another are to be protected, the tree protection zone is measured from the outermost trees to determine the protection area.

**B. Tree Protection Zone.**

1. Installation of orange construction fencing of at least 4 feet in height around the entire tree protection zone and secured by posts to ensure durability.
2. Affix signage on all sides noting the tree protection zone.
3. Use silt fencing if there is concern about erosion within the tree protection zone.
4. The attachment of any rope, wire, nail, or sign to any tree, or the application of any liquid or solid substance that is harmful and could damage or destroy the tree is prohibited.

**C. Utilities in the Tree Protection Zone.** All utilities remain outside this tree protection zone.

1. If it is necessary for utilities to cross the tree protection zone they should be installed via tunneling rather than trenching.
2. Brush and undergrowth within the tree's protected area may be addressed if no heavy equipment is used and any stumps are cut flush to and not below the ground, where root damage could occur.

**D. Corrective Actions for Tree Damage from Construction Activities.** Adequate tree protection measures should limit potential damage. Some types of accidental damage may occur. The entity charged with implementing tree protection measures is responsible for corrective measures or tree replacement for damage noted during or shortly following construction activities. Failure to address noted issues may delay approval of the final site inspection. The following corrective measures may be taken to address damage from construction activities:

1. The removal of dead wood within the tree's crown using appropriate pruning techniques outlined in these Guidelines;
2. The application of low-level nitrogen or a balanced nitrogen/phosphorous fertilizer around the base of the tree to encourage new root and foliage growth. While granules spread around the critical root zone may be used, high pressure injection directly into the soil is recommended; or
3. Loose bark from damage to the tree's trunk should be removed or cut flush with a sharp knife, being careful not to cut into living tissue. This will aid the tree's healing process for such wounds.