

CHATHAM COUNTY DESIGN GUIDELINES

For
Commercial, Industrial, and Conditional Use
Projects and Developments

Adopted June 7, 2010 by the Chatham County Board of Commissioners

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SECTION 1 Introduction

A project proposal shall include the information listed in the Chatham County Submission Requirements, available in the Planning Office and on the county webpage at www.chathamnc.org/planning

Preliminary design must incorporate an evaluation of the existing natural characteristics of the site as topography and vegetation, historic structures, and meaningful vistas.

Designs shall consider future development of adjacent and nearby site, roads, and public amenities.

Mission Statement of the Chatham County Appearance Commission

The mission of the Appearance Commission is to apply and facilitate the Chatham County Design Guidelines to improve the appearance of projects which require Conditional Use Permits and General Use Non-Residential projects. Recommendations by the Appearance Commission are to be based on careful evaluation of the existing conditions on and surrounding the site to assure that good design practices are implemented in accordance with the Design Guidelines.

SECTION 2 Sequence of submittals for projects to be reviewed by the Chatham County Appearance Commission

Such materials as requested in Sections A and B shall be submitted in digital form **seven (7) days prior to the Review Meetings with the CCAC**. Materials shall be sent to the Chair, who will immediately forward them to all other members of the CCAC.

A. Presentation Drawings and Documentation

1. Existing Conditions (Preliminary and final review) *
2. Provide a site plan adequately scaled to show existing topography, structures, vegetation, buffers and views.
3. Provide a vicinity map adequately scaled to show adjacent properties with structures and zoning designations.

* Small projects of less than an acre can be hand sketched by the owner if appropriate for the scope.

B. Presentation Format and Materials

1. Provide adequately scaled and detailed drawings to explain and visually document the entire proposed project and the vicinity around the site. (Photographs can be used to provide information in addition to drawings)
2. Provide copies of drawings (reduced or full size) for each Commission Member (8 copies min).
3. A PowerPoint or other similar electronic presentation method is recommended. Presenters should contact the Commission Chairperson to arrange for a projection screen if required.
4. Miscellaneous Recommendations

The Appearance Commission respectfully requests that presenters limit the time of the presentation to 15 minutes and allow for questions by the Commission members.

SECTION 3 SITE PLANS AND REVIEWS

A. Preliminary Site Plan

At a preliminary design stage all projects must be submitted to the Appearance Commission for review and comments. The Appearance Commission may take one of the following actions:

1. Recommend approval of the project plan as presented
2. Recommend approval of the project plan with recommendations or conditions.
3. Recommend rejection of the project plan as presented

Final approvals for all conditional use projects shall be given by the Chatham County Board of Commissioners. Final approvals for all general use non-residential projects shall be approved by planning staff as recommended by the CCAC and in connection with the landscaping requirements outlined in the Chatham County Zoning Ordinance.

B. Preliminary Project Review *

1. Provide a site plan showing proposed structures, roads, parking, and retention ponds at an adequate scale.
2. Provide a planting plan adequate to convey the intent of the project appropriate for the level of design. Planting plan should list plant materials with sizes and density of plant materials.
3. Provide an analysis of the visual impact of the project on adjacent property owners and public roads.
4. Provide a lighting plan which follows the Chatham County Lighting Section of the Chatham County Zoning Ordinance (Section 13).
5. Provide a plan for signage following Section 15 of the Chatham County Zoning Ordinance, which regulates signage.

* Small projects of less than an acre can be hand sketched by the owner if appropriate for the scope.

C. Final Site Plan

For projects which have had preliminary recommendations by the Appearance Commission, a presentation of the final site plan shall be made prior to obtaining a building permit to confirm that recommendations and requirements related to the preliminary plan have been implemented satisfactorily. The Appearance Commission may, at its discretion, require the plan be modified to satisfactorily address or implement the requirements or recommendations previously issued.

D. Final Project Review

1. Provide the drawings and documents presented previously related to the existing conditions and preliminary plans.
2. Provide a final plan with adequate detail to determine that the project has met the requirements of the preliminary review by the Appearance Commission. The Appearance Commission reserves the option to add reasonable requirements to the final plan it determines to be appropriate.
3. Provide a landscape maintenance summary that addresses plant fertility, irrigation, pruning, mowing, mulching, weed control, pest management, plant replacement, litter, removal of staking, and other essential aspects of site maintenance, including protection of existing vegetation which is designated to be preserved.

Preliminary and Final site and project plans may be reviewed at the same time where the CCAC deems appropriate

SECTION 4 SCREENING

A. Screening of Storage Areas

This section addresses the outdoor storage, utility, and equipment areas often associated with commercial uses. Requirements herein do not apply to mercantile locations where commodities for sale are displayed on the sales site.

Preliminary site design for any project should include providing for adequate outdoor storage needs. These areas include space where materials are temporarily stored, waste and recycling is handled and stored, mechanical/electrical equipment is located or loading and vehicular work yards are located.

Whenever possible storage areas should be concealed by site or building design. Where such is not possible, screening should be provided as follows.

Type of Item to be Screened

Screening Requirements

Ground-mounted electrical transformer

Border plantings on the two most visible sides of the equipment at least as high as the equipment, such as evergreen shrubbery planted

Waste and recycling outdoor containers, stored construction materials, utility supplies, etc. (does not apply to temporary storage of six months or less)

to achieve an approximate 80% visual obstruction

A 95% solid treated wood fence at least 1' higher than the object to be screened and coming within 12" of the ground, with border plantings of evergreen shrubs that constitute an approximate 30% screen on the two most visible sides of the fence, OR,

An approximate 95% dense planting of evergreen shrubs and/or small trees that reaches the screen density within 24 months of installation and is maintained in perpetuity or until a fence is erected.

Repair work, dismantling or servicing of vehicles

Conceal area using 8' high, 100% opaque fence, with evergreen border plantings that conceal 35% of the fence or equivalent screening

Satellite dish antennas that are 40" in diameter or greater

A 70% visual barrier that is the height of the dish or greater when viewed from the public right-of-way or adjacent residential usages.

Storage areas that are deemed hazards to the public or stored items that could be windblown or require security shall be further enclosed on all sides by wall or fence with border plantings and shall include an operable gate. Gates shall not swing into any public way.

B. Screening of Loading Areas

The Chatham County zoning ordinance provides for loading and delivery areas for all buildings used for trade, or industry. A minimum dimension for loading spaces and a quantity requirement for providing spaces based on building area is included. Such spaces shall have access to a public service alley, private driveway, or, if necessary, a public street.

Whenever possible, all loading areas shall be located between the building and the rear lot line of the property, and/or shall be screened from the view of the street and adjacent properties. Developments that use loading areas extensively are encouraged to recess this functional area of the building into the mass of the building or creatively blend it into the landscape using building offsets, screen walls, berms, and other design techniques.

The following is a list of screening requirements is intended to protect the public and adjacent properties from views to loading areas.

Type of Item to be Screened

Screening Requirements

Delivery door or overhead door without exterior dock and steps None

Overhead delivery doors with loading docks and 6' high screening device of solid structure

steps

(wall, fence, etc.) with low border plantings at corners or 25' on center areas of border plantings

OR

An approximate 95% dense planting of evergreen shrubs and/or small trees that reaches effective density within 24 months and is maintained in perpetuity or until a landscaped fence is erected.

Loading dock areas that are also used to store recycling waste containers or outdoor stored materials for any period of time

A 95% solid wooden fence or wall at least 1' higher than the tallest storage or equipment article. Fence shall extend to within 12" of the ground and have border plantings of evergreen shrubs that constitute an approximate 30% screen on the two most visible sides of the loading area

OR

An approximate 95% dense planting of evergreen shrubs and/or small trees that reaches effective density within 24 months of installation and is maintained in perpetuity or until a landscaped fence is erected.

Screening structures and landscaping may include breaks in the visual barrier for vehicular and pedestrian egress. There, openings in the screening shall be limited to a minimum practical width and located so as to obscure line of sight from the public way.

Project landscaping shall be established prior to the facility earning a certificate of occupancy. It is the owner's responsibility to maintain the landscape plantings in good health and to replace any failed plants promptly.

SECTION 5 Exterior Lighting

Exterior lighting shall be architecturally integrated with the building's style, materials, and colors in the selection and design of light poles, brackets, and fixtures AND shall comply with the lighting requirements as stated in the Chatham County Zoning Ordinance, Section 13.

The use of site and parking lot lighting provided by a utility company does not relieve the owner or developer from conforming to lighting design standards.

SECTION 6 On-Site Signs

The existing provisions of the Chatham County Zoning Ordinance, Section 15, applicable to signs and the Chatham County Off-Site Signage Ordinance requirements apply where applicable in Chatham County.

The sign design shall also demonstrate the following criteria:

1. Signs should be architecturally compatible with the style, composition, materials, colors, and details of the building as well as with other signs used on the building or in its vicinity, i.e. within that development project.
2. Signs should fit within the existing facade features, should be confined to signage areas, and should not interfere with door and window openings, conceal architectural details, or obscure the composition of the facade.
3. Whenever possible, signs located on buildings should be placed at the same height, in order to create a unified signage band. The size, color, lighting design and style of all signs present in commercial projects (like shopping centers) shall be consistent throughout the entire project. This includes out-parcels, signs attached to buildings and signs at the entrance(s) to the center.
4. Sign colors should be compatible with the colors of the building facade.

SECTION 7 Parking Lot Guidelines

The Chatham County Zoning Ordinance entitled “Parking Lot Improvement, Design and Location Requirements” Section 14.2 sets forth minimum requirements for design and buffering. The following guidelines supplement those requirements for submittals to the Chatham County Appearance Commission. A parking plan showing compliance with these standards and the Submittal Recommendations must be shown on all development plans submitted to the Appearance Commission.

1. Parking lots, wherever possible, shall be located to the side and rear of structures and away from streets and highways, thereby using buildings or other architectural elements as a visual barrier for the parking. Otherwise, adequate screening should be provided for aesthetic purposes and to prevent the glare of auto lights upon adjacent properties.
2. Parking spaces shall not directly abut structures. Leave adequate space (15 ‘min) for sidewalks, landscaping, and plantings between parking and structures.
3. Landscape plantings and trees are required in parking lots to reduce the visual impact of large open areas of pavement. To reduce the buildup of heat on dark colored paving during hot weather (heat island effect) provide trees for shade of at least 50% of the paved area based on existing conditions and the type of paving materials used. Reflective paving materials may be permitted to reduce the shading requirements if deemed appropriate by the Appearance Commission. (See #5 below)

4. Landscaped islands are required (at minimum) at the ends of parking aisles, at a maximum of every 10 spaces, and between bays of parking. Project designers are encouraged to submit landscape plans that accomplish these goals in alternative and creative ways. The Chatham County Appearance Commission requires submittals to be presented with enough detail to provide a full understanding of what is proposed. (See #5 below)
5. Designers are requested to provide (and show) plant beds that are appropriate for the plant material. Trees and other plant materials may not achieve optimal size in planting sites that are restricted or limiting to normal growth.
6. All plans shall show:
 - a. Dimensioned-parking lot plans with landscaped areas clearly delineated and dimensioned.
 - b. Paving materials (asphalt, concrete, pervious materials, etc.).
 - c. Landscape materials including trees, screen plantings, ornamental plantings, ground covers including type, size, frequency, shading capacity, etc.
7. A mix of trees and landscape plants shall be planted between parking bays and around the perimeter of parking areas to provide screening, shade and visual variety.
8. Maintenance of landscape plants is required for the implementation of the approved landscape plan. Plantings that are resistant to drought do not require heavy irrigation, are not subject to being eaten by deer, and which are native to Chatham County, are encouraged and will be reviewed favorably. Replacement of dead plants is expected and is the responsibility of the property owner.
9. The Appearance Commission requests plant selections be incorporated into submittals prior to the meeting at which the plans are to be reviewed.

SECTION 8 General Planting Recommendations and References

A. Landscaping, Buffering, and Screening

Attractive landscaping of a project is an essential component of overall visual appeal. It affords an opportunity to soften the impact of new development. Therefore, it is important that the landscape plan demonstrate clearly thought-out goals. There are many possible approaches to achieving the degree of screening necessary for the various conditional use districts. A clearly stated rationale should accompany the landscaping plan that explains how the plan both serves the needs of the project and fits in with the rural Chatham County setting. For example, some factors that may be addressed are as follows:

- site conditions such as the amount of sun or shade, slope, and wet or dry areas
- representative native species of both canopy and under story trees to provide continuity with wooded areas nearby
- plants that provide screening in cold seasons
- cost and maintenance considerations
- growth rates
- Flowering species that can benefit both passersby and beneficial insects.

Landscaping plants shall be selected that are, for the most part, a naturally occurring species and arrangement for the area. The use of non-naturally occurring and rare plantings is not discouraged for "specimen" and "contrast" plantings.

1. A landscaping plan must be submitted with every conditional use permit application. Landscaping refers to topography, trees, shrubs, grass, and vegetation. The landscaping plan shall indicate where existing trees and vegetation are preserved.
2. A buffer is a strip of land with the screening required thereon. Screening may include landscaping, walls, fences, hedges, berms, and existing vegetation.
3. Street trees shall be required along streets at intervals of 40 ft. Each tree shall be of at least 2-1/2 inch caliper when installed and be a height of 30 ft. at maturity.
4. Chain link fences are to be discouraged unless screened by vegetation.
5. Plantings adjacent to building walls should be included along sides of buildings where devoid of architectural interest.
6. The buffer width, height, and appropriate screening for commercial uses adjacent to other commercial uses, adjacent to residential/rural use, or to land zoned as such shall be in accordance with Landscape Buffering Requirements and Screening Table.

B. Timing

1. Preparation of planting beds and actual planting time will be after equipment, unloading of materials and other traffic is finished. Additionally, do not work frozen or saturated soil, and do not plant during periods of extreme drought and water restrictions.
2. Prior to planting, determine soil characteristics such as soil type and texture, pH, nutrient availability, and drainage.
3. Correct any drainage issues and add amendments as necessary. (Example of preparation of plant bed areas in clay soils)
4. Prior to adding amendments, assure subsurface drainage and create a transition layer by:
 - a. Deep plowing to a minimum of 12"
 - b. Add 4" of shredded pine bark and/or compost and amendments such as the lowest suggested amount of rock phosphorous and gypsum.

- c. Mix thoroughly
- d. Rake out plant debris, sticks, and stones 1 1/2" in any dimension and any materials harmful or toxic to plant growth
- e. Test soil to determine further fertilizer needs and pH
- f. Soil must be friable and weed free

C. Example of preparation of individual planting holes

1. Remove soil to approximate depth of root ball or container and 3 times the width.
2. Scarify bottom and sides of hole
3. Soak roots if necessary to loosen any circling roots or heavy root masses to provide maximum root to soil contact
4. Place root ball such that the trunk flare or crown sits above grade
5. For balled and burlapped plants, remove ties
6. Fold burlap and wire basket away from the top third of the root ball. Synthetic burlap must be removed completely
7. Completely break up backfill before use
8. After planting, create a ring of native soil around the root ball to retain water
9. Water thoroughly
10. Mulch to 1/2 inch depth at trunk and to 2 1/2 to 3 inches beyond. 5-6 inches is suggested for pine straw.

These methods are suggested examples and are considered best management practices (BMPs). Whatever method is chosen, the result must be healthy growth which meets screening expectations within the specified time limit.

D. Tree Staking

1. Staking trees is permitted at the discretion of the installer who also bears responsibility for tree establishment and removal of stakes and guy wires. Conditions for which staking may be helpful include exposure to wind, trees planted on slopes, large crown in proportion to roots, damage to root ball during installation, or trees planted in areas where people may pull on them or use them for support.
2. Removal of staking material is the responsibility of the installer. All ropes, wires, straps, or other material attached to the tree must be attached in such a manner as to avoid injury to the trunk and must be removed before trunk growth is restricted or damaged and not more than one year after plant installation. Any staking supports above ground must be removed at the same time. Staking material below ground must be removed at the same time unless it is biodegradable and removal would result in injury to the tree.

SECTION 9 Water Conservation Guidelines

Given the finite resources for Chatham County, it is highly recommended that year round water conservation be practiced. The purpose of the following recommendations is to preserve our limited natural resources and to foster good growth rates of plantings in the landscape.

A. XERISCAPING

Some form of xeriscaping should be incorporated into the landscape plan.

1. Less water, less fertilizer equals less pests and diseases.
2. Selection of plants that are heat and drought tolerant.

For a list of drought tolerant Trees, Shrubs, and Grasses go to:

www.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/ag508_3/

3. Plants should be grouped together in zones that have similar water requirements and irrigated by separate zone control.
4. Prudent use of mulches helps to reduce evaporation.

B. IRRIGATION

It is strongly recommended that appropriate irrigation be used to maintain new plantings, such as the following examples.

1. Drip irrigation i.e. Gator Bags, line emitters, and bubblers.

Note: Overhead –

Should be limited to turf or micro sprinklers for small areas
Strongly discourage watering from 10am-6pm.

2. All possible efforts should be made to recycle water and collect rainwater, such as the following examples.

- A. Use recycled water whenever possible.
- B. Rain barrels and Cisterns
- C. Rain Gardens

3. Efficiency in irrigation.

- A. Water deeply and less frequently.
- B. Grass should not be watered daily except when establishing new turf and that watering should decrease after a 3 week period.
- C. Maintenance of system
 1. Rain sensors shall be installed with all irrigation systems.
 2. No water runoff during irrigation periods.
 3. No watering of walks, driveways, and streets.

4. Turf grass

1. Encourage groundcovers instead of turf grass.
2. Recommend mowing turf grass higher during periods of drought.
3. Recommend that turf grass be used sparingly as needed for cooling effect and erosion control.

SECTION 10 **Landscape Buffering Requirements and Screen Types**

- A. Screen A: This screen creates a visual barrier such that there are no direct views from the street or from the adjacent properties to the development at any time of year. Plants are

typically evergreen and can be used in combination with walls and berms. Minimum spacing shall generally be no wider than 20 feet between tree trunks (but may be wider depending on tree type), with evergreen shrubs spaced five feet on center.

- B. Screen B: This screen breaks up the view such that some agreeable elements of the property can be seen from some views and/or during some seasons. 25 – 35% deciduous plants may be allowed. Minimum spacing shall generally be no wider than 30 feet between tree trunks (but may be wider depending on tree type), with evergreen shrubs spacing ranging from five to eight feet on center.
- C. Screen C: This buffer area may not be a screen at all. It is an area simply preserving existing vegetation. It is intended less as a visual barrier and more for a specific purpose. Examples could include, but are not limited to erosion control, providing continuity with nearby wooded areas, providing wildlife habitat, protecting existing vegetation, providing shade, and/or for aesthetic purposes. Minimum spacing shall generally be no wider than 40 feet between canopy tree trunks and no wider than 20 feet between ornamental tree trunks.

Screens A, B, and C: Height and width of all screen types to be determined case-by-case depending on height of structure to be screened in combination with topography of site and of adjacent sites. Berms, walls, and/or building layout changes may also be necessary. Minimum widths and plant types for satisfying the screen requirements are in: Landscape Buffer Requirements Table. The plantings are to reach screening goals within 24-36 months of the installation and to be maintained as shown on any plans.

*****The following table offers guidelines. Actual recommendations shall be made case-by-case.***

Proposed land use class	For adjacent property development					Land use across an adjacent street				
	<i>Com</i>	<i>O&I</i>	<i>Ind-L</i>	<i>Ind-H</i>	<i>R-A</i>	<i>Com</i>	<i>O-I</i>	<i>Ind-L</i>	<i>Ind-H</i>	<i>R-A</i>
Commercial (NB, CB, RB)	NA	NA	B 20'	B 20'	A 20'	C 20'	B 20'	C 20'	C 20'	B 20'
O&I: Office & Institutional	NA	NA	B 20'	B 20'	A 30'	B 20'	B 20'	B 20'	B 20'	B 20'
Ind-L: Light Industrial	B 40'	A 40'	NA	NA	A 60'	A 20'	A 20'	C 20'	C 20'	A 40'
Ind-H: Heavy Industrial	B 60'	A 60'	NA	NA	A 80'	AB 40'	A 40'	C 20'	C 20'	A 60'
R-A: Residential & Agricultural R1, R2, R5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SECTION 11

Plant List

Listed Plants should be considered as suggestions and not as a limitation

STREET TREES for parking lot or curbside

Species	Common name	Notes
<i>Acer barbatum</i>	Southern sugar maple	
<i>Acer leucoderme</i>	Chalkbark maple	
<i>Acer rubrum</i>	Red maple	See Dirr
<i>Celtis laevigata</i>	Sugar hackberry	
<i>Fraxinus pennsylvanica</i>	Green ash	
<i>Ginkgo biloba</i>	Ginkgo	
<i>Gleditsia triacanthos var. inermis</i>	Thornless honeylocust	
<i>Lagerstroemia spp.</i>	Crapemyrtle	Cvs w/ >20 ft height
<i>Pistacia chinensis</i>	Chinese pistache	
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	
<i>Quercus lyrata</i>	Overcup oak	
<i>Quercus palustris</i>	Pin oak	
<i>Quercus phellos</i>	Willow oak	
<i>Quercus rubra</i>	Northern red oak	
<i>Quercus shumardii</i>	Shumard oak	
<i>Sophora japonica</i>	Japanese pagodatree	
<i>Taxodium distichum</i>	Baldcypress	
<i>Tilia cordata</i>	Littleleaf linden	
<i>Ulmus parvifolia</i>	Lacebark elm	
<i>Ulmus spp.</i>	Hybrid elms	
<i>Zelkova serrata</i>	Japanese zelkova	

EVERGREEN: 3-20' & arranged such that there are no direct views to the proposed site

Category	Sun (3-8 feet)	<u>Cultivar</u>	<u>Common name</u>	<u>Notes</u>
	<u>Botanical name</u>			
	<i>Abelia x grandiflora</i>		Glossy Abelia	DT
	<i>Cephalotaxus</i>	sp. & cvs.	Plum Yew	DR
	<i>Chamaecyparis</i>	sp. & cvs.	False Cypress	
	<i>Cryptomeria</i>		Japanese Cedar	DR
	<i>Gardenia jasminoides</i>	sp. & cvs.	Gardenia	DR, DT
	<i>Ilex glabra</i>	sp. & cvs.	Inkberry	DR, DT, MT
	<i>Ilex vomitoria</i>	Dwarf cultivars	Yaupon Holly	DR, DT, MT
	<i>Loropetalum chinense</i>		Chinese Fringe-flower	DR, MT
	<i>Nandina domestica</i>	sp. & cvs.	Heavenly Bamboo	DT, MT, XB
	<i>Rosemarinus spp.</i>		Rosemary	DR, DT
	<i>Viburnum utile 'Conoy'</i>		Service Viburnum	DR
	<i>Yucca sp.</i>		Yucca	DT
Category	Shade (3-8 feet):	<u>Cultivar</u>	<u>Common name</u>	<u>Notes</u>
	<u>Botanical name</u>			
	<i>Abelia x grandiflora</i>		Glossy Abelia	DT
	<i>Aucuba japonica</i> cvs.		Japanese Aucuba	DT

<i>Camellia sasanqua</i>		Sasanqua Camellia	DT
<i>Cephalotaxus spp.</i>	sp. & cvs.	Plum Yew	DR
<i>Ilex vomitoria</i>	Dwarf cultivars	Yaupon Holly	DR, DT, MT
<i>Gardenia jasminoides</i>	sp. & cvs.	Gardenia	DR, DT
<i>Leucothoe axillaris</i>	Dwarf cultivars	Fetterbush	
<i>Nandina domestica</i>	sp & cvs	Heavenly Bamboo	DT, XB
<i>Osmanthus heterophyllus</i>	Goshiki'	Holly Tea Olive	DR
<i>Sarcococca confusa</i>		Sweetbox	DR
<i>Sarcococca ruscifolia</i>		Sweetbox	DR

Category

Sun (8-20 feet):

Botanical name

Cryptomeria japonica

Ilex vomitoria

Illicium parviflorum

Juniperus chinensis.

Juniperus virginiana

Loropetalum chinense

Magnolia grandiflora

Morella cerifera

Pyracantha coccinea

Thuja plicata

Viburnum x pragense

Cultivar

sp. & cvs

sp. & cvs.

Dwarf Cultivars

Green Giant'

Common name

Japanese Cedar

Yaupon Holly

Small Anise Tree

Chinese Juniper

Eastern Redcedar

Chinese Fringe-flower

Southern Magnolia

Southern Waxmyrtle

Scarlet Firethorn

Giant Arborvitae

Praque Viburnum

Notes

DR,MT

DR,DT,MT

DR,MT

DT

DR,MT

DR

DR,DT,MT

DT

DR

DT

EVERGREEN: 3-20' & arranged such that there are no direct views to the proposed site

Category

Shade (8-20 feet):

Ilex vomitoria.

Illicium parviflorum

Loropetalum chinensis sp.

Magnolia grandiflora

Morella cerifera

Dwarf Cultivars

Yaupon Holly

Small Anise Tree

Chinese Fringe-flower

Southern Magnolia

Southern Waxmyrtle

XB,DR,DT,MT

DR,DT,MT

DR,MT

DR,MT

DR,DT,MT

DR,DT,MT

DECIDUOUS SCREEN (3-8 feet):

Category

Sun

Abelia chinensis

Berberis sp.

Callicarpa americana

Calycanthus floridus

Caryopteris x clandonensis

Clethra alnifolia

Forsythia spp.

Hydrangea spp.

Ilex spp.

Itea virginica

Rosa spp.

Spiraea cvs.

Weigela spp.

Viburnum spp.

Vitex negundo

sp. & cvs.

sp. & cvs

sp. & cvs

Shrub Roses

sp. & cvs

sp. & cvs.

Chinese Abelia

Barberry

American Beautyberry

Common Sweetshrub

Bluebeard

Summersweet Clethra

Border Forsythia

Hydrangea

Holly

Virginia Sweetspire

Rose

Spiraea

Weigela

Viburnum

Chastetree

DT

DR,MT

DR

DR,MT

DT

DT,MT

DT,MT

DR,DT,MT

DR,DT

DR,DT

DR,DT

DR,DT

Category	Shade		
	<i>Calycanthus floridus</i>		Common Sweetshrub DR,MT
	<i>Clethra alnifolia</i>		Summersweet Clethra DR,MT
	<i>Euonymus americanus</i>		American Euonymus
	<i>Hydrangea spp.</i>	<i>sp. & cvs.</i>	Hydrangea DT
	<i>Ilex spp.</i>	<i>sp. & cvs.</i>	Holly DT, MT
	<i>Itea virginica</i>	<i>sp. & cvs.</i>	Virginia Sweetspire DR,DT,MT
	<i>Physocarpus opulifolius</i>		Ninebark MT
	<i>Rhododendron spp.</i>	<i>sp. & cvs.</i>	Rhododendron/Azalea
	<i>Viburnum spp.</i>	<i>sp. & cvs.</i>	Viburnum

Deciduous screens (8-20 feet)

Category	Sun		
	<i>Acer buergerianum</i>		Trident Maple DT
	<i>Acer palmatum</i>		Japanese Maple
	<i>Betula nigra</i>		River Birch MT
	<i>Carpinus Americana</i>		European Hornbeam
	<i>Cercis canadensis</i>		Eastern Redbud DT
	<i>Cercis chinensis</i>		Chinese Redbud
	<i>Chionanthus virginicus</i>		White Fringetree DT
	<i>Ginkgo biloba</i>		Ginkgo DT
	<i>Hamamelis sp. & cvs.</i>		Witchhazel DT
	<i>Hydrangea spp.</i>	<i>sp. & cvs.</i>	Hydrangea DT
	<i>Ilex decidua</i>	<i>sp. & cvs.</i>	Possumhaw DT, MT
	<i>Lagerstromia spp.</i>	<i>cvs.</i>	Crapemyrtle DT
	<i>Magnolia spp.</i>	<i>sp. & cvs.</i>	Magnolia DT
	<i>Styrax japonica</i>		Japanese Snowbell
	<i>Taxodium distichum</i>		Common Baldcypress DR,DT,MT
	<i>Ulmus parvifolium</i>		Chinese Elm DT
	<i>Viburnum spp.</i>		Viburnum

Category	Shade		
	<i>Acer palmatum</i>		Japanese Maple
	<i>Cercis canadensis</i>		Eastern Redbud DT
	<i>Cercis chinensis</i>		Chinese Redbud
	<i>Chionanthus virginicus</i>		White Fringetree DT,MT
	<i>Cyrilla racemiflora</i>		Swamp Cyrilla MT
	<i>Hamamelis spp.</i>		Witchhazel DT
	<i>Hydrangea spp.</i>	<i>sp. & cvs.</i>	Hydrangea DT
	<i>Magnolia virginiana</i>		Sweetbay Magnolia MT
	<i>Styrax japonica</i>		Japanese Snowbell
	<i>Viburnum spp.</i>		Viburnum

EVERGREEN Ground covers

Category	Sun to Shade		
	<i>Abelia x grandiflora</i> 'Prostrata'	Prostrate abelia	DT
	<i>Carex morrowii</i>	Japanese sedge	DT
			DT
	<i>Fatshedera lizei</i>	Fatshedera	DT
	<i>Gardenia jasminoides</i> 'Radicans'	Creeping gardenia	DR, DT
	<i>Liriope muscari</i>	Liriope	DT
	<i>Microbiota decussata</i>	Siberian cypress; Russian arborvitae	

Category	Sun		
	<i>Cotoneaster dammeri</i>	Bearberry cotoneaster	DR, DT
	<i>Cotoneaster horizontalis</i>	Rockspray Cotoneaster	DR, DT
	<i>Cotoneaster salicifolius</i> 'Repens'	Willowleaf cotoneaster	DR, DT
	<i>Fragaria ananassa</i>	Strawberry	
	<i>Gelsemium sempervirens</i>	Carolina jasmine	DT
	<i>Iberis sempervirens</i>	Evergreen candytuft	DT
	<i>Jasminum floridum</i>	Florida Jasmine	DT
	<i>Juniperus chinensis</i> 'Parsonii'	Parson's juniper	DR, DT
	<i>Juniperus chinensis</i> 'San Jose'	San Jose juniper	DR, DT
	<i>Juniperus chinensis</i> 'Sargentii'	Sargent juniper	DR, DT
	<i>Juniperus conferta</i>	Shore Juniper	DR, DT
	<i>Juniperus conferta</i> 'Blue Pacific'	Blue Pacific juniper	DR, DT
	<i>Juniperus horizontalis</i> 'Andorra'	Andorra juniper	DR, DT
	<i>Juniperus horizontalis</i> 'Bar Harbor'	Bar Harbor juniper	DR, DT
	<i>Juniperus horizontalis</i> 'Blue Rug'	Blue Rug juniper	DR, DT
	<i>Juniperus horizontalis</i> 'Plumosa Compacta'	Plumosa Compacta juniper	DR, DT
	<i>Juniperus procumbens</i>	Japanese juniper	DR, DT
	<i>Rosmarinus officinalis</i> 'Prostratus'	Rosemary	DT
	<i>Rubus hyata-koidzumii</i>	Yu-shan raspberry	
	<i>Santolina chamaecyparissus</i>	Lavender cotton; Santolina	DR, DT
	<i>Santolina virens</i>	Green santolina	DR, DT
	<i>Sedum</i> spp.	Sedum; Stonecrop	DT
	<i>Stachys byzantina</i>	Lamb's ear	
	<i>Teucrium chamaedrys</i>	Germander	
	<i>Thymus vulgaris</i>	Garden thyme; Common thyme	DR, DT
	<i>Verbena canadensis</i> ; <i>V. hybrids</i>	Clump verbena; Rose verbena	DT

Category **EVERGREEN Ground covers**
Shade

<i>Ajuga reptans</i>	Ajuga	XB, DT
<i>Aspidistra elatior</i>	Cast iron plant	
<i>Helleborus spp.</i>	Lenten rose; Christmas rose	DT
<i>Hexastylis virginica</i>	Southern wild ginger; Heartleaf ginger	
<i>Ophiopogon japonicus</i>	Mondo grass	DT
<i>Ophiopogon japonicus</i> 'Nana'	Dwarf mondo grass	DT
<i>Ophiopogon planiscapus</i> 'Arabicus'	Black mondo grass	DT
<i>Pachysandra terminalis</i>	Pachysandra	
<i>Sarcococca hookeriana</i> var. <i>humilis</i>	Sarcococca; Sweetbox	
<i>Selaginella uncinata</i>	Peacock moss	

DECIDUOUS Ground Covers

Category

Sun to Shade

<i>Chrysogonum virginianum</i>	Green and gold	
<i>Clematis terniflora</i>	Clematis	XB, DT
<i>Parthenocissus quinquefolia</i>	Virginia creeper	DT

Category

Sun

<i>Achillea millefolium</i>	Woolly yarrow	XB, DR, DT
<i>Baptisia australis</i>	False blue indigo	DT
<i>Berberis thunbergii</i>	Japanese Barberry	DR, DT
<i>Delosperma cooperi</i>	Cooper's hardy ice plant	DT
<i>Dendranthema pacificum</i>	Gold and silver chrysanthemum	
<i>Dianthus spp.</i>	Pinks; Dianthus	
<i>Forsythia intermedia</i>	Forsythia	
<i>Hemerocallis hybrida</i>	Daylily	DT
<i>Hypericum calycinum</i>	St. Johnswort	DT
<i>Iris tectorum</i>	Roof iris; Wall iris	DT
<i>Jasminum nudiflorum</i>	Winter Jasmine	
<i>Nepeta x faassenii</i>	Faasen's catmint; Blue catmint	
<i>Phlox stolonifera</i>	Creeping phlox	DT
<i>Phlox subulata</i>	Thrift; Moss pink	DT
<i>Vaccinium crassifolium</i>	Creeping blueberry	
<i>Veronica peduncularis</i> ; <i>V. officinalis</i>	Veronica	

DECIDUOUS Ground Covers

Category

Shade

<i>Asarum canadense</i>	Wild ginger	
<i>Clematis terniflora</i>	Clematis	DT
<i>Epimedium spp.</i>	Epimedium	

<i>Heuchera sanguinea</i>	Coral bells	
<i>Hosta</i> spp.	Hosta	DT
<i>Lamium galeobdolon</i>	Golden dead nettle; Yellow archangel	
<i>Lamium maculatum</i>	Dead nettle; Spotted dead nettle	
<i>Leucothoe fontanesiana</i>	Drooping Leucothoe	DR
<i>Tiarella cordifolia</i>	Foamflower	

GRASSES - Turf Type

Bermuda	<i>Cynodon dactylon</i>	XB, DR, DT
Centipede	<i>Eremochloa ophiuroides</i>	DR, DT
Tall Fescue	<i>Festuca arundinaceae</i>	DT
Zoysia	<i>Zoysia</i> spp.	DR, DT

GRASSES & SEDGES - Ornamental

Big bluestem	<i>Andropogon gerardii</i>	DT
Blue fescue	<i>Festuca arvernensis</i>	
Carex	<i>Carex</i> spp.	DT
Little bluestem	<i>Schizachyrium scoparium</i>	DT
Broomsedge	<i>Andropogon virginicus</i>	DT
Bush beard grass	<i>Andropogon glomeratus</i>	
Feather reed grass	<i>Calamagrostis x acutiflora</i>	
Fountain grass	<i>Pennisetum alopecuroides</i>	DT
Pennisetum 'Hamlin'	<i>Panicum virgatum 'Hamelin'</i>	XB
Heavy metal switch grass	<i>Panicum virgatum 'Heavy Metal'</i>	XB
Indian grass	<i>Sorghastrum nutans</i>	DT
Japanese sweet flag	<i>Acorus gramineus</i>	
Pink muhly	<i>Muhlenbergia capillaris</i>	DT
Purple fountain grass	<i>Pennisetum setaceum</i>	
Purple love grass	<i>Eragrostis spectabilis</i>	DT
River oats	<i>Chasmanthium latifolium</i>	XB, DT
Whitetop sedge	<i>Rhynchospora latifolia</i>	

Legend:

MT: Moisture Tolerant

DR: Deer Resistant

DT: Drought Tolerant

XB: Not for Buffers

B: Buffers Only