



CARY

PLANT MATERIAL LIST

STANDARD SPECIFICATIONS MANUAL APPENDIX

JULY 2024

PLANT MATERIAL LIST

STANDARD SPECIFICATIONS MANUAL APPENDIX



This document should be used by developers, engineers, citizens, homeowners, and Cary staff to determine appropriate plant materials for any project involving landscaping.

This is a resource to facilitate sustainable plantings and avoid the use of invasive species. Conformity to this list is required by development projects seeking approval in Cary.

PURPOSE

Two plant material lists are contained in this document. The first is a selection of plants that will enhance the native landscapes of Cary, create wildlife habitat, provide shade, reduce surface temperatures, capture carbon, enhance clean air, reduce stormwater runoff, minimize maintenance, and minimize water consumption. The second list includes prohibited plants that due to their invasive nature or other characteristics are unsuitable for landscapes in Cary.

INTENT

The intent of this document is to ensure that appropriate plants are selected for use in Cary. *The Recommended Plant List* offers species selections with some performance characteristics, while the *Prohibited Plant List* outlines plants which do not perform well and/or are recognized as invasive and inappropriate in this region. These plant lists will evolve over time. Plants with more exacting growing conditions or those with less certainty of success should be reserved for minor accent or specialty use. Plants which have invasive tendencies, even if they are not on the lists, should not be planted. *The Recommended Plant List* emphasizes native, functional, and often drought tolerant plants. Non-drought tolerant plants may be appropriate if non-public water sources are used for irrigation, if the planting area is naturally wet, or if the planting area is to be used for bio-retention. A note to that effect must be included on planting plans.

The plant lists of this document generally do not include named hybrids and species subtypes such as subspecies, varieties, and cultivars due to the

number and rapidly evolving availability of these plants. Even though hybrids and named species subtypes are not generally listed, Cary anticipates the use of such plants, and even encourages their use in situations where they are expected to perform significantly better than species types. However, plant hybrids, cultivars or named species subtypes may differ greatly in habit, size, and other characteristics from that of the parent species or other genetically related hybrids or subtypes and thus, may not always be appropriate substitutes. For example, columnar forms of shade trees are not considered shade trees, and would not qualify as such, for example, in the case of Champion tree replacement requirements.

Additionally, some cultivars, such as those with year-round red leaves, do not provide the same wildlife benefits as those with green leaves, so if used, should be limited to accents, and not used as foundation plantings. Thus, if the proposed plant selection is not expected to meet minimal performance requirements for its particular application, it may be disapproved regardless of its generic relationship to a parent species on plant selection.

PLANT MATERIAL LIST

Below are charts of recommended plant materials. These charts are meant to provide an easy reference as to the types of plants that meet development standards for Cary. These charts are not inclusive of all acceptable plants.

TREES

UPPERSTORY



NAME	BASIC INFORMATION										WHERE TO PLANT				NEEDS			POLLINATOR & WILDLIFE VALUE		NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT				
Acer floridanum Southern Sugar Maple	Y	20-60'	20-30'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Low maintenance. Grows in average, medium to wet, well-drained soil. Susceptible to leaf scorch in drought conditions. Intolerant of road salt, soil compaction, and pollution.			
Acer rubrum Red Maple	Y	40-120'	30-50'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Low maintenance. Grows in average, medium to wet, well-drained soil. Excellent lawn or park tree. Has shallow, flattened root system that may buckle sidewalks and driveways. Compact cultivars can be used as street trees.			
Betula nigra River Birch	Y	30-70'	40-60'	D	Year round	●	●	●	●	●	●	☀️	●	●	●	●	Prefers wet sites. Multi-stem tree. Attractive bark. Use in rain garden, naturalized woodland, or riparian areas. May become stressed during drought. Additional watering and space for roots recommended in streetscape conditions.			
Carya glabra Pignut Hickory	Y	60-80'	25-40'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Adaptable to sandy or clay loams in well-drained soils. Drought tolerant once established. Good for buffers, along greenways, and natural park areas. Not a good street tree or parking lot tree due to nut litter. Excellent for wildlife.			
Carya ovata Shagbark Hickory	Y	70-90'	50-70'	D	Fall Winter	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerant of heat, drought, and soil compaction. The bark of older trees has a shaggy appearance that provides winter interest in the landscape. Good for buffers, along greenways, and natural park areas. Excellent for wildlife.			
Carya tomentosa Mockernut Hickory, Big-bud Hickory	Y	60-80'	40-60'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Adaptable to sandy or clay loams in well-drained soils. Heat and drought tolerant once established. Slow-growing. Good for buffers, along greenways, and natural park areas. Excellent for wildlife.			
Celtis laevigata Sugarberry	Y	50-70'	30-60'	D	Late Summer	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates salt, periodic flooding, and drought once established. Tolerant of soil compaction and pollution; useful in urban conditions. Prolific berries attract birds and wildlife.			
Celtis occidentalis American Hackberry	Y	20-60'	40-60'	D	Late Summer	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates part shade, wind, and many urban pollutants. Grows in a variety of soil types. Fruit can pose clean up problems if trees are sited near sidewalks or patios. Excellent wildlife tree.			
Fagus grandifolia American Beech	Y	60-80'	40-80'	D	Year round	●	●	●	●	●	●	☀️☀️	●	●	●	●	Prefers moist, well-drained, acid soil. Intolerant of wet or compacted soil. Not for small areas. Difficult to grow lawn or other plants underneath. Smooth, attractive bark.			
Ginkgo biloba Ginkgo, Maiden Tree	N	50-80'	30-45'	D	Year round	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerant of drought, pollution, and salt. Excellent for urban settings and streetscapes. Avoid wet soils. Plant male trees only to avoid messy and foul-smelling fruit. See 'Magyar' and 'Autumn Gold' cultivars for streetscape and median selections.			
Gymnocladus dioica Kentucky Coffeetree	Y	60-80'	40-55'	D	Fall	●	●	●	●	●	●	☀️	●	●	●	●	Prefers full sun and moist, well-drained soil. Tolerates a wide range of soil types. Dependable city tree that is drought and air-pollution tolerant. Seed pods can be messy. Use fruitless varieties in urban contexts: 'Espresso' and 'Stately Manor.'			
Juglans nigra Black Walnut	Y	50-75'	50-70'	D	Fall	●	●	●	●	●	●	☀️	●	●	●	●	Prefers moist, well-drained soils in full sun. Its tree's leaves, stems and roots contain juglone, which inhibits the growth of some plants beneath the tree's dripline. Nuts can be messy in the fall, so use in buffers and natural areas. Excellent for wildlife.			
Juniperus virginiana Eastern Red Cedar	Y	30-40'	10-20'	E	Year round	●	●	●	●	●	●	☀️☀️	●	●	●	●	Will tolerate a variety of soils and growing conditions. Prefers moist conditions but is intolerant of continuously wet soil. Extremely drought-tolerant. Highly salt tolerant. Will proliferate in natural areas and can crowd out other native trees.			
Liquidambar styraciflua American Sweetgum	Y	60-100'	40-50'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates a variety of soils. Moderate drought tolerance once established. Good fall color and ornamental star-shaped leaves. Spiky fruit are a litter problem in lawn areas. Does not tolerate shade.			
Liriodendron tulipifera Tulip Poplar, Tulip Tree	Y	80-120'	30-60'	D	Fall Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Sensitive to heat, drought and has a low compaction tolerance. Prefers moist, well drained soil. Needs a large area and does best in natural landscapes. Shallow root system. Distinct yellow and orange flowers and tulip-shaped leaves.			
Magnolia grandiflora Southern Magnolia	Y	60-80'	30-50'	E	Spring Summer	●	●	●	●	●	●	☀️☀️	●	●	●	●	Highly salt -tolerant. Can tolerate dry soils and moisture, but not frequent flooding. Very tolerant of urban conditions. Provide plenty of space to grow. Showy, magnificent blooms and glossy leaves. See cultivar 'Little Gem' for compact tree.			
Metasequoia glyptostroboides Dawn Redwood	N	60-100'	15-25'	D	Summer Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Prefers moist, well-drained soils that are slightly acidic. Tolerant of wet soils. Needs large area to grow. Can be utilized as a specimen tree for large areas such as parks or golf courses. Can be used as a street tree if given sufficient space.			
Nyssa sylvatica Black Gum, Tupelo	Y	40-70'	20-35'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates many soil types, salt, and moisture conditions, but is slow-growing. Commonly available and performs well as a street tree. Good fall color. Best planted in the spring. Specify fruitless varieties for urban environments.			
Pinus echinata Shortleaf Pine, Old-Field Pine	Y	80-100'	20-40'	E	Year round	●	●	●	●	●	●	☀️☀️	●	●	●	●	Grows best in average, dry to medium, well-drained soils in full sun. Will tolerate a wide range of soils. Very drought tolerant and adaptable. Important timber tree in the South. Supports wildlife.			
Pinus elliotti Slash Pine	Y	70-100'	30-50'	E	Year round	●	●	●	●	●	●	☀️	●	●	●	●	Drought tolerant and salt tolerant. Be mindful of placement as it self-prunes it's lower branches. Does well in naturalized landscapes, along ponds and streams.			
Pinus palustris Longleaf Pine	Y	60-120'	30-40'	E	Year round	●	●	●	●	●	●	☀️	●	●	●	●	Difficult to transplant due to rapidly growing taproot. Can be a specimen or used in mass planting to create a naturalized area. Needles can be used as pine mulch.			

TREES

UPPERSTORY



NAME	BASIC INFORMATION					WHERE TO PLANT					NEEDS			POLLINATOR & WILDLIFE VALUE		NOTES	
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT		DEER RESISTANT
Pinus strobus Eastern White Pine	Y	50-80'	20-40'	E	Year round	●	●				●●	☀	●	●	●	●	Tolerates a wide range of soils. Rapid growth. Use for hedges, borders, and woodland areas. Excellent for wildlife and pollinators. Dwarf varieties available. High flammability; do not plant close to structures.
Pinus taeda Loblolly Pine	Y	60-90'	20-40'	E	Year round	●	●	●			●●●	☀☀	●	●	●	●	Prefers moist to wet soils with poor drainage. Commonly spreads in natural areas by self-seeding. Fastest growing of the pines. Useful for fast screening while it is young and easy to transplant from containers.
Platanus occidentalis American Sycamore	Y	60-80'	75-100'	D	Year round	●	●				●●	☀☀	●	●	●	●	Attractive bark. Not for small areas. Tolerant of clay, sand, loam, alkaline, and wet soils. Pollution and salt tolerant with rapid growth rate. Can be used as an urban tree if planted with sufficient space.
Populus deltoides Eastern Cottonwood	Y	75-100'	35-60'	D	Spring	●					●●	☀	●	●	●		Valuable wildlife tree. Resistant to erosion and wet soil. It is easy to transplant, but is messy and weedy. Roots may damage sidewalks. Best suited to natural areas.
Prunus serotina Black Cherry, Wild Cherry	Y	60-80'	30-60'	D	Spring	●	●				●●	☀	●	●	●		Valuable wildlife tree. Supports many caterpillar species and migrant songbirds. Best in moist, fertile, loamy soil in full sun. Several parts of the plant can be toxic if ingested. Susceptible to insect and disease pests.
Quercus alba White Oak	Y	60-135'	50-80'	D	Fall	●	●				●●	☀☀	●	●	●		Crucial wildlife tree. Supports many caterpillar species and migrant songbirds. Large with classic form and long-lived. Prefers well-drained, loamy, slightly acidic soil. Fairly drought tolerant once established. Avoid wet sites.
Quercus bicolor Swamp White Oak	Y	50-60'	50-60'	D	Fall	●	●	●			●●	☀☀	●	●	●	●	Tolerant of drought, but can be sensitive to soil compaction, salt and pollution. Often planted along ponds, streams or other wet sites, but can be a suitable street tree with sufficient space. Can adapt to a variety of soil conditions.
Quercus coccinea Scarlet Oak	Y	50-80'	45-60'	D	Summer Fall	●	●	●			●●	☀☀	●	●	●		Long-lived, durable, and easy to grow. Will tolerate wide variety of soils if well-drained. Fast-growing for an oak. Has spectacular fall foliage. High-value wildlife plant. Can be used in urban contexts if enough space is provided.
Quercus falcata Southern Red Oak	Y	60-100'	50-60'	D	Fall	●	●	●			●●	☀☀	●	●	●		Drought tolerant but will tolerate occasional flooding. Use this tree for shade in parks and residential areas. The acorns attract a variety of birds and mammals.
Quercus hemisphaerica Laurel Oak, Darlington Oak	Y	40-60'	30-40'	E	Fall	●	●	●	●		●●	☀☀	●	●	●		Leaves are retained through winter until spring. Moderately salt tolerant and prefers dry, sandy soils. Grows rapidly and provides quick shade, but has a shorter lifespan than other native oaks.
Quercus lyrata Overcup Oak	Y	35-60'	35-60'	D	Fall	●	●	●	●		●●	☀☀	●	●	●		Variable leaves and unique acorns provide interest. Requires some pruning to develop good structure. Flood and drought makes it an adaptable urban tree. Compact and disease resistant.
Quercus michauxii Swamp Chestnut Oak	Y	60-80'	30-70'	D	Fall	●	●	●			●●	☀	●	●	●		Adaptable to urban conditions and makes a great shade tree for a larger yard or park. As with most native oaks, it is a high-value wildlife plant. Tolerates wet soils and occasional flooding.
Quercus nuttallii (or Quercus texana) Nuttall Oak	Y	40-80'	30-60'	D	Fall	●	●	●	●		●●	☀☀	●	●	●		Highly adaptable to urban conditions and does well as an urban tree. The acorns mature over 2 seasons and attract birds and small mammals and the tree is a larval host plant for many moths and butterflies
Quercus palustris Pin Oak	Y	50-70'	40-60'	D	Fall	●	●	●	●		●●	☀☀	●	●	●		Can tolerate poorly drained soils and some flooding, but is adaptable to drier and urban conditions. It is shallow-rooted and easily transplanted. Fast-growing. Excellent street and urban tree if given sufficient space.
Quercus phellos Willow Oak	Y	40-75'	25-50'	D	Fall	●	●	●	●		●	☀☀	●	●	●		Adaptable to a variety of soil types including clay soils. It is tolerant of urban pollution. It has a fibrous root system and transplants well. Useful as a shade tree in parks, along ponds, and next to streets when given sufficient space.
Quercus shumardii Shumard Oak	Y	50-70'	30-40'	D	Fall	●	●				●	☀☀	●	●	●	●	Tolerant of urban conditions like drought, compaction, dry soil, and air pollution. Relatively fast-growing, adaptable and drought tolerant. Also tolerates short-term flooding and wind. Has vivid fall color.
Quercus stellata Post Oak	Y	40-50'	35-50'	D	Fall	●	●	●	●		●	☀	●	●	●	●	Tolerant of various soil types and prefers acidic well-drained soil in full sun. Resistant to drought, fire and diseases. Use in the lawn as a shade tree, in naturalized areas or as a street tree with sufficient space. Excellent for wildlife.
Quercus velutina Black Oak	Y	50-80'	40-50'	D	Winter	●	●				●●	☀☀	●	●	●		Can survive in a wide range of soils. Good for dry, wind-swept areas. Slow-growing and lacks brilliant fall color. Extremely valuable as wildlife habitat and as a larval host plant. Rarely used as an ornamental species.
Quercus virginiana Southern Live Oak	Y	40-80'	30-100'	E	Winter	●	●	●	●	●	●●	☀☀	●	●			Leaves do not change color but are retained through winter until new leaves emerge in spring. Excellent shade tree with a broad canopy. Adaptable to clay soil, periodic flooding and salt. Needs little pruning once mature.
Taxodium ascendens Pond Cypress	Y	30-60'	15-20'	E	Spring Summer	●	●	●	●	●	●●	☀☀	●	●	●	●	Narrower and smaller than Bald Cypress. Prefers moist soils but tolerates a wide range of conditions, from dry soils to standing water. Has a large taproot. Will develop "knees" when grown near water.

Recommended Plant List:

TREES

UPPERSTORY



NAME	BASIC INFORMATION						WHERE TO PLANT				NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	INTEREST BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT	
<i>Taxodium distichum</i> Bald Cypress	Y	50-70'	20-30'	D	Spring Summer	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Prefers moist soils but tolerates a wide range of conditions, from dry soils to standing water. Low maintenance with easy fall clean-up. Has a large taproot and is slightly salt tolerant. Will develop "knees" when grown near water.
<i>Tilia americana</i> American Linden, American Basswood	Y	60-80'	30-60'	D	Spring Summer	●	●				●●	☀️☀️	●	●	●		Prefers moist, well-drained soils. Easy to transplant and tolerant of clay soil. Has some drought tolerance once established. Highly valuable pollinator tree that makes excellent honey. Does not tolerant urban conditions.
<i>Ulmus americana</i> American Elm	Y	60-80'	30-60'	D	Spring	●	●	●	●		●●	☀️☀️	●	●	●		Excellent shade tree that adapts to both wet and dry sites. Tolerates urban conditions. Susceptible to Dutch elm disease and other pathogens. Disease resistant cultivars include 'Princeton'; 'Delaware #2'; 'Valley Forge'.

NOTES:

- Streetscape, parking lot, and buffer planting standards for Cary, including upper-story tree requirements, can be found in the [Cary Community Appearance Manual](#).
- For information on stormwater design, green stormwater infrastructure, and planting specifications, refer to the [NC DEQ Stormwater Design Manual](#).
- Although some cultivars have been listed, available species are constantly evolving. Further research may be required to find a suitable cultivar for specific sites.
- NCDOT classifies any tree whose trunk reaches or exceeds 4" diameter (caliper) at maturity qualifies as an immovable object, and therefore is considered a 'large tree'. Large trees should not be planted in the ROW or medians. For more information, see NCDOT [Guidelines for Planting within the Highway Right-of-Way](#).

TREES

UNDERSTORY



NAME	BASIC INFORMATION					WHERE TO PLANT					NEEDS			POLLINATOR & WILDLIFE VALUE		NOTES	
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT		DEER RESISTANT
Acer leucoderme Chalk Maple, Whitebarked Maple	Y	20-30'	15-30'	D	Fall	●	●				●●	☀️☀️	●	●	●		A small, often multi-trunked maple with outstanding salmon to orange fall color. Small size, form, and tolerance for growing in the understory make it an excellent native alternative to Japanese Maple. Fairly tolerant of drought.
Amelanchier x arborea Downy Serviceberry	Y	15-25'	15-25'	D	Spring	●	●	●	●	●	●●	☀️☀️☀️	●	●	●		Multi-stemmed habit. Does well in a broad range of areas and can be used as screening hedge, specimen plant, and shade tree. Drops fruit in summer. Many single-stem cultivars available.
Amelanchier x grandiflora Apple Serviceberry	Y	20-25'	15-20'	D	Spring	●	●	●	●	●	●●	☀️☀️	●	●	●		Multi-stemmed habit. Prune in the fall to prevent the growth of root-suckers, which create a shrub-like form. Shallow-rooted plant that benefits from a layer of mulch to conserve moisture and maintain soil temperature.
Carpinus caroliniana American Hornbeam, Muscledwood, Ironwood	Y	20-30'	20-35'	D	Spring	●	●	●	●	●	●●	☀️☀️☀️	●	●	●		Plant in soil with high organic matter and regular moisture. Does well in heavy shade but tolerates part and full sun. Low salt tolerance. Tolerant of drier sites and periodic flooding. Can be used in rain gardens and urban settings.
Celtis tenuifolia Dwarf Hackberry	Y	6-36'	8-15'	D	Spring	●	●	●	●	●	●	☀️☀️	●	●	●		Thrives in full sunlight and moist, well-drained soil that is high in organic material. Rapidly growing. Will self-seed easily or can be propagated through stem cuttings. Tolerates drought, wind, urban conditions, and poor soils.
Cercis canadensis Eastern Redbud	Y	20-30'	25-35'	D	Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Weather extremes such as drought can cause stress. Does not tolerate root disturbance. Does not need regular watering or fertilization once established. Susceptible to disease. Many excellent cultivars available.
Cercis canadensis var. texensis Texas Redbud	Y	20-30'	15-25'	D	Spring	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Highly drought tolerant once established. Does not tolerate root disturbance. Does not need regular watering or fertilization once established. Can be trained to grow as a single-stemmed tree. Susceptible to disease.
Chamaecyparis thyoides Atlantic White Cedar, Swamp Cedar	Y	30-50'	30-40'	E	Year round	●	●				●●●	☀️☀️	●	●	●		Prefers sandy, peaty, moist to wet, acidic soil in full sun to part shade. Use this plant in wet areas with poor drainage, or along ponds, streams, or boggy sites. Can make a privacy screen when planted in groups.
Chionanthus retusus Chinese Fringetree	N	20-30'	15-25'	D	Spring	●	●	●	●	●	●●	☀️☀️	●	●	●		Many single-stem varieties available. Adaptable to a wide variety of soil types and conditions. Tolerant of air pollution and adapts well to urban settings. White, showy flowers bloom in spring.
Chionanthus virginicus American Fringetree	Y	12-30'	12-20'	D	Spring	●	●	●	●	●	●●	☀️☀️	●	●	●		Multi-stemmed habit. Can be pruned to single-stem. Tolerates clay soil and some drought. Best transplanted when young; rarely needs pruning as they are slow growers. Tolerant of air pollution and adapts well to urban settings.
Cladrastis kentukea American Yellowwood	Y	30-35'	40-45'	D	Spring	●	●	●	●		●●	☀️☀️	●	●	●		Deep roots make transplanting difficult but allows shade-loving plants to grow underneath. Drought tolerant once established. Pruning is often necessary to remove weak branches. Excellent for lawns and designed landscapes.
Cornus florida American Dogwood	Y	12-30'	12-20'	D	Fall Spring	●	●				●●	☀️	●	●	●		Thrives with afternoon shade. Plant in well-drained soil that is high in organic matter and has a slightly acidic to neutral pH. Not tolerant of urban conditions or excessive heat. Susceptible to disease.
Cornus kousa Chinese Dogwood, Kousa Dogwood	N	20-30'	15-30'	D	Year round	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Single and multi-stem varieties available. Becomes more wide-spreading with age. Prefers well-drained soil but tolerates dry soil. Cannot survive waterlogged environments. More cold-hardy and drought resistant than native dogwoods.
Cotinus obovatus American Smoketree	Y	20-30'	20-30'	D	Summer Fall	●	●	●			●●●	☀️☀️	●	●		●	Single or multi-stemmed. Requires extra watering in dry conditions. Prefers well-drained loamy soils but will tolerate clay. Over-watering and over-fertilizing can be detrimental. Avoid planting in areas where soil conditions can remain wet.
Crataegus phaenopyrum Washington Hawthorn, Hawthorn	Y	25-30'	20-25'	D	Fall Spring	●	●	●	●	●	●●	☀️	●	●	●	●	Tolerates urban pollution. Prefers well-drained soil, and is pH adaptable. Has spike-like thorns and strong wood with a gray trunk. Thornless and single-stem varieties are available for streetscape and median applications.
Crataegus virdis Green Hawthorn, Southern Hawthorn	Y	20-35'	20-35'	D	Year round	●	●	●	●	●	●●	☀️	●	●	●		Tolerates urban pollution, light shade, and drought. More disease-resistant than other hawthorns. Tolerates pruning. Thornless and single-stem varieties are available for streetscape and median applications.
Diospyros virginiana American Persimmon	Y	30-80'	20-35'	D	Fall Spring	●	●				●●	☀️☀️	●	●	●		Both male and female trees required to produce fruit. Grows best in moist, well-drained soils in full sun to partial shade. Dropped fruit can be messy and require continued maintenance to clean. Deep taproot makes it difficult to transplant.
Halesia carolina Carolina Silverbell	Y	10-40'	25-35'	D	Spring	●	●				●●	☀️	●	●	●		Grown as a large multi-trunked shrub or trained into a small understory tree. Prefers moist, acidic, organically rich soils in part shade. Requires supplemental irrigation during drought. Sensitive to soil compaction, heat, and salt.
Ilex x attenuata Topal Holly	Y	12-25'	8-18'	E	Year round	●	●				●●	☀️☀️	●	●		●	Grows best in acidic, well-drained soils. Some afternoon shade is needed in hot summer climates. Mulch retains soil moisture and deters weed growth. See cultivars 'Foster' and 'Savannah'. May be difficult to source.
Ilex cassine Dahoon Holly	Y	20-30'	10-15'	E	Winter	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Tolerates wet and shady sites and is moderately salt tolerant. Does not do well when roots are disturbed. Provide winter protection as it becomes established. Leaves lack the spiny edges found on many hollies. Bright berries.

TREES

UNDERSTORY



NAME	BASIC INFORMATION										WHERE TO PLANT			NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT				
Ilex decidua Possumhaw Holly	Y	7-15'	5-12'	D	Fall Winter	●	●	●	●	●	●	☀️☀️	●	●	●	●	Multi-stemmed habit. Adaptable to a variety of soils. For best show of berries, pair female plants with at least one male to ensure pollination. Prune in early spring just before new growth begins. May be difficult to source.			
Ilex opaca American Holly	Y	40-60'	10-20'	E	Winter	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates a range of soil textures and moderately salt tolerant. Tolerates occasionally wet or dry soil and flooding. For optimum growth, avoid poorly drained soils. Tolerant of cold and wind.			
Ilex x 'Nellie Stevens' Nellie Stevens Holly	Y	15-30'	8-25'	E	Winter	●	●	●	●	●	●	☀️☀️☀️	●	●	●	●	Can be trained into a small tree if lower branches are removed. Pruning best done in winter months. Tolerates a range of soil types including heavy clay. Avoid wet sites. Tolerant of drought, air pollution, and heat.			
Halesia diptera Two-winged Silver Bell, American Snowdrop	Y	15-30'	15-25'	D	Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Sensitive to drought but otherwise adaptive to environmental conditions. Can be grown as a large, multi-stemmed shrub or trained as a single trunk tree. The cultivar 'Magnifora' produces more flowers and is more drought-tolerant.			
Ilex vomitoria Yaupon Holly	Y	10-20'	8-12'	E	Winter	●	●	●	●	●	●	☀️☀️☀️	●	●	●	●	Tolerant of a wide range of soil types and can withstand drought, salt spray, and occasional flooding. Can take heavy pruning and transplants easily. Dwarf cultivars are extremely popular and widely available.			
Lagerstroemia species Crape Myrtle, Crepe Myrtle	N	6-30'	6-30'	D	Summer	●	●	●	●	●	●	☀️☀️	●	●	●	●	Multi-stemmed habit with rapid growth. Adaptable to a wide range of soils. Easily transplanted and drought-tolerant once established. Provide adequate mulch to protect roots. Single stem varieties available.			
Magnolia ashei Ashe Magnolia, Ashe's Magnolia	Y	10-15'	8-10'	D	Spring Summer	●	●	●	●	●	●	☀️☀️	●	●	●	●	Large leaves and flowers, similar to the Bigleaf Magnolia but more shrub-like in form. Blooms later in the spring than other magnolias. Thrives in part shade where it's protected from summer sun. Plants flower at a young age.			
Magnolia macrophylla Bigleaf Magnolia	Y	30-40'	30-40'	D	Spring Summer	●	●	●	●	●	●	☀️	●	●	●	●	Small and multi-trunked. Has the largest simple leaves and flowers of any tree indigenous to North America. Grows best in moist, organically rich, well-drained soils. Best in dappled sunlight. Intolerant of dry and wet soils.			
Magnolia x soulangeana Saucer Magnolia	N	15-30'	15-25'	D	Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Can be small tree or large shrub. Prefers consistent moisture in well-drained acidic, organically-enriched soils. Tolerates pollution and needs protection from late frosts. Has a fleshy root system that requires plenty of room.			
Magnolia stellata Star Magnolia	N	15-20'	10-15'	D	Winter Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Multi-stemmed habit. Tolerates clay soil and partial shade. Needs consistent and even moisture in summer, and is intolerant of soil extremes. Intolerant to most urban pollutants and high winds. Slow-growing. Early spring blooms.			
Magnolia tripetala Umbrella Magnolia, Umbrella-tree	Y	15-40'	15-30'	D	Summer Fall	●	●	●	●	●	●	☀️☀️☀️	●	●	●	●	Small and multi-trunked. Large leaves and flowers. Tolerates close to full shade, but will grow in full sun if soils are kept moist. Generally intolerant of soil extremes. Plant in areas protected from strong winds.			
Magnolia virginiana Sweetbay Magnolia	Y	10-35'	10-35'	E	Winter Spring	●	●	●	●	●	●	☀️☀️☀️	●	●	●	●	Single or multi-stemmed. Tolerates wet, swampy, and boggy soils. Moderately salt tolerant. Drops some seed cones in late summer and fall. Evergreen in warmer climates. Compact and cold-tolerant cultivars available.			
Ostrya virginiana Hop-hornbeam	Y	20-40'	15-30'	D	Fall	●	●	●	●	●	●	☀️☀️☀️	●	●	●	●	Easy to grow and succeeds in most soils. Tolerates drought and heavy clay soils, making it low maintenance and appropriate for urban settings. Tolerates flooding but is notoriously sensitive to salt. Slow-growing.			
Oxydendrum arboreum Sourwood, Lily of the Valley Tree	Y	20-30'	20-30'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerant of shade and dry soils and moderately tolerant of salt. Intolerant of pollution and urban areas. Sensitive to drought and has slow growth rate. Does well with the protection of other tall shrubs and trees. Slow-growing.			
Prunus x yedoensis Yoshino Cherry, Japanese Flowering Cherry	N	20-30'	20-50'	D	Spring	●	●	●	●	●	●	☀️☀️	●	●	●	●	Tolerates heat and humidity, but not drought. Adaptable to a wide range of soils. Works well as a street or shade tree in urban landscapes as it does not grow too large. Fragrant pink flowers and weeping habit.			
Sassafras albidum American Sassafras, Cinnamon Wood	Y	30-60'	25-40'	D	Fall	●	●	●	●	●	●	☀️☀️	●	●	●	●	Flowering tree or shrub. Prefers sandy, acidic soils but will adapt to other soils if well-drained. Drought tolerant once established. A large taproot makes transplanting difficult. Distinct mitten-shaped leaves.			

NOTES:

- Streetscape, parking lot, and buffer planting standards for Cary, including understory tree requirements, can be found in the [Cary Community Appearance Manual](#).
- For information on stormwater design, green stormwater infrastructure, and planting specifications, refer to the [NC DEQ Stormwater Design Manual](#).
- Although some cultivars have been listed, available species are constantly evolving. Further research may be required to find a suitable cultivar for specific sites.
- NCDOT classifies any tree whose trunk reaches or exceeds 4" diameter (caliper) at maturity qualifies as an immovable object, and therefore is considered a 'large tree'. Large trees should not be planted in the ROW or medians. For more information, see NCDOT [Guidelines for Planting within the Highway Right-of-Way](#).

Recommended Plant List:

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UNDERSTORY PLANTS



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Abelia x grandiflora (Linnea x grandiflora) Glossy Abelia	N	2.5-8'	3-6'	E	Year round		●	●	●	●	●●	☀️☀️		●		●	Flowering shrub with variety of cultivars available for size and color options. Hardy, drought tolerant, erosion tolerant, deer resistant, and easy to grow, but intolerant to salty soil. Requires very little maintenance once established.	
Aesculus pavia Red Buckeye	Y	15-25'	10-20'	D	Spring	●	●		●		●●	☀️☀️☀️		●		●	Prefers full sun in moist, well-drained soil but will also thrive in partial shade. Grows in a variety of soil types. Drops leaves early. Leaf and fruit drop can be messy.	
Aesculus parviflora Bottlebrush Buckeye	Y	8-12'	8-15'	D	Summer Fall	●	●		●		●●●	☀️☀️		●	●		Multi-stemmed with large blooms. Prefers shade to part shade conditions in rich, well-drained, moist soil. Intolerant of drought, especially at a young age. Spreads to form colonies. Can be used as a hedge in shady areas.	
Agarista populifolia Fetterbush, Florida Doghobble	Y	20-30'	20-35'	E	Spring	●	●				●●	☀️☀️	●	●		●	Grows best in moist, acidic, highly organic soil. Tends to sucker and can be used for stabilization along shady stream banks. Can be maintained at any height with proper pruning. Useful in natural areas. Highly toxic if ingested.	
Aucuba japonica Aucuba, Japanese Laurel, Spotted Laurel	N	6-10'	4-6'	E	Year round		●		●		●●	☀️	●			●	Thrives in shade. Young leaves exposed to the sun will blacken. Soil conditions should have high organic matter with good drainage. Soil can be occasionally wet or dry. Will tolerate poor soils and urban conditions.	
Buxus microphylla var. japonica Japanese Boxwood	N	8-15'	12-20'	D	Spring		●	●	●		●●	☀️☀️	●			●	Prefers well-drained, moist soils. Prefers some shade. Mulch heavily around the roots. Slow-growing and sensitive to over-fertilization. Drought tolerant once established. Susceptible to boxwood blight. Commonly used for hedges.	
Callicarpa americana American Beautyberry	Y	3-15'	3-6'	D	Fall Winter	●	●	●	●	●	●●	☀️☀️	●	●			Grows in variety of soils if there is good drainage. Showy purple berries appear in the fall and persist through winter. Remove old canes for rejuvenation of shrub; flowers and fruits appear on new shoots. Prune in late winter.	
Camellia sasanqua Sasanqua Camellia	N	6-14'	5-7'	E	Fall Winter	●	●	●	●		●●	☀️☀️	●	●			Grows rapidly. Prefers well-drained soils with a neutral to acidic pH. Will grow in clay, loam, or sandy soils and is slightly salt tolerant. Prefers shelter from afternoon sun, wind, and cold. Once established will tolerate drought.	
Ceanothus americanus Mountain Snowbell, New Jersey Tea	Y	2-3'	3-5'	D	Spring, Summer	●	●	●	●	●	●●	☀️☀️		●	●		Grows best in well-drained soils in full sun or partial shade. Drought tolerant once established. Excellent plant for pollinators. Low-ground with a rounded crown. Covered with fragrant clusters of white flowers in early summer.	
Cephalanthus occidentalis Buttonbush	Y	5-8'	3-6'	D	Summer	●	●	●	●	●	●●●	☀️☀️	●	●	●		Prefers consistently moist to wet soils. Can tolerate standing water. Useful for rain gardens, along ponds, streams or wetlands. Adaptable to wide range of soil types but intolerant of dry soil. Tolerant of heat and soil compaction.	
Cephalotaxus harringtonia Plum Yew	N	5-10'	5-14'	E	Year round		●	●			●●	☀️	●	●	●	●	Prefers moist, well-drained soil but tolerates dry, sandy, or clay soil. Needs partial shade and tolerates shade better than most other needed evergreens. Produces plum-like fruit but requires both male and female plants. Drought-tolerant.	
Clethra alnifolia Sweet Pepperbush, Clethra, Summersweet	Y	5-10'	4-6'	D	Summer	●	●				●●●	☀️	●	●		●	Spreads to form small thickets. Aromatic white flower clusters. Blooms in shady locations in late summer. Prefers moist, well-drained, sometimes wet soil. Tolerates short periods of drought and flooding once established. Prune in spring or winter.	
Clethra tomentosa Downy Sweet Pepperbush, Downy White Alder	Y	3-6'	3-6'	D	Summer	●	●		●		●●●	☀️	●	●		●	Prefers part shade and consistently moist, acidic, sandy soils. Soils should not be allowed to dry out. Tolerates clay soils and full shade. Promptly remove root suckers unless naturalized look is desired. Propagate by cuttings. Semi-evergreen.	
Cornus amomum Silky Dogwood, Swamp Dogwood	Y	6-12'	6-12'	D	Spring	●	●	●			●●●	☀️☀️☀️	●	●	●		Multi-stemmed shrub. Better adapted to hot climates than other dogwoods. Prefers well-drained, moist soils. Add mulch to protect plant roots from heat. Thickets will form if not pruned. Effective for erosion control, naturalized and wet sites.	
Cornus racemosa Gray Dogwood	Y	10-27'	10-15'	D	Year round	●	●	●	●	●	●●	☀️☀️	●	●	●		Prefers moist soil but withstands dry, wet, and poor soils. May reproduce by seeds, cuttings, suckers, and division. Will colonize if suckers are not removed. Useful for controlling erosion near ponds or embankments. New growth is red.	
Cyrilla racemiflora American Cyrilla, Ti-ti	Y	8-30'	10-15'	D	Fall Spring	●	●	●			●●	☀️☀️	●	●	●		Prefers moist to wet well-drained sandy loam, high in organic matter in full sun to partial shade. Tolerates drier sites as long as adequate moisture is provided during dry periods. Can form thickets providing cover for wildlife, especially in wet sites.	
Fothergilla gardenii Dwarf Fothergilla, Coastal Witch-alder	Y	1.5-3'	2-4'	D	Fall Spring	●	●	●	●		●●	☀️☀️		●		●	Grows best in rich moist, slightly acidic, organically rich, well-drained soils in full sun to partial shade. Tolerates wet soils, drought, and compaction. Over time it may form colonies and spread through the landscape. Unique bottlebrush flowers.	
Fothergilla major (Fothergilla latifolia) Large Fothergilla, Large Witch-alder	Y	6-12'	6-10'	D	Fall Spring	●	●	●			●●	☀️☀️		●		●	Multi-stemmed with erect habit. Does best in average, well-drained soil, although it is adaptable to various soil types. Drought tolerant and seldom damaged by deer. It may spread by root suckers to form colonies if suckers are not promptly removed.	
Fothergilla x 'Mt. Airy' Dwarf Fothergilla, Mr. Airy Fothergilla	Y	3-6'	3-5'	D	Fall Spring	●	●	●	●		●●	☀️☀️		●		●	Multi-stemmed shrub with showy flowers. Plant in acidic, moist soils with high organic matter with good drainage. Works well in mass plantings, along foundations, and with other acid-loving plants like rhododendrons and blueberries.	
Gardenia jasminoides Gardenia, Cape Jasmine, Cape Jessamine	N	4-8'	4-8'	E	Year round		●	●	●		●●	☀️☀️		●		●	Prefers bright indirect sunlight or partial shade. Plant in rich, acidic, well-drained soil. Avoid competition from tree roots as gardenias have shallow roots and do not tolerate disturbance. Prune in the spring. Moderately drought-tolerant.	

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Hamamelis x intermedia Hybrid Witchhazel	Y	15-20'	8-10'	D	Spring Winter	●	●	●	●	●	●●	☀️☀️	●	●			Upright and wide-spreading. Plant in moist, fertile, well-drained acidic soil. Needs space to grow and should not be crowded. Drought tolerant and adaptable. Many cultivars available for color and size options.
Hamamelis virginiana Common Witchhazel	Y	15-30'	15-20'	D	Fall Winter	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Soil should be moist, acidic, organically rich and well draining. Pruning can be done in early spring but is only needed to maintain it's shape. Witch hazel is intolerant of drought, but it does tolerate heavy clay soil, erosion, and browsing by deer.
Hydrangea arborescens Smooth Hydrangea	Y	3-5'	3-5'	D	Spring Summer	●	●	●	●	●	●●	☀️	●	●			Grown in medium moisture, well-drained soils. Tolerates full sun only if grown with consistent moisture. Can adapt to a variety of soil conditions, but intolerant of drought. Prune to the ground in late winter to revitalize blooms.
Hydrangea quercifolia Oakleaf Hydrangea	Y	4-8'	4-8'	D	Spring Summer	●	●	●	●	●	●●	☀️☀️	●	●			Grows best in organic, well-drained soils with medium moisture. Mulch in summer to keep the soil moist. Blooming occurs on old wood, so prune if needed after flowering. Winter damaged stems may be pruned in early spring.
Hypericum densiflorum Bushy St. John's Wort	Y	2-7'	3-6'	D	Summer	●	●	●	●	●	●●	☀️☀️	●	●	●		Easily grown in average well-drained moist garden soil in full sun to partial shade. Adaptable to a wide range of conditions, including moist and wet soils. Blooms on new growth and can be pruned in the early spring.
Hypericum prolificum Shrubby St. John's Wort	Y	1-6'	1-4'	E	Summer	●	●	●	●	●	●●	☀️☀️	●	●			Grows in a range of soils from sandy to clay and, while it prefers to stay moist, it will tolerate dry soils and drought. Slow-growing. Root pattern is rhizomatous and will spread, but can be kept under control with spring pruning.
Ilex decidua Possumhaw, Possumhaw Holly	Y	7-15'	5-12'	D	Fall Winter	●	●	●			●●	☀️☀️	●	●	●	●	For best show of berries, plant females with at least one male plant to insure that pollination will take place. Heat, drought, and soil compaction tolerant. Heat, drought, and compaction tolerant. Berries provide winter color.
Ilex glabra Inkberry	N	5-10'	5-8'	E	Year round	●	●	●	●	●	●●●	☀️☀️	●	●	●		Moderately salt-tolerant and adaptable to both light and heavy soils. Must plant male and female plants if fruit is desired. Remove root suckers regularly if spread is not desired. Prune to shape in early spring before new growth.
Ilex verticillata Winterberry, Winterberry Holly	Y	3-15'	3-12'	D	Winter	●	●	●	●	●	●●	☀️☀️☀️	●	●	●	●	Requires moist, acidic soil with good drainage. Tolerates heat and soil compaction. Resistant to deer foraging, fire, and salt. To produce berries the plant must be properly cross-pollinated. Dwarf varieties available.
Ilex vomitoria Yaupon, Yaupon Holly	Y	10-20'	8-12'	E	Winter	●	●	●	●		●●	☀️☀️☀️	●	●	●	●	Tolerant of a wide range of soil types and can withstand drought, salt spray, and occasional flooding. Both male and female plants must be present for bright red berries to form. Will form a thicket unless suckers are removed.
Ilex vomitoria 'Nana' Dwarf Yaupon Holly	Y	3-5'	3-6'	E	Winter		●	●	●	●	●●	☀️☀️		●	●	●	Compact form of Yaupon Holly. Grows in both sun and shade, though it will produce more fruit with more sun. Can grow in a wide range of soil and be heavily pruned. Tolerates wet and dry soil and is easily transplanted.
Illicium floridanum Anise Tree, Florida Anise Tree, Purple Anise	Y	6-10'	6-8'	E	Spring	●	●				●●●	☀️☀️		●		●	Multi-stemmed compact form. Prefers moist, well-drained soil with high organic matter. Ideal in a rain garden or allowed to naturalize in shady locations. Grows best in part to full shade. Parts of the plant are toxic if ingested.
Illicium parviflorum Hardy Anise Shrub, Small Anise Tree	Y	10-15'	6-10'	E	Spring	●	●				●●	☀️☀️	●	●		●	Moderately drought tolerant and can tolerate a range of soil types but prefers moist, well-drained soil. Has a vigorous growth rate and is easy to grow. May sucker to form colonies. Parts of the plant are toxic if ingested.
Itea virginica Virgina Sweetspire, Itea, Virginia Willow	Y	4-8'	3-6'	D	Spring	●	●	●			●●	☀️	●	●		●	Prefers moist, rich, slightly acidic soils but tolerates a wide range of soil conditions and pHs. Best flowering occurs with 4 hours of sun per day. Can form dense colonies by root. Dwarf varieties typically easier to find commercially.
Juniperus x pfitzeriana Chinese Juniper	N	5-7'	8-10'	E	Year round		●	●	●	●	●●	☀️☀️				●	Wide-spreading and compact. Some cultivars can serve as a spreading groundcover. Tolerates a variety of conditions such as drought, erosion, dry, shallow-rocky, or clay soil, and air pollution. Intolerant of wet soils.
Juniperus davurica 'Expansa' Parson's Juniper	N	2-3'	4-7'	E	Year round		●	●	●	●	●	☀️☀️		●		●	Has excellent heat tolerance, can handle fair amounts of shade, and thrives in most soils from slightly acidic to slightly alkaline. Extremely adaptable. Sun is required for best ground coverage. Easy to transplant.
Lindera benzoin Spice Bush	Y	6-10'	6-10'	D	Spring	●	●	●			●●	☀️		●	●		Easily grown in well-drained soils in part shade. Fall color is best with more sun. Tolerates full shade, but habit becomes more open and wide-spreading. Also tolerant of full sun, but good soil moisture is required.
Myrica cerifera Southern Wax Myrtle, Bayberry	Y	20-25'	8-10'	E	Year round	●	●	●			●	☀️☀️	●	●	●		Once established in the landscape it will grow in a wide range of soil conditions ranging from wet swampy areas to dry uplands. Will spread to form colonies in optimal growing conditions. Adaptable to urban environments.
Osmanthus americanus (Cartrema americana) American Olive, Tea Olive, Devilwood	Y	10-30'	6-30'	E	Spring	●	●				●●●	☀️☀️☀️	●	●		●	Small tree or large shrub. Tolerates a range of soil conditions as well as wind. It prefers partial shade and moist, well drained soil. Takes well to pruning and can be shaped as desired.
Osmanthus x fortunei Fortune's Osmanthus, Fortune's Tea Olive	N	15-20'	6-10'	E	Summer Fall	●	●	●			●●	☀️☀️		●		●	Prefers full sun and moist, well-drained, acidic soil. It is tolerant of alkaline soils, pollution, and part-shade. It has a slow growth rate and seldom produces fruits. Drought tolerant and slightly salt tolerant.

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Podocarpus macrophyllus Japanese Yew, Chinese Yew	N	15-50'	6-8'	E	Year round	●	●			●●	☀️☀️	●		●			Prefers rich, slightly acidic, moist, well-drained, fertile soils in full sun to part shade. Tolerant of shade but intolerant of wet soils. Slow-growing. Adapts well to pruning and shearing. No serious pest or disease problems.
Rhododendron (native deciduous) Rhododendron (Native)	Y	4-20'	6-10'	D	Spring Summer	●	●			●●●	☀️	●	●				Variety of species displaying different colors and growth habits. Plant in part shade environments. Requires organic, acid soil. Shallow-rooted and should be mulched. Lightly prune after flowering.
Rhus aromatica Fragrant Sumac	Y	2-6'	6-10'	D	Fall	●	●	●	●	●	☀️☀️	●	●	●	●		Spreads by root suckers and forms colonies and thickets. Prefers acidic soils but is tolerant of most soil types except for poorly drained areas. Drought tolerant. The stems will root easily when they come in contact with the soil.
Rhus copallinum Dwarf Sumac, Winged Sumac	Y	7-15'	10-20'	D	Summer Fall	●	●			●	☀️☀️	●	●	●			Spreads by root suckers to form colonies and thickets. Tolerant of a wide range of soil types, including poor soils. Doesn't tolerate wet sites. Good for naturalized areas and slope stabilization. Important food source for wildlife.
Rhus glabra Smooth Sumac	Y	9-15'	9-15'	D	Fall	●	●			●●	☀️☀️	●	●	●			Drought tolerant and is often found in disturbed areas and open woodlands. Tends to spread by suckers and forms dense colonies. It is adaptable to most soil types. Best utilized in naturalized areas or on slopes to control erosion.
Rhus typhina Staghorn Sumac	Y	8-25'	8-25'	D	Fall	●	●			●●	☀️	●	●	●			Forms thickets in the wild via self-seeding and root suckering. Easily grown in a wide range of soils as long as they are well-drained. Generally tolerant of urban conditions and drought.
Rosa carolina Carolina Rose	Y	1-5'	1-5'	D	Spring	●	●			●●●	☀️☀️	●	●	●			Grow in average, medium to wet, well-drained soil. Forms a deep taproot with rhizomes that sucker easily. Best flowering and disease resistance occur in full sun though it will survive in partial shade. Water deeply and regularly.
Sambucus canadensis Elderberry	Y	5-12'	6-12'	D	Spring	●	●			●●	☀️☀️	●	●				Tolerates a wide variety of wet to dry soils but prefers rich, moist, slightly acidic soil. Plants will spread and form thickets if not removed. Best used in naturalized areas, as a hedge, in woodlands, or along streams.
Sarcococca hookeriana var. dygyna Sarcococca, Sweetbox, Himalayan Sweetbox	N	1-2'	2-4'	E	Year round		●	●	●	●●●	☀️☀️		●				Dwarf, compact, and low-growing. Spreads to form a colony. Established plants are drought tolerant. Pruning is needed in the spring after blooming to maintain the shrub's shape. Can be planted under trees and tolerates shade.
Vaccinium arboreum Sparkleberry, Farkleberry, Tree Sparkleberry	Y	8-15'	4-10'	D	Spring Summer	●	●	●	●	●●	☀️☀️	●	●	●			Drought and heat tolerant. Can be used as a privacy screen or hedge when used in a mass planting. Supports specialized bees and butterflies. May be susceptible to chlorosis on high alkaline sites.
Viburnum acerifolium Mapleleaf Viburnum	Y	4-6'	2-6'	D	Spring Fall	●	●	●	●	●●	☀️		●	●			Prefers moist, acidic well-drained soils. More shade tolerant than other viburnums. Tolerant of heat, drought, and soil compaction. More than one genetic strain is needed for a good fruit set. Large, maple-like leaves.
Viburnum dentatum Arrowwood Viburnum	Y	5-10'	6-10'	D	Spring Fall	●	●	●	●	●●	☀️☀️		●	●			Plant in moist, well-drained soil in full sun to partial shade. Will tolerate a variety of soil and pH types. Tolerant of heat, drought, and soil compaction once established. More than one genetic strain is needed for a good fruit set.
Viburnum nudum Possumhaw Viburnum, Smooth Witherod	Y	5-12'	5-12'	D	Spring Fall	●	●			●●●	☀️☀️		●	●			Prefers sun to part shade in acidic, moist, well-drained soils but can be adaptable. Tolerant of heat, drought, and soil compaction once established. Prune lightly only as needed in fall. Plant in groups for best fruit display.
Viburnum obovatum Small Leaf Arrowwood, Walter's Viburnum	Y	8-25'	6-10'	E	Spring Fall	●	●	●		●●	☀️☀️		●		●		Evergreen to semi-evergreen with a dense rounded form. Plant in moist, well-drained soils. Thrives with afternoon shade. May spread by suckers to form thickets. Use as a hedge or in naturalized areas. Dwarf cultivars available.
Viburnum prunifolium Blackhaw, Nannyberry	Y	12-20'	6-15'	D	Spring Fall	●	●			●●	☀️☀️	●	●	●			Prefers moist to dry well-drained soils. Will grow in deep shade but will rarely bloom. Adaptable to soil types and pHs. Drought tolerant and does well in urban conditions. Can be pruned to a tree form. High-value wildlife plant.
Yucca filamentosa Needle Yucca, Adam's Needle	Y	3-8'	3-5'	E	Spring Summer	●	●	●	●	●	☀️		●	●	●		Prefers coarse sandy soil that is well-drained but tolerates other soil types. Tolerant of drought, heat, and urban conditions. There are several cultivars available with variegated leaves. Straight species may be hard to find.

NOTES:

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- Although some cultivars have been listed, available species are constantly evolving. Further research may be required to find a suitable cultivar for specific sites.

Recommended Plant List:

GROUNDCOVERS & PERENNIALS

UNDERSTORY PLANTS



NAME	BASIC INFORMATION							WHERE TO PLANT				NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT		
Amsonia hubrichtii Arkansas Bluestar, Bluestar, Arkansas Amsonia	Y	2-3'	2-3'	D	Spring	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Forms upright clumps on feathery green foliage. Easily grown in medium, well-drained soil. Tolerates poor soils and some drought. Plant becomes floppy if grown in too much shade or too rich soils. Cut back after flowering.	
Aquilegia canadensis Wild Columbine, Eastern Columbine	Y	1-3'	1-3'	D	Spring		●	●			●●	☀️	●	●	●	●	Prefers part shade conditions but can tolerate more sunlight with adequate moisture. Has unique and brightly colored bell-shaped flowers. Self-seeding. Use in naturalized areas, shady gardens, and pollinator gardens.	
Asclepias angustifolia 'Sonoita' Arizona Milkweed, Sonoita Narrow-Leaf Milkweed	Y	2'	2-3'	D	Spring Summer	●	●	●	●	●	●●	☀️	●	●	●	●	Native to Arizona and Mexico. Ever-blooming milkweed that re-sprouts from a semi-woody base and flowers non-stop from late April to September. Favored among milkweeds by monarchs. Tolerates heat and drought.	
Asclepias purpurascens Purple Milkweed	Y	2-3'	1-3'	D	Spring Summer	●	●	●	●	●	●●	☀️	●	●	●	●	Perennial wildflower similar to common milkweed with deep purple and rose-pink flowers. Spreads through rhizomes but not as aggressive as common milkweed. Very good host for monarchs. Drought and deer tolerant.	
Asclepias tuberosa Butterfly Weed	Y	1-3'	1-2'	D	Spring Summer	●	●	●	●	●	●	☀️	●	●	●	●	Herbaceous perennial. Best planted in full sun in dry to medium soils, but it can also tolerate drought and poor soils. Larval food source for the monarch butterfly. Excellent for pollinator gardens and naturalized areas.	
Baptisia spp. False Indigo, Baptisia, Wild Indigo	Y	3-4'	2-4'	D	Spring Summer	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Herbaceous perennial with upright and bushy appearance. Drought tolerant once established. Tolerates heat, humidity, and poor soils. Best cultivars for the Piedmont include <i>B. albescens</i> , <i>alba</i> , <i>minor</i> , <i>repens</i> , <i>virginiana</i> .	
Conoclinium greggii Gregg's Mistflower, Palm-Leaf Mistflower	Y	1.5-2'	1-2'	D	Summer Fall		●	●	●	●	●●	☀️☀️	●	●	●	●	North American wildflower. Can tolerate dry to medium soils with good drainage. Spreads by rhizomes and self-seeding but less aggressive than Blue Mist Flower. Good for groundcover, naturalized areas, or rain gardens.	
Echinacea purpurea Coneflower, Purple Coneflower	Y	2-5'	1.5-3'	D	Summer Fall	●	●	●	●	●	●	☀️	●	●	●	●	Herbaceous purple perennial that is adaptable to drought, heat, humidity and poor soil. Prefers full sun and well-drained soil. Plants will rebloom without deadheading. Will self-seed if seed heads are allowed to drop.	
Erigeron pulchellus Robin's Plantain	Y	1.5-2'	1.5-2'	D	Spring Summer		●	●	●	●	●	☀️☀️	●	●	●	●	Low-growing daisy-like flowers. Great groundcover for shady areas. 'Lynnhaven Carpet' and 'Meadow Muffin' cultivars are well-adapted to the Piedmont. Tolerates heat, humidity, and poor soils. Requires good drainage.	
Euthamia caroliniana Slender Fragrant Goldenrod, Slender Goldenrod	Y	1-3'	1-2'	D	Summer Fall	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Spreads by rhizomes to form attractive clumps. Tolerant of most soils and poorly drained sites. Use in naturalized areas, pollinator gardens, and along ponds, streams, and wetlands. Has special wildlife value for native bees.	
Eutrochium dubium Coastal Plain Joe Pye Weed	Y	3-6'	2-4'	D	Summer	●	●	●	●	●	●●●	☀️☀️	●	●	●	●	Herbaceous perennial. Grows easily in a variety of soils. Compact varieties such as 'Little Joe' available for smaller spaces. Spreads by self-seeding. Works well in meadows, naturalized areas, and rain gardens.	
Eutrochium fistulosum Joe Pye Weed	Y	4-7'	2-3'	D	Summer	●	●	●	●	●	●●●	☀️☀️	●	●	●	●	Herbaceous perennial. Plant in full sun and moist to wet soil. Makes excellent addition to a rain garden, cottage garden, or naturalized area. Cut back in late winter. Extremely valuable wildlife and pollinator plant.	
Gaillardia aestivalis Sandhills Gaillardia, Lanceleaf Blanket Flower	Y	1-1.5'	8"-1'	D	Summer Fall		●	●	●	●	●	☀️	●	●	●	●	Fast-growing, long-lived perennial that is incredibly drought tolerant and thrives in full sun without additional irrigation. Late season flowering attracts pollinators and seeds are eaten by birds. Will self-seed in a garden.	
Helianthus angustifolius Swamp Sunflower	Y	5-8'	2-4'	D	Fall	●	●	●	●	●	●●	☀️	●	●	●	●	Prefers full sun and moist, well-draining soil, but can tolerate partial shade and occasionally wet soil. Can grow tall so best for back of a garden bed or naturalized landscape. Can be pruned for denser form. Yellow blooms.	
Heuchera spp. Heduchera, Coral Bells, Alumroot	Y	6"-2'	6"-2'	E	Summer		●	●	●	●	●●	☀️☀️☀️	●	●	●	●	Evergreen to semi-ever green depending on climate and genus. Divide every 3-4 years to extend life of the plant. Colorful foliage and bell-shaped flowers. Many subspecies and cultivars are available for a wide variety of sites.	
Hibiscus hybrid Hardy Hibiscus, Rose Mallow, Swamp Mallow	Y	4-8'	3-6'	D	Summer Fall	●	●	●	●	●	●●	☀️	●	●	●	●	Grown in medium to wet soils. Large, tropical-looking flowers grow on erect stems. Deep and consistent watering is advised. Deadhead individual flowers immediately to maintain plant appearance. Many cultivars available.	
Hypericum hypericoides ssp. multicaule Reclining St. Andrew's Cross, Low St. John's-wort	Y	6"-1'	1-3'	D	Spring Summer		●	●	●	●	●	☀️☀️☀️	●	●	●	●	Low-growing, mounding perennial. Grows well in medium or loamy, well-drained soil. Thrives in partial shade but full sun will enhance blossoming. Resistant to dry soils. No known pests or diseases. Low-maintenance.	
Iris cristata Dwarf Crested Iris	Y	4-9"	6"	D	Spring		●	●	●	●	●●	☀️☀️	●	●	●	●	Herbaceous perennial. Thrives in moist, well-draining soils. Clustering and low-growing habit makes it an excellent ground cover. Best planted in woodland and shade garden. Large purple, violet, white, and blue flowers.	
Juniperus horizontalis Creeping Juniper	Y	6"-1.5'	4-10'	E	Year round		●	●	●	●	●	☀️	●	●	●	●	Fairly adaptable to various soil types and pH as long as the soil is well drained. Drought and salt tolerant. Tolerates heat, moderately poor soils, and many air pollutants found in urban areas. Many cultivars available.	
Liatris spicata Blazing Star, Snakeroot	Y	3-6'	6"-2'	D	Summer	●	●	●	●	●	●●	☀️☀️	●	●	●	●	Clump-forming herbaceous perennial. Prefers medium to moist well-drained soils. Tolerates heat and humidity. Striking spikes of flowers bloom on erect stems. Attractive addition to pollinator garden and rain garden.	
Lobelia cardinalis Cardinal Flower	Y	2-4'	1-3'	D	Summer Fall	●	●	●	●	●	●●●	☀️☀️	●	●	●	●	Herbaceous perennial. Prefers moist or wet soils in full sun to partial shade. Tolerant of flooding. Tubular flowers attract butterflies and hummingbirds. Good choice for rain gardens, wetlands, and naturalized areas.	

Recommended Plant List:

GROUNDCOVERS & PERENNIALS

UNDERSTORY PLANTS



NAME	BASIC INFORMATION							WHERE TO PLANT				NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT		
Monarda fistulosa Wild Bergamot, Bee Balm	Y	2-5'	1-3'	D	Summer Fall	●	●	●	●	●	●	☀		●	●	●	Herbaceous perennial. Prefers dry soil and full sun. More drought tolerant than other <i>Monarda</i> . Will naturalize and spread over time. Excellent pollinator plant for native bees. Showy flowers. Susceptible to powdery mildew.	
Monarda punctata Spotted Beebalm	Y	2-3'	1.5-3'	D	Summer	●	●	●	●	●	●	☀		●	●	●	Herbaceous perennial. Prefers dry soil and full sun. Will naturalize and spread over time. Excellent pollinator plant for native bees. Good choice for meadows, prairies, and pollinator gardens. Susceptible to powdery mildew.	
Pachysandra procumbens Allegheny Spurge, Mountain Spurge	Y	6"-1'	1-2'	E	Year round		●			●	●	☀☀		●	●	●	Requires shade and well-drained soils for healthy growth. Too much sun yellows foliage. Spreads slowly to form colonies. Perfect for shade gardens and underplantings for shrubs. Hardy and low-maintenance. Attractive foliage.	
Penstemon digitalis Foxglove Beardtongue, White Beardtongue	Y	2-4'	1-2'	D	Spring Summer	●	●		●	●	●	☀		●	●	●	Clump-forming perennial. Prefers well-drained, moist to dry soils. Tolerant of occasional drought and flooding once established. Avoid overly wet, poorly drained sites. Can spread rapidly. Many subspecies and cultivars available.	
Polystichum acrostichoides Christmas Fern	Y	1-3'	1-3'	E	Year round	●	●				●	☀☀	●				Perennial evergreen. Requires shade and organically rich, well-drained soils for healthy growth. Will not spread or naturalize, but clumps will get larger over time. Best grown in woods, along stream banks, and on slopes.	
Phlox divaricata Blue Phlox	Y	6"-1'	10"-2'	E	Spring, Summer		●		●		●	☀☀		●			Blooms for a month from late spring to summer. Grows best in light to medium shade and moist, well-drained soils. Drought tolerant once established. Self-seeds to form a carpet of flowers. Rabbits are attracted to the foliage.	
Phlox subulata Moss Phlox, Creeping Phlox	Y	6"	2-3'	E	Spring		●	●	●	●	●	☀☀		●		●	Herbaceous perennial with dense mat-like habit. Prefers moist, well-drained soils and full sun to dappled shade. Cut back the stems by 1/2 when flowering is completed to maintain growth. Tolerant of drought and pollution.	
Phyla nodiflora Frogfruit, Texas Frogfruit, Turkey-Tangle Frogfruit	Y	6"	2-3'	E	Spring Summer		●	●	●	●	●	☀		●	●	●	Extremely adaptable ground cover. Thrives in poorly drained and dry locations. Can tolerate drought and flooding. Spreads vigorously to form a mat of dark green foliage covered with lavender flowers from April until hard freeze.	
Pycnanthemum flexuosum Appalachian Mountain Mint	Y	2-3'	1-3'	D	Summer	●	●				●	☀☀		●	●	●	Forms clumping pattern on erect stems. Prefers rich, loamy, moist soil with good drainage. Can tolerate drier soil once established. Grows slowly by underground rhizomes. Works well in rain gardens, on slopes, and in naturalized areas.	
Pycnanthemum incanum Hoary Mountain Mint, Mountain Mint	Y	3-6'	2-4'	D	Summer	●	●		●		●	☀☀		●	●	●	Clump-forming perennial. Drought tolerant but foliage may scorch if exposed to too much sun. Self-seeds easily: beware of rapid spreading and control by division. Long stems may flop over. Valuable to native bees.	
Pycnanthemum tenuifolium Narrowleafed Mountain Mint	Y	2-4'	2-4'	D	Summer Fall	●	●		●		●	☀☀		●	●	●	Dense, compact, and easy to grow. Spreads less aggressively than other mountain mint species and can be controlled by division. Prefers medium soil moisture. Can be used in a rain, pollinator, or sensory garden.	
Rudbeckia fulgida Black-eyed Susan, Orange Coneflower	Y	2-5'	1-2'	D	Summer Fall	●	●	●	●	●	●	☀		●	●		Herbaceous yellow perennial that is adaptable to heat and drought once established. Prefers full sun and well-drained soil. Tolerates dry soil, clay soil, and urban environments. Plants will spread slowly in the landscape.	
Salvia lyrata Lyreleaf Sage	Y	1-2'	6"-1'	D	Spring Fall		●	●	●	●	●	☀☀		●	●		Plant in medium-moist, well-drained soil. Tolerates heat and humidity, as well as occasional flooding and drought once established. Reseeds easily in loose, sandy soil. Tolerance for mowing makes it an excellent lawn alternative.	
Spigelia marilandica Woodland Pink	Y	2-3'	1-2'	D	Summer		●				●	☀☀		●			Red flowers in late spring through summer provide color when most other flowers have faded in shady locations. Good varieties for the South include 'Little Redhead' and 'Ragin Cajun.' Drought tolerant. Toxic if ingested.	
Tiarella cordifolia Foamflower	Y	6"-1'	1-2'	D	Spring		●				●	☀☀		●		●	Herbaceous perennial. Prefers moist, well-draining soil and part sun to full shade. Clump-forming and spreads by underground rhizomes. Has ornamental spiked flowers and heart-shaped foliage. Popular native groundcover.	
Symphotrichum georgianum Georgia Aster	Y	1.5-3'	3-4'	D	Summer Fall		●	●	●	●	●	☀		●	●		Prefers full sun in well-drained soils. Considered a threatened species due to habitat destruction. Works well in perennial borders and native meadow gardens. Regarded as the aster with the brightest, most vivid flowers.	
Symphotrichum grandiflorum Big-Headed Aster, Largeflower Aster	Y	1-3'	1-3'	D	Summer Fall		●	●	●	●	●	☀		●	●		Grows in dry woodland areas, along roadways, and in disturbed sites. Can tolerate occasionally dry soils. Good drainage is preferred. Supports native bees and butterflies. Striking purple flowers appear in the fall.	
Symphotrichum oblongifolium Aromatic Aster	Y	1-3'	1-3'	D	Summer Fall		●	●	●	●	●	☀		●	●		Drought tolerant herbaceous perennial. Requires well-drained to dry soil. Will bloom until last frost. Grows into a compact, self-supporting mound with small, purple flowers. Can spread over time so prune after it does dormant.	
Vernonia noveboracensis New York Ironweed	Y	3-8'	2-3'	D	Summer	●	●		●		●	☀	●	●	●	●	Herbaceous perennial that prefers full sun and moist to wet soils. Commonly planted around retention ponds and rain gardens. Tolerant of clay soil. Prune in spring to maintain shorter height. Deep purple flowers.	

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3. Although some cultivars have been listed, available species are constantly evolving. Further research may be required to find a suitable cultivar for specific sites.
4. Native plant recommendations sourced from the [North Carolina Wildlife Federation](#) and the [North Carolina Native Plant Society](#).

Recommended Plant List:

GRASSES & SEDGES

UNDERSTORY PLANTS



NAME	BASIC INFORMATION						WHERE TO PLANT					NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT		
Andropogon gerardii Big Bluestem	Y	5-7'	2-3'	D	Summer Fall	●	●	●	●	●	●	☀	●	●	●		Perennial ornamental grass. Drought tolerant and easy to maintain. Good choice for prairie, meadow and naturalistic plantings. Grows well in a variety of soils, including poor soils. Excellent fall color and textural blooms.	
Bouteloua curtipendula Side-oats Grama	Y	1-3'	1-3'		Fall	●	●	●	●	●	●	☀☀	●	●	●		Clump-forming warm-season grass. High drought tolerance. An attractive grass good for wildflower meadows, prairie restorations, and garden accents. Spreads by rhizomes. Base foliage often turns red or purple in the fall.	
Carex appalachica Appalachian Sedge	Y	6"	6"-1'	E	Year round		●	●			●	☀☀			●		Requires shade in warmer regions. Best grown in well-drained soil. Clump-forming. A graceful, native sedge for masses, slopes, and as a lawn alternative. Will not tolerate foot traffic. Drought tolerant once established.	
Carex cherokeensis Cherokee Sedge	Y	6"	6"-1'	E	Year round		●	●		●	●	☀			●		Can handle sun but prefers some shade. Excellent foundation in the landscape, particularly in meadow gardens, rain gardens, ground covers, natural areas, and in alternatives to traditional plantings. Clump-forming.	
Carex laxiculmis Creeping Sedge	Y	6"-1'	1-1.5'	E	Year round		●	●	●	●	●	☀☀			●		Semi-evergreen to evergreen sedge that performs well in medium to wet sites. Plant in soil that's been amended with organic matter. Will perform best if cut down in late winter. Heat tolerant and can flourish in dry conditions.	
Chasmanthium latifolium River Oats, Northern Sea Oats	Y	2-5'	1-3'	E	Year round	●	●	●	●	●	●	☀	●	●	●	●	Grows in moist to wet, well-drained soils. Fairly tolerant of shade for an ornamental grass. Use in naturalized areas, along streams, wetlands, rain gardens. Be mindful of placement: can spread aggressively as it self-seeds.	
Muhlenbergia lindheimeri Texas Muhly Grass, Lindheimer's Muhly, Big Muhly	Y	2-5'	2-3'	E	Year round	●		●	●	●	●	☀	●	●			Heat and drought tolerant southwestern native grass. Tightly clumping 4' tall yet graceful grass with fall flowering. Foliage persists through winter. Can grow tall enough for screening. The cultivar 'Pink Flamingos' is readily available.	
Muhlenbergia sericea (capillaris) Pink Muhly Grass	Y	3'	3'	D	Summer Fall	●	●	●	●	●	●	☀	●		●		Showy, ornamental pink blooms. Clump-forming perennial. Good choice for low-water landscapes. Needs well-drained soil, full sun, and dry conditions. May suffer in shade or wet conditions. See 'White Cloud' for white blooms.	
Juncus effusus Common Rush, Soft Rush	Y	3-4'	2-3'	E	Summer	●	●			●	●	☀	●	●		●	Can be evergreen in warmer climates. Requires well-drained soil but can tolerate standing water. Useful for rain gardens, along streams and wetlands. Do not allow to dry out. May spread vigorously so be mindful of placement.	
Nassella tenuissima Mexican Feather Grass	N	1.5-3'	2'	E	Year round	●	●	●	●	●	●	☀	●				Ornamental with fine texture. Requires full sun and dry soil. Cool-season grass that retains color year round. Best used in managed landscapes where spreading can be controlled. Extremely drought tolerant. Low-maintenance.	
Panicum virgatum Switchgrass, Panic Grass, Wild Redtop	Y	3-7'	2-3'	D	Year round	●	●	●	●	●	●	☀	●	●	●	●	Forms large clumps that spread slowly by rhizomes. Excellent fall foliage and winter interest. Prune in late winter to early spring. Tolerant of occasional flooding, drought, erosion, and pollution. Effective for screening and borders.	
Pennisetum alopecuroides Fountain Grass	N	3-4'	4-6'	D	Year round		●	●	●	●	●	☀	●			●	Prefers full sun and well drained soil. Fast growing. Drought tolerant and low maintenance once established; cut back before new growth appears in spring. Bottlebrush plumes appear from mid-summer to fall. Excellent fall color.	
Rhynchospora colorata (latifolia) White-top Sedge, Star Sedge	Y	1-2'	2-3'	E	Summer		●		●	●	●	☀☀		●			Evergreen grass-like groundcover useful for moist areas. Grows in a wide variety of soils, with or without drainage. Provides attractive white inflorescences all summer long. Spreads by rhizomes. Propagate by dividing.	
Schizachyrium scoparium Little Bluestem	Y	2-3'	2-3'	D	Year round	●	●	●	●	●	●	☀	●				Thrives in full sun and tolerates poor soil, but does not tolerate wet conditions. Provides interest to the landscape year round with texture and seasonal color. Cut back in spring before new growth emerges.	
Sisyrinchium angustifolium Narrowleaf Blue-eyed grass	Y	1.5-2'	6"-1'	E	Spring		●		●	●	●	☀☀		●		●	Grows from rhizomes; though in the iris family, looks like grass when not in bloom. Prefers moist to average soil. Being a self-seeding plant, it should be cut down after blooming in order to avoid unwanted spread. Easy to grow.	
Sisyrinchium nashii 'Suwannee' Nash's Blue-eyed grass	Y	8-12"	1-3'	E	Spring		●		●	●	●	☀☀		●		●	Long-lived densely clumping Blue-eyed Grass that does not form fertile seed or spread across the landscape. A perfect replacement for Liriope or Ophiopogon and does very well in full to partial sun. Drought tolerant.	
Sorghastrum nutans Indiangrass, Yellow Prairie Grass	Y	5-8'	1-3'	D	Summer Fall	●	●	●	●	●	●	☀	●	●			Drought-tolerant ornamental grass ideal for meadows, naturalized areas, and rain gardens. Tolerant of a wide range of soils and moisture conditions. Grow in well-drained soil. Excellent for soil stabilization and erosion control.	

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Recommended Plant List:

VINES

UNDERSTORY PLANTS



NAME	BASIC INFORMATION										WHERE TO PLANT			NEEDS			POLLINATOR & WILDLIFE VALUE			NOTES
	NATIVE	HEIGHT	SPREAD	EVERGREEN/DECIDUOUS	SEASONAL INTEREST	BUFFER	LANDSCAPE	PARKING LOT	STREETSCAPE	MEDIAN	WATER	LIGHT	HABITAT	FOOD SOURCE	HOST PLANT	DEER RESISTANT				
<i>Aristolochia tomentosa</i> Common Dutchman's Pipe, Woolly Pipevine	Y	20-30'	5-10'	D	Spring Summer	●	●	●	●	●	☀	●	●	●	●	●	Deciduous, woody, climbing, and twining vine. Host plant for Pipevine Swallowtails. Easily grown in moist soil in full sun to partial shade with support. Ideal for arbor, trellis, and privacy screen. All parts of the plant are toxic if ingested.			
<i>Bignonia capreolata</i> Crossvine, Trumpet Flower	Y	30-50'	6-9'	E	Winter Spring	●	●	●	●	●	☀	●	●	●	●	●	Tropical-looking plant that climbs using tendrils to wrap around support structures. Tolerates a wide variety of conditions but prefers organically rich, well-drained soil. Semi-evergreen glossy leaves may persist through winter.			
<i>Campsis radicans</i> Trumpet Vine, Trumpet Creeper	Y	30-40'	4-10'	D	Summer	●	●	●	●	●	☀☀	●	●	●	●	●	Dense, vigorous, multi-stemmed, woody vine that attaches itself to structures and climbs by aerial rootlets. Easily grown in a wide variety of soils. Can easily spread to form heavy, dense masses. Mow suckers regularly to contain.			
<i>Clematis spp.</i> Clematis, Leatherflower	Y	6-18'	3-6'	D	Spring Summer	●	●	●	●	●	☀☀	●	●	●	●	●	Prefers full sun with afternoon shade in hot climates. Prefers moist, well-drained soil. Shade roots with mulch or a groundcover planting. Water thoroughly. Note that Japanese Clematis, <i>Clematis terniflora</i>, is prohibited.			
<i>Gelsemium sempervirens</i> Carolina Jasmine, Carolina Jessamine	Y	10-20'	20-30'	E	Spring Fall	●	●	●	●	●	☀	●	●	●	●	●	Best grown in moist, organically rich, well-drained soils in full sun. Although it will tolerate light shade, best flowering and growth occur in sun. Tolerates wind and is moderately tolerant of salt, wet soil, or short periods of drought.			
<i>Lonicera sempervirens</i> Coral Honeysuckle, Trumpet Honeysuckle	Y	10-20'	3-6'	D	Spring Summer	●	●	●	●	●	☀☀	●	●	●	●	●	Vigorous twining vine. Grows in medium moisture, well-drained, neutral to acidic soils in full sun. It will grow in some shade, but best flowering is in full sun. Flowers on new growth, so avoid pruning until after bloom period.			
<i>Parthenocissus quinquefolia</i> Virginia Creeper	Y	30-50'	5-10'	D	Fall	●	●	●	●	●	☀☀	●	●	●	●	●	Vigorous tendril-climbing vine. Clings to surfaces by adhesive holdfasts. Grow in medium moisture, well-drained soils. Tolerant of wide range of soils. Can quickly take over gardens and landscapes so choose location carefully.			
<i>Passiflora incarnata</i> Passion Flower, Maypop	Y	20-30'	4-10'	D	Summer Fall	●	●	●	●	●	☀☀	●	●	●	●	●	Rapid-growing, trailing vine that climbs by axillary tendrils. Tolerant of drought. A loose mulch can help to keep roots cool. Under optimum growing conditions it spreads by root suckers to cover large areas. Fruit is edible.			
<i>Wisteria frutescens</i> American Wisteria	Y	15-40'	4-8'	D	Summer	●	●	●	●	●	☀	●	●	●	●	●	Prefers well-drained soils. Prune regularly. Can quickly take over gardens and landscapes so choose location carefully. Note that non-native wisteria species are prohibited: double-check species when selecting plants.			

NOTES:

- Streetscape, parking lot, and buffer planting standards for Cary can be found in the [Cary Community Appearance Manual](#).
- For information on stormwater design, green stormwater infrastructure, and planting specifications, refer to the [NC DEQ Stormwater Design Manual](#).
- Although some cultivars have been listed, available species are constantly evolving. Further research may be required to find a suitable cultivar for specific sites.

PROHIBITED PLANTS



Cary encourages the preservation, installation, and maintenance of beautiful, functional, and resilient landscapes. This includes landscapes that are filled with robust native plants and the absence of invasive species. According to the USDA, an invasive plant is a species which is not native to a particular ecosystem, and whose introduction causes or is likely to cause economic or environmental harm, or harm to human health. Some plants on this list, while not invasive, are likely to fail in the landscape due to pests, disease, or climate conditions. Thus, plants included in the list below are prohibited from being planted as part of required landscaping and are discouraged from being utilized anywhere within Cary.

INVASIVE SPECIES LISTS:

1. [North Carolina Invasive Plant Council](#)
2. [Invasive Plant Atlas](#)
3. [NC State Extension Plant Toolbox](#)

Acer ginnala Amur Maple
Ajuga reptans Carpet Bugle
Akebia quinata Chocolate Vine
Clematis terniflora Sweet Autumn Clematis, Japanese Clematis
Cuprocyparis (or Hesperotropsis) leylandii Leyland Cypress
Callicarpa dichotoma Asian Beautyberry
Citrus trifoliata Hardy Orange, Trifoliolate Orange
Elaeagnus spp. Elaeagnus species
Eragrostis curvula Weeping Lovegrass
Euonymus alatus Burning Bush
Euonymus fortunei var. coloratus Winter Creeper
Fraxinus spp. Ash species (includes green ash, white ash)
Hedera canariensis Algerian Ivy

Hedera helix English Ivy
Ilex cornuta Chinese Holly, Horned Holly
Kolreuteria paniculata Golden Rain tree
Lespedeza thunbergii, bicolor, cuneata Non-native Lespedeza
Ligustrum spp. Privet
Liriope muscari, spicatum Liriope species
Lonicera spp. (japonica, maackii, tatarica) Non-native Honeysuckle species
Mahonia bealei Leatherleaf Mahonia
Melia azedarach Chinaberry, Bead Tree
Miscanthus sinensis Chinese Silvergrass
Nandina domestica Heavenly Bamboo
Ophiopogon japonicus Mondo Grass
Parthenocissus tricuspidata Boston Ivy

Phellodendron amurense Amur Cork Tree
Photinia x faseri Fraser photinia
Platanus x acerifolia London Planetree
Pyracantha coccinea, koidzumii Firethorn species
Pyrus calleryana Bradford Pear, Callery Pear
Quercus acutissima Sawtooth Oak
Quercus robur English Oak
Raphiolepis umbellata (R. indica) Indian Hawthorn
Ulmus parvifolia Chinese Elm, Lacebark
Vinca major, minor Periwinkle Species
Vitex agnus-castus Chaste-tree, Chasteberry, Texas lilac
Wisteria floribunda, Wisteria sinensis Chinese Wisteria, Japanese Wisteria
Zelkova serrata Zelkova, Japanese Zelkova