

PREFERRED TREES FOR THE LOWCOUNTRY

TREE SELECTION, SITE SELECTION, PLANTING, AND MAINTENANCE FOR HOMEOWNERS

"Right plant, right place "



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INTRODUCTION

This document has been developed to assist homeowners as they work with landscape designers, community association representatives, or on their own to select appropriate trees to be planted in their yards with full consideration given to:

- size of the lot
- sun and soil conditions
- climate
- hardscape and buildings
- presence of wind and salt
- utility easements

Trees are the "bones" of the landscape plan and it is very important to select and site them properly. If a landscaper has developed a plan for your yard, make sure it meets all the guidelines in this document and ask them to make changes to the landscape plan if necessary. Mistakes will always be made by even the most experienced landscapers and gardeners, but trees should be the primary focus of the plan. It is not that difficult to move shrubs, perennials, or flowers. Trees, however, are difficult to move, so you want to get that one right. Planting and maintaining those trees properly will make them strong and enable them to withstand high winds that come with hurricanes.

Hurricane Matthew has made Lowcountry residents take a closer look at how trees are selected and where they are planted. Tree damage from Matthew was costly, dangerous, and it will take the Lowcountry years to recover. Gated communities and towns have drained their reserve funds because of tree damage. Many homeowners required extensive repairs to their homes and have spent months battling insurance companies and over-extended contractors for repairs to homes and yards due to tree damage. Some of these homeowners did not have insurance or had expenses that were not covered by insurance and they had to absorb the financial burden. Some of that tree related expense could have been avoided and some lessons learned can influence tree selection and placement choices going forward in order to reduce future tree-related hurricane damage.

TREE POLICY THAT CAN HELP REDUCE TREE DAMAGE IN A HURRICANE PRONE AREA

- **Do not plant trees that are too large for the lot.** Provide ample room for a tree to grow and for the root system to spread without obstruction so that the tree is stable. Determine the estimated mature tree height and width and consider carefully how those measurements work in your landscape plan. Avoid planting trees too close to streets, buildings, sidewalks and any other hardscape. The root system of the tree typically extends 2 to 3 times the mature width of the tree canopy and the root system will not be strong if the roots cannot spread unobstructed. Weak roots lead to the trees inability to withstand strong winds. The live oak is a perfect example. When properly planted it is considered highly wind resistant but when improperly planted it is quite the opposite. The average size of a mature live oak might be 60 feet high and 80 feet wide. That means that their root system spreads about 240 feet in diameter. The fact that they typically are wider than they are tall, makes them particularly vulnerable. Many of these massive trees have been planted next to streets and near buildings and their roots have tried without success to spread beneath the compacted soil. It is not at all surprising that a major portion of the damage during Matthew was from live oaks with weakened root systems that were unable to stand up to hurricane force winds.
- **Streets** - Do not plant large trees too close to the street in order to avoid weakened root systems. Small trees are a better choice near streets.

TREE POLICY THAT CAN HELP REDUCE TREE DAMAGE IN A HURRICANE PRONE AREA (continued)

- **Wind Resistance** - Most palm trees survive hurricanes better than broad leaf or conifer trees. Plant wind resistant trees like hollies, crape myrtles, magnolias, bald cypress, Florida maples, Japanese maples, bottlebrushes, river birches, redbuds, fringe trees, and palms. Plant trees in groups with appropriate spacing between them. Clusters of trees (five or more) stand up better to wind.
- **Tree Health** - Monitor the health of your trees regularly. Trees showing signs of stress (i.e. crown die off, leaning, large cracks or hollowing in the trunk, severed roots near the trunk, mistletoe, woodpeckers) should be inspected and if necessary removed. Monitor older trees which are more vulnerable to storm damage. Prune branches that are extending onto buildings or roofs. Some insurance companies will cancel homeowner policies if branches are touching roofs.

SELECTION AND PLACEMENT OF TREES

If you live in a gated community, contact community management for a list of approved trees and identify easements where trees cannot be planted. Native trees have resistance to insects and fungus and also provide a habitat for birds. When planning a new yard, develop or obtain from a landscaper a landscape plan showing:

- Measurements
- Compass points (N, E, S, W)
- Trees, shrubs, walkways, fences, walls
- Utility lines, easements, sewer/septic
- Street signs
- Buildings
- Low lying areas/standing water

If you are developing a plan yourself, there is a lot of information on the Internet about how to create a landscape plan. If you have an existing yard and are planning to add one or more trees, you need only identify information for the area where you are planting the tree. Irrigation for new trees typically is needed for a year, but some watering may be required after a year if there is a drought. Fall and winter are the best seasons to plant as it is cooler, watering requirements will be more manageable, and the tree will acclimate before the harsh summer months. An irrigation system is helpful but if you are willing to regularly hand water, especially in the first year, you can go without irrigation.

Selecting Trees - Container Grown or Field Grown Trees

Make sure you have selected a healthy, well formed tree. Make sure there no insects, fungus, or lichen (greenish gray spots, hairy threads) and sure the leafing is even and healthy. It is better to wait for a healthy tree than plant one that will struggle. Fertilization is important for newly planted trees, due to the lack of soil nutrients. A soil test is recommended. Fertilization will help trees recover from transplant shock.

Field grown trees are called B&B (Ball and Burlap) and they are grown in the ground, dug up and the roots wrapped in burlap. Part of the root system is severed at the time of harvest, which will slow the growth for a year or two. Larger trees typically will be B&B. Palm trees are typically B&B, which works well due to their limited root spread (i.e. a 16 foot high palm tree has about a 24 inch root ball diameter).

Container grown trees are lighter in shipping weight and can be shipped at any time of year. The entire root ball is left intact in the container, therefore transplant shock is limited. Container grown trees go through less transplant shock.

SELECTION AND PLACEMENT OF TREES (continued)

Climate - Plant Zone information is helpful. Do not select trees that will not survive in our Coastal South Zone 8 climate which assumes temperatures will not typically go lower than 21 - 30 degrees Fahrenheit, with 91 -120 days over 86 degrees Fahrenheit annually. *Do not assume that local nurseries only sell plant material that thrives in Zone 8.* Check the tag, ask at the nursery or do a quick check on your cell phone to make sure. Trees on the attached list of preferred trees will tolerate climate conditions of Zone 8.

Direct and Indirect Sunlight - Evaluate the amount of sun your yard gets by area and consider seasonal changes due to the position of the sun. A typical analysis would include the four sides of the house including the front yard, the back yard, and two side yards.

- Full sun in Zone 8 is six or more hours of full sun daily
- Partial sun in Zone 8 is 3 - 4 hours of sun daily
- Shade in Zone 8 is no more than 2 hours of sun daily

Salt, Wind, or Standing Water - Identify areas that may get high winds, salty conditions, standing water, or are prone to flooding and make sure you select trees that will tolerate these conditions. Most trees will not thrive in consistently wet soil.

Tree Size - Select tree(s) for each area by first assessing the size of the area(s). Consider sun exposure, height restrictions, and the areas where tree roots need to be able to spread in a circular area around the trunk. Ideally that unencumbered area would not include hardscape or buildings, where root intrusion could be damaging. Consider other plantings in the area and whether a new tree would endanger the health of other plantings due to lack of sun when the tree matures. As the tree canopy spreads there will be more shade - will that affect your turf? If there is a patio, porch or deck will leaf drop or mold caused by shade require frequent clean up? Are you considering planting a tree near a pool? Place the tree far enough from the pool that you will not get damaging root intrusion or leaves dropping into the pool. If you think root spread is an issue for the planting area, a palm could be an excellent choice due to their limited root spread and small canopy.

PLANTING TREES - GUIDELINES FOR SELECTING THE PLANTING SITE

Overhead Power Lines - Only plant trees that are under 20 feet tall at maturity under an overhead power line. Shrubs or perennial grasses are a much better option. Utility companies have the right to top trees that grow too tall causing unsightly mutilation.

Utility Boxes, Sewer Lines and Septic Systems - Utilities include electric; gas; sewer; telephone; cable TV/Internet; water; and sewer. Dial 811 for specifics of the location. Do not plant a tree directly above utilities areas. Shrubs are a better choice. Large trees should be planted at least 12 to 20 feet or more from utility easements. Do not plant over or near septic systems or drain fields (i.e. If tree is 40 feet wide at maturity do not plant any closer than 40 feet from septic tank or drain fields). If utility easements and/or septic systems are damaged by tree roots, the homeowner is responsible for the cost of repairs which could include tree removal. Sewer line or septic system damage from tree roots could cause dangerous water contamination.

PLANTING TREES - GUIDELINES FOR SELECTING THE PLANTING SITE (continued)

Buildings - Never plant a large tree close to a building. Palm trees are a good choice near a building because of their compact canopy and root system. Only plant small trees or palms near a foundation. Determine the mature width of the tree and also plan for space between the mature tree and the building. For example if the crape myrtle variety you have selected is 20 feet wide at maturity, the distance from the trunk to the furthest branch is 10 feet. You want at least 5 feet of open space between the tree and the building. Plant the trunk at least 15 feet from the foundation which will provide room for the mature canopy and for the roots to spread evenly from the trunk. You will eliminate any issues due to being too close to gutters and will also provide for some space between the tree and the building. Make sure the mature tree will not block a window or touch the roof. Insurance companies with customers in areas prone to hurricanes sometimes will cancel a homeowner's policy if they see that there is a tree branch touching a roof.

Streets and Driveways- Plant very small trees near streets or driveways and make sure the tree is not low branching so that cars have clearance. Do not plant trees between sidewalks and streets. If you plant trees near a street, provide enough room for roots to spread and make sure no low branches will interfere with passage of emergency vehicles which require street clearance of 15 feet.

Existing trees - Do not plant new trees too close to existing trees. Consider the example of a yard with a mature tree that is 30 feet wide and the homeowner wants to plant another tree near it which will be 20 feet wide. The 30 foot wide tree measures 15 feet between the trunk and the widest branch. The mature 20 foot wide tree will measure 10 feet from the trunk to the widest branch. Add the 15 feet plus the 10 feet, plus 5 feet or more between the trees and you get 30 feet, which should be the distance between the two tree trunks. Planting a grouping of 5 or more trees with appropriate spacing between trees can help the trees withstand high winds and can also make a beautiful design statement. Some small shade loving trees can be planted underneath established trees using care not to damage roots (i.e. Japanese maple under a live oak).

LIST OF PREFERRED TREES

The following list of preferred trees includes trees that tree experts have recommended for planting in the Lowcountry. It does not include many trees that would be unsuitable for a variety of reasons listed on the next page. You will find a few local favorites (i.e. dogwood) that are known to have problems, but if the owner is willing to provide the extra care the tree requires, they can be quite beautiful. If you choose trees on this list, purchase a healthy specimen, and follow the instructions regarding tree selection, tree placement, tree planting and maintenance - you will have a high success rate.

To find photos of trees, use the Latin name on the internet and a variety of photos will be available.

LIST OF PREFERRED TREES FOR THE LOW COUNTRY

Types of Trees

- Deciduous - Sheds leaves annually.
- Evergreen - Has leaves throughout the year and is always green.
- Conifer - Cone bearing trees.
- Native - A tree that has occurred naturally in a particular region without human introduction.
- Palm - Flowering tree restricted to tropical or subtropical climates. Evergreen fronds are arranged on an unbranched trunk. Some varieties are native to SC. The Sabal Palm is the state tree of SC.

Native trees are always a good choice as you know that they will have a natural resistance to pests, fungus, heat, drought, and they will tolerate the infrequent light frost that occasionally visits the Coastal South. Choosing a native plant will mean lower maintenance and less of a requirement for chemicals and they also provide a bird habitat. The Preferred List does include some non-native trees that do well in our region. It also includes some popular trees that are higher maintenance, but owners may decide they are worth extra attention because of their beauty. A proactive approach with natural or chemical treatments for those types of trees will help to manage their care and improve their appearance.

Trees Not Included in this list of Preferred Trees

- Trees that are known to have frequent insect or fungus problems that require chemical applications (a few are included because of their beauty and popularity in the Lowcountry).
- Trees that are over 80' tall and are too large for most residential yards.
- Trees that are very messy because of leaf, nut, or berry drop and require constant clean up.
- Trees requiring extensive pruning.
- Trees which do not age well and may be difficult to manage at maturity.
- Trees with poisonous leaves or flowers.
- Trees prone to frost damage in Zone 8.
- Trees that cannot tolerate the high heat and humidity of the coastal southern climate.
- Trees with invasive root systems that can damage walkways, streets, and hardscape.
- Limited fruit and flowering trees are included in this list due to unique maintenance requirements.
- Trees that are known to attract deer. In many cases deer browsing is not an issue as the tree canopy is too high for a deer to reach. For example, deer like crape myrtles but the tree form is too high for them to browse. Sometimes the shrub form is reachable, and then you might have a problem. If the tree has branching to the ground like an arborvitae, the bottom could be browsed by deer.

Definitions

- Hardscape - Man-made features used in landscape design made of wood, stone, cement, etc.
- Softscape - Plant material.
- Tree Canopy - The layers of leaves, branches and stems of the tree.
- Tree Canopy Shapes - Pyramidal, Round, Columnar, Weeping, Broad, Oval, Layered, Vase, Shrubby
- Broadleaf Tree - A tree with flat broad leaves.
- Cultivar- A variety of tree that has been cultivated by growers because of desirable characteristics.
- Single stem/multiple stem - Trees have either a single stem or trunk which branches out above the ground, or multiple stems which originate directly from under the ground.

PREFERRED LARGE TREES FOR ZONE 8 - FOR LOTS OVER 75' WIDE ON STREET SIDE OR BACK YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
Acer floridanum	Florida Maple, Southern Sugar Maple	40 - 50' H 25'+ W Size varies regionally.	Sun	Deciduous Native	Insignificant flowers	Small fast growing maple that tolerates Lowcountry wet soil and heat. Bark is gray with ridges. Yellow or red in fall. Elliptical crown. Similar to northern sugar maple. Excellent shade tree.
Acer rubrum	Red Maple, Swamp Maple, Hammock Maple	40 - 60' H 40'+ W	Sun or part shade	Deciduous Native	Insignificant flowers	Fast growing small maple that tolerates drought and Lowcountry wet soil and heat. Deep scarlet foliage in Fall. Gray bark with ridges. Do not plant near paving as roots will reach out looking for water and damage hardscape. Cultivars - Fireburst, Florida Flame. Excellent shade tree.
Gordonia lasianthus	Loblolly Bay	40 - 50' H 10-15' W	Sun to filtered shade	Evergreen Native	White flowers in spring and summer	Columnar shape, slow growing, white showy flowers that resemble magnolia blossom. Medium gray/brown bark. Dark green glossy leaf. Likes well drained soil. Deer may browse.
Magnolia grandiflora	Southern Magnolia	60-80' H 40' W	Sun or part shade	Evergreen Native	Creamy white 8" flowers in spring and summer. Cone like seed pods showy in fall.	Year round beauty with glossy green long leaves and large blossoms. Stunning but choose site carefully. Needs room. Don't plant too close to grass as the shade and shallow roots will take their toll. Roots can crack hardscape if planted too close. Best planted alone as shallow roots can be damaged by additional plantings or foot traffic. Leaf drop messy. Cultivar 'Brakens Brown Beauty' has velvety brown backed leaves. Magnolias are prone to insects and fungus diseases. Many owners treat magnolias annually to prevent problems and that treatment can be very beneficial.
Magnolia virginiana	Sweet Bay Magnolia, Laurel Magnolia, Swamp Magnolia	40-50'H 15-20'W Some cultivars are smaller	Sun or part shade	Evergreen Native	Showy white flowers 2-3" with lemon fragrance, red fruit	Single or multi stem trunk, tolerates moist soil, moderate to fast growing, long blooming period - May or June sometimes through September, grayish green leaf with silver underside, branching can be irregular. Can have problems with scale.
Quercus virginiana	Southern Live Oak	70-80' H 70-100"W Wider than it is high due to extended branching	Sun or part shade	Deciduous Native Dark green leaves fall as new leaves emerge- makes it appear evergreen due to coordinated leaf loss with new leaves-not true evergreen.	Acorns Insignificant flowers	Majestic but massive shade tree requiring expansive site. Very few yards large enough for this tree and they are better located in public parks. Leaf canopy wider than height of tree. Branches can reach ground. Roots spread triple the size of the canopy. Roots can crack walks and paving and become entangled with sewer pipes, utilities, etc. <i>Site very carefully.</i> Slow growing and long lived and often draped with Spanish moss. Old leaves shed in spring - leaf drop messy. Susceptible to oak wilt, leaf blister, fungal gall. Excellent shade tree that is very popular in the Lowcountry. English live oak - Quercus robur is a smaller, more columnar 45'H X 15'W. Cultivars are 'Rocket' and 'Crimson Spire.'

PREFERRED LARGE TREES FOR ZONE 8 - FOR LOTS OVER 75' WIDE ON STREET SIDE OR BACK YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
Taxodium distichum	Bald Cypress	50 - 70' H 20 - 30' W	Sun	Conifer, Deciduous, Native	Cones	Stately large conifer with shaggy, cinnamon colored bark and long branches with feathery leaves. Foliage turns rust color in fall before leaf drop. Winter silhouette shows off bark. Will tolerate wet soil. Can develop knobby growths called knees within root area typically in wet soil. Very few health problems. A striking tree with fall color.
Ulmus parvifolia	Elm - Chinese or Lacebark Elm	40-60' H 25-40 H	Sun	Deciduous	Tiny red flowers	Handsome smaller broadleaf tree with showy bark. Bark on mature tree will flake off in patches creating a beautiful mottled combination of gray, green, orange, brown. Leaves turn yellow or orange in fall. Resistant to Dutch elm disease, elm leaf beetle, and Japanese beetle. Caution - Siberian elm sometimes sold as Chinese but is inferior. Cultivars are 'Athena' and 'Burgundy.' Excellent small shade tree with striking bark.

PREFERRED SMALL/MEDIUM SIZED TREES FOR ZONE 8 - FOR LOTS OVER OR UNDER 75' WIDE ON STREET OR REAR YARD

Botanical Name	Common Name(s)	Approximate Mature Height	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
Acer buergeranum	Trident Maple, Three Toothed Maple, Chinese Maple	25'H 25'W	Sun or part shade	Deciduous	Insignificant flowers, winged seed pods	Small rounded maple with 3 notched leaf. Attractive flaking bark with maturity. Native to China and Japan. Don't plant near hardscape or street due to low branching. Dark green glossy leaves. Known for warm Fall color - red and orange/ red. Excellent small shade tree. Cultivar is 'Streetwise.'
Acer palmatum	Japanese Maple	20'H 20'W	Prefers part shade	Deciduous	Insignificant flowers	Prefers filtered shade- does well planted under a larger tree. Slow grower. Delicate leaves with very low branches. Very showy. Fall color. Beautiful specimen tree - not a shade tree. Cultivars are 'Atropurpureum' (maroon), 'Bloodgood', 'Moonfire', 'Aconitifoliam' (fern-like green leaf), 'Palmatum' (lace leaf).
Betula nigra	River Birch	40 - 50'H 25-35'W	Sun	Deciduous Native	Insignificant flowers, catkins in late spring	Distinctive tree. Best birches for a hot and humid climate. Fast grower. Frequently multi trunk. Bark gray-brown- pinkish and exfoliates in curly, papery sheets. Tolerates poor drainage. Roots may surface. Yellow leaves in fall. Prefers regular watering. Resistant to borers. Best birch for the South.

PREFERRED SMALL/MEDIUM SIZED TREES FOR ZONE 8 - FOR LOTS OVER OR UNDER 75' WIDE ON STREET OR REAR YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
Callistemon citrinus	Bottlebrush	10 - 25'H 10-25'W	Sun or part shade	Evergreen	Red 6 -inch bottlebrush shaped blossoms in spring and summer	Can withstand wet soil. Weeping version requires careful pruning. Need 6 hours a day of sun for lots of bloom. May need some thinning and light pruning as it gets older. Some have exposed trunk, others branch to the ground. Textured leaf and bright flowers provides variation in landscape. May be sensitive to frost. Cultivars are 'Pallidus' and 'Splendins.'
Cercis canadensis	Eastern Redbud, Judas Tree	25 - 30'H 25-35'W	Sun or light shade	Deciduous Native	Bright purple flowers in early spring. Leaves emerge after flowers	Beautiful small tree with early spring flowers that appear before the leaves. 'Forest Pansy' variety has burgundy leaf, others have green leaf. Prefers well drained soil and regular water. Requires some winter chill for flowering. A harbinger of spring - one of the first of the flowering trees to bloom. Cultivar 'Flame' has double pink blooms. 'Tennessee Pink' has pink blooms.
Chionanthus virginicus	White Fringe Tree, Snow Flower	12 - 20'H 12-20'W	Sun/part shade. Heavier flowering in sun.	Deciduous Native	4 - 8" clusters of lightly fragrant white flowers in May-June	Slow growing, multiple stem, crown-shaped canopy. Likes moist soil, easy care. Fragrant white feathery flowers. Requires some winter chill for flowering. Leaves turn yellow in fall. Male has larger flowers, female has small fruit. Gray bark attractive in winter. Prefers moist well-drained soil. Minimal pruning required. Easy care. An underused very showy tree.
Cornus florida	Flowering Dogwood	20 - 30'H 20-30'W	Sun but thrives under a large shade tree	Deciduous	White, pink flowers	Very beautiful but subject to borers and anthracnose. Slow to medium grower. Well- drained soil. Delicate tree with spring flowers, fall color and fall berries. Cultivar 'Cherokee Princess' popular.
Eriobotrya japonica	Loquat	20' - 30'H 20-30'W	Sun or part shade	Evergreen	Light orange edible 2" fruit with pits	Handsome evergreen with glossy dark green leaves, and rounded crown. Small white flowers, light orange 2" edible fruit in winter/spring. Likes well-drained soil. Fire blight and anthracnose can cause problems. Deer will browse - buy more mature tree with higher canopy to avoid deer. Attractive small evergreen tree.
Ilex opaca	American Holly	25 - 45'H 20-40'W	Sun or part shade	Evergreen Native	Red berries abundant; must have male and female plant nearby	Very pretty pyramidal shaped tree. Slow grower, dense glossy green foliage from the ground with red berries. Plant in wind protected spot. May be bothered by deer. Subject to pests, particularly leaf miner. Spray foliage in spring and summer to protect from insects. Prune lightly to shape.
Ilex vomitoria	Yaupon Holly	25'H 10'W	Sun or part shade	Evergreen Native	Red or yellow berries on female plants in summer. Male plant must be nearby for berries	Easy care holly with multiple trunks, small leaves glossy green leaves and pyramidal form with berries and gray bark. Weeping form has pendulous branches and grayish foliage which, with proper placement and careful pruning, can be striking. Prune branches heavy with berries to avoid splitting.

PREFERRED SMALL/MEDIUM SIZED TREES FOR ZONE 8 - FOR LOTS OVER OR UNDER 75' WIDE ON STREET OR REAR YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
Ilex attenuata	Savannah Holly, East Palatka	12-30'H 6-15'W	Sun or part shade. Dense canopy in full sun.	Evergreen Native	Red berries in fall and winter if male and female plants co-located.	Moist soil. Single trunk variety is desirable and resists breakage. Graceful pyramid shape and drooping branches with plentiful bright red berries. Light green leaf. Good street tree. Crown growth is narrow. Prune lightly to shape and to avoid splitting due to heavy berries.
Juniper virginiana	Eastern Red Cedar	40 - 50' H 15 - 30' W	Sun	Conifer Native Evergreen		Dark green foliage that turns bronze with cold weather. Tolerates poor soil and limited water. Nice conical shape; good as single tree or hedge for screening. Very little pruning required. Avoid overwatering. Can be prone to pests and diseases.
Lagerstroemia indica	Crape Myrtle	10 - 40'H 10-40'W Height and width vary greatly. Some very narrow.	Likes a sunny area with free air movement to avoid powdery mildew.	Deciduous Native	Large flowers bloom in spring or summer. Many colors. Extremely showy.	Classic Southern flowering tree available in many colors and white. Blooms on new wood. Prune by hand selectively in winter or early spring. Do not use power tools as it could disfigure tree trunk AKA "crape murder". Many have very attractive shedding bark. Can be multi trunk or single. Many varieties and heights. Classic cultivars are 'Natchez' - white, 'Near East' - light pink. Leaves provide fall color. Beautiful flowering small tree.
Magnolia grandiflora	Little Gem, Teddy Bear	30 - 35'H 8-12'W 20 - 25'H 10'W	Sun or part shade	Evergreen Native	Large creamy white fragrant flowers in spring and summer	Compact slow growing ornamental with dense dark green glossy leaves with velvety brown underside. Pyramidal shape. Tolerates clay, sandy, wet soil. Root system wide - 4 times canopy width. May have problems with fungus, insects, scale, borers. Many owners treat annually as preventative which is very beneficial. Striking small specimen trees.
Magnolia stellata	Star Magnolia	10 - 20'H 10-15'W	Sun or part shade	Deciduous	Spring clusters of star shaped white or pink flowers. Leaves emerge after flowers. Fruit in fall	Very showy compact ornamental tree. Fragrant with attractive bark. Tolerates drought. Shallow roots. Minimal pruning required. Can have problems with scale and powdery mildew. Leaves turn yellow in fall. Low branching, almost more like a shrub. Nice showy specimen tree in spring.
Myrica cerifera	Southern Wax Myrtle	10 - 20' +H 10-20'+W	Sun	Evergreen	Small grayish white fruit attractive to birds	Very tough fast growing tree used for screening. Less attractive with age and very wide. Gnarly branching makes pruning and shaping very difficult. Can prune annually to desired height, or plant them where they can grow to full size without need to prune. No problems with pests or disease. Deer resistant, provides bird habitat. Tolerates poor soil. Roots very difficult to remove. <i>Site them very carefully as removal is difficult.</i>

PREFERRED SMALL/MEDIUM SIZED TREES FOR ZONE 8 - FOR LOTS OVER OR UNDER 75' WIDE ON STREET OR REAR YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer Deciduous, Native	Flowers, Berries	Characteristics
Osmanthus fragrans	Sweet Olive, Tea Olive, Fragrant Olive	10'H 6-8'W	Sun or part shade	Evergreen	Small white very fragrant flowers in summer and fall. Purple fruit	Small tree with a broad upright form and light foliage. Dense branching and dark green evergreen leaves. Could be used as an informal hedge or for screening. Plant near porches, walkways, etc to enjoy sweet fragrance.
Pistacia chinensis	Chinese Pistache	25 - 35'H 25 - 35'W	Sun	Deciduous	Small red fruit clusters in fall	Small to medium tree in the cashew family. Hardy - withstands draught and poor soil. Very attractive orange and red foliage in Fall. Dark green 10"leaves with 10-12 leaflets. Called the "Ugly Duckling" as it is unattractive and misshapen as a young tree but very pretty over time with light pruning to shape. Select nicely shaped specimen. Grows about 2 feet annually.
Stewartia pseudocammellia	Japanese Stewartia, Korean Stewartia, Deciduous Camellia	30'H 15-30'W	Morning sun, afternoon shade	Deciduous	Flat white 5 petal flower in summer. Brown seed pods	Attractive slow growing ornamental likes rich soil and good drainage. Deep green leaves yellow or red in fall. Stunning bark exfoliates with age to show mottled orange, gray, green bark. Pyramidal to round shape multi stem or single trunk. Showy easy care tree.
Thuja	Arborvitae Many varieties and sizes form shrub to 200' tree.	20 - 60'H 10-5'W Depends on variety	Sun or part shade	Evergreen Conifer	Small cones	Pretty bright green with columnar shape and reddish brown bark. Ornamental coniferous tree in the cedar family with flat branchlets. Branching right to the ground. Can be used as a hedging plant due to columnar shape. May be browsed by deer - to be safe put it behind fence. Likes well drained soil. Fast growing.
Vitex agnus-castus	Lilac Chaste Tree	9-15'H 8-10'W	Sun	Deciduous	Long flower spikes in spring. Purple, blue, white, pink. Valued for unusual purple/blue flowers	Fast growing multi trunk with grayish green leaves and beautiful long purple flower spikes in Summer. Attracts butterflies and bees. Prune lightly in winter to thin branching which will improve flowering. May get frost burn but will bounce back. Plant foliage plants at base and will be very appealing when tree is flowering. 'Abbeville Blue', 'Montrose Purple' and 'Shoal Creek' are good cultivars. 'Silver Spires' is white.

PALM TREES FOR ZONE 8 - FOR LOTS OVER OR UNDER 75' WIDE ON STREET OR REAR YARD

Botanical Name	Common Name(s)	Approximate Mature Height/Width	Sun/Shade	Evergreen, Conifer, Deciduous, Native	Flowers, Berries	Characteristics
<i>Butia capitata</i>	Pindo Palm, Jelly Palm	15- 20'H 10-15'W	Full sun or part shade	Evergreen	Creamy white flowers with orange fruit	Slow growing, wide trunked palm with fronds that reach close to the ground creating a large umbrella shaped canopy. Graceful arches to the ground. Fronds are up to 6' wide and are needle like. Blue or gray coloring. Drought and wind tolerant. Tolerates sand and clay.
<i>Sabal palmetto</i>	Cabbage Palmetto, Carolina Palmetto	Up to 50'+H 10-15'W	Sun or part shade.	Evergreen, Native	Creamy white showy flowers in summer followed by black fruit. Birds and squirrels enjoy the fruit	Stately palm that has a rough fibrous trunk which can be straight or curved. Very dense crown is 10 -15' diameter. SC and Florida state tree. Frequently planted in clusters. Palm leaves up to 6' wide. Bark sometimes has interesting crisscross pattern barking called "boots" which they may shed to reveal a brown fibrous trunk. Salt and drought tolerant. Consider staking newly planted trees for up to a year. Tolerates drought and standing water. Blossoms excellent source of nectar for bees.
<i>Cycas revoluta</i> AKA - Sago Palm (this tree is actually a Cycas not a palm)	Sago Palm, Queen Sago	10 - 20'H 10 - 20'W	Part shade	Evergreen, primitive cone bearing conifers.	Bloom once every 3-4 years. Female bears a cluster of conspicuous egg-shaped red or orange seeds. The male sago develops an erect yellow cone up to 2' tall	Tropical looking - like a cross between a palm and a fern. Can have several trunks. Frequently planted as a shrub but gets very large so not a good foundation plant. They develop offshoots called "pups" which must be removed regularly or will tangle. Require regular pruning of spines which yellow. Pruning is difficult. Needles are sharp, tough, may be damaged by frost. Pretty as a young plant but difficult to manage as it grows into a tree. Leaf spot disease can be a problem. If you plant this tree give it plenty of room. Removal may require heavy power equipment. <i>Site this tree carefully.</i>
<i>Trachycarpus fortunei</i>	Fortune's Windmill Palm, Chusan Palm	10 - 30'+H 6-12'W	Sun or part sun.	Evergreen	Male and female trees have 2-3" yellow flowers that hang down from the palm fronds	A tropical beauty that is easy care. Pretty planted in clusters with other plants. Beautiful fan like fronds symmetrically bunched. forming a crown of foliage. One of the most cold tolerant palms. Low maintenance and pest resistant. Likes well drained soil. The trunk has dark hairy fibers and gets very wide. Slow grower. Drought tolerant. Can be potted for use in a lanai or pool area. Excellent small palm.

Make sure the variety of palm that you select will tolerate occasional frost. Some nurseries sell palm trees that are better suited to Florida and will not thrive in our Zone 8. Check the internet using the Latin name for example "Butia capitata plant hardiness zone".

Reference Documents

- *Clemson Cooperative Extension Home and Garden Information Center*, <http://www.clemson.edu/extension/hgic>.
- *Clemson Extension Master Gardener Training Manual 2006*.
- *Clemson Cooperative Extension Home and Garden Center Information Center - Familiar Trees of South Carolina* - A manual for tree study.
- *Garden Guide to the Lower South*. Trustee's Garden Club, Savannah, Georgia, Third Editio.
- *The Southern Living Garden Book*. Edited by Steve Bender; Senior Writer, Southern Living.
- *Manual of Woody Landscape Plants, Their Identification, Ornamental Characteristics, Culture, Propagation and Uses* by Michael A. Dirr.
- *University of Florida IFAS Extension, Wind and Trees: Lessons Learned From Hurricanes* by Mary Duryea and Eliana Kampf.

Most gated communities have "approved trees". Consult your community documents, community management staff, or Architectural Review Board (ARB) documents for a list of approved trees in your community. Tree removal may require approval and replacement in gated communities. Contact community management to determine policy. Some trees are considered specimen trees and are protected by town or county laws. Contact your town, city, or county for details.



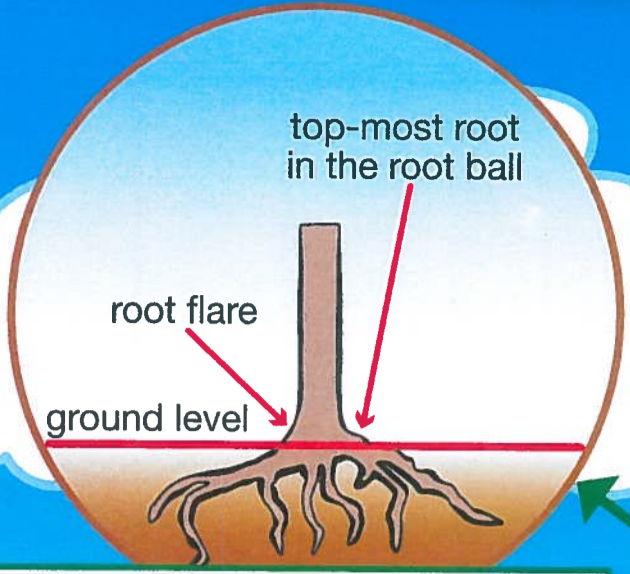
Home & Garden Information Center



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When to Plant

Plant trees and shrubs in the fall. The temperatures are cooler and allow for better root development.



Root Flare

Proper planting depth is essential for the health of the tree. Correct depth is obtained when the root flare is at the surface of the soil. The root flare is where the first main roots attach to the trunk. You may need to remove excess soil from across the top of the entire root ball to expose the root flare.

Mulch

Mulch retains soil moisture and moderates soil temperature extremes. A 2- to 4- inch layer applied to a large area around the base of the tree is ideal. More than a 4-inch mulch depth can cause problems with oxygen and moisture levels. Also, keep mulch a minimum of one inch away from the trunk to avoid pest and disease problems.

Water Berm

Construct a 3-inch high ring around the edge of the root ball to hold water. Remove the berm at the end of the second growing season.

Soil Preparation

Determine the pH and available nutrients of the planting location by having a soil test done. Water should drain through the soil evenly. If the site holds too much water, choose a plant that tolerates wet soil. The addition of soil amendments is generally not recommended.

Pruning Restrictions

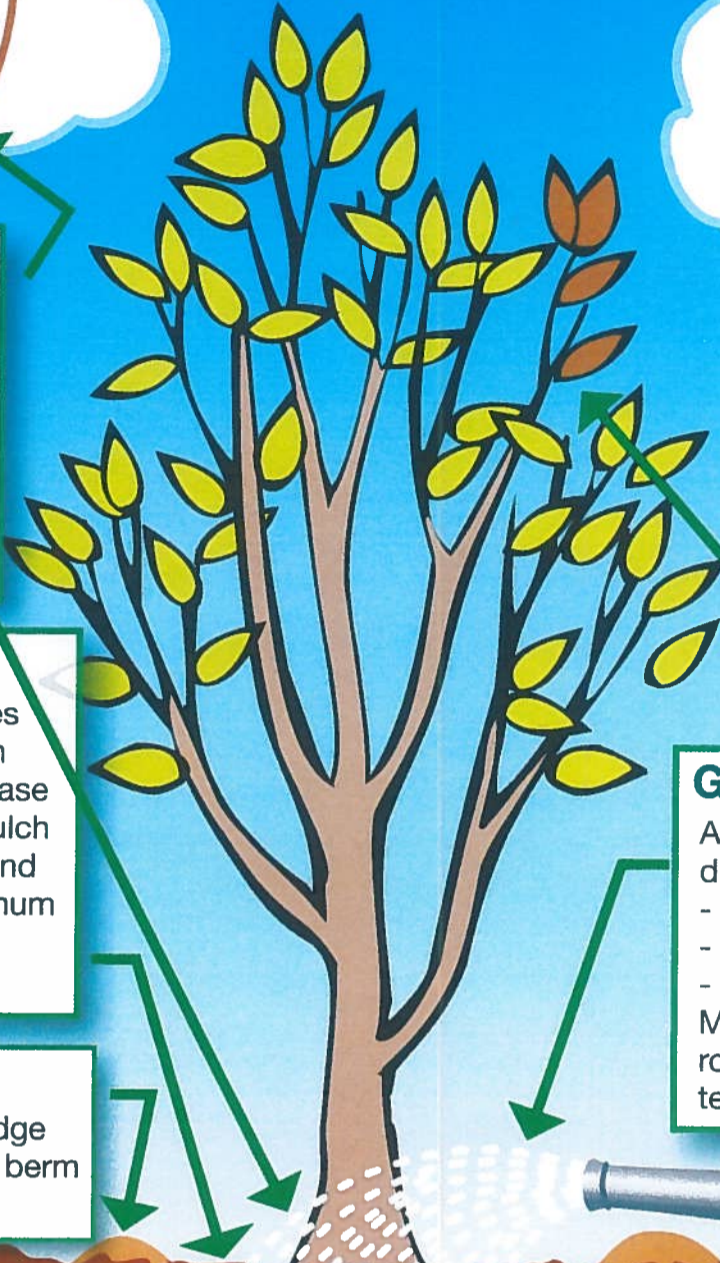
Prune only to remove broken and dead twigs or to improve tree structure.

General Watering Guidelines

Apply 2 gallons of water per inch of trunk diameter:

- Daily for 2 weeks.
- Every other day for 2 months.
- Once weekly until established.

Make sure water is applied to the original root ball. Adjust water according to soil type, temperature, rainfall, and other irrigation.



Ball & Burlap

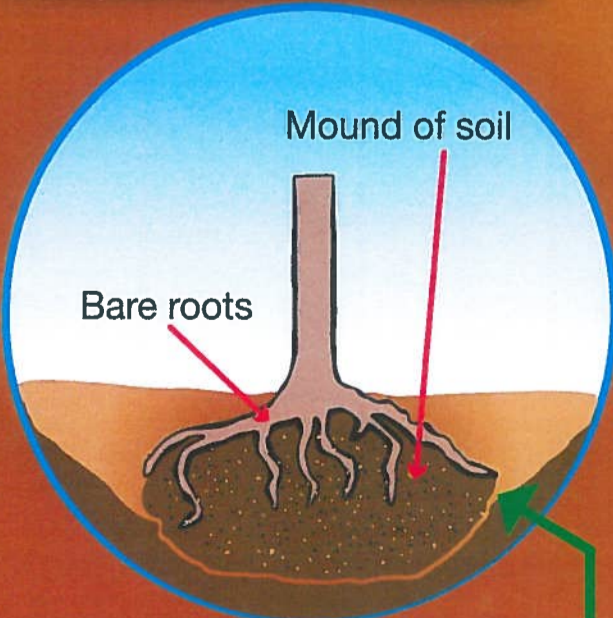
Before planting, determine if it is synthetic or natural burlap. Natural burlap repels water and should be removed from the upper third portion of the root ball. Synthetic burlap can restrict root growth and should be removed completely.

Backfill

Break up soil clods before backfilling to prevent air pockets. Fill the hole 1/2 way, then lightly tamp. Fill the hole the rest of the way and lightly tamp again. The handle end of a shovel works great for tamping the soil around the root ball.

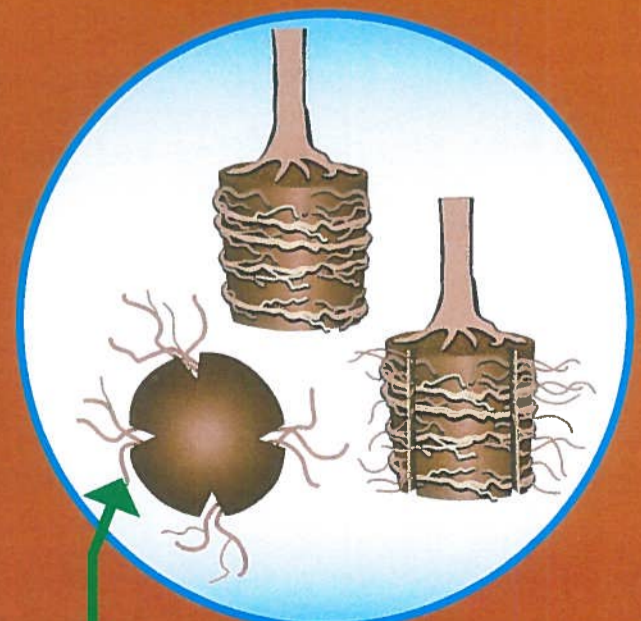
Planting Depth

The planting hole should be equal to the height of the root ball, never deeper. Leave the soil undisturbed at the bottom of the hole. The planting hole should be 2 to 3 times wider than the root ball.



Bare Root

Do not cut, break or bend the roots to make them fit into the planting hole. Do however, remove any dead or dried up roots. Lay roots as parallel as possible or angled slightly downward. The diagram shows a soil mound used to help spread roots within the planting hole.



Root Slicing

Examine the roots, if they appear to be "circling", cut 1 to 2 inch deep slices in the root ball. This will promote new root development.

Mulching

Mulch retains soil moisture and moderates soil temperature extremes. A 2- to 4-inch layer applied out to the tree's drip line is ideal. More than a 4-inch mulch depth can cause problems with oxygen and moisture levels. Avoid mulch "volcanoes". Keep mulch a few inches away from the trunk to avoid pest and disease problems. Mulch provides a well-cared-for appearance, while preventing damage from lawn care equipment. Trunk damage slows growth and can lead to borer infestation and wood decay as well as tree decline and death.

Tree Establishment

The length of time for establishment of a tree depends on the original tree size and the growing conditions after planting. All trees experience transplant shock regardless of tree size when planted. During the period of transplant shock, both root and shoot growth are reduced. Vigorous growth does not return until the roots are established. A 1-inch caliper tree, with proper care, should develop an established root system by the end of the first year. A 4-inch caliper tree is larger and requires a minimum of 5 years to develop an established root system.



Fertilization

Fertilizer and/or lime should be applied based on soil test results. Fertilization is not a "cure-all" for declining trees, but may be used to complement other tree maintenance activities. Younger trees benefit more from fertilization than older trees. In early spring, broadcast a slow-release fertilizer evenly over mulched and unmulched surfaces in the root zone area (out to 1 1/2 times the canopy radius). Fertilizer should always be applied to moist soil to improve uptake and to reduce the chance of root injury. Improper fertilizer type, rate, and application can injure plants.

Pruning

Pruning is not necessary the first year after planting. Structural pruning should be done every 2 to 3 years beginning in the second season and ending in the tenth year after planting. This will establish a strong, sturdy trunk with well-spaced branches, 12 to 18 inches apart. Trees that receive appropriate pruning while young will require little corrective pruning at maturity.

Never "top" trees. "Topping" is detrimental to both the natural appearance and overall health of the tree. If a mature tree needs pruning, always contact a certified arborist.

1 1/2 times the canopy radius

Mulch to drip line

Construction Damage

Protect the tree roots from soil compaction, paving, or mechanical damage. Remember that tree roots extend 2 to 3 times the width of the canopy. Roots are required for structural stability and for supplying water and nutrients. The amount of damage a tree can suffer from root loss depends on how close the cut is made to the trunk. Severing one major root can cause the loss of 5-20% of the root system.

Insect & Disease Monitoring

Monitor for pest problems on a regular basis and treat only if necessary. Some pests can damage or kill plants, but not all insects and disease organisms pose a significant threat or require treatment. By first identifying the problem, it can be determined if any treatment is necessary.

Tree & Turfgrass Root Competition

Turfgrass roots colonize the top 2- to 3-inch layer of soil while tree roots are concentrated in the top 6 to 12 inches of soil. Because of these root depths, trees and turfgrasses compete for the same soil nutrients and moisture. Turfgrass may compete more successfully than the tree for water and nutrients, especially if established before the tree. Mulching eliminates some of this competition by allowing only the tree to use the nutrients and water applied under the tree. Most turfgrasses do not grow well in heavy shade anyway.

Irrigation

Lack of water is often the cause of poor tree growth. Established trees should be watered at the first sign of wilting or when the top 12 inches of soil are dry. A good slow soaking over several hours is best and may be done with a low pressure sprinkler or soaker hose, starting at the trunk and extending beyond the furthest branch spread. Avoid over watering as too much water can kill a tree by eliminating the air from the soil.

