

Landscape Guide

For Land Development



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Introduction

This guide has been developed as an aide for meeting the landscape, buffer and tree requirements of Forsyth County. This is a summary only. The requirements may be found in their entirety in the Unified Development Code and the Tree Protection and Replacement Ordinance. In the event of any discrepancy between this guide and the applicable code, the code shall prevail.

The Unified Development Code and the Tree Protection and Replacement Ordinance are available on the county website: www.forsythco.com

Landscape Regulations

General Landscape Requirements

At least 75 percent of all landscaped areas must be covered by live plant material (at the time of plant maturity) and must consist of at least three of the following elements: vegetative ground cover, herbaceous ornamentals, shrubs, and trees. (UDC, Ch. 3, Definition of Landscaped Areas)

In all commercially zoned districts, the property owner shall be responsible for maintenance of the landscaping. Landscaping shall be maintained, and dead or damaged plants shall be replaced. (UDC, Section 10-1.14(B))

All required landscaping shall be designed, installed and maintained according to plans prepared by a professional landscape architect, architect, surveyor, engineer or land planner submitted to and approved by the Forsyth County Planning and Development Department.

Where a code sections requires a minimum height shrub, specify shrubs by minimum height at installation only, not container size.

Landscape Strip Planting Requirements

A minimum 10-foot wide landscape strip is required paralleling all road frontage for commercial and industrial uses.

Additional frontage landscape strip minimum widths:

- M1 and M2 zoning districts: 25 feet
- MINE zoning district: 50 feet
- Multi-Family developments: 20 feet
- Large Scale Retail: 20 feet
- GA 400, Controlled Access: 25 feet
- Overlay Districts also require different width landscape strips. See the Additional Requirements for each specific Overlay District for details.
- Landscape strip width may also be specified as a condition of zoning.

Trees equivalent to at least one tree density unit for every 75 linear feet shall be located in all frontage planting strips. Trees may be grouped and do not have to be evenly spaced. (Tree Ord., Section 2.7-A)

At least 75 percent of all landscape strips must be covered by live plant material (at the time of plant maturity) and must consist of at least three of the following elements: vegetative ground cover, herbaceous ornamentals, shrubs, and trees.

A minimum 10-foot wide landscape strip is required along all side and rear lot or lease lines for commercial and office zoning districts.

A minimum 6-foot wide landscape strip is required along all side and rear lot or lease lines for industrial & mining zoning districts.

Landscape Strip Requirement for GA 400 Controlled Access (SR 369 right-of-way to Dawson County):

- (1) A minimum sixty (60) foot front yard building setback shall be maintained along all property fronting the Georgia Highway 400 right-of-way.
- (2) A minimum twenty-five (25) foot wide landscape strip shall be maintained along all property fronting the Georgia Highway 400 right-of-way.
 - a. The landscape strip shall contain one (1) overstory tree and ten (10) shrubs per thirty-five (35) linear feet of strip length.
 - b. Trees shall be a minimum two (2) inch caliper at time of planting. Shrubs shall be a minimum of two (2) feet high at time of planting.
 - c. Trees and shrubs need not be evenly spaced but may be grouped as long as adequate space is provided for future growth and the spacing between trees does not exceed seventy (70) feet as measured parallel to the Georgia Highway 400 right-of-way.
 - d. The landscape strip shall be designed with at least thirty (30) percent coverage in mulched planting beds. Planting beds may include the required trees and shrubs as well as additional landscape plantings in any combination.
 - e. The remaining ground area within the landscape strip shall be planted with appropriate ground cover species or grass.
(UDC, Section 10-1.10)

Parking Lots

For all parking lots, a ten (10) feet wide strip of land along the entire front perimeter of the site, located between the front property line and any vehicular use area, shall be landscaped. (UDC Section 17-5.7)

Any parking area exceeding twenty (25) spaces shall provide a minimum of twelve and one half percent (12.5%) of the total parking area as landscaped islands. Landscape strips along the perimeter of a parking area shall not count toward meeting this requirement. (UDC Section 17-5.7(A))

Interior planting areas shall be located to most effectively relieve the monotony of large expanses of paving and contribute to orderly circulation of vehicular and pedestrian traffic. (UDC Section 17-5.7(B))

Each landscape area shall contain turf grasses, shrubs, trees, or other landscape material in any combination, but must consist of at least three plant types. (UDC Section 17-5.7(B))

Ground mounted equipment, such as power transformers and light poles, and any impervious surfaces are prohibited within required landscape parking islands.

Landscape islands shall be located at the end of every Parking Bay and at every 150 linear feet of continuous parking space. (Tree Ord. Section 2.7-B-1)

Landscape islands for Single Parking Bays shall contain a minimum of 200 square feet. Landscape islands for Double Parking Bays shall require a minimum of two 200 square foot islands or one continuous Landscape Island of 400 square feet. (Tree Ord. Section 2.7-B-1)

At least one Overstory Tree shall be planted in every landscape island. (Tree Ord. Section 2.7-B3)

Every parking space shall be within fifty (50) feet of the trunk of a tree. (UDC Section 17-5.7(B))

Trees shall be provided adjacent to and within the interior portion of parking areas in a ratio of one (1) tree for every ten (10) parking spaces. (UDC Section 17-5.7(B))

Landscape strips for parking lots along the right-of-way of any road classified as a Minor Arterial or greater shall feature a three (3) foot high evergreen hedge and/or a three (3) foot high vegetated berm or an additional five (5) feet added to the landscape strip width (for a total of fifteen (15) feet). (UDC, Section 17-5.7 (C)). Road Classification information may be found in the Forsyth County Major Transportation Plan, 2006 Update, Appendix D. Please contact the Department of Engineering at (770) 781-2165 for more information.

Residential Lots

Each single-family residential lot shall contain a minimum of two trees, at least one of which must be located in the front yard. Corner lots shall contain a minimum of three trees with at least one tree located in each yard abutting the streets. The required trees must be a minimum of 2-inch caliper size and be an overstory hardwood species. Existing or replacement trees may be used to satisfy this requirement. The trees may be counted toward the required Site Density Factor for the project.

See Unified Development Code, Chapter 11 Article 9 (Site Development and Design Standards for all Residential Districts Excluding MHP District), for additional landscape requirements for residential lots. Contact the Planning & Community Development Department Building Permit Division for more information.

Open Space Requirements

Open space shall include all areas not containing any man-made structures or pavements.

Stormwater Areas shall not count toward required minimum open space.

Areas for future development may not count toward required minimum open space.

An Active Recreational Facility may not be located in the required open space. Passive amenities, such as walking trails, may be located in required open space, but passive amenities may not comprise more than 25% of the required open space and may not include impervious materials.

Areas dedicated to Land Application shall not be counted toward required open space unless the application is above ground and the area affected can be utilized for such activities as ball fields, golf courses, park areas, etc.

At least 75 percent of all required open space must be covered by live plant material (at the time of plant maturity) and must consist of at least three of the following elements: vegetative ground cover, herbaceous ornamentals, shrubs, and trees.

(UDC, Ch. 3, Definitions of Landscaped Areas and Open Space)

Minimum Landscaped Open Space by Zoning District or Overlay District:

Residential Districts

- Res3=15%, Res4=22%, Res6=40%, CR1=10%, R3=15%, R4=20%

Commercial and Office Districts

- NS=20%, UV=15%, CBD=15%, HB=15%, HC=15%, O&I=20%, OR=20%

Industrial and Mining Districts

- M1=20%, M2=15%, MINE=10%

Atlanta Hwy-McFarland Pkwy-Mullinax Rd Overlay District

- 25% for Commercial and Industrial Zoning Districts

Subdivision Entrances

All street entrances to major subdivisions must be landscaped per plans submitted to and approved by the Forsyth County Department of Planning and Community Development.

The proposed location of street entrance monuments, if provided, must be shown on the Final Plat and approved by the County. Street entrance monuments must be setback 10 feet from the right-of-way or out of the clear zone for the main road, whichever is greater.

Required landscaping must be in place prior to the approval of a Final Plat; provided, however, that the Director may allow the planting of landscaping to be delayed by one season, when there exists adverse seasonal weather conditions, subject to the posting of a landscape bond in a form approved by the Director.

(UDC, Section 19-3.1(J))

Screening

Open Display of Vehicles, Equipment, and Merchandise

In commercial zoning districts where permitted, the outside storage or display of vehicles, equipment, and merchandise to be rented, leased, or sold, shall be visible along no more than thirty percent (30%) of the frontage of the property abutting the highway or major street, excluding approved driveway entrances and exits. Major streets include all roads classified by the Forsyth County Transportation Plan as minor arterial and greater and include Freedom Parkway, Ronald Reagan Boulevard and Old Atlanta Road. Screening may be accomplished by vegetation, by a building that meets architectural standards of this chapter, by an earthen berm, by a 100 percent opaque, solid wooden fence or wall, or combination of these screening methods. Vegetative screening must be specified on the applicant's landscape plan. The use of low-lying landscaping that does not screen the display areas from view from the public right-of-way shall not be deemed to comply with this requirement. (UDC, Section 12-10.9)

Screening of Outside Storage Yards

In commercial, office, industrial and mining districts where permitted, all areas devoted to the outside storage of vehicles, merchandise, and/or equipment not intended for display for public rent, lease, or sale, shall be screened from view from the right-of-way of the highway or major street along the entire property frontage, except in areas where access crossings have been approved. Screening may be accomplished by vegetation, by a building that meets architectural standards of this chapter, by an earthen berm, by a 100 percent opaque, solid wooden fence or wall, or combination of these screening methods. Vegetative screening must be specified on the applicant's landscape plan. The use of low-lying landscaping that does not screen the display areas from view from the public right-of-way shall not be deemed to comply with this requirement. (UDC, Sections 12-10.9 and 14-4.8)

Chain Link Fencing

Chain link fencing is prohibited along any road frontage in all commercial zoning districts except Heavy Commercial (HC). Road frontage is defined as the property line abutting a public right of way that provides public access or visibility to the premises. (UDC, Section 12-10.19(A))

Chain link fencing may be allowed along the sides or rear if screened from view of the right of way with vegetation for the full length and height of fencing material. Chain link fencing may also be allowed if located within the front yard as long as the length of fencing does not measure more than twenty-five (25) percent of the road frontage length if screened from view of the right of way with vegetation for the full length and height of fencing material. (UDC, Section 12-10.19(B))

Ground Mounted Equipment

In commercial, office, industrial and mining districts, ground mounted equipment such as power transformers and air-conditioning units shall be screened from view from public right-of-ways by fencing or landscaping. (UDC, Sections 12-10.14 and 14-4.12)

Southeast Forsyth Residential Design Standards

Residential Subdivisions

Public open spaces not including buffers must preserve or provide twenty (20) overstory trees per acre. Preserved healthy overstory trees over sixteen (16) inch dbh shall count as three (3) overstory trees for the sake of this requirement, subject to confirmation by the County Arborist. (UDC 11-9.7(D)(1))

No more than 33% of newly planted trees in a development may be of a single species. (UDC 11-9.7(D)(5)(a))

Lots along the exterior property line of a development that do not abut a right-of-way or public space must provide a thirty (30) foot exterior buffer. (UDC 11-9.7(D)(6)(d))

See Unified Development Code 11-9.7(C) for additional landscape requirements for residential lots within the Southeast Forsyth Design District. Contact the Planning & Community Development Department Building Permit Division for more information.

Additional Requirements for Atlanta Highway-McFarland Parkway-Mullinax Road Overlay District

Landscaping

The purpose of this overlay district is to establish minimum standards for development, exterior architectural design, parking, fencing and landscaping that contribute to the district's recruitment and retention of businesses. This is accomplished through the enhancement of business and industrial development and redevelopment through the creation of visual interest and design flexibility. Architectural design standards are intended to promote architectural continuity and consistency, corridor landscaping for aesthetic benefit, and flexible parking design to minimize impediments to development. It is the intent of this overlay to allow for flexibility in responding to unique characteristics and constraints inherent with different businesses, specific parcels, and related neighborhood areas.

Landscape Strips

The following is in addition to Ordinance No. 98 (Tree Protection and Replacement Ordinance) and other landscape requirements of the Unified Development Code.

- (1) For all properties, a minimum twenty (20) foot wide landscape strip paralleling the road frontage shall be provided along the proposed future rights of way of Atlanta Highway (State Route 9), McFarland Parkway, and Mullinax Road. Plantings within twenty (20) foot wide landscape areas are required. A minimum of ten (10) feet of the required twenty (20) foot landscape strip shall be located outside of utility easements to accommodate the required trees and shrubs. The minimum required front yard landscape strip for all other road frontages is fifteen (15) feet in width.

- (2) Landscape strips along the side and rear lot or lease lines. In commercial and industrial districts, landscape strips shall be required along all side and rear lot or lease lines. Each required landscape strip shall meet an average width of ten (10) feet with no portion of the landscape strip less than six (6) feet in width.
- (3) Minimum buffer and minimum building setback performance standard, as provided in Table 12.2 for properties along a residential, Office Residential, or Agricultural districts.
- (4) Minimum buffer and minimum building setback performance standard, as provided in Table 14.2, for properties abutting a residential, Office Residential, or Agricultural district.
- (5) All landscape strips and landscape areas are required to contain a variety of overstory trees with an understory of shrubs and herbaceous materials. Trees shall count towards the tree density requirements of the Tree Protection and Replacement Ordinance. All landscape strips shall contain a minimum of one overstory tree and four shrubs per forty (40) linear feet of strip length. All proposed shrubs shall be a minimum of two (2) feet in height at time of planting. All proposed overstory trees shall be a minimum three-inch caliper at time of planting. Trees and shrubs may be grouped or staggered and need not be evenly spaced within the strips.
- (6) All landscape design shall incorporate a minimum of forty (40) percent evergreen plantings.
- (7) Creation of a multifunctional landscape, incorporating detention, retention, and infiltration is recommended.
- (8) The required fences shall be incorporated into the design of the frontage landscape strip and shown on the landscape plan.

Board Fences

Board fences shall be installed along Atlanta Highway (State Route 9), McFarland Parkway and Mullinax Road.

- (1) For all properties, four board style black fences shall consist of a minimum of 1-inch thick, 4-inch wide fence board affixed to 4-inch posts spaced a maximum of ten (10) feet apart. The board fences shall be a minimum of four (4) feet and a maximum of six (6) feet in height. Natural stone or brick masonry columns may be used in the fence design.
- (2) Fence materials shall be comprised of treated lumber, fiber cement, vinyl or steel.
- (3) Chain link or coated chain link fencing is prohibited along the road frontage.
- (4) Individual lots of record within residential or agricultural districts are exempt from this requirement.

Screening

- (1) Automobile Screening. All parking areas shall be screened from public view with evergreen shrubs. Shrubs shall be no less than three (3) feet in height as measured from the top of curb of the parking area.
- (2) Screening of Open Storage Yards. All areas devoted to outside storage of vehicles, merchandise or equipment shall be screened from view from the right of way. Screening may be accomplished by vegetation, a masonry wall, fence or combination of fencing and vegetation. Fences or walls may not exceed eight (8) feet in height. Chain link fencing is prohibited.
- (3) Outdoor display of vehicles, equipment, and merchandise. Outdoor storage or display of vehicles, equipment, and merchandise to be rented, leased or sold shall be visible along no more than fifty (50) percent of the frontage of the property abutting the right of way, excluding approved driveways.

Additional Requirements for Buford Highway Overlay District

Landscaping

UDC 21-11.5(D) The intent of this section is to require the integration of all landscape improvements with the overall project requirements. All plant materials shall be used to enhance the existing area, particularly as viewed from an adjacent right-of-way, and to mitigate development impacts. Landscape plans shall be submitted to the department for design review. The following is in addition to Ordinance No. 98 (Tree Protection and Replacement Ordinance) and shall be implemented:

- (1) Plant materials shall be used as accent elements at roadside entryways to provide a definite sense of arrival to commercial properties. Plant materials shall consist of ground cover, herbaceous ornamentals, shrubs, understory, and/or overstory trees adjacent to the establishment's monument sign(s). These materials shall be clustered while maintaining adequate sight distance to and from the entryway. Entryway plantings shall be compatible with adjacent landscape areas in species selection and provide a cohesive transition between landscape plantings. All landscape areas shall incorporate a minimum of forty (40%) percent evergreen trees and shrubs within each area.
- (2) All landscape areas shall incorporate a minimum of forty (40%) percent evergreen trees and shrubs within each area. All landscape areas shall also incorporate a minimum of twenty-five (25%) percent native plant material. Such plant material must be indigenous to the Southeastern U. S. and be approved by the County arborist.
- (3) A minimum 25 foot wide landscape strip shall be provided along the proposed future rights-of-way and reservation lines of SR 20/Buford Highway from GA Highway 400, extending west to the county line bordering Cherokee County, and east to Twin Branches Road. A minimum 35 foot wide landscape strip shall be provided along the proposed future rights-of-way of Buford Highway from Twin Branches Road to the Chattahoochee River. In addition, equestrian fencing consistent with the composition and design criteria set forth below shall be installed within the landscape strip immediately adjacent to the proposed future rights-of-way of SR 20/Buford Highway.
 - a. For all properties, fencing shall be four board style black fences consisting of a minimum one (1) inch thick, four (4) inch wide fence board affixed to four (4) inch posts spaced a maximum of ten (10) feet apart. The board fences shall be a minimum of four (4) feet and a maximum of six (6) feet in height. Natural stone or brick masonry columns may be used in the fence design. Fences shall be constructed using high quality materials in accordance with section 21-11.5(I) to ensure low repair and maintenance cost.
 - b. Individual lots of record within residential or agricultural districts are exempt from this requirement.
- (4) All landscape strips are required to contain a combination of vegetative ground cover, herbaceous ornamentals, and low to mid-level shrubs in addition to large canopy trees. Shrubs shall be a minimum of two (2) feet high every five (5) feet on center at time of planting. A minimum of three (3) canopy trees per fifty (50) linear feet is required. Each tree shall have a minimum two (2) inch caliper and be at least eight (8) feet high at time of planting. Tree and shrub placement may be grouped and staggered rather than following a regulated line along the road frontage. Trees shall count towards the tree density requirements as outlined in Ordinance 98 (Tree Protection and Replacement Ordinance).
- (5) For all lot corners abutting right-of-way on two sides, extending a minimum of fifty (50) linear feet from the corner point on each side paralleling the rights-of-way, a minimum of four (4) enhanced rows of plant material to include a combination of shrubs and perennials in addition to groundcover other than turf shall be required. Spacing of plant material shall be adequate to provide a dense, full appearance. These understory plantings shall be integrated with the canopy tree requirements.
- (6) If the developer opts to provide an additional five (5) feet to the landscape strip to satisfy Section 17-5.7(C) of this Code, then the total width of the front landscape strip shall be thirty (30) feet or forty (40) feet subject to Subsection (D)(3), above. A minimum of 10 feet of the required landscape

strip, as applicable, shall be located behind utility easements so plant material will not be disturbed after installment.

- (7) Ground mounted equipment, such as power transformers and light poles, are prohibited within required landscape parking islands.
- (8) Landscape Installation and Maintenance. Certification by a registered landscape architect verifying that landscaping meets the standards of this code and the approved plans must be submitted. In addition, the contractor responsible for landscape installation must certify that all plant material has been installed per the approved plans. These certifications must be submitted prior to the approval of the as-built and/or final plat. The Property Owner shall be responsible for maintenance of required landscaping.
- (9) All dead and damaged plant material within landscaped areas must be replaced with a similar species within one month. If weather conditions are not appropriate for replanting, the property owner may postpone replacement for up to six (6) months. Replacement trees and shrubs shall be of similar size to the original installation size of the trees or shrubs being replaced.
- (10) Performance Security. When planting stock availability is low or weather conditions are not appropriate for planting new trees, shrubs, and/or perennials, the property owner may postpone planting for up to six (6) months, provided that performance security is posted with Forsyth County in accordance with the conform to the following specifications where applicable:
 - a. Security shall be submitted to the department with appropriate documentation showing stock availability and weather conditions necessitating the postponement of planting.
 - b. Security shall be in an amount equal to one hundred and ten (110%) percent of the cost of materials, installation, and guarantee, as demonstrated by a signed contract between the owner and a landscape contractor.

Screening

UDC 21.11-6(D) In addition to the regulations set forth in Chapter 12, the following standards shall apply:

- (1) Accessory site features including, but not limited to, meters, meter boxes, electrical transformers, and other equipment located on the ground shall be screened from view from public rights-of-way, residential uses, or any residential or agricultural zoning category by placement behind the main building, 100% opaque fencing, a six (6) foot berm and/or a vegetative screen planted according to County buffer standards.
- (2) Loading areas shall be screened from rights-of-way, residential uses, or any residential or agricultural zoning category by placement behind the main building or appropriately scaled wall, the use of earthen berms that are no less than five (5) feet in height and/or a vegetative screen planted according to County buffer standards.
- (3) Drive-through facilities and stacking lanes for any facility type, when contiguous to any right-of way, residential use, or pedestrian gathering area shall be obscured from view by an earthen berm and/or a vegetative screen, that is no less than six (6) feet in height planted according to County buffer standards.
- (4) Chain link fencing is prohibited for all property lines along SR 20/Buford Highway. Black or brown vinyl coated chain link fencing may be allowed along the sides and rear of property fronting SR20/Buford Highway, but not those sides bordering or within view of residential property, if the chain link fencing is screened with evergreen trees, shrubs, and/or decorative fencing for the full length and height of the fence.
- (5) In order to decrease noise and disturbance to residential areas, all fencing visible from residential properties shall be shielded from view by an earthen berm with a vegetative screen that is no less than six (6) feet in height, planted according to County buffer standards.

Fuel Stations

UDC 21.11-8 These regulations shall apply to all fuel stations including convenience stores with fuel dispensers:

(G) One continuous row of evergreen trees shall be planted for fifty (50%) percent of the entire length of pump island areas that are adjacent to rights-of-way. Such trees shall be planted no farther apart than ten (10) feet on center.

Vehicle Service, Parts and Repair Facilities, Not Including Vehicle Sales

UDC 21-11.10 The following regulations shall apply to all vehicle service, parts and repair facilities including vehicle car wash facilities, whether they are automated or staffed establishments, when not combined with vehicle sales, leasing or rental activities:

(A)(1) Access to service bays shall be from the side or rear of the establishment or related screening devices or methods such as landscaping shall be used to partially screen the view from the right-of-way into service work areas.

Additional Requirements for Castleberry-Bethelview Crossroads Overlay District

Landscaping

The intent of this section, UDC 21-7.5(A), is to require the integration of all landscape improvements with the overall project site requirements. All plant materials shall be used to enhance the existing area, particularly as viewed from an adjacent right-of-way, and to mitigate development impacts. Landscape plans shall be submitted at the time of application for a land disturbance permit to the Planning Department for design review. The following is in addition to Ordinance No. 98 (Tree Protection and Replacement Ordinance) and shall be implemented:

- (1) Plant materials shall be selected to blend in form, texture, and scale with the design scheme proposed for the site.
- (2) Plant materials shall be used as accent elements at roadside entryways to provide a definite sense of arrival to both commercial and residential properties. These materials shall be clustered while maintaining adequate sight distance to and from the entryway. Entryway plantings shall be compatible with landscape strip species and provide a cohesive transition between landscape plantings.
- (3) All landscape design shall incorporate a minimum of 40% evergreen plantings (trees, shrubs, and groundcovers). All landscape design shall also incorporate a minimum of 50% native plant material. Such plant material must be indigenous to the Southeastern U. S. and be approved by the County arborist. (See Recommended Plant List at end of this document or online.)
- (4) Landscape Strips. Continuous plantings within 15 foot wide landscape strips along the entire property fronting a public street are required.
- (5) Commercial building facades shall be landscaped with trees and tree grate protection devices or other suitable tree protection measures; method of tree protection shall be indicated on plans. Tree placement may be grouped and staggered rather than following a regulated line along the façade. Minimum installation requires 3.0 caliper inches per 50 linear feet for buildings fewer than 40,000 square feet. Sidewalks, no less than five (5) feet in width, shall be provided along the full length of the building along any facade featuring a customer entrance, and along any facade abutting public parking areas. Such sidewalks shall be located at least six (6) feet from the facade of the building to allow for landscaping.
- (6) All landscape strips and landscape areas are required to contain a combination of at least two of the following elements to provide a minimum of three levels of scale: vegetative ground cover,

herbaceous ornamentals, and low to mid-level shrubs in addition to large canopy trees. Trees shall count towards the tree density requirements as outlined in Ordinance No. 98 (Tree Protection and Replacement Ordinance).

- (7) All parking areas shall be screened from view with evergreen shrubs. Shrubs shall be no less than three (3) feet in height as measured from the top of curb of the parking areas.
- (8) Retaining walls, if necessary, must be faced with stone or brick.
- (9) Equestrian-style fencing composed of vinyl and stone masonry columns shall be installed along Castleberry Road and Bethelview Road.

Screening

In addition to regulations set for in Chapter 12, the following standards shall apply to commercial development:

- (1) All ground mounted mechanical, HVAC, electric and communications transformers and like systems shall be screened from view from any public right-of-way and any residential use by one of the following: placement behind the building, 100% opaque fencing, an earthen berm, and/or a vegetative screen planted according to County buffer standards.
- (2) Loading areas shall be screened from the public right-of-way and any residential use by placement behind the main building, an earthen berm and/or vegetative screen planted according to County buffer standards.
- (3) Drive-thru facilities and stacking lanes, when contiguous to any public right-of-way, residential use, or pedestrian gathering area shall be obscured from view by placement behind the building, an earthen berm and/or vegetative screen planted according to County buffer standards.
- (4) All parking areas shall be screened from view with evergreen shrubs. Shrub height shall be no less than three (3) feet as measured from the top of curb of the parking areas.
- (5) Chain link or coated chain link fence is prohibited along road frontage for Castleberry Road and Bethelview Road. If fences are not located along road frontage, but are visible from the right of way, fences must be screened by vegetation for their full length and height.

Additional Requirements for Peachtree Pkwy-Bethelview Rd Overlay District

Landscaping

The intent of this section, UDC 21-8.5 (D), is to require the integration of all landscape improvements with the overall project site requirements. All plant materials shall be used to enhance the existing area, particularly as viewed from an adjacent right-of-way, and to mitigate development impacts. Landscape plans shall be submitted to the Planning Department for design review. The following is in addition to Ordinance No. 98 (Tree Protection and Replacement Ordinance) and shall be implemented:

- (1) Plant materials shall be used as accent elements at roadside entryways to provide a definite sense of arrival to commercial properties. Plant materials shall consist of ground cover, herbaceous ornamentals, shrubs, understory, and/or overstory trees adjacent to the establishment's monument sign(s). These materials shall be clustered while maintaining adequate sight distance to and from the entryway. Entryway plantings shall be compatible with adjacent landscape areas in species selection and provide a cohesive transition between landscape plantings.
- (2) All landscape areas shall provide a design of appropriate character and shall incorporate a minimum of forty (40%) percent evergreen trees and shrubs. All landscape areas shall also incorporate a minimum of twenty-five (25%) percent native plant material. Such plant material must be indigenous to the Southeastern U. S. and be approved by the County Arborist. (See Recommended Plant List at end of this document or online.)

- (3) A minimum twenty-five (25) foot wide landscape strip shall be provided along the proposed future rights-of-way and reservation lines of Georgia Highway 141/Peachtree Parkway.
- (4) All landscape strips are required to contain a combination of at least two (2) of the following elements to provide a minimum of three levels of scale: vegetative ground cover, herbaceous ornamentals, and low to mid-level shrubs in addition to a combination of large canopy trees. All proposed shrubs should be a minimum of two (2) feet high at time of planting spaced every five (5) feet on center. Strips must also include large canopy trees with total caliper measurements equivalent to a minimum of six (6) caliper inches per fifty (50) linear feet with a minimum two (2) inch caliper and eight (8) foot height required at time of installation for each tree. Tree placement may be grouped and staggered rather than following a regulated line along the road frontage. Trees shall count towards the tree density requirements as outlined in Ordinance 98 (Tree Protection and Replacement Ordinance).
- (5) A minimum of ten (10) feet of the required twenty-five (25) foot landscape strip shall be located behind utility easements so plant material will not be disturbed after installment.
- (6) All parking areas shall be screened from view with evergreen shrubs. Shrubs shall be no less than three (3) feet in height as measured from the top of curb of the parking areas. Exemption to this requirement may be requested when the site is significantly below road grade level.
- (7) Landscape Installment and Maintenance. Certification by a registered landscape architect verifying that landscaping meets the standards of this code and the approved plans must be submitted. In addition, the contractor responsible for landscape installation must certify that all plant material has been installed per the approved plans. These certifications must be submitted prior to the approval of the as-built and/or final plat.
- (8) All dead and damaged plant material within landscaped areas must be replaced with a similar species within one month. If weather conditions are not appropriate for replanting, the property owner may postpone replacement for up to six (6) months. Replacement trees and shrubs shall be of similar size to trees or shrubs being replaced.
- (9) Retaining walls, if necessary, must be faced with brick, stone, cast stone or split face modular block if visible from the right-of-way.

Screening

In addition to regulations set forth in Chapter 12, the following standards shall apply:

- (1) Accessory site features including, but not limited to, meters, meter boxes, electrical transformers, and other equipment located on the ground shall be screened from view from public rights-of-way, residential uses, or any residential or agricultural zoning category by placement behind the main building, 100% opaque fencing, berm and/or a vegetative screen planted according to County buffer standards.
- (2) Loading areas shall be screened from the public rights-of-way, residential uses, or any residential or agricultural zoning category by placement behind the main building or appropriately scaled wall, the use of earthen berms that are no less than 5 feet in height and/or a vegetative screen planted according to County buffer standards.
- (3) Drive-thru facilities and stacking lanes, when contiguous to any public right-of-way, residential use, or pedestrian gathering area shall be obscured from view by an earthen berm and/or a vegetative screen planted according to County buffer standards
- (4) Chain link fencing is prohibited on SR 141/Peachtree Parkway frontage. Chain link fencing may be allowed along the sides and rear of property fronting SR 141/Peachtree Parkway if it is screened with evergreen trees, shrubs, and/or decorative fencing for the full length and height of the fence.

Additional Requirements for Campground-Castleberry-Kelly Mill-Pittman-Post-Shiloh Road Overlay District:

Landscaping

The purpose of this overlay district is to establish minimum standards for roadway fencing and landscaping that contribute to the district's recruitment and retention of businesses and enhancement of residential communities.

Frontage Landscape Strip

For all properties, a minimum fifteen (15) foot wide landscape strip shall be provided along the proposed future right of way.

- (1) Three rows of plantings, with one of these rows in front of the fencing are required. Three levels of scale shall include herbaceous perennials, shrubs and trees.
- (2) All landscape strips shall contain a minimum of one overstory tree and four shrubs per fifty (50) linear feet of strip length. All proposed shrubs shall be a minimum of two (2) feet in height at time of planting. All proposed overstory trees shall be a minimum three-inch caliper at time of planting. Trees and shrubs may be grouped or staggered and need not be evenly spaced within the strips
- (3) Landscape strips shall be located outside utility easements.
- (4) Required fences shall be incorporated into the design of the frontage landscape strip and shown on the landscape plan.

Board Fences

Board fences shall be installed along the road frontage.

- (1) For all properties, four board style black fences shall consist of a minimum 1-inch thick, four (4) inch wide fence board affixed to four (4) inch posts spaced a maximum of ten (10) feet apart. The Board fences shall be a minimum of four (4) feet and a maximum of six (6) feet in height. Natural stone or brick masonry columns may be used in the fence design. Fences shall be constructed using high quality materials to ensure low repair and maintenance cost.
- (2) Fence materials shall be comprised of treated lumber, fiber cement, vinyl or steel.
- (3) Chain link or coated chain link fencing is prohibited along the road frontage.
- (4) Individual lots of record within residential or agricultural districts are exempt from this requirement.

Additional Requirements for Coal Mountain Overlay District:

Purpose

The purpose of this overlay is to foster visual unity through an elevated level of design quality applied throughout the district while simultaneously fostering the individuality of three distinct character nodes whose unique identity has come about through historic settlement and land use. The Coal Mountain Overlay seeks to highlight and promote the character of these nodes through tailored site design, architecture, signage, and lighting standards. These enhanced destinations will then be bridged by a landscaped arterial spine throughout the overall district boundary. In these ways, the Overlay provides the framework for showcasing the local character of the district.

Landscaping

Landscape treatment shall serve to create as well as reinforce identity through the formation of a spine for the Coal Mountain Overlay by establishing a corridor of uniformity that runs through each character node providing an element of consistency throughout the district. Plant material and design decisions are to be

thoughtfully considered as complementary to architectural features and integral to the beauty of the area. These landscape standards shall apply to both residentially and non-residentially zoned properties with the exception of streets internal to residential subdivisions. In addition to landscape regulations, the County welcomes opportunities to form roadway median adoption programs and encourages partnerships that aid continued beautification efforts. Ongoing commitment from partners is necessary to implement preferred design measures and to provide proper maintenance. Landscape plans shall be submitted to the department for design review. The following is in addition to Ordinance No. 98 (Tree Protection and Replacement Ordinance) as well as any required buffer, and shall be implemented:

- (1) Plantings shall be compatible in regard to species selection and must provide a cohesive transition between landscape areas.
- (2) A minimum twenty (20) foot wide landscape strip shall be installed along existing or proposed rights-of-way for all development within the Coal Mountain Overlay District; except that to the extent a specific zoning designation establishes a greater landscape strip requirement than this Overlay, the larger requirement shall control. These landscape strips shall be located behind utility easements so plant material will not be disturbed after installment.
- (3) All landscape strips shall be composed of shrubs and/or herbaceous plants in addition to the prescribed tree pairings listed below. The remaining ground area shall be sodded, seeded, or hydroseeded with grass and/or planted with groundcover species.
 - (a) A minimum of 40% of all trees and shrubs shall be evergreen plant material. The percentage shall be based on the total number of installed trees and shrubs.
 - (b) Landscape strips shall include a minimum of two (2) trees and six (6) shrubs per fifty (50) linear feet, with a minimum of 60% overstory requirement. Trees shall count towards the tree density requirements as outlined in Ordinance 98 (Tree Protection and Replacement Ordinance).
 - (c) Plants should be of larger caliper and size to create a pleasant and immediate impact upon installation. Overstory trees shall have a minimum three (3) inch caliper and at least ten (10) foot height at time of installation. Understory trees shall have a minimum two (2.0) inch caliper and at least eight (8) foot height at time of installation. All proposed shrubs shall be a minimum of two (2) feet high at the time of planting.
 - (d) Landscaping may be informal with multiple species arrayed in naturalistic clusters.
 - (e) All vinyl fencing is prohibited with the boundary of the Coal Mountain Overlay.
 - (f) Sixty (60%) percent of all required trees in landscape strips along the proposed future rights-of-way of SR 369, SR 9, and SR 306 shall be Nuttall Oak. Thirty-three (33%) percent of all required trees in landscape strips along the proposed future rights-of-way of Whitmire Road, Wallace Tatum Road, Dr. Bramblett Road, Elmo Road, John Burruss Road, Bannister Road, Hubert Martin Road, Gravitt Road, Spot Road, Setting Down Road, Freedom Parkway, Martin Road, Holtzclaw Road, Burruss Mill Road, and Shady Grove Road shall be Nuttall Oak.
 - (g) Within the boundary of the Coal Mountain Node, forty (40%) percent of all required trees in landscape strips along the proposed future rights-of-way of SR 369 and SR 9 shall be Redbud 'The Rising Sun.' Thirty-three (33%) percent of all required trees in landscape strips along the proposed future rights-of-way of Setting Down Road shall be Redbud 'The Rising Sun.'
 - (h) Within the boundary of the Hammond's Crossing Node, forty (40%) percent of all required trees in landscape strips along the proposed future rights-of-way of SR 369 and SR 306 shall be Black Gum 'Wildfire.' Thirty-three (33%) percent of all required trees in landscape strips along the proposed future rights-of-way of Martin Road shall be Black Gum 'Wildfire.'

- (i) Within the boundary of the Matt Node, forty (40%) percent of all required trees in landscape strips along the proposed future rights-of-way of SR 369 shall be Florida Dogwood 'Cherokee Princess.' Thirty-three (33%) percent of all required trees in landscape strips along the proposed future rights-of-way of Dr. Bramblett Road, Elmo Road, John Burruss Road, and Bannister Road shall be Florida Dogwood 'Cherokee Princess.'
 - (j) The Director shall have the discretion to modify required tree species as required by UDC 21-12.5(f-i) and, in the discretion of the Director, to authorize fencing to substitute for all or a portion of the required landscape strip.
- (4) For residential projects over twenty-five (25) acres, a landscaped entrance median shall be required. Planting shall include a combination of perennials, annuals, and shrub material. The use of understory trees is encouraged.
 - (5) Species selected for installation within the Coal Mountain Overlay boundary shall be chosen from Table 21.12. Native plant choices are preferred for hardiness and water requirements. Cultivar alternatives for species identified in Table 21.12 to be approved by the County Arborist.
 - (6) Administrative Variance (omitted from this document, see UDC for more information)
 - (7) The following shall not be planted within the Coal Mountain Overlay District:
 - Ailanthus altissima (tree-of-heaven)
 - Albizia julibrissin (mimosa)
 - Alternanthera philoxeroides (alligator weed)
 - Cupressocyparis leyandii (leyland cypress)
 - Eichhornia crassipes (water hyacinth)
 - Elaeagnus pungens (thorny olive)
 - Elaeagnus umbellata (autumn olive)
 - Hedera helix (English ivy)
 - Hemerocallis 'Stella de Oro' (stella d' oro daylily)
 - Hydrilla verticillata (hydrilla)
 - Ilex x attenuata (savannah holly)
 - Imperata cylindrical (congongrass)
 - Juniperus virginiana (red cedar)
 - Lespedeza bicolor (shrubby lespedeza)
 - Lespedeza cuneata (sericea Lespedeza)
 - Ligustrum japonicum (Japanese privet)
 - Ligustrum sinense (Chinese privet)
 - Lonicera japonica (Japanese honeysuckle)
 - Lonicera maackii (amur honeysuckle)
 - Lygodium japonicum (Japanese climbing fern)
 - Melia azedarach (chinaberry)
 - Microstegium vimineum (Nepalese browntop)
 - Miscanthus sinensis (Chinese silvergrass)
 - Murdannia keisak (marsh dayflower)
 - Nandina domestica (sacred bamboo)
 - Paulownia tomentosa (princess tree)
 - Phyllostachys aurea (golden bamboo)
 - Pinus (pine)
 - Pueraria Montana var. lobata (kudzu)
 - Prunus (cherry)
 - Prunus laurocerasus 'Otto Luyken' (otto luyken laurel)
 - Prunus laurocerasus 'Schipkaenis' (schip laurel)
 - Raphiolepis indica (indian hawthorn)
 - Rosa multiflora (multiflora rose)

Rosa radrazz (knockout rose)
Sesbania herbacea (bigpod sesbania)
Sesbania punicea (red sesbania)
Spiraea japonica (Japanese spiraea)
Triadica sebifera (Chinese tallow tree)
Vinca major (big periwinkle)
Vinca minor (common periwinkle)
Wisteria sinensis (wisteria)

- (8) **Landscape Installation and Maintenance.** Certification by a registered landscape architect verifying that landscaping meets the standards of this code must be provided at the time of the landscape plan submittal. In addition, the contractor responsible for landscape installation must certify that all plant material has been installed per the approved plans. These certifications must be submitted prior to the approval of the as-built and/or final plat. The Property Owner shall be responsible for maintenance of required landscaping. All dead and damaged plant material within landscaped areas must be replaced with a similar species within one month.

Screening

In addition to regulations set forth in Chapters 12 & 14, the following standards shall apply:

- (1) Loading areas shall be screened from the right-of-way and from view of public areas. These areas shall be separated from the primary vehicular and pedestrian circulation areas.
- (2) All dumpsters and compactors shall be enclosed on three sides by materials and architectural elements to match the primary structure and gated on the fourth side.
 - (a) The enclosure shall be at least one (1) foot taller than the highest point of the dumpster or compactor.
 - (b) The gate shall be composed of decorative metal or other durable materials which shall reach the height of the three sided enclosure and with colors coordinated with those of the primary structure. Chain link material is prohibited.
 - (c) All dumpsters and compactors shall be equipped with lids.
- (3) Drive-thru facilities and stacking lanes, when contiguous to any public right-of-way, residential use, or pedestrian gathering area shall be obscured from view by an earthen berm and/or a vegetative screen planted according to County buffer standards.
 - (a) Stacking lanes and bypass lanes shall be designed in a manner so that vehicle queuing does not interfere with access driveways, interparcel connections, or maneuverability in and out of off-street parking spaces. No drive-through shall exit directly onto the right-of-way.
 - (b) Vehicle-wash openings shall be oriented away from the right-of-way.
- (4) For permitted open air businesses, no chain link fence shall be visible from the right-of-way.
- (5) Businesses requiring a fleet of service vehicles shall park such vehicles behind the building or otherwise provide adequate screening to ensure the vehicles are not visible from the public right of way.
- (6) Storage of shopping carts shall be located indoors. Where indoor storage is not feasible, shopping carts shall be located adjacent to the building and screened by an enclosure made of masonry to match the exterior building materials.
 - (a) Shopping cart corrals in parking areas shall be curbed within parking islands so that additional railings are not required for secure cart positioning.
 - (b) Parking islands that contain cart corrals must include four hundred (400) square feet of landscaped space.

- (c) One (1) identifying sign at the rear of each corral is permitted for visibility within the parking lot.
 - (d) Ground mounted equipment, such as power transformers and light poles, are prohibited within required landscape parking islands.
- (7) Stormwater detention and retention ponds that require a fence must not be visible to public right of way unless a twenty-foot (20') planted buffer is provided outside of the exterior pond fence. Access to the pond shall not be facing the public right of way.

**TABLE 21.12
COAL MOUNTAIN OVERLAY APPROVED PLANT LIST**

Large Trees	Medium Trees	Small Trees
American Elm 'Princeton'	Black Gum 'Wildfire', 'Green Gable'	Chastetree 'Shoal Creek'
Lacebark Elm 'Allee'	European Hornbeam - fastigiate form	Weeping Redbud 'Ruby Falls'
Red Maple 'October Glory'	Flowering Magnolia – multiple varieties	Redbud 'The Rising Sun', 'Merlot'
Nuttall Oak	Crape myrtle - multiple varieties	Japanese Maple 'Seiryu'
Willow Oak	Holly 'Nellie R. Stevens', 'Robin'	Holly 'Festive'
Sweetgum 'Slender Silhouette'	Southern Magnolia 'Little Gem'	Holly 'Oakleaf'
Southern Magnolia 'Brackens Brown Beauty'	Ginkgo or Maidenhair Tree 'Autumn Gold', 'Golden Globe', 'Saratoga'	Florida Dogwood 'Cherokee Princess', 'Cherokee Brave'
Bald Cypress 'Shawnee Brave'		
Tulip Poplar 'Arnold'		
Arborvitae 'Green Giant'		
Cryptomeria 'Yoshino', 'Radicans'		
Blue Atlas Cedar		
Deodar Cedar		
Large Shrubs	Medium Shrubs	Small Shrubs
Ligustrum 'Recurve'	Ligustrum 'Sunshine'	Distylium 'Vintage Jade', 'Cinnamon Girl'
Fragrant Tea Olive	Distylium 'Coppertone'	Itea 'Little Henry'
Dystylium 'Linebacker'	Loropetalum 'Ruby'	Abelia 'Kaleidoscope'
Needlepoint Holly	Threadleaf Falsecypress 'Pauls Gold'	Gardenia 'Heavens Scent'
	Loropetalum - Proven Winners 'Jazz Hands' Series	Loropetalum 'Crimson Fire', 'Jazz Hands Mini'
	Gardenia 'Kleims Hardy', 'Double Mint'	Rose 'Drift Rose' - multiple colors
	Abelia 'Rose Creek'	Nandina 'Obsession', 'Flirt'
	Rabbiteye Blueberry - multiple varieties	Dwarf Yaupon Holly
	Anise 'Florida Sunshine'	Boxwood 'Wintergreen' or 'Winter Gem'
	Camellia sasanqua 'Yume', 'Yuletide', 'Shishi gashira'	Juniper 'Blue Pacific'
	Panicle Hydrangea 'Limelight', 'Little Lime', 'Fire Light', 'Little Quick Fire'	Oakleaf Hydrangea 'Munchkin', 'Ruby Slippers'
	Paperbush (Edgeworthia)	
	Goshiki Osmanthus	
	Winterberry Holly 'Winter Red', 'Red Sprite', 'Southern Gentlemen', 'Jim Dandy'	
	Winter Honeysuckle - Lonicera fragrantissima	
	Azaleas	
Grasses and Sedges		
Miscanthus 'Adagio'		

Pennisetum Alopecuriodes - Fountain Grass	
Carex - Evercolor Series	

Additional Requirements for Large-Scale Retail Establishments 40,000 Square Feet or Greater

Open Space

A minimum of twenty percent (20%) of the site shall be landscaped open space. (UDC, Section 12-11.5(A))

Setbacks and Buffer

If the subject property abuts a Residential, OR, A1, A2, AG-Res or CONS district, the following minimum side or rear setback and buffer requirements apply: (UDC, Section 12-11.5(D))

- (1) The minimum building setback shall be 100 feet, the first 50 feet being an undisturbed buffer, which shall be augmented with plantings if it does not achieve the intended visual screening.
- (2) To ensure that a visual buffer is achieved, the County may or may not require the installation of a four-foot high earthen berm with plantings per the County Buffer Standards. The County Arborist will make the determination of a berm requirement based upon a review of the Tree Plan and existing topography and vegetation.

Walkway Landscaping

Walkways shall feature adjoining planted landscaped areas for no less than fifty (50) percent of their length. (UDC, Section 12-11.5(E)(1))

Building Façade Plantings

Along the building façade featuring the primary entrance, within in an area no further than 15 feet from the foundation, there shall be landscaping with trees. Minimum installation requires 4.5 caliper inches per 100 linear feet with a 1 ½ inch caliper and 8 foot installation height minimum for each tree. Trees shall count towards the tree density requirement as outlined in Ordinance No. 98 (Tree Protection and Replacement Ordinance). Tree placement should be grouped and staggered rather than following a regulated line along the façade. Tree placement must be approved by the County Arborist. Trees located in the sidewalks or other areas subject to pedestrian traffic shall require tree grates or other suitable tree protection measures; method of tree protection shall be indicated on plans. (UDC, Section 12-11.5(E)(2))

Landscape Strips

In addition to other Landscape Strip requirements:

- (1) The required minimum landscape strip shall be 20-feet wide along the entire property fronting a public street.
- (2) All landscape strips are required to contain a combination of at least two of the following elements: vegetative ground cover, herbaceous ornamentals, or low to mid-level shrubs; they must also include a combination of large canopy trees with either understory trees or large shrubs. One-third of landscaping plantings shall be of the evergreen variety. Understory trees must be six to eight feet in height at time of planting. Large shrubs must be four to six feet in height at time of planting and reach a height of at least eight feet.

(UDC, Section 12-11.5(E)(3))

Parking Lot and Parking Islands Requirements

Large-scale retail establishments shall provide a minimum of 15% of the total front parking area as landscaped islands. Side and rear parking lots shall provide a minimum of 12.5% of the total parking area as landscaped islands.

- (1) Each parking island is required to contain a combination of at least two of the following elements: grass, shrubbery, flowers, or other landscaping material, in addition to the tree requirements delineated below.
- (2) Parking island tree specifications. In addition to the requirements of the Ordinance No. 98 (Tree Protection and Replacement Ordinance), the following standards for tree islands apply:
 - (a) Trees shall be provided and maintained adjacent to, and in the interior portion of, parking lots in a ratio of 1 tree for each 7 parking spaces. In addition, every parking space shall be within 50 feet of the trunk of a tree.
 - (b) Trees shall be at least 3 inches in caliper and shall be an Overstory species. The minimum planting area or island for each tree shall be at least 200 square feet. If shared with other trees, 100 square feet for each additional tree shall be added.
 - (c) Each planting area or island shall not be less than 4 feet in width in any direction.

(UDC, Section 12-11.5(F)(2))

Ground mounted equipment, such as power transformers and light poles, and any impervious surfaces are prohibited within required landscape parking islands.

Buffers

General Buffer Regulations

All undisturbed buffers (whether exterior buffers or stream buffers or any other designation) shall be identified with orange, four-foot tree-save fencing prior land-disturbance. Tree-save fencing shall remain in place until issuance of Certificate of Occupancy or Certificate of Completion. (UDC, Section 18-10.1)

All buffers are required to be undisturbed, except as provided below. Undisturbed buffers shall be augmented, however, with plantings if sparsely vegetated. (UDC, Section 18-10.2)

If a required buffer cannot provide a visually impervious screen, it shall be supplemented with additional plantings as specified in the Forsyth County Buffer Standards. (UDC, Section 18-10.3)

Prohibited buffer encroachments include, but are not limited to, buildings, pavement, parking, service areas, detention ponds, roads, septic tanks, septic drain fields, and walls. A buffer may be disturbed for approved access and utility crossings including, but not limited to, water and sewer lines, drainage pipes, and gas lines provided that it does so via a perpendicular crossing that does not run parallel within the buffer. (UDC, Section 18-10.3)

Buffer Controls by Type

Residential Exterior

All residential subdivisions require a 25 foot exterior buffer. In RES1, CR2, RES6 and MHP zoning districts, when paralleling right-of-way, the minimum exterior buffer width increases to 40 feet.

The buffer may be disturbed, but it must be replanted in accordance with the Forsyth County Buffer Standards. If the buffer is undisturbed, it still must meet the purposes and intent of the Forsyth County Buffer Standards; an undisturbed buffer must be supplemented with additional plantings if it is not visually impervious. Any plantings that die within the first year must be replaced. (UDC, Table 11.2(b))

For Res2, Res3, and Res4 major subdivisions where the exterior of the development abuts the right-of-way, the development shall comply with the requirements of UDC Section 11-9.6(J). For Res2, Res3, and Res4 minor subdivisions, no exterior buffer is required.

UDC Section 11-9.6(J). Exterior Buffer for Res2, Res3, and Res4 major subdivisions. Exterior buffers must be provided according to either (1) or (2) as noted below:

(1) A forty (40) foot buffer must be provided along the right(s)-of-way, with an additional ten (10) foot landscape strip adjacent to the right(s)-of-way. Both the buffer and the landscape strip shall be owned and maintained by the homeowner association. If the undisturbed buffer is sparsely vegetated as determined by the County Arborist, the buffer must be planted to meet the requirements of the Forsyth County Buffer Standards. Each hundred (100) linear feet of landscape strip must contain a minimum mix of three (3) overstory trees, two (2) inch caliper size minimum; sixty-four (64), two (2) gallon evergreen shrubs; and thirty-two (32), two (2) gallon perennials. Alternative configurations that meet the intent of this Article are allowed if approved by the County Arborist. Notwithstanding the requirements of Section 18-10.3, driveways and signage within 30 feet of the edge of driveway pavement shall be exempt from this requirement.

(2) Where consistent with the intent of this Article, the rear yard may face a public right of way when treated with the identified, front facade elements below:

(a) The rear pedestrian entrance must face a public street. A minimum three (3) foot walkway must be provided from the rear pedestrian entrance of the house to the adjacent sidewalk along the public right of way.

- (b) Any wall facing the rear yard must provide window openings whose area sum equals or exceeds fifteen percent (15%) of the area of the wall.
- (c) Trees in the rear yard must meet the front yard tree requirements of the Tree Ordinance, and
- (d) Maximum front yard fence height requirements from section 16-4.12(A) shall apply to the rear yard fencing.

Amenity Areas

Amenity Areas in major subdivisions in Res2, Res3 and Res4 zoning districts, if within 200 feet of street frontage outside of the development or visible from a public street outside of the development, must be screened from the public street by a twenty (20) foot wide buffer planted with evergreen trees and shrubs that will reach a minimum height of six (6) feet within a year of planting. The above required buffer applies in addition to the exterior buffer requirements of 11-9.6(J). (UDC 11-9.6(E))

Southeast Forsyth Design Standards

For subdivisions located within the Southeast Forsyth Design Standards Boundary, lots along the exterior property line of a development that do not abut a right-of-way or public space must provide a thirty (30) foot exterior buffer. (UDC 11-9.7(D)(6)(d))

Georgia Highway 400, Limited Access Portion (Fulton County to SR 369 right-of-way):

A setback and visual buffer from Georgia Highway 400 is required to protect the beauty of the corridor through the county.

A minimum building setback of sixty (60) feet from the right-of-way of Georgia Highway 400 must be maintained with the first forty (40) feet being an undisturbed buffer that shall meet the requirements of the Forsyth County Buffer Standards. (UDC, Section 10-1.10)

For the Controlled Access Portion of GA 400 (SR 369 right-of-way to Dawson County), see Landscape Strip Planting Requirements, page 4 in this guide.

Side and Rear Yard Zoning District Requirements

The buffer required along property lines abutting residential, agricultural or OR zoning districts may be disturbed and replanted when site conditions dictate, as documented by the Engineer of Record and as permitted by the Director of Planning and/or Engineering. Specifically, such disturbance may occur only in instances where erosion control issues, stormwater management methods (excluding structural stormwater control practices), topography, and/or the installation of water and sewer lines require clearing and/or grading. In regards to utility crossings, in instances where the line must run parallel within the buffer, compliance with the Forsyth County Buffer Standards must be met; said easement cannot reduce the minimum planting requirement or width of the required buffer. All disturbed buffers must comprise of one extra row of plantings in addition to the minimum requirements as indicated in the Forsyth County Buffer Standards prior to final site approval. (UDC, Section 18-10.5(F))

Minimum Required Buffer Width by Zoning District:

When abutting a Residential, OR, A1, A2, AG-RES or CONS district:

- NS=20', UV=30', CBD=40', HB=40', HC=50', O&I=30', OR=15'
- M1=60', M2=75', MINE=100'

When abutting a Commercial or Office district:

- M1=20', M2=25', MINE=30'

Communication Towers and Antennas

The visual impacts of a communication tower shall be mitigated by landscaping. Where adequate vegetation is not present, tower facilities shall be landscaped with a landscape buffer which effectively screens the view of the tower compound. The use of existing vegetation shall be preserved to the

maximum extent practicable and may be used as a substitute for or in supplement towards meeting landscaping requirements.

(1) Landscape buffers shall be a minimum of ten (10) feet in width and located outside the fenced perimeter of the tower compound; and

(2) A continuous hedge at least thirty (30) inches high at planting and capable of growing to at least thirty-six (36) inches in height within eighteen (18) months shall be planted in front of the above referenced buffer; and

(3) All landscaping shall be of the evergreen variety and shall conform with the Forsyth County Buffer Standards.

(UDC, Section 16-2.6(F))

Senior Housing

A minimum exterior setback of fifty feet (50'), the first twenty-five feet (25') being an exterior buffer, shall be required for multifamily residences and residential facilities (assisted living and/or skilled nursing) in CBD, O&I, UV, MPD zoning districts. The exterior buffer shall meet Forsyth County Buffer Standards, but such requirement shall be exempted along the entire road frontage on which the primary entrance is located. (UDC, Sections 16-4.8(E)(3)(d) and (4)(e))

Outdoor Commercial Athletic Field

The property on which an outdoor commercial athletic field is located shall maintain a 40-foot exterior undisturbed buffer. (UDC 16-4.5(C))

Conservation Subdivisions

Conservation subdivisions shall provide a twenty-five (25) foot exterior buffer with the exception of Res1, which shall provide a fifty (50) foot exterior buffer, and Res2, which shall provide a thirty-five (35) foot exterior buffer. (UDC 19-3.3(G))

Agricultural Districts

Commercial uses in Agricultural Zoning Districts shall provide a 25-foot minimum width side & rear buffer. (UDC Table 15.2)

Special Event Facilities in Agricultural Zoning Districts shall provide a 25-foot minimum width side & rear buffer. (UDC 15-3.3(F) and Table 15.2)

Tree Ordinance

Tree Density Requirements

The quantity of total Existing and Replacement Trees on a Site must be sufficient so as to produce a total Site Density of no less than:

- Fifteen (15) units per acre for property in Commercial and Industrial Zoning Districts;
- Twenty (20) units per acre for property in Residential and Agricultural Zoning Districts.

The Site Density Factor shall be calculated using the total acreage from Disturbed Areas.

If trees exist on the Site, the required density should be met with those trees. If this cannot be done, Replacement Trees are required.

Replacement Trees must be at least sixty percent (60%) overstory species.

Replacement Trees must be compatible in extent of crown and root systems at maturity with nearby utilities. Trees may not be located in Sewer Easements.

No more than 40% of the Replacement Trees can be composed of any one genus.

Ornamental species are acceptable for use in meeting density requirements only with prior approval from the Director and only for the replacement of understory trees.

The Site Density Factor for development in Residential Zoning Districts shall be met by preserving or replacing trees in common areas, rear and exterior setbacks, and other areas that are not to be disturbed during house construction. Existing trees on building lots that will be removed during home construction shall not be counted toward the required site density.

Each single family residential lot shall contain a minimum of two trees, at least one of which must be located in the front yard. Corner lots shall contain a minimum of three trees with at least one tree located in each yard abutting the streets. The required trees must be a minimum of 2-inch caliper size and be an overstory hardwood species. Existing or replacement trees may be used to satisfy this requirement. The trees may be counted toward the required Site Density Factor for the project.

Existing trees within buffers may not be counted toward the required Site Density Factor. Replacement trees planted within buffers may be counted toward the required Site Density Factor.

Density Calculations

The required site density may be satisfied by counting existing trees to be preserved, planting new trees, or some combination of the two as represented by the following formula:

Site Density Factor (SDF) = Existing Density Factor (EDF) + Replacement Density Factor (RDF)

Site Density Factor (SDF)

The SDF is calculated by multiplying the total Disturbed Area by the Density Factor (15 units per acre for Commercial/Industrial projects, 20 units per acre for Residential projects) and adding any required Significant Tree recompense.

Existing Density Factor (EDF)

The EDF is calculated by converting the diameter of individual trees saved to Tree Density Units or the value derived from sample plots or other scientific tally method.

Replacement Density Factor (RDF)

The RDF is calculated by subtracting the EDF from the SDF.

Tree Inventories and Surveys

All trees that are to be counted toward meeting density requirements must be inventoried. On Sites greater than 3 acres, all trees counted must be inventoried using an approved scientific method (e.g., basal area survey or sample plots). On Sites three (3) acres or less, all trees need to be individually counted. Existing trees within buffers may not be counted toward the required Site Density Factor.

Conversion from Tree Diameter in inches to Tree Density Units for Existing Trees

TREES Existing/REMAINING ON SITE							
Dia.	Units	Dia.	Units	Dia.	Units	Dia.	Units
2-4	0.3	18	5.4	29	13.8	40	26.1
5-7	0.9	19	6	30	14.7	41	27.6
8-9	1.5	20	6.6	31	15.6	42	28.8
10	1.8	21	7.2	32	16.8	43	30.3
11	2.1	22	7.8	33	17.7	44	31.8
12	2.4	23	8.7	34	18.9	45	33
13	2.7	24	9.3	35	20.1	46	34.5
14	3.3	25	10.2	36	21.3	47	36
15	3.6	26	11.1	37	22.5	48	37.8
16	4.2	27	12	38	23.7	49	39.3
17	4.8	28	12.9	39	24.9	50	40.8

Conversion from Tree Diameter in inches to Tree Density Units for Replacement Trees

PROPOSED NEW TREES			
Caliper/Dia.	Units	Dia.	Units
1	.4	8	1.3
2	.5	9	1.5
3	.6	10	1.7
4	.7	11	1.9
5	.9	12	2.1
6	1.0	13	2.3
7	1.2	14	2.5

Critical Root Zone

The minimum area beneath a tree that must be left undisturbed in order to preserve sufficient root mass to give a tree a reasonable chance of survival. The Critical Root Zone (CRZ) is a circle centered on the tree's trunk with a radius equal in feet 1.3 times the number of inches of the tree's Diameter at Breast Height.

EXAMPLE: a tree with a diameter of 20 inches would have a CRZ radius of 26 feet.

Tree Protection

Tree protection devices are to be installed as shown on the Tree Protection and/or Replacement Plan or otherwise completely surrounding the Critical Root Zone of all trees to be preserved. Active protection is required where Tree Save Areas are located in proximity to construction activity. Passive protection may be used in more remote locations.

- Active tree protection shall consist of chain link, orange laminated plastic, wooden post, rail fencing or other equivalent restraining (aka "Tree Save Fence").
- Passive tree protection shall consist of heavy mill plastic flagging of a bright color or equivalent signage on a continuous, durable restraint sufficient to delineate the bounds of any tree protection or save areas (aka "Tree Save Tape").

Tree Protection Devices shall be installed prior to any land disturbing activities.

The location of all Tree Protection Devices and Tree Save/Protection Areas shall be shown on the Tree Protection Plan.

Specimen Trees

Specimen Trees must be shown on the Tree Protection and/or Replacement Plan with an indication whether they are to be retained or removed. Approximate locations are acceptable.

The Tree Density Unit value of all Specimen Trees removed must be replaced at equivalent value in addition to the minimum Site Density Factor in recompense for their removal.

Specimen recompense may be satisfied by Replacement Trees or surplus Existing Trees above those required to satisfy the Site Density Factor.

Any Specimen Tree that is removed without review and approval must be replaced by trees with a total density equal to twice the unit value of the tree removed. Size alone will determine whether a tree was of specimen quality if the tree is removed without approval and there is no evidence of its condition.

In order to encourage protection of Significant Trees and the incorporation of these trees into the design of projects additional density credit will be given for Significant Trees that are successfully saved. Credit for any Significant Tree saved will be 4 times the normally assigned unit value.

To obtain credit as a Significant Tree, Significant Trees are to be protected in their natural state, free from damage with their critical root zone undisturbed.

Size and Condition Criteria for Specimen Trees

	<u>Size Criteria</u>
Overstory Hardwood Trees	18 inch DBH
Pine, Poplar & Sweetgum Trees	25 inch DBH
Understory/Small Trees	8 inch DBH

Condition Criteria

- A. All specimen trees are to have a sound trunk, with less than 20% radial trunk dieback.
- B. No more than one major and several minor dead limbs (hardwoods only).
- C. No major insect or pathological problems.
- D. Life expectancy of 15+ years for hardwoods, 8+ years for pines.
- E. Smaller trees can be considered specimen trees if rare or of unusual quality, species or historical significance.
- F. Specimen tree stands are a contiguous grouping of mature and evenly aged trees of high value. These trees may be of pure species composition, historical significance, or possess unusual aesthetic qualities. Not all the trees within the Specimen tree stand have to be the size of specimen trees for the stand to qualify.

Appendices

Buffer Standards

The intent of the Forsyth County Buffer Standards is to provide visual screening between adjoining uses. Required buffers must be planted where vegetation is non-existent or where disturbed for approved access in accordance with the following standards. Supplemental planting, incorporating existing trees, will be required in cases where the buffer is sparsely vegetated in order to satisfy these standards.

1. Trees and shrubs to be planted shall be selected from the Table of Pre-Approved Buffer Species. The County Arborist may approve the use of species not listed.
2. The number of rows required within planted buffers is based on the buffer width:

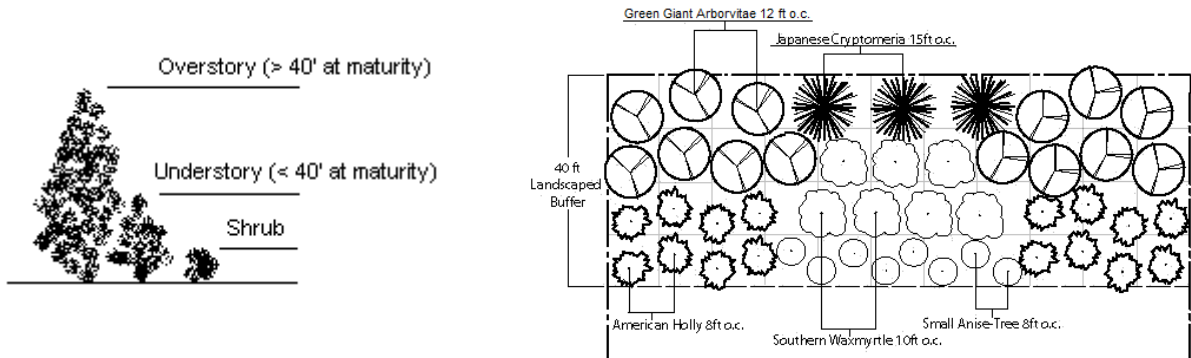
Buffer Width	Minimum Planting Rows
< 30'	2
30' to 39'	3
40' to 50'	4
> 50'	4 plus 1 row for each additional 15 feet

3. No one species may comprise more than one-third (1/3) of the total buffer.
4. Two-thirds (2/3) of the species must be overstory species and shall be evenly distributed throughout the buffer.
5. The buffer must be in place prior to approval of a Final Plat for residential projects or Certificate of Occupancy for non-residential projects.
6. Trees or shrubs that die in the first year must be replaced by the Developer.

Table of Pre-Approved Buffer Species

PLANT TYPE	MINIMUM HEIGHT (At planting)	MAXIMUM SPACING WITHIN ROWS (On-center)	NOTES	FORM
Leyland Cypress (<i>Cupressocyparis leylandii</i>)	6 feet	12 feet	Sun	Overstory
Green Giant Arborvitae (<i>Thuja standishii x plicata 'Green Giant'</i>)	6 feet	12 feet	Sun to partial shade	Overstory
Eastern Hemlock (<i>Tsuga canadensis</i>)	6 feet	10 feet	Sun	Overstory
Eastern White Pine (<i>Pinus strobus</i>)	6 feet	10 feet	Sun	Overstory
Deodar Cedar (<i>Cedrus deodara</i>)	6 feet	12 feet	Sun, drought tolerant	Overstory
Eastern Red Cedar (<i>Juniperus virginiana</i>)	6 feet	10 feet	Sun	Overstory
Virginia Pine (<i>Pinus virginiana</i>)	5 feet	6 feet	Sun	Overstory
Japanese Cryptomeria (<i>Cryptomeria japonica</i>)	6 feet	15 feet	Sun	Overstory
Southern Magnolia (<i>Magnolia grandiflora</i>)	6 feet	15 feet	Sun to shade, drought tolerant	Overstory
American Holly (<i>Ilex opaca</i>)	6 feet	8 feet	Sun to shade, drought tolerant	Understory
Savannah Holly (<i>Ilex X attenuata 'Savannah'</i>)	6 feet	8 feet	Sun to shade, drought tolerant	Understory
Foster Holly (<i>Ilex x attenuata 'Fosteri'</i>)	6 feet	8 feet	Sun to shade, drought tolerant	Understory
Nellie R. Stevens Holly (<i>Ilex x 'Nellie R. Stevens'</i>)	6 feet	8 feet	Sun to shade, drought tolerant	Understory
Yaupon Holly (<i>Ilex vomitoria</i>)	6 feet	6 feet	Sun to shade, drought tolerant	Understory
Southern Waxmyrtle (<i>Myrica cerifera</i>)	6 feet	10 feet	Sun, drought tolerant	Understory
Devilwood (<i>Osmanthus americanus</i>)	6 feet	8 feet	Semi-shade	Understory
Carolina Cherry Laurel (<i>Prunus caroliniana</i>)	6 feet	8 feet	Sun to semi-shade, drought tolerant	Understory
Loropetalum (<i>Loropetalum chinense</i>)	3 feet	5 feet	Semi-shade	Shrub
Florida Leucothoe (<i>Agarista populifolia</i>)	3 feet	5 feet	Shade	Shrub
Florida Anise (<i>Illicium floridanum</i>)	3 feet	8 feet	Shade	Shrub
Small Anise-Tree (<i>Illicium parviflorum</i>)	3 feet	8 feet	Semi-shade to full shade	Shrub
Formosa Firethorn (<i>Pyracantha koidzumii</i>)	3 feet	8 feet	Sun, drought tolerant	Shrub

Example buffer design:



Forsyth County Recommended Plant List

RECOMMENDED USES	
Parking Lots Vegetative Screening Conservation and Natural Areas Utility Corridors Plazas and Façade Plantings	<p>The site situation where the tree should be planted and/or conserved:</p> 0 = Avoid; Not Suitable Blank = May or May Not be Suitable x = Good Choice XX = Excellent Choice
ENVIRONMENTAL CHARACTERISTICS AND TOLERANCES	
Soil Moisture	<p>The typical soil moisture conditions for the species in its native habitat.</p> H= Hydric: wet and may become occasionally flooded for short periods M= Mesic: moist but moderately well to well drained X= Xeric: dry and very well drained
Growth Rate	<p>Typical rate of growth under urban conditions.</p> S= Slow: 1/2 to 1-1/2 feet per year M= Moderate: 1-1/2 to 2-1/2 F= Fast: 2-1/2 to 3+ feet per year
Average Life Span	<p>The average life span (useful service life) of the species when growing under average urban conditions. A plant is at the end of its useful service life when its risk of failure becomes unacceptable and cannot be improved or when the plant is no longer and asset due to its appearance or condition.</p> S= Short: less than 25 years of useful service life. M= Moderate: 25-40 years of useful service life. L= Large: 50 years of greater useful service life.
Urban Tolerant Tree	<p>Based upon other characteristics and tolerances to urban conditions; an "X" indicates the species is suitable for planting under "tough" urban conditions.</p>
Drought Tolerance	<p>Tolerance of the species to infrequent rain, low soil moisture, full sun, and high temperatures</p> Low = Not tolerant to drought conditions Moderate = Tolerant to mild drought conditions; moderately tolerant to severe drought conditions High = Very tolerant to mild to severe and prolonged drought conditions

Native Plant	Indicates whether or not the plant is found naturally growing in the Forsyth County area Y = Yes N = No
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		PARKING LOTS	VEGETATIVE SCREENING	CONSERVATION & NATURAL AREAS	UTILITY CORRIDORS	PLAZAS & FAÇADE PLANTINGS	SOIL MOISTURE	GROWTH RATE	AVERAGE LIFE SPAN	URBAN TOLERANT	DROUGHT TOLERANCE	NATIVE PLANT
Overstory Deciduous Trees												
Ash, green	<i>Fraxinus pennsylvanica</i>	x	0	X X	0	x	H	F	M	X	H	Y
Ash, white	<i>Fraxinus americana</i>	x	0	X X	0	x	M	M	M	X	L	Y
Ash, velvet	<i>Fraxinus velutina</i>		0	0	0		X	F	S		H	N
Basswood, American (Linden)	<i>Tilia americana</i>	X X	0	X X	0	x	M	F	M	X	L	Y
Basswood, Carolina	<i>Tilia caroliniana</i>		0	x	0	x	X	M	L		L	Y
Basswood, white	<i>Tilia heterophylla</i>		0	X X	0	x	H	M	M		L	N
Beech, American	<i>Fagus grandifolia</i>	X X	0	X X	0		M	S	L		L	Y
Birch, river	<i>Betula nigra</i>	x	0	x	0	X X	M	F	M	X	L	Y
Birch, yellow	<i>Betula alleghaniensis</i>		0	x	0		M	F	L		M	Y
Blackgum	<i>Nyssa sylvatica</i>	X X	0	x	0	x	M	S	M	X	M	Y
Boxelder	<i>Acer negundo</i>	X X	0	x	0		M	F	S	X	M	Y
Buckeye, Ohio	<i>Aesculus glabra</i>		0	x	0		M	M	L		M	N
Buckeye, red horsechestnut	<i>Aesculus x carnea</i>		0	0	0		X	M	M		H	N
Buckeye, yellow	<i>Aesculus octandra</i>		0	x	0		H	M	L		L	N
Butternut	<i>Juglans cinerea</i>		0	0	0		M	M	S		L	N
Cherry, black	<i>Prunus serotina</i>		0	x	0		M	M	S		M	Y
Chestnut, Chinese	<i>Castanea mollissima</i>		0	0	0		M	S	S	X	L	N
Coffee tree, Kentucky	<i>Gymnocladus dioica</i>	X X	0	0	0	x	H	S	M	X	M	Y
Cypress, bald	<i>Taxodium distichum</i>	x	0	0	0	x	H	F	L	X	L	Y
Cypress, pond	<i>Taxodium ascendens</i>		0	0	0		H	S	L		L	N
Elm, American	<i>Ulmus americana</i>	x	0	x	0	x	M	M	L	X	H	Y

Elm, cedar	<i>Ulmus crassifolia</i>	X X	0	0	0		M	F		X	H	N
Elm, lace bark	<i>Ulmus parvifolia</i>	X X	0	0	0	X X	M	M	M	X	H	N
Elm, September	<i>Ulmus serotina</i>		0	x	0		M	F	S		M	N
Elm, slippery	<i>Ulmus rubra</i>		0	x	0		M	F	M		M	Y
Elm, Siberian	<i>Ulmus pumila</i>	X X	0	0	0	X X	X	F	S	X	H	N
Elm, winged	<i>Ulmus alata</i>	X X	0	x	0		M	M	M	X	H	Y
Ginkgo (male only)	<i>Ginkgo biloba</i>	x	0	0	0	X X	M	S	L	X	H	N
Hackberry, common	<i>Celtis occidentalis</i>	x	0	x	0	x	M	S	M	X	H	Y
Hackberry, sugar	<i>Celtis laevigata</i>	X X	0	x	0	X X	H	F	M	X	L	Y
Hickory, bitternut	<i>Carya cordiformis</i>	0	0	x	0	0	M	F	L		L	Y
Hickory, mockernut	<i>Carya tomentosa</i>	0	0	x	0	0	X	S	L		H	Y
Hickory, pignut	<i>Carya glabra</i>	0	0	x	0	0	M	S	L		H	Y
Hickory, shagbark	<i>Carya ovata</i>	0	0	x	0	0	M	S	L		M	Y
Hickory, southern shagbark	<i>Carya ovata var. australis</i>	0	0	x	0	0	M	S	L		M	Y
Katsura tree	<i>Cercidiphyuum japonicum</i>		0	0	0	x	M	F	L	X	L	N
Linden, littleleaf	<i>Tilia cordata</i>	X X	0	0	0	x	M	M	M	X	M	N
Linden, silver	<i>Tilia tomentosa</i>	X X	0	0	0	x	M	S	L		M	N
Locust, black	<i>Robinia pseudoacacia</i>	0	0	x	0	0	M	F	M	X	H	Y
Locust, honey	<i>Gleditsia triacanthos</i>	0	0	x	0	0	M	F	M	X	H	Y
Magnolia, cucumber	<i>Magnolia acuminata</i>	0	0	x	0		M	F	M		L	Y
Maple, red	<i>Acer rubrum</i>	X X	0	x	0	X X	M	F	L	X	L	Y
Maple, silver	<i>Acer saccharinum</i>	0	0	x	0	0	M	F	S	X	H	Y
Maple, southern sugar	<i>Acer barbatum</i>	x	0	x	0	X X	M	M	M	X	H	Y
Maple, sugar	<i>Acer saccharum</i>		0	x	0		M	M	L		M	Y
Oak, black	<i>Quercus velutina</i>		0	x	0		X	M	L		H	Y
Oak, blackjack	<i>Quercus marilandica</i>	X X	0	X X	0		X	S	L	X	H	Y
Oak, bur	<i>Quercus macrocarpa</i>	X X	0	0	0		M	S	L	X	H	N
Oak, cherrybark	<i>Quercus falcata var. pagodifolia</i>		0	x	0		M	M	L		M	Y
Oak, chestnut	<i>Quercus prinus</i>	0	0	X X	0	0	X	M	L		M	Y
Oak, darlington	<i>Quercus hemisphaerica</i>		0	0	0		X	M	M		M	Y
Oak, durand	<i>Quercus durandii</i>		0		0		M	M	S		H	N
Oak, English	<i>Quercus robur</i>	X X	0	0	0		M	S	M	X	M	N
Oak, Georgia	<i>Quercus georgiana</i>		0	x	0		X	M	M		H	Y
Oak, laurel	<i>Quercus laurifolia</i>	X X	0	x	0		M	F	M	X	M	Y
Oak, northern red	<i>Quercus rubra</i>	X X	0	x	0		M	F	L	X	M	Y
Oak, nuttall	<i>Quercus nuttalli</i>	x	0	x	0		M	M	L		M	Y

Oak, oglethorpe	<i>Quercus oglethorpensis</i>		0		0		H	S	M		M	Y
Oak, overcup	<i>Quercus lyrata</i>	X	0	x	0		H	M	L	X	M	Y
Oak, pin	<i>Quercus palustris</i>	X	0		0		M	M	M	X	M	Y
Oak, post	<i>Quercus stellata</i>	X	0	x	0		X	M	L	X	H	Y
Oak, sawtooth	<i>Quercus acutissima</i>	X	0	x	0		M	F	M	X	M	N
Oak, scarlet	<i>Quercus coccinea</i>	x	0	x	0	x	X	M	L	X	H	Y
Oak, shingle	<i>Quercus imbricaria</i>	X	0	0	0		M	M	M	X	M	Y
Oak, shumard	<i>Quercus shumardi</i>	X	0	x	0	X	M	F	L	X	H	Y
Oak, southern red	<i>Quercus falcata</i>	x	0	x	0	x	M	M	L	X	H	Y
Oak, swamp chestnut	<i>Quercus michauxii</i>	0	0	x	0	0	M	M	L		M	Y
Oak, swamp white	<i>Quercus bicolor</i>	X	0		0		M	M	L	X	M	N
Oak, turkey	<i>Quercus laevis</i>		0	0	0		M	F	S		H	Y
Oak, water	<i>Quercus nigra</i>	X	0	X	0		M	F	M	X	M	Y
Oak, white	<i>Quercus alba</i>	x	0	x	0		M	S	L		M	Y
Oak, willow	<i>Quercus phellos</i>	X	0	x	0	X	M	F	L	X	H	Y
Pagoda tree, Japanese	<i>Sophora japonica</i>		0	0	0	x	H	F	S	X	M	N
Pecan	<i>Carya illinoensis</i>	0	0	x	0	0	M	S	M		L	Y
Persimmon, common	<i>Diospyros virginiana</i>	0	0	X	0	0	M	M	S	X	H	Y
Planetree, London	<i>Platanus acerifolia</i>	0	0	0	0	x	M	F	M	X	H	N
Poplar, tulip	<i>Liriodendron tulipifera</i>	0	0	x	0		M	M	L		L	Y
Redwood, dawn	<i>Metasequoia glyptostroboides</i>	x	0	0	0		M	F	L	X	M	N
Sourwood	<i>Oxydendrum arboreum</i>		0	X	0		M	M	S	X	M	Y
Sugarberry	<i>Celtis laevigata</i>		0	x	0		M	M	M		M	Y
Sweetgum	<i>Liquidambar styraciflua</i>	0	0	x	0	0	M	F	L	X	L	Y
Sweetgum, fruitless	<i>Liquidambar styraciflua</i> 'Rotundiloba'		0	x	0		M	M	M		L	Y
Sycamore	<i>Platanus occidentalis</i>	x	0	X	0		M	F	M		M	Y
Tupelo, swamp	<i>Nyssa aquatica</i>		0	0	0		H	M	L		L	N
Walnut, black	<i>Juglans nigra</i>	0	0	X	0	0	M	M	L		L	Y
Zelkova, Japanese	<i>Zelkova serrata</i>		0	0	0	x	M	M	M	X	H	N

Understory Deciduous Trees

Buckeye, red	<i>Aesculus pavia</i>		0	x	0		M	M	S	X	L	N
Buckthorn, Carolina	<i>Frangula caroliniana</i>		0	x	0		M	M	S		M	Y
Catalpa, southern	<i>Catalpa bignonioides</i>	0	0	x	0		M	F	L		M	Y
Chastetree	<i>Vitex agnus-castus</i>		0	0	x	x	X	M	S	X	H	N
Cherry, autumn	<i>Prunus subhirtella</i> 'Autumnalis'		0	0	0	x	X	F	L		M	N

Cherry, fire	<i>Prunus pensylvanica</i>		0	0	0	x	M	F	S		L	N
Cherry, Japanese flowering	<i>Prunus serrulata</i>		0	0	X	X	M	F	S		L	N
Cherry, yoshino flowering	<i>Prunus x yedoensis</i>		0	0	X	X	M	F	S		L	N
Chinkapin, allegheny	<i>Castanea pumila</i>		0	x	x		X	S	S		H	Y
Chittamwood	<i>Bumelia lanuginosa</i>		0	0			M	M	S		H	N
Crabapple, Japanese flowering	<i>Malus floribunda</i>		0	0	X	X	M	M	S		L	N
Crabapple, southern	<i>Malus angustifolia</i>		0	x	X	X	M	M	S		L	Y
Crabapple, sweet	<i>Malus coronaria</i>		0	x	X	X	M	M	S		L	Y
Crepe myrtle	<i>Lagerstroemia species</i>		0	0	X	X	M	F	M	X	H	N
Devils walking stick	<i>Aralia spinosa</i>		0	x	0		H	M	M		L	Y
Dogwood, alternate leaf	<i>Cornus alternifolia</i>		0	X	X	x	M	M	M	X	L	Y
Dogwood, cherry	<i>Cornus mas</i>		0	0	x	x	M	M	M	X	M	N
Dogwood, flowering	<i>Cornus florida</i>	0	0	x	X	X	M	M	M	X	L	Y
Dogwood, kousa	<i>Cornus kousa</i>		0	0	x	x	M	S	S	X	L	N
Dogwood, pink flowering	<i>Cornus florida var. rubra</i>	0	0	x	x	0	M	M	M	X	L	Y
Dogwood, swamp	<i>Cornus stricta</i>		0		x	x	H	S	S	X	L	Y
Dovetree	<i>Davidia involucrata</i>		0	0	0		M	M	M	X	L	N
Evodia, Korean	<i>Evodia daniellii</i>		0	0	0		M	M	S		L	N
Fringetree	<i>Chionanthus virginicus</i>		0	x	x		M	M	S	X	L	Y
Fringetree, Chinese	<i>Chionanthus retusus</i>		0	0	x		M	S	S		M	N
Golden raintree	<i>Koelreutaria paniculata</i>		0	0	0	x	M	M	M	X	H	N
Golden raintree, bougainvillea	<i>Koelreutaria bipinnata</i>		0	0	0		X	F	M	X	H	N
Hackberry, Georgia	<i>Celtis tenuifolia</i>		0	x	0		X	S	M		H	Y
Hawthorn	<i>Crataegus species</i>		0	x	0	x	X	S	M		H	Y
Hawthorn, cockspur	<i>Crataegus crusgalli</i>		0	0	0	x	X	M	M		H	N
Hawthorne, Washington	<i>Crataegus phaenopyrum</i>		0	0	0	x	M	S	L		M	N
Holly, possumhaw	<i>Ilex decidua</i>		0	x	x		H	M	S		H	Y
Hophornbeam, American	<i>Ostrya virginiana</i>	x	0	X	X	0	M	S	L	X	H	Y
Hornbeam, European	<i>Carpinus betulus</i>	X	X	x	0	0	M	S	M	X	H	N
Hornbeam, Japanese	<i>Carpinus japonica</i>		0	0	0	x	M	S	M		M	N
Horsesugar	<i>Symplocos tinctoria</i>		0	x	0		M	M			M	Y
Indigobush amorphia	<i>Amorpha fruticosa</i>		0	0			X	S	M		M	N
Ironwood	<i>Carpinus caroliniana</i>	x	0	x	0	X	M	S	M	X	M	Y
Magnolia, bigleaf	<i>Magnolia macrophylla</i>		0	x	0		M	M	M		L	Y
Magnolia, fraser	<i>Magnolia fraseri</i>		0	x	0		H	F	M		L	Y
Magnolia, loebner	<i>Magnolia x loebneri</i>		0	0	0		M	M	M		M	N
Magnolia, saucer	<i>Magnolia x soulangiana</i>	0	0	0	0		M	M	S	X	L	N
Magnolia, star	<i>Magnolia stellata</i>		0	0	x	x	M	S	S		M	N
Magnolia, sweetbay	<i>Magnolia virginiana</i>		0	x	0	X	H	F	M	X	L	Y
Magnolia, umbrella	<i>Magnolia tripetala</i>		0	x	0		M	M	S		L	Y

Maple, amur	<i>Acer ginnala</i>	0	0	0	x	X X	M	M	M		M	N
Maple, chalk	<i>Acer leucoderme</i>		0	x	0		M	M	M	X	H	Y
Maple, hedge	<i>Acer campestre</i>	X X	0	0	0	X X	M	S	S	X	H	N
Maple, Japanese	<i>Acer palmatum</i>	0	0	0	x	X X	M	S	S		L	N
Maple, paperbark	<i>Acer griseum</i>	0	0	0	0	x	X	S	M		M	N
Maple, shantung	<i>Acer truncatum</i>		0	0	0	X X	M	M	S		M	N
Maple, tatarian	<i>Acer tataricum</i>	0	0	0		X X	M	S	S		M	N
Maple, trident	<i>Acer buergerianum</i>	X X	0	0	0	X X	M	F	M	X	M	N
Mulberry, red	<i>Morus rubra</i>	0	0	X X	0		M	F	S		H	Y
Osage orange	<i>Maclura pomifera</i>	0	0	0	0		X	F	L	X	H	N
Parrotia, Persian	<i>Parrotia persica</i>		0	0	x		M	F	S	X	M	N
Pawpaw	<i>Asimina triloba</i>		0	x	0		M	S	S		L	Y
Pistache, Chinese	<i>Pistacia chinensis</i>	X X	0	0	0	x	M	M	M	X	M	N
Plum, American	<i>Prunus americana</i>		0	X X	0		M	M	L		L	Y
Plum, chicksaw	<i>Prunus angustifolia</i>		0	x	x		M	M	S		H	Y
Plum, Mexican	<i>Prunus mexicana</i>		0	x	0		M	M			H	Y
Red bud, Chinese	<i>Cercis chinensis</i>	0	0	0	X X	X X	M	M	S		L	N
Redbud, eastern	<i>Cercis canadensis</i>		0	X X	X X	X X	M	F	S		M	Y
Redbud, eastern white	<i>Cercis canadensis var. alba</i>		0	X X	X X	X X	M	F	S		M	Y
Redbud, Oklahoma	<i>Cercis reniformis</i>		0	0	X X	X X	X	M	S	X	H	N
Sassafras	<i>Sassafras albidum</i>		0	x	0		M	M	M		H	Y
Serviceberry	<i>Amelanchier arborea</i>		0	x	x	X X	M	S	M	X	M	Y
Silverbell, Carolina	<i>Halesia carolina</i>		0	X X	0		M	M	M		L	Y
Silverbell, two winged	<i>Halesia diptera</i>		0	x	0		M	M	M		M	N
Smoketree, American	<i>Cotinus obovatus</i>		0	0	x	X X	X	M	S	X	H	Y
Smoketree, common	<i>Cotinus coggygria</i>		0	0	X X		X	M	S	X	H	N
Snowbell	<i>Styrax americana</i>		0	x	X X		H	S	S		L	N
Soapberry, western	<i>Sapindus drummondii</i>	x	0	0	0		X	M	L	X	H	N
Stewartia, mountain	<i>Stewartia ovata</i>		0	x	x		M	S	M		L	Y
Willow, black	<i>Salix nigra</i>	0	0	x	0	0	H	F	S		L	Y
Willow, weeping	<i>Salix babylonica</i>	0	0	0	0	0	H	F	M		M	N
Witchhazel, common	<i>Hamamelis virginiana</i>		0	x	x	x	M	M	M	X	M	Y
Yellowwood, American	<i>Cladrastis lutea</i>		0	0	0		M	M	M	X	M	N

Overstory Evergreen Trees

Arborvitae, western	<i>Thuja plicata</i>		x	0	0		M	S	L		L	N
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Cedar , eastern red	<i>Juniperus virginiana</i>		X X	x	0			X	S	L	X	H	Y
Cedar, Atlantic white	<i>Chamaecyparis thyoides</i>		x	0	0			X	M	L		L	Y
Cedar, atlas	<i>Cedrus atlantica</i>		x	0	0			M	M	L		H	N
Cedar, deodara	<i>Cedrus deodara</i>		x	0	0			X	M	L		H	N
Cedar, of Lebanon	<i>Cedrus libani</i>		x	0	0			X	F	L		H	N
Chinafir, common	<i>Cunninghamia lanceolata</i>		x	0	0			X	M	M		H	N
Cryptomeria, Japanese	<i>Cryptomeria japonica</i>		X X	0	0			M	S	M	X	H	N
Cypress, leyland	<i>Cupressocyparis leylandii</i>		X X	0	0			M	F	M	X	M	N
Hemlock, eastern	<i>Tsuga canadensis</i>		X X	x	0			M	S	L		L	Y
Magnolia, southern	<i>Magnolia grandifolia</i>	0	X X	x	0			M	M	L	X	M	Y
Pine, loblolly	<i>Pinus taeda</i>		x	x	0			M	F	M	X	M	Y
Pine, shortleaf	<i>Pinus echinata</i>		x	X X	0			M	M	L		H	Y
Pine, slash	<i>Pinus elliotii</i>		x	0	0			M	F	M		M	N
Pine, Virginia	<i>Pinus virginiana</i>		x	x	0			M	F	S	X	H	Y
Pine, white	<i>Pinus strobus</i>		x	x	0			M	F	M		L	Y

Understory Evergreen Trees

Cherrylaurel, Carolina	<i>Prunus caroliniana</i>	0	X X	0	0	0		M	M	M	X	H	N
Cypress, Italian	<i>Cupressus sempervirens</i>		x	0	0	x		X	F	S		H	N
Devilwood	<i>Osmanthus americanus</i>		x	x	0			M	M	M		M	Y
Holly, American	<i>Ilex opaca</i>	x	X X	x	0	X X		M	S	L	X	H	Y
Holly, attenuata	<i>Ilex x attenuata</i>	x	X X	0	0	X X		M	S	S	X	H	N
Holly, dahoon	<i>Ilex cassine</i>		X X	0	0			H	M	S	X	L	Y
Holly, lusterleaf	<i>Ilex latifolia</i>		X X	0	0			X	M	S	X	H	N
Holly, myrtle-leaved	<i>Ilex myrtifolia</i>		X X	0	x			H	S	S	X	H	Y
Holly, Nellie R. Stevens	<i>Ilex x Nellie R. Stevens</i>		X X	0	0			H	M	M	X	H	N
Holly, yaupon	<i>Ilex vomitoria</i>	x	X X	x	x	0		X	S	L	X	H	Y
Loquat	<i>Eriobotrya japonica</i>		x	0	0			M	M		X	M	N
Oak, Chinese evergreen	<i>Quercus myrsinifolia</i>			0		0		M	S	L	X	H	N
Wax myrtle	<i>Myrica cerifera</i>	x	X X	x	x	X X		H	M	L	X	M	Y

Deciduous Shrubs

Abelia, Chinese	<i>Abelia chinensis</i>		0	0	X X			M	F	M		M	N
Alder, tag	<i>Alnus serrulata</i>		0	x	x			H	F	S		M	Y

Azalea, flame	<i>Rhododendron calendulaceum</i>		0	0	x		M	S	S		L	Y
Azalea, Florida	<i>Rhododendron austrinum</i>		0	0	x		M				M	Y
Azalea, piedmont	<i>Rhododendron canescens</i>	0	0	x	x		M	S	L		L	Y
Azalea, plumleaf	<i>Rhododendron prunifolium</i>	0	0	x	x	x	M	S	M		L	Y
Barberry, Japanese	<i>Berberis thunbergii</i>		0	0	X		M	M	M	X	L	N
Barberry, Korean	<i>Berberis koreana</i>		0	0	X		X	M			H	N
Barberry, mentor	<i>Berberis x mentorensis</i>		0	0	X		M	F	M	X	L	N
Barberry, purple leaf Japanese	<i>Berberis thunbergii atropurpurea</i>		0	0	X		X	M	M	X	H	N
Bayberry, northern	<i>Myrica pennsylvanica</i>		0	0	x		X	F			H	Y
Beautyberry, American	<i>Callicarpa americana</i>		0	x	x		M	F	S		H	Y
Beautyberry, bodinier	<i>Callicarpa bodinieri</i>		0		x		X	F			H	N
Beautyberry, Japanese	<i>Callicarpa japonica</i>		0	0	X		X	F			H	N
Beautyberry, purple	<i>Callicarpa dichotoma</i>		0	0	X		X	F			H	N
Beautybush	<i>Kolkwitzia amabilis</i>		0	0	x		M	F		X	L	N
Bladdernut, American	<i>Staphylea trifolia</i>		0	X	0		M	F			L	Y
Blue mist shrub	<i>Caryopteris x clandonensis</i>		0	0	X		M	M			M	N
Blueberry, highbush	<i>Vaccinium corymbosum</i>		0	0	0		M	M	M		L	Y
Bottlebrush, dwarf	<i>Fothergilla gardenii</i>	X			x	X	H	M	M		L	Y
Buckeye, bottlebrush	<i>Aesculus parviflora</i>	0	0	x	x	0	M	M	S		M	Y
Buckeye, painted	<i>Aesculus sylvatica</i>		0	x	x		M	M	S		L	Y
Butterfly bush	<i>Buddleia davidii</i>		0	0	x		M	F			M	N
Butterfly bush, alternate-leaf	<i>Buddleia alternifolia</i>		0	0	x		X	F			H	N
Buttonbush	<i>Cephalanthus occidentalis</i>		0	x	x	x	H	M	S	X	L	Y
Ceanothus	<i>Ceanothus x pallidus</i>		0	0	X		X	M			H	N
Chokeberry, red	<i>Aronia arbutifolia</i>	x	0		x	x	H	M	L	X	L	Y
Cinquefoil, shrubby	<i>Potentilla fruticosa</i>		0	0	x		M	S			M	Y
Clethra, summersweet	<i>Clethra alnifolia</i>		0	0	X	x	H	M	M	X	L	N
Cleyera	<i>Cleyera japonica</i>		0	0	x		M	M			L	N
Deutzia, slender	<i>Deutzia gracilis</i>		0	0	X		M	M		X	M	N
Deutzia, fuzzy	<i>Deutzia scabra</i>		0	0	x		M	M			L	N
Dogwood, red osier	<i>Cornus sericea</i>		0	0	X		M	F		X	H	N
Dogwood, silky	<i>Cornus amomum</i>		0	x			H	M	M		L	Y
Elderberry	<i>Sambucus canadensis</i>		0	x	x		M	F	M		M	Y
Euonymus, winged	<i>Euonymus alatus</i>	x	0	0	0	X	X	M		X	H	N
Fatsia, Japanese	<i>Fatsia japonica</i>		0	0	x		H	M			H	N

Flowering almond	<i>Prunus glandulosa</i>		0	0	X		X	M			H	N
Forsythia	<i>Forsythia x intermedia</i>		0	0	x		M	F	L	X	M	N
Forsythia, white	<i>Abeliophyllum distichum</i>		0	0	X			M			M	N
Fortune's fontanesia	<i>Fontanesia fortunei</i>		0	0	x		X	F			H	N
Fothergilla, large	<i>Fothergilla major</i>		0	X	x		X	S			H	Y
Groundsel bush	<i>Baccharis halimifolia</i>		0	x	x		X	F			H	Y
Hardy orange	<i>Poncirus trifoliata</i>		0	0	x		M	S		X	H	N
Honeysuckle, southern bush	<i>Diervilla sessilifolia</i>		0	x	X		L	F			H	Y
Honeysuckle, winter	<i>Lonicera fragrantissima</i>		0	0	X		M	F		X	H	N
Huckleberry, dwarf	<i>Gaylussacia dumosa</i>		0	x	X		X	S	M		M	Y
Hydrangea	<i>Hydrangea arborescens</i>		0	x	X		M	M	S		L	Y
Hydrangea, bigleaf	<i>Hydrangea macrophylla</i>		0	0	X		X	F	M		M	N
Hydrangea, oakleaf	<i>Hydrangea quercifolia</i>	x	0	0	X	X	M	F	M	X	M	N
Indigo, Himalayan	<i>Indigofera heterantha</i>		0	0	X		X	M			H	N
Jasmine, flowering	<i>Jasminum floridum</i>		0	0	X		M	M		X	H	N
Jasmine, winter	<i>Jasminum nudiflorum</i>		0	0	X		X	F			H	N
Jetbead, black	<i>Rhodotypos scandens</i>		0	0	X		M	F		X	H	N
Kerria	<i>Kerria japonica 'Pleniflora'</i>		0	0	X	x	M	M		X	M	N
Lantana	<i>Lantana camera</i>		0	0	X		M	F			M	Y
Leadplant	<i>Amorpha canescens</i>		0	0	X		X	M	L		H	N
Leatherwood	<i>Cyrilla racemiflora</i>		0	0	0		H	M			L	N
Lespedeza, thunberg	<i>Lespedeza thunbergii</i>		0	0	X		M	M	M		M	N
Lilac, Peking	<i>Syringa pekinensis</i>		0	0	0		X				H	N
Mock orange	<i>Philadelphus x virginialis</i>		0	0	X		M	F		X	H	N
New Jersey tea	<i>Ceanothus americanus</i>		0	X	X		X	S	M		H	Y
Ninebark	<i>Physocarpus opulifolius</i>		0	x	x		X	S	M		H	Y
Orange ball tree	<i>Buddleia golbosa</i>		0	0	x		M	F			M	N
Pearlbush	<i>Exochorda racemosa</i>		0	0	x		M	M		X	H	N
Plum, chickasaw	<i>Prunus angustifolia</i>		0	x	x		M	M	L		L	Y
Pomegranate	<i>Punica granatum</i>		0	0	x		X	M			H	N
Possumhaw	<i>Ilex decidua</i>		0	x	x		M	F	M		L	N
Qunice, flowering	<i>Chaenomelea speciosa</i>		0	0	X		M	M			H	N
Rose of sharon	<i>Hibiscus syriacus</i>		0	0	X		M	S		X	M	N
Rose, Chinese	<i>Rosa chinensis</i>		0	0	X		M	M			M	N

Rose, rugose	<i>Rosa rugosa</i>		0	0	X	X	M	M	L	X	H	N
Serissa, Japanese	<i>Serissa foetida</i>		0	0	X		M				M	N
Sheepberry	<i>Viburnum lentago</i>		0	0	0		M	S	L		L	Y
Sparkleberry	<i>Vaccinium arboreum</i>		0	0	0		M	M	L		M	Y
Spicebush	<i>Lindera benzoin</i>		0	x	x		M	S	L		L	Y
Spicebush, erythrocarpa	<i>Lindera erythrocarpa</i>		0	0	0		M	M			M	N
Spirea, bridelwreath	<i>Spiraea prunifolia</i>		0	0	X		H	F	L	X	L	N
Spirea, bumalda	<i>Spiraea x bumalda</i>		0	0	X		X	F			H	N
Spirea, Japanese	<i>Spiraea japonica</i>		0	0	X		X	M	M		M	N
Spirea, reeves	<i>Spiraea cantoniensis</i>		0	0	X		M	F			M	N
Spirea, snowmound	<i>Spiraea nipponica</i> 'Snowmound'		0	0	X		X	F			H	N
Spirea, thunberg	<i>Spiraea thunbergii</i>		0	0	X		M	F		X	M	N
Spirea, vanhoutte	<i>Spiraea x vanhouttei</i>		0	0	X		M	F		X	M	N
Spreading euonymus	<i>Euonymus</i> <i>kiutschovicus</i>		0	0	X		M	F			M	N
Strawberry bush	<i>Euonymus americanus</i>	0	0	X	X		H	S	S		M	Y
Sumac, aromatic	<i>Rhus aromatica</i>		0	x	X		M	M	S	X	M	N
Sumac, michaux's	<i>Rhus michauxii</i>		0	0	X		X				H	Y
Sumac, smooth	<i>Rhus glabra</i>		0	X	x		M	M	S		M	Y
Sumac, staghorn	<i>Rhus typhina</i>		0	x	0	x	M	F		X	M	Y
Sumac, winged	<i>Rhus copallina</i>		0	x	x		X	M	M		M	Y
Summersweet	<i>Clethra alnifolia</i>	X X	0	0	X	X	H	M	M		L	N
Sweetshrub	<i>Calycanthus floridus</i>		0	X	X	x	M	M	S	X	M	Y
Sweetspire, Virginia	<i>Itea virginica</i>	X X	0	X	x	X X	M	M	S		L	Y
Viburnum, arrowwood	<i>Viburnum dentatum</i>	x	0	x	x	X X	M	M	S	X	H	N
Viburnum, blackhaw	<i>Viburnum prunifolium</i>	x	0	x	x	X X	M	M	S	X	M	Y
Viburnum, burkwood	<i>Viburnum x burkwoodii</i>		0	0	X		M	M			L	N
Viburnum, doublefile	<i>Viburnum plicatum var.</i> <i>tomentosum</i>		0	0	X		M	M			H	N
Viburnum, European cranberry	<i>Viburnum opulus</i>		0	0	x		M	S	M		M	N
Viburnum, Koreanspice	<i>Viburnum carlesii</i>		0	0	X		M	S		X	H	N
Viburnum, lantanaphyllum	<i>Viburnum x</i> <i>rhytidophylloides</i>		0	0	X		M	M		X	M	N
Viburnum, linden	<i>Viburnum dilatatum</i>		0	0	X		M	M			M	N

Viburnum, mapleleaf	<i>Viburnum acerifolium</i>		0	X	X		X	M	S	X	H	Y
Viburnum, rusty	<i>Viburnum rufidulum</i>	x	0	x	x		X	M	S		H	Y
Viburnum, sandankwa	<i>Viburnum suspensum</i>		0	0	X		M	M			M	N
Weigela	<i>Weigela florida</i>		0	0	X		M	F		X	L	N
Winterberry	<i>Ilex verticillata</i>		0	X	x	x	M	M	S	X	L	Y
Wintersweet	<i>Chimonanthus praecox</i>		0	0	x		M	S		X	H	N
Witchhazel, Chinese	<i>Hamamelis mollis</i>		0	0	x		M	S			M	N
Witchhazel, vernal	<i>Hamamelis vernalis</i>		0	0	X	x	M	F		X	M	N
Woadwaxen, silky-leaf	<i>Genista pilosa</i>		0	0	X		X	S			H	N
Yellowroot	<i>Xanthorhiza simplicissima</i>		0	X	X		M	M			M	Y

Evergreen Shrubs

Abelia, glossy	<i>Abelia x grandiflora</i>		X	0	X		M	F	M	X	M	N
Andromeda, Japanese	<i>Pieris japonica</i>		x	0	x		M	S	M		L	N
Andromeda, mountain	<i>Pieris floribunda</i>			x	X		M	S			M	N
Anise, Florida	<i>Illicium floridanum</i>		x	x	x		H	M	S		M	Y
Anise-tree, small	<i>Illicium parviflorum</i>	x	X	x	0	x	M	M			H	N
Aucuba	<i>Aucuba japonica</i>		X	0	x		M	S			M	N
Banana shrub	<i>Michelia figo</i>		X	0	0		X	M			H	N
Barberry, chenault	<i>Berberis x chenaultii</i>		x	0	X		X				H	N
Barberry, threespine	<i>Berberis triacanthophora</i>		x	0	X		X	M			H	N
Barberry, warty	<i>Berberis verruculosa</i>		x	0	X		X	S		X	H	N
Barberry, william penn	<i>Berberis x gladwynensis 'William Penn'</i>		x	0	X		X	M			H	N
Barberry, wintergreen	<i>Berberis julianae</i>		x	0	X		M	M	M	X	H	N
Bottlebrush, lemon	<i>Callistemon citrinus</i>		x	0	x		X	M			H	N
Boxwood, common	<i>Buxus sempervirens</i>		X	0	X		M	S			M	N
Boxwood, English	<i>Buxus sempervirens 'Suffruticosa'</i>		X	0	X		M	S			M	N
Boxwood, harland	<i>Buxus harlandii</i>		x	0	X		M	M			M	N
Boxwood, Japanese	<i>Buxus sinica japonica</i>		X	0	X		X	M			H	N
Boxwood, littleleaf	<i>Buxus microphylla</i>		X	0	X		M	S			M	N
Butcher's broom	<i>Ruscus aculeatus</i>		0	0	X		X	M			H	N
Butterflybush, loricata	<i>Buddleia loricata</i>		x	0	X		X	F			H	N

Cherrylaurel, Carolina	<i>Prunus caroliniana</i>	0	x	x	0	0	M	M	M	X	H	N
Cleyera	<i>Ternstroemia gymnanthera</i>		X				X	M	M		H	N
Cotoneaster, bearberry	<i>Cotoneaster dammeri</i>		0	0	X		M	F	M		M	N
Cotoneaster, cranberry	<i>Cotoneaster apiculatus</i>		0	0	X		M	F	M		M	N
Cotoneaster, little-leaf	<i>Cotoneaster microphyllus</i>		0	0	X		M	M	M		M	N
Cotoneaster, parney	<i>Cotoneaster lacteus</i>		X		X		M	M	M		M	N
Cotoneaster, rockspray	<i>Cotoneaster horizontalis</i>		0	0	X		X	M	M		M	N
Cotoneaster, spreading	<i>Cotoneaster divaricatus</i>		X		X		M	F	M		M	N
Cotoneaster, willowleaf	<i>Cotoneaster salicifolia</i>		X	0	x		M	M	M		M	N
Doghobble	<i>Leucothoe axillaris</i>	0	x	x	X	x	X	S	L		L	N
Elaeagnus	<i>Elaeagnus x ebbingei</i>		X		x		X	M	L	X	H	N
Euonymus, Japanese	<i>Euonymus japonicus</i>		X				M	F	L		M	N
Euonymus, spreading	<i>Euonymus kiautschovicus</i>		x	0	X		M	F			M	N
Firethorne, formosa	<i>Pyracantha koidzumii</i>		x	0	x		X	F	M		H	N
Firethorne, scarlet	<i>Pyracantha coccinea</i>		X		x		M	F	M		M	N
Gardenia	<i>Gardenia jasminoides</i>		X		X		M	M			M	N
Germander, wall	<i>Teucrium chamaedrys</i>		0	0	X		X	M			H	N
Hawthorn, Indian	<i>Raphiolepis indica</i>	x		0		x	M	S		X	H	N
Hawthorn, yeddo	<i>Raphiolepis umbellata</i>		X		X		M	S		X	H	N
Holly, Chinese	<i>Ilex cornuta</i>		X	0	0		M	M	M	X	M	N
Holly, dwarf yaupon	<i>Ilex vomitoria 'Nana'</i>	x	x	x	x	x	X	S	L	X	H	Y
Holly, Japanese	<i>Ilex crenata</i>		x	0	0		M	S	L	X	M	N
Holly, Nellie R. Stevens	<i>Ilex 'Nellie R. Stevens'</i>		X				M	F	M	X	M	N
Holly, perny	<i>Ilex pernyi</i>		x	0	x		X	S		X	H	N
Juniper, Chinese	<i>Juniperus chinensis</i>	X	X		X	X	M	F	M	X	M	N
Juniper, shore	<i>Juniperus conferta</i>	X	0	0	X	X	X	M	M	X	M	N
Juniper, singleseed	<i>Juniperus squamata</i>	X	X	0	X	X	X	S		X	H	N
Laurel, English	<i>Prunus laurocerasus</i>		X		0		M	M			M	N
Lavendar, common	<i>Lavandula angustifolia</i>		0	0	X		X	S			H	N
Lavendar, hybrid	<i>Lavandula x intermedia</i>		0	0	X		X	S			H	N
Leucothoe, Florida	<i>Agarista populifolia</i>	0	x	0	x	x	H	M	S		M	Y
Ligustrum, wax leaf	<i>Ligustrum japonicum</i>	x	X	0	x		X	M		X	H	N

Inkberry	<i>Ilex glabra</i>	x	X X	x	x	x	H	S	L		L	Y
Loropetalum	<i>Loropetalum chinensis</i>		x	0	x		H	F			M	N
Mahonia, Chinese	<i>Mahonia fortunei</i>		X X	0	X X		M	M	L		M	N
Mahonia, leatherleaf	<i>Mahonia bealei</i>		X X	0	X X		M	M	L		M	N
Mahonia, media	<i>Mahonia x media</i>		x	0	X X		M	M	L		M	N
Mahonia, Oregon grape holly	<i>Mahonia aquifolium</i>		X X	0	X X		X	M	L		H	Y
Mexican orange	<i>Choisya ternata</i>		x	0	X X		X	M			H	N
Mountain laurel	<i>Kalmia latifolia</i>	0	x	x	x	x	X	S	L		H	Y
Olive, fortune tea	<i>Osmanthus x fortunei</i>		X X	0	0		M	S		X	H	N
Olive, holly tea	<i>Osmanthus heterophyllus</i>		X X	0	0		M	M	M	X	L	N
Olive, sweet	<i>Osmanthus fragrans</i>		X X	0	0		M	S			M	N
Palmetto, dwarf	<i>Sabal minor</i>			0			M	S	M		M	Y
Photinia, Chinese	<i>Photinia serrulata</i>		X X	0	0		X	F			H	N
Photinia, Japanese	<i>Photinia glabra</i>		X X	0	0		X	F			H	N
Pineapple guava	<i>Feijoa sellowiana</i>		X X	0	x		X	M			H	N
Pittosporum	<i>Pittosporum tobira</i>		x	0	x		M	M	L		M	N
Podocarpus, shrubby	<i>Podocarpus marcophyllus maki</i>		x	0	0		X	S	M		H	N
Rhododendron	<i>Rhododendron spp.</i>		x	0	x		M	S	M		L	N
Rosemary	<i>Rosmarinus officialis</i>		x	0	X X		X	M	S		H	N
Sage, Russian	<i>Perovskia atriplicifolia</i>		X X	0	X X		X				H	N
Santolina, green	<i>Santolina virens</i>		0	0	X X		X	S	S		H	N
Santolina, lavender cotton	<i>Santolina chamaecyparissus</i>		x	0	X X		X	S	S		H	N
Sarcococca	<i>Sarcococca confusa</i>		X X	0	X X		M	S			M	N
Sarcococca, fragrant	<i>Sarcococca ruscifolia</i>		x	0	X X		M	S			M	N
Sarcococca, Himalayan	<i>Sarcococca hookeriana</i>		X X	0	X X		M	S			M	N
Sarcococca, Oriental	<i>Sarcococca orientalis</i>		0	0	X X		M	S			M	N
Sasanqua camellia	<i>Camellia sasanqua</i>		X X	0	X X		M	S			M	N
Tea camellia	<i>Camellia sinensis</i>		X X	0	X X		M	M			M	N
Viburnum, chindo	<i>Viburnum awabuki</i>		X X	0	x		X	F			H	N
Viburnum, laurustinus	<i>Viburnum tinus</i>		X X	0	X X		X	M			H	N
Viburnum, leatherleaf	<i>Viburnum rhytidophyllum</i>		x	0	x		M	M			L	N

Viburnum, pragense	<i>Viburnum x pragense</i>		x	0	X	X		M	F			M	N
Waxmyrtle, southern	<i>Myrica cerifera</i>	x	X	x	x	X	X	X	F		X	H	Y
Yew, Chinese	<i>Taxus chinensis</i>		x	0	x	X	X	M	F		X	M	N
Yew, Japanese	<i>Taxus cuspidata</i>		X	0	X	X	X	M	S	M	X	M	N
Yew, Japanese plum	<i>Cephaloptaxus harringtonia</i>		X	0	X	X		M	S			M	N
Yucca, Adam's needle	<i>Yucca filamentosa</i>		0	X	X	X		X	S	L		H	Y
Yucca, Spanish bayonet	<i>Yucca aloifolia</i>		0	0	X	X		X	M	M		H	Y
Yucca, Spanish dagger	<i>Yucca gloriosa</i>		0	0	X	X		X	S	L		H	Y

**Deciduous
Groundcovers**

Cast iron plant	<i>Aspidistra elatior</i>		0	0	X	X		M	S	L		L	N
Coreopsis, lanceleaf	<i>Coreopsis lanceolata</i>		0	x	X	X		M	M	M		M	Y
Coreopsis, threadleaf	<i>Coreopsis verticillata</i>		0	0	X	X		M	M	M		M	Y
Cotoneaster, rockspray	<i>Cotoneaster horizontalis</i>		0	0	X	X		X	M			H	N
Dianthus, deptford pink	<i>Dianthus armeria</i>		0	0	X	X		M	M	M		M	N
Ice plant, cooper's hardy	<i>Delosperma cooperi</i>		0	0	X	X		X	F			H	N
Ice plant, cloud-loving hardy	<i>Delosperma nubigena</i>		0	0	X	X		X	F			H	N
Jasmine, winter	<i>Jasminum nudiflorum</i>		0	0	X	X		X	F			H	N
Phlox, creeping	<i>Phlox stolonifera</i>		0	x	X	X		M	F			M	Y
Phlox, moss pink	<i>Phlox subulata</i>		0	0	X	X		M	M	M		M	Y
Stonecrop	<i>Sedum acre</i>		0	0	X	X		X	F			H	N
Stonecrop, showy	<i>Sedum spectabile</i>		0	0	X	X		X	S			H	N
Thyme	<i>Thymus spp.</i>		0	0	X	X		L	S			H	N
Yarrow, common	<i>Achillea millefolium</i>		0	0	X	X		X	F			H	N
Wintercreeper*	<i>Euonymus fortunei</i>		0	0	X	X		M	M			L	N

**Evergreen
Groundcovers**

Ajuga	<i>Ajuga reptans</i>		0	0	X	X		X	F			H	N
Bearberry	<i>Arcrostaphy los uva-uisi</i>		0	0	X	X		M	S			H	N

Carmel creeper	<i>Ceanothus griseus horizontalis</i>		0	0	X						M	M			M	N
Cotoneaster, bearberry	<i>Cotoneaster dammeri</i>	x	0	0	X						M	S			M	N
Cotoneaster, willowleaf	<i>Cotoneaster salicifolius</i>	x	0	0	X						X	M			H	N
Ice Plant, sutherland	<i>Delosperma sutherlandii</i>		0	0	X						X	F			H	N
Jasmine, Asiatic	<i>Trachelospermum asiaticum</i>		0	0	X						M	M			L	N
Jasmine, confederate	<i>Trachelospermum jasminoides</i>		0	0	X						M	M			L	N
Juniper, common	<i>Juniperus communis</i>	X	0	0	X	X				X	S		L	X	H	Y
Juniper, shore	<i>Juniperus conferta</i>	X	0	0	X	X				X	M	M		X	H	N
Juniper, blue pacific	<i>Juniperus conferta</i> 'Blue Pacific'	X	0	0	X	X				X	M	M		X	H	N
Juniper, andorra	<i>Juniperus horizontalis</i> 'Andorra'	X	0	0	X	X				X	M	S		X	H	N
Juniper, bar harbor	<i>Juniperus horizontalis</i> 'Bar Harbor'	X	0	0	X	X				X	M	S		X	H	N
Juniper, blue chip	<i>Juniperus horizontalis</i> 'Blue Chip'	X	0	0	X	X				X	M	S		X	H	N
Juniper, blue rug	<i>Juniperus horizontalis</i> 'Blue Rug'	X	0	0	X	X				X	M	S		X	H	N
Juniper, plumosa compacta	<i>Juniperus horizontalis</i> 'Plumosa Compacta'	X	0	0	X	X				X	M	S		X	H	N
Juniper, Japanese garden	<i>Juniperus procumbens</i>	X	0	0	X	X				X	M			X	H	N
Juniper, savin	<i>Juniperus sabina</i>	X	0	0	X	X				X	S			X	H	N
Lavendar, common	<i>Lavandula angustifolia</i>		0	0	X					X	S				H	N
Lavendar, hybrid	<i>Lavandula x intermedia</i>		0	0	X					X	S				H	N
Mondo grass	<i>Ophiopogon japonicus</i>		0	0	X						M	M			L	N
Pachysandra	<i>Pachysandra terminalis</i>		0	0	X						M	M			L	N
Periwinkle, bigleaf	<i>Vinca major</i>		0	0	X						M	F			M	N
Rosemary, creeping	<i>Rosmarinus officinalis</i> 'Prostratus'		0	0	X					X	M	S			H	N
Santolina, lavender cotton	<i>Santolina chamaecyparissus</i>		0	0	X					X	S	S			H	N
Sedum, October daphne	<i>Sedum sieboldii</i>		0	0	X						M	S			H	N
Stonecrop, two-row	<i>Sedum spurium</i>		0	0	X						L	M			H	N
Thyme, creeping	<i>Thymus serpyllum</i>	x	0	0	X					X	F				H	N

Turf Grass

Bahia grass	<i>Paspalum notatum</i>		0	0	X X		X	F			H	N
Common bermuda grass	<i>Cynodon dactylon</i>	X X	0	0	X X	X X	X	F	L		H	N
Centipede grass	<i>Eremochloa ophiuroides</i>		0	0	X X		M	S	L		M	N
Seashore paspalum grass	<i>Paspalum vaginatum</i>		0	0	X X		X	M	M		H	N
St. Augustine grass	<i>Stenotaphrum secundatum</i>		0	0	X X		X	F	L		H	N
Zoysia grass	<i>Zoysia matrella & Zoysia japonica</i>	X X	0	0	X X		X	M	M		H	N