Arborist Standards Document

Approved Existing Trees for Minimum Density Requirements *This list refers to any existing tree species which may be preserved on a property that will qualify for density credit:

- Crape Myrtle (*Lagerstroemia sp.*) will only count ½ DBH towards density requirements so long as the tree has never received heading cuts in any portion of its crown (per tree assessment). Due to widespread non ANSI A300 standard pruning practices, Crape Myrtles are categorized as very small (150 ft^2) for canopy cover calculations.
- There may be other native or approved species which qualify for density credit that are not on this list. This may be considered on a case by case basis.
- Density or canopy credit for other species on the list is subject to plant's current form, which is most often determined by variety and/or pruning.
- Any species that is added to the Georgia Exotic Pest Plant Council Invasive Plant List is not approved for tree density or canopy requirements OR for use in site final landscaping. https://www.gaeppc.org/list/

COMMON NAME	LATIN NAME	CANOPY AREA FOR DEVELOPMENT CODE		PHYSICAL CHARACTERISTICS				
		Square Feet of Canopy	Canopy Size Category for Replacment Planting	Height Class in Urban Conditions	Crown Class in Urban Conditions	Mature Crown Form	Typical Range of Mature Tree Height	Typical Range of Mature Crown Width
Alder, Hazel (Tag)	*Alnus serrulata*	150	Very Small	S	VS	Multi-Stemmed	10-20	10-20
Arborvitae, Eastern (Northern Whitecedar)	*Thuja occidentalis*	150	Very Small	M	S	Pyramidal	25-40	10-15
Arborvitae, Giant (Western Redcedar)	*Thuja plicata*	150	Very Small	M	S	Pyramidal	50-75	15-20
Ash, Green	*Fraxinus pennsylvanica*	1,600	Large	L	L	Rounded	60-100	40-50
Ash, White	*Fraxinus americana*	1,600	Large	L	L	Rounded	50-80	30-60
Baldcypress	*Taxodium distichum*	1600	Large	L	M	Pyramidal	50-100	20-50
Basswood, American (Linden)	*Tilia americana*	1,600	Large	M	L	Irregular	60-100	35-50
Beech, American	*Fagus grandifolia*	1,600	Large	L	L	Oval	80-100	50-70
Birch, River	*Betula nigra*	900	Medium	M	M	Pyramidal	50-90	40-60
Birch, River 'Heritage'	*Betula nigra* 'Heritage'	900	Medium	M	M	Pyramidal	50-90	40-60
Blackgum (Tupelo)	*Nyssa sylvatica*	1600	Large	M	M	Oval	50-100	20-35
Boxelder	*Acer negundo*	900	Medium	L	M	Rounded	50-75	40-50

Buckeye, Bottlebrush	*Aesculus parviflora*	150	Very Small	S	VS	Multi-Stemmed	15-20	10-15
Buckeye, Painted	*Aesculus sylvatica*	150	Very Small	S	VS	Rounded	15-25	5-15
Buckeye, Red	*Aesculus pavia*	150	Very Small	S	VS	Rounded	10-15	10-15
Buckthorn, Carolina	*Rhamnus caroliniana*	400	Small	M	M	Oval	30-40	10-30
Buckthorn, Common	*Rhamnus cathartica*	400	Small	S	M	Rounded	20-25	20-25
Buttonbush, Common	*Cephalanthus occidentalis*	150	Very Small	S	VS	Multi-Stemmed	10-15	10-15
Catalpa, Northern	*Catalpa speciosa*	900	Medium					
Catalpa, Southern	*Catalpa bignonioides*	900	Medium	M	M	Rounded	30-40	30-40
Cedar, Deodar	*Cedrus deodara*	900	Medium	L	M	Pyramidal	40-100	40-100
Cedar, Japanese	*Cryptomeria japonica*	900	Medium	L	M	Pyramidal	40-60	15-20
Chastetree (Vitex)	*Vitex agnus-castus*	150	Very Small	S	VS	Multi-Stemmed	15-20	10-20
Cherry, Black	*Prunus serotina*	900	Medium	L	M	Oval	50-90	15-50

Cherrylaurel, Carolina	*Prunus caroliniana*	400	Small	M	M	Oval	20-40	15-25
Cherry, Japanese Flowering	*Prunus serrulata*	400	Small	S	S	Rounded	20-30	20-30
Cherry, Yoshino	*Prunes x yedoensis*	400	Small	S	S	Rounded	20-45	20-40
Chestnut, American	*Castanea dentata*	1,600	Large	L	L	-	-	-
Chestnut, Chinese	*Castanea mollissima*	1,600	Large	L	L	Rounded	40-60	40-60
China Fir	*Cunninghamia lanceolata*	900	Medium			Pyramidal	40-80	
Chinquapin, Allegheny	*Castanea pumila*	400	Small	S	S	Rounded	10-25	10-25
Cottonwood, Eastern	*Populus deltoides*	1,600	Large	L	L	Pyramidal	50-100	20-75
Crabapple, Japanese Flowering	*Malus floribunda*	400	Small	S	S	Rounded	15-25	15-25
Crabapple, Southern	*Malus angustifolia*	400	Small	S	S	Spreading	20-25	10-20
Crapemyrtle, Common	*Lagerstroemia indica*	150	Very Small	S	VS	Multi-Stemmed	15-30	10-25
Dawn Redwood	*Metasequoia glyptostroboides*	900	Large			Pyramidal	90-130	
Devil's Walking Stick	*Aralia spinosa*	150	Very Small	S	VS			
Devilwood	*Osmanthus americanus*	400	Small	S	S	Rounded	15-25	10-15
Dogwood, Flowering	*Cornus florida*	400	Small	S	S	Spreading	15-30	15-30
Dogwood, Flowering Pink	*Cornus florida var. rubra*	400	Small	S	S	Spreading	15-30	15-30
Dogwood, Kousa	*Cornus kousa*	400	Small	S	S	Rounded	10-20	10-20
Dogwood, Swamp	*Cornus stricta*	400	Small	S	S	Rounded	10-25	10-25
Elm, American	*Ulmus americana*	1,600	Large	L	L	Upright	50-100	30-70
Elm, Chinese (Lace Bark)	*Ulmus parvifolia*	900	Medium	M	M	Upright	40-60	30-50
Elm, Slippery	*Ulmus rubra*	1,600	Large	L	L	Upright	70-80	30-50
Elm, Winged	*Ulmus alata*	1600	Large	L	L	Upright	70-80	30-50
Flametree, Chinese (Bougainvillea)	*Koelreuteria bipinnata*	400	Small	M	S	Rounded	20-40	20-40

Fringetree (Grancy Gray Beard)	*Chionanthus virginicus*	150	Very Small	S	VS	Oval	10-30	5-15
Fringetree, Chinese	*Chionanthus retusus*	150	Very Small	S	VS	Rounded	15-25	10-15
Ginkgo (Female)	*Ginkgo biloba*	1,600	Large	M	L	Pyramidal	50-75	30-60

Ginkgo (Male)	*Ginkgo biloba*	1,600	Large	M	L	Pyramidal	50-75	30-60
Golden Rain Tree	*Koelreuteria paniculata*	400	Small	M	S	Rounded	20-40	20-40
Hackberry, Common	*Celtis occidentalis*	1,600	Large	L	L	Spreading	60-90	25-60
Hackberry, Georgia	*Celtis tenuifolia*	1,600	Large	M	L	Spreading	25-35	25-35
Hawthorne, Washington	*Crataegus phaenopyrum*	400	Small	S	S	Rounded	10-30	5-25
Hemlock, Eastern	*Tsuga canadensis*	900	Medium	L	L			
Hickory, Bitternut	*Carya cordiformis*	1,600	Large	L	L	Oval	50-100	50-75
Hickory, Mockernut *	*Carya tomentosa*	1,600	Large	L	L	Oval	50-100	50-75
Hickory, Pignut *	*Carya glabra*	1,600	Large	L	L	Oval	50-100	50-75
Hickory, Sand *	*Carya pallida*	1,600	Large	L	L	Oval	40-90	20-40
Hickory, Shagbark *	*Carya ovata*	1,600	Large	L	L	Oval	70-100	50-75
Hickory, Southern Shagbark *	*Carya ovata var. australis*	1,600	Large	L	L	Oval	60-80	40-60
Holly, American (species)	*Ilex opaca* (species)	900	Medium	M	S	Pyramidal	20-70	15-25
Holly, Deciduous (Possumhaw)	*Ilex decidua*	150	Very Small	S	VS	Rounded	10-20	10-20
Holly, Fosters	*Ilex x attenuate* 'Fosteri'	150	Very Small	S	VS	Pyramidal	15-25	10-15
Holly, Ornamental Variety	*Ilex* species	150	Very Small	S	VS	Rounded	10-20	10-15
Holly, Savannah	*Ilex x 3ttenuate* `Savannah'	150	Very Small	M	VS	Pyramidal	30-45	10-15
Holly, Yaupon	*Ilex vomitoria*	150	Very Small	S	VS	Irregular	10-25	5-10
Honeylocust	*Gleditsia triacanthos*	1600	Large	L	M	Irregular	60-80	30-50
Hophornbeam, American *	*Ostrya virginiana*	400	Small	M	M	Oval	15-40	10-30
Hornbeam, Am. (Ironwood, Musclewood) *	*Carpinus caroliniana*	400	Small	M	M	Oval	20-35	15-30

Hornbeam, European	*Carpinus betulus*	150	Very Small	M	M	Oval	40-60	35-40
Hornbeam, Japanese	*Carpinus japonica*	150	Very Small	M	S	Oval	20-30	20-30
Katsuratree	*Cercidiphyllym japonicum*	900	Medium	M	M	Spreading	40-60	35-60
Locust, Black	*Robinia pseudoacacia*	900	Medium	L	M	Spreading	40-90	20-40
Magnolia, Cucumber	*Magnolia acuminata*	1,600	Large	L	L	Upright	60-80	20-60
Magnolia, Japanese (Saucer)	*Magnolia x soulangiana*	900	Medium	M	M	Upright	20-30	10-30
Magnolia, Southern (species)	*Magnolia grandiflora*	1,600	Large	L	L	Pyramidal	80-100	30-50
Magnolia, Southern 'Little Gem' and other dwarf varieties	*Magnolia grandiflora* 'Little Gem'	150	Very Small	M	VS	Pyramidal	40-60	20-30
Magnolia, Star	*Magnolia stellata*	150	Very Small	S	VS	Multi-Stemmed	15-20	15-20
Magnolia, Sweetbay	*Magnolia virginiana*	400	Small	M	M	Oval	30-60	20-40
Maple, Amur	*Acer ginnala*	400	Small	S	S	Rounded	15-25	15-25
Maple, Chalk	*Acer leucoderme*	900	Medium	M	M	Spreading	20-40	10-30
Maple, Hedge	*Acer campestre*	900	Medium	M	M	Rounded	25-35	25-35
Maple, Japanese	*Acer palmatum*	150	Very Small	S	S	Oval	15-25	10-25
Maple, Norway	*Acer platanoides*	900	Medium	M	M			
Maple, Red	*Acer rubrum*	900	Medium	M	M	Rounded	40-90	20-35
Maple, Silver	*Acer saccharinum*	1,600	Large	L	L	Rounded	50-80	40-60
Maple, Southern Sugar (Florida Sugar)	*Acer floridanum*	900	Medium	M	M	Rounded	40-70	25-60
Maple, Sugar	*Acer saccharum*	1,600	Large	L	L	Oval	60-80	30-50

Maple, Sugar 'Green Mountain'	*Acer saccharum* 'Green Mountain'	1,600	Large	L	L	Oval	60-80	30-50
Maple, Sugar 'Legacy'	*Acer saccharum* 'Legacy'	1,600	Large	L	L	Oval	60-80	30-50
Maple, Trident	*Acer buergeranum*	900	Medium	M	S	Rounded	20-45	20-30
Mulberry, Red	*Morus rubra*	900	Medium	L	M	Rounded	40-70	20-50
Oak, Black	*Quercus velutina*	1,600	Large	L	L	Rounded	70-90	50-60
Oak, Cherrybark	*Quercus pagoda*	1,600	Large	L	L	Rounded	60-100	30-50
Oak, Chestnut	*Quercus montana*	1,600	Large	L	L	Rounded	50-80	30-60
Oak, Diamond Leaf (Laurel)	*Quercus laurifolia*	1,600	Large	L	L	Rounded	60-80	50-60
Oak, English	*Quercus robur*	1,600	Large	L	L	Rounded	40-60	40-60
Oak, Georgia	*Quercus georgiana*	1,600	Large	L	L	Rounded	20-40	10-30
Oak, Laurel	*Quercus hemisphaerica*	1,600	Large	L	L	Rounded	60-90	50-60
Oak, Laurel 'Darlington'	*Quercus hemisphaerica* 'Darlington'	1,600	Large	L	L	Rounded	60-90	50-60
Oak, Live	*Quercus virginiana*	1,600	Large	L	L			
Oak, Northern Red	*Quercus rubra*	1,600	Large	L	L	Rounded	60-100	30-60
Oak, Nuttall	*Quercus nuttalli*	1,600	Large	L	L	Rounded	60-80	35-50
Oak, Oglethorpe	*Quercus oglethorpensis*	1,600	Large	M	L	Rounded	40-70	30-50
Oak, Overcup	*Quercus lyrata*	1,600	Large	L	L	Rounded	30-45	30-45
Oak, Pin	*Quercus palustris*	1,600	Large	L	L	Pyramidal	40-100	20-50
Oak, Post	*Quercus stellata*	1,600	Large	L	L	Rounded	40-50	35-40
Oak, Sawtooth	*Quercus acutissima*	1,600	Large	M	L	Oval	50-60	30-60
Oak, Scarlet	*Quercus coccinea*	1,600	Large	L	L	Rounded	50-80	30-50
Oak, Shumard	*Quercus shumardii*	1,600	Large	L	L	Rounded	60-100	30-70
Oak, Southern Red *	*Quercus falcata*	1,600	Large	L	L	Rounded	60-100	30-70
Oak, Swamp Chestnut	*Quercus michauxii*	1,600	Large	L	L	Oval	70-90	30-60
Oak, Swamp White	*Quercus bicolor*	1,600	Large	L	L	Oval	70-90	30-60
Oak, Water *	*Quercus nigra*	1,600	Large	L	L	Rounded	50-100	30-70
Oak, White *	*Quercus alba*	1,600	Large	L	L	Rounded	60-100	30-80
Oak, Willow	*Quercus phellos*	1,600	Large	L	L	Rounded	40-100	30-60
Orange, Osage	*Maclura pomifera*	900	Medium	M	M	Spreading	30-40	30-40
Parrotia, Persian Ironwood	*Parrotia persica*	400	Small	S	S	Rounded	20-40	20-35
Pear, Common	*Pyrus communis*	400	Small	M	M	Oval	35-45	35-50
Pecan	*Carya illinoensis*	1,600	Large	L	L	Upright	60-100	30-75
Persimmon, Common *	*Diospyros virginiana*	900	Medium	L	M	Oval	70-80	40-60
Pine, Eastern White	*Pinus strobus*	1,600	Large	L	L			
Pine, Loblolly	*Pinus taeda*	1,600	Large	L	L	Pyramidal	80-100	20-40
Pine, Longleaf	*Pinus palustris*	1,600	Large	L	L	Pyramidal	60-100	20-40

Pine, Shortleaf *	*Pinus echinata*	1,600	Large	L	L	Pyramidal	60-100	20-40
Pine, Slash	*Pinus elliotii*	1,600	Large	L	L	Pyramidal	60-100	20-50
Pine, Virginia	*Pinus virginiana*	900	Medium	M	M	Pyramidal	15-70	10-35
Pistache, Chinese	*Pistacia chinensis*	900	Medium	M	M	Rounded	60-80	40-50
Planetree, London	*Platanus x acerifolia*	1,600	Large	L	L	Irregular	60-100	20-80
Plum, Chickasaw	*Prunus angustifolia*	150	Very Small	S	VS	Rounded	10-20	10-20
Plum, Purpleleaf	*Prunus cerasifera*	400	Small	S	S	Rounded	10-25	10-25
Poplar, Lombardy	*Populus nigra var. italica*	900	Medium	L	M			
Poplar, White	*Populus alba*	900	Medium	L	M	Oval	40-100	20-60
Poplar, Yellow (Tuliptree)	*Liriodendron tulipifera*	1,600	Large	L	L	Oval	80-150	30-60
Redbud, Eastern	*Cercis canadensis*	400	Small	S	S	Spreading	25-50	15-25
Redbud, Eastern White	*Cercis canadensis var. alba*	400	Small	S	S	Spreading	20-30	15-25
Redbud, 'Forest Pansy'	*Cercis canadensis* 'Forest Pansy'	400	Small	S	S	Spreading	20-30	15-25
Redbud, 'Oklahoma'	*Cercis reniformis* 'Oklahoma'	400	Small	S	S	Rounded	20-25	15-20
Redbud, 'Texas White'	*Cercis reniformis* 'Texas White'	400	Small	S	S	Rounded	20-25	15-20
Redcedar, Eastern	*Juniperus virginiana*	900	Medium	M	M	Pyramidal	40-60	10-20
Redwood, Dawn	*Metasequoia glyptostroboides*	900	Medium	L	M	Pyramidal	75-100	25-30

Sassafras	*Sassafras albidum*	900	Medium	M	M	Oval	30-60	20-40
Serviceberry	*Amelanchier sp.*	150	Very Small	S	S	Irregular	15-40	10-20
Silverbell, Carolina	*Halesia tetraptera*	900	Medium	M	M	Irregular	30-60	20-35
Silverbell, Two-Winged	*Halesia diptera*	400	Small	S	S	Rounded	15-20	15-20
Smoketree, American	*Cotinus obovatus*	150	Very Small	S	VS	Oval	15-30	10-25
Smoketree, Common	*Cotinus coggygria*	150	Very Small	S	VS	Oval	10-15	10-15
Sourwood	*Oxydendrum arboreum*	900	Medium	M	M	Spreading	30-60	20-30
Spruce Varieties	*Picea* species	900	Medium	L	M			
Sugarberry	*Celtis laevigata*	1,600	Large	L	L	Spreading	60-80	25-60
Sweetgum	*Liquidambar styraciflua*	1,600	Large	L	L	Oval	60-80	40-60
Sycamore (American) *	*Platanus occidentalis*	1,600	Large	L	L	Oval	70-100	30-70
Walnut, Black	*Juglans nigra*	1,600	Large	L	L	Rounded	60-70	50-70
Waxmyrtle, Southern	*Myrica cerifera*	150	Very Small	S	VS	Multi-Stemmed	10-30	10-30
Willow, Black	*Salix nigra*	900	Medium	M	M	Irregular	30-40	30-40
Willow, Weeping	*Salix babylonica*	1,600	Large	L	L	Rounded	30-70	20-70
Winterberry, Common	*Ilex verticillata*	150	Very Small	S	VS	Multi-Stemmed	5-15	5-10
Witchhazel, Common	*Hamamelis virginiana*	150	Very Small	S	S	Spreading	20-35	20-35
Yellowwood, American	*Cladrastis kentukea*	900	Medium	M	M	Upright	30-50	40-50

* = 1.5x credit multiplier

Approved Large/Overstory Trees for Replacement Planting: Parking Lot/Overlay Districts

American Elm	*Ulmus americana*
American Sycamore *	*Platanus occidentalis*
Bald Cypress	*Taxodium distichum*
Blackgum/Tupelo	*Nyssa sylvatica*
Dawn Redwood	*Metasequoia glyptostroboides*
Ginkgo	*Ginkgo biloba ;* male only
Honey Locust 'enermis' (thornless)	*Gleditsia triancanthos 'enermis'*
Linden/Basswood	*Tilia americana*
London Plane Tree	*Platanus x acerifolia*
Oak	
Darlington Oak/ Laurel Oak	*Quercus hemisphaerica*
Nuttall Oak	*Quercus texana*
Overcup Oak	*Q. lyrata*
Sawtooth Oak	*Q. acutissima*
Shumard Oak	*Q. shumardii*
Swamp White Oak *	*Q. bicolor*
Willow Oak	*Q. phellos*
Winged Elm *	*Ulmus alata*
* = 1.5x credit multiplier	

Approved Large/Overstory Trees for Replacement Planting

American Elm	*Ulmus americana*
American Sycamore *	*Platanus occidentalis*
Bald Cypress	*Taxodium distichum*
Blackgum/Tupelo	*Nyssa sylvatica*
Dawn Redwood	*Metasequoia glyptostroboides*
Deodar Cedar	*Cedrus deodara*
Ginkgo	*Ginkgo biloba ;* male only
Hickory, any (Water, Pignut, Shagbark, Mockernut, etc. excluding Pecan) *	*Carya spp.*
Honey Locust 'enermis' (thornless)	*Gleditsia triancanthos 'enermis'*
Linden/Basswood	*Tilia americana*
Loblolly Pine	*Pinus taeda*
London Plane Tree	*Platanus x acerifolia*
Oak	
Cherrybark Oak	*Q. pagoda*
Chestnut Oak	*Quercus montana*
Chinquapin/Chinkapin Oak	*Q. muehlenbergii*
Darlington Oak/ Laurel Oak	*Quercus hemisphaerica*
Live Oak	*Q. virginiana*
Overcup Oak	*Q. lyrata*
Sawtooth Oak	*Q. acutissima*
Scarlett Oak	*Q. coccinea*
Shumard Oak	*Q. shumardii*
Southern Red Oak *	*Q. falcata*
Swamp Chestnut Oak	*Q. michauxii*
Swamp Laurel Oak	*Q. laurifolia*
Swamp White Oak	*Q. bicolor*
Water Oak *	*Q. nigra*
White Oak *	*Q. alba*

Pecan	*Carya illinoinensis*
Shortleaf Pine *	*Pinus echinata*
Winged Elm	*Ulmus alata*
This list also applies to the frontage area overstory tree requirements.	
* = 1.5x credit multiplier	

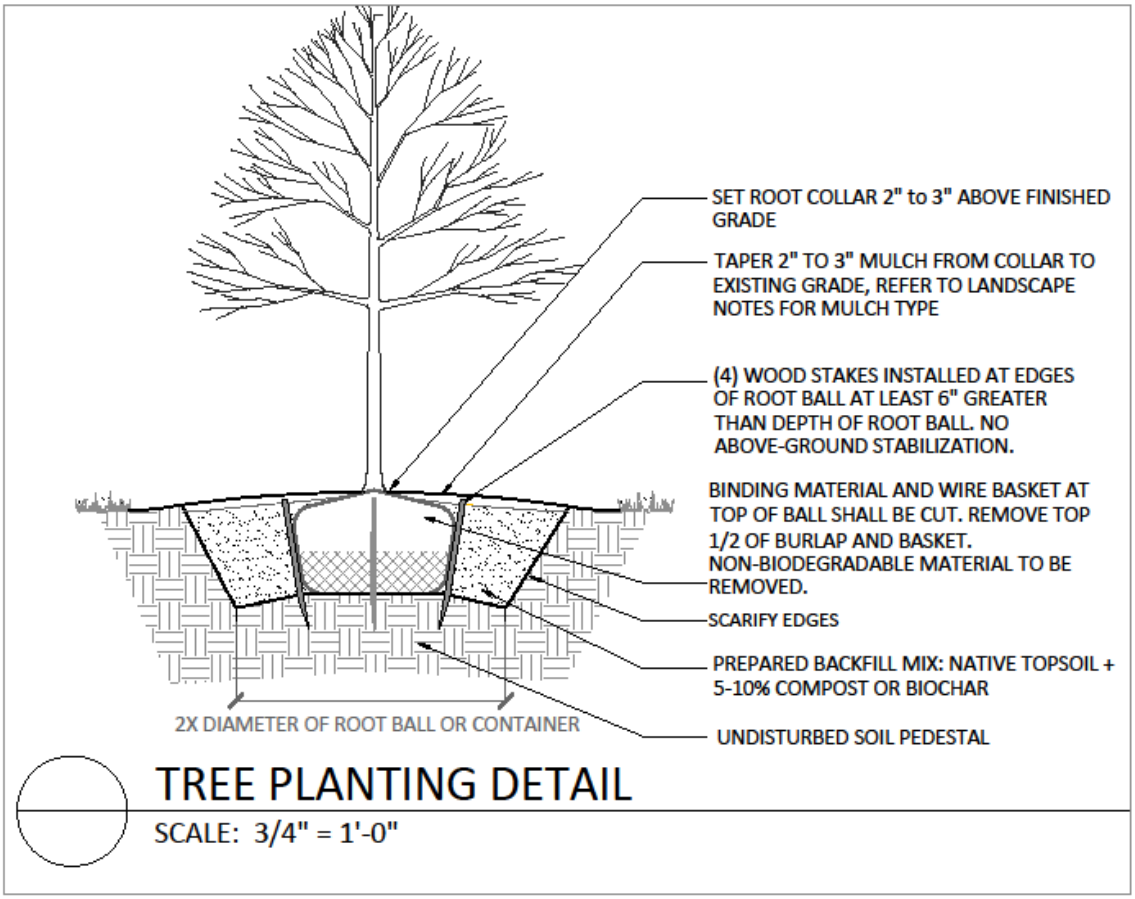
Approved Medium Trees for Replacement Planting

American Holly *	*Ilex opaca*
Chinese Pistache	*Pistachia chinensis*
Eastern Red Cedar (tree form)	*Juniperus virginiana*
Trident Maple	*Acer buergerianum*
Persimmon *	*Diospyros virginiana*
* = 1.5x credit multiplier	

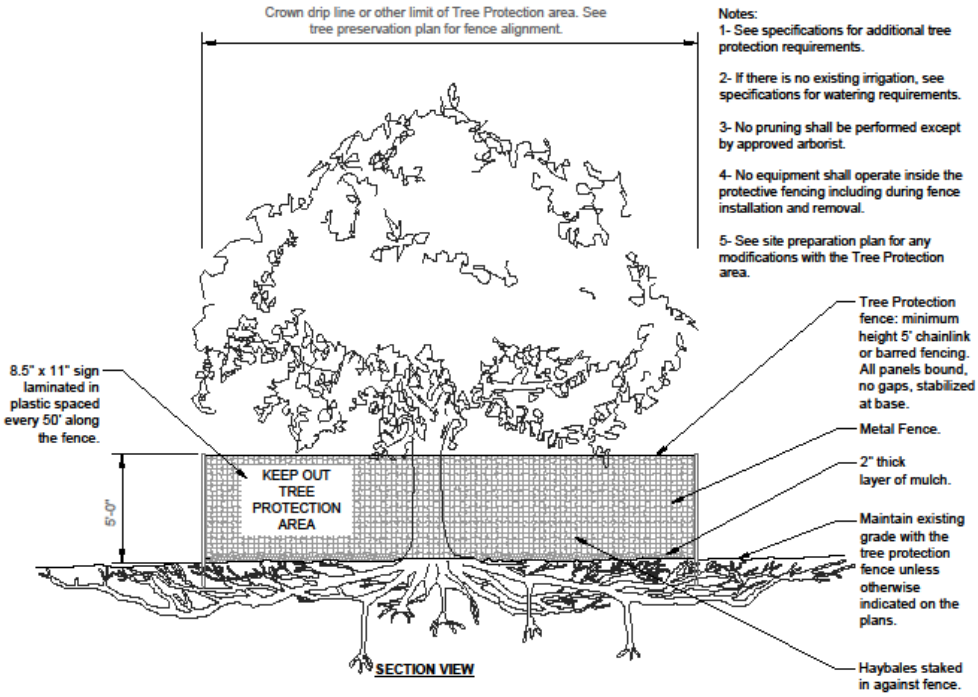
Approved Small Trees for Replacement Planting

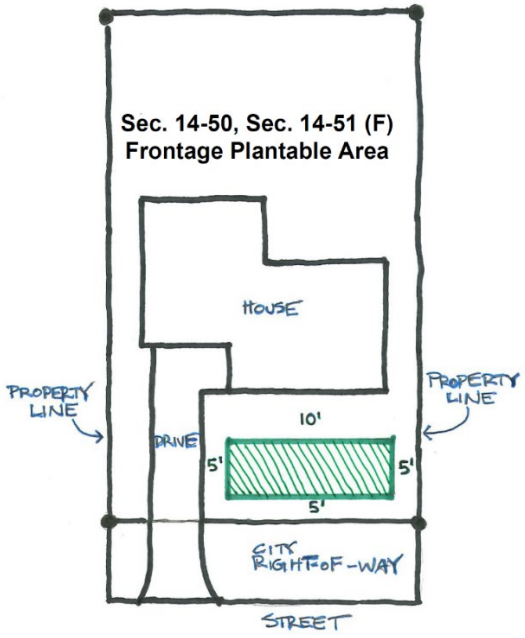
Fig (common Fig)	*Ficus carica*
Loquat	*Eriobotrya japonica*
Persian Ironwood	*Parrotia persica*
Redbud (species/Forest Pansy)	*Cercis canadensis*
Serviceberry	*Amelanchier sp.*
Sweetbay Magnolia	*Magnolia virginiana*
Hophornbeam *	*Ostrya virginiana*
Ironwood / American Hornbeam / Musclewood *	*Carpinus americana*
Saucer Magnolia	*Magnolia x soulangeana*
* = 1.5x credit multiplier	

Tree Planting (Installation) Standard Detail and Specifications



Tree Protection Standard Detail and Specifications





Sec. 14-51 D. 1. Tree Replacement. Guidelines, Standards, and Resources:

Soil volume:

- Large size species (overstory trees) must be provided a minimum of 1000 cubic feet (approximately 28 cubic yards) of suitable soil; Medium size species must be provided a minimum of 600 cubic feet (17 cubic yards) of suitable soil; Small size species must be provided a minimum of 300 (11 cubic yards) of suitable soil.
- Trees sharing root zone soil, such as two parking lot trees planted on either end of an island, may collectively share the same volumes of soil as specified above.
- Required size of the replacement tree(s) determines the amount of soil volume required.
- Industry studies and references (non-comprehensive list):
  List of eight studies as referenced by the Minnesota Stormwater Manual:
  https://stormwater.pca.state.mn.us/index.php/Studies_analyzing_minimum_soil_volume_needed_by_trees
  Smiley, Thomas E. – Soil for Urban Tree Planting; Urban, James, 1992- Ultimate tree size graph.
  https://www.bartlett.com/resources/soilforurbantreeplanting.pdf
- *For street and parking lot tree wells, landscape strips, islands, and peninsulas- the planting soil must be improved according to the specifications of the City Tree Planting Standard Detail to a depth of at least 24 inches for the entire planting area. This requirement will typically be most applicable to LDP projects within the City.
- *If site constraints are insufficient to address the City requirements for soil volume and/or pervious planting area with conventional design and infrastructure, the City can require underground soil infrastructure. Example links:
  https://www.deeproot.com/products/silva-cell/
  https://greenblue.com/na/product-category/soil-cells/

Pervious planting area:

- In accordance with Sec. 14-51 (D) (2) and Sec. 14-57 (A) (5, 6), all replacement trees must be provided a minimum dimension of eight feet of pervious surface, which is four feet in all directions from the trunk of the tree.

Soil quality:

- The City Standard Detail for Tree Planting requires a tree planting hole that is two times the diameter of the actual size of the root ball of the tree being planted. The backfill soil is to be native topsoil (which will be predominantly native clay) with 5-10% added finished organic matter (humus, finished compost, and/or biochar).
- *Note that the City Standard Detail for Tree Planting does NOT allow for soil or mulch berms around the replacement tree. The root collar must be set 2 to 3 inches above the existing grade and at the top of what is essentially a very gradual mound. Therefore, any subsoil clods that do not meet the requirements for backfill soil must be hauled off- not used to form a berm around the tree.
- Certain tree planting and landscape scenarios may also benefit greatly from the integration of special aggregates that increase and maintain soil porosity and drainage. These include, but are not limited to, pea gravel and special expanded aggregates such as expanded slate ('Permatill', 'Stalite').
- Peat moss is NOT an acceptable product for soil quality requirements in the City. Do not use peat moss or any product containing peat moss as the organic component of the soil mix.
- Here is a non-comprehensive list of example soil products which can assist with meeting the City's soil quality requirements and facilitate the target health, vigor, and maturation size for trees and landscapes contributing to the City's urban forest and ecology. Please note that there are many soil products on the market and these are simply examples for guidance, reference, and comparison. The City is not specifically endorsing these products over other comparable products on the market. Quality compost and landscape soil mixes are also

available in bulk from multiple vendors within and around the Atlanta area.
https://mirimichigreen.com/products/carbonizpn-soil-enhancer/
https://andersonshomeandgarden.com/shop/products/biochar-dg-10-lbs
https://www.mrnaturalsoil.com/landscape-soil
https://www.southernorganicsandsupply.com/granulars-1
https://www.stalite.com/
https://www.siteone.com/en/baam-0100-permatill-40-lb-bag/p/440424

Mulching:

- Per Sec. 14-50, the City defines *mulch* as organic matter spread around the base of a plant elsewhere on the ground to enrich and insulate the soil. Organic matter mulches are critically important for soil and plant health. They increase soil water retention capacity, soil porosity at a wider range of pore sizes, nutrient fertility and availability, and the overall diversity of beneficial soil dwelling organisms. They also buffer extreme temperatures within the root zone.
  Here is a helpful link briefly describing the benefits of organic mulches on clay soils:
  https://water.unl.edu/article/animal-manure-management/connection-between-soil-organic-matter-and-soil-water

- Mulch should never make contact with a tree above the root collar.
- Acceptable types of mulch for replacement trees: Pine Straw, Shredded Hardwood, Wood Chips, Bark Chips, or Leaf Litter. *The City strongly encourages the use of wood chips for tree and landscape mulching. Multiple tree service contractors provide free wood chips upon request. Here are several (non-comprehensive) links to providers:
  https://getchipdrop.com/
  https://www.arborguard.com/free-woodchips-delivery/
  https://toptiertrees.com/green-waste/
- For soil quality, synthetic or artificial mulches and artificially dyed mulches are not accepted types of mulch for replacement trees and are not recommended for use in the landscape.