Chatham County Design Guidelines

All Commercial, Industrial, and Conditional Use Projects and Developments Must Be Submitted to the Chatham County Appearance Commission for Review and Approval

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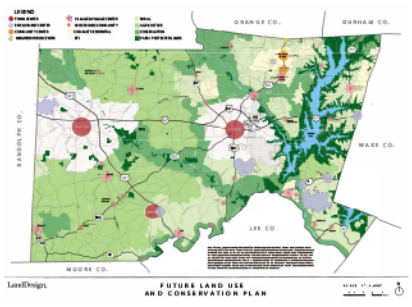




Adopted June 7, 2010 by the Chatham County Board of Commissioners

Revised _____

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1. Rationale

These Design Guidelines support the ***Chatham County Comprehensive Plan's*** goals of:

Preserving the Rural Character and Lifestyle of Chatham County by:

- Promoting context-sensitive design that preserves rural and small-town character by encouraging the inclusion of architectural features that resemble historical structures and local vernacular,
- Preserving historic structures and unique natural features of a site, such as streams, wetlands, floodplains, rock outcroppings, steep slopes, and upland pools,
- Preserving native trees which are of significant size or of historical value
- Promoting naturalistic landscape design, which is sustainable, low-maintenance, and achieves a rural aesthetic, and

Conserving Natural Resources by:

- Retaining and protecting areas of existing forest and native vegetation to preserve the site's natural ecosystem services and reduce soil erosion,
- Orienting blocks and buildings to maximize active and passive solar access,
- Minimizing fragmentation of wildlife habitat by preserving and connecting forested and open space areas within and across sites, and

Becoming More Resilient by Mitigating, Responding, and Adapting to Emerging Threats by:

- Encouraging Low Impact Development (LID) and Green Stormwater Infrastructure (GSI) techniques which reduce the impact of flooding from stormwater runoff, such as pervious pavement, stormwater planters, bio-retention areas, filter strips, green roofs, cisterns, and rain gardens,
- Moderating the effects of climate change by retaining and protecting concentrated areas of existing forest and native vegetation,
- Reducing the heat island effect by requiring paved areas to be shaded,
- Requiring adequate soil volumes in parking lot islands so that the shade trees planted within will be able to grow to maturity and reach their intended canopy cover,
- Promoting xeriscaping and other sustainable landscaping practices, such as requiring plant diversity and the selection of drought-tolerant, native plants in landscape plans, and

Fostering a Healthy Community by:

- Increasing access to healthy food by promoting the use of plants that produce edible fruit and nuts in landscape plans, and
- Reducing dependence on vehicles and promoting a healthier community by encouraging walkability within and across sites through sidewalks, trails, or greenways.

2. Site Design Standards

2.1. Purpose

The purpose of these site design standards is to conserve Chatham County's natural resources, preserve the rural aesthetic, mitigate emerging threats, and foster a healthier community. Sites should be designed using the following standards.

- Arrange structures on a site such that concentrated areas of existing forest and native vegetation can be preserved.
- Avoid fragmenting wildlife habitat by preserving and connecting forested and open space areas within and across sites.
- Incorporate mature tree stands into the design of amenity spaces.
- Use structures and unique natural features such as streams, wetlands, floodplains, rock outcroppings, steep slopes, and upland pools as featured elements in the site's design.
- Employ Low Impact Development (LID) and Green Stormwater Infrastructure (GSI) techniques to reduce the negative impacts of stormwater runoff, such as pervious pavement, stormwater planters, bio-retention areas, filter strips, green roofs, cisterns, and rain gardens.
- Avoid or minimize stream crossings.
- Use unique frontage features such as maintaining existing foreground meadows to replicate pasture visually.
- Orient blocks and buildings to maximize active and passive solar access.
- Reduce dependence on vehicles and promote a healthier community by encouraging walkability within and across sites through sidewalks, trails, or greenways.

3. Architectural Design Standards

3.1. Purpose

These architectural design standards aim to promote context-sensitive design that preserves the rural character of Chatham County.

- Use architectural language that relates to the county's small towns and rural aesthetic of mills, barns, farm structures, covered porches, metal roofs, awnings, and commercial buildings.
- Use high-quality exterior building materials.
- Provide variety in building elevations with volumes, patterns, materials, fenestration, colors, roof lines, etc. Avoid massive blank elevations where visible from a public road or adjacent property. All facades visible from the street or adjoining properties should feature characteristics similar to the front.

4. Tree Preservation Requirements

4.1. Purpose

The purpose of these requirements is to promote the preservation of existing trees for their aesthetic appeal and ecological services. Mature trees protect and increase property values, reduce stormwater runoff, reduce soil erosion, moderate climate, and reduce energy costs.

4.2. Penalty for Timbering Prior to Site Development

The County may refuse to approve a site plan or deny a building permit for up to 5 years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under County regulations governing the development of the site.

4.3. Exemptions For Forestry Management and Silviculture

According to a forestry management plan, normal forestry activities prepared and approved by a North Carolina Registered Forester are exempt from tree preservation requirements. No forestry activities may occur on a property until the property owner has obtained a forestry permit from the County.

Incentive for Maintaining Perimeter Buffers. Forestry activities are strongly encouraged to exclude the harvesting of all trees. The County may reduce the time penalty on previously timbered properties if all trees and vegetation were left undisturbed within the following perimeter buffer areas:

- Buffer widths of 60 feet located along roadways or adjoining developed properties, and
- Buffer widths of 30 feet located along adjoining undeveloped properties.

4.4. Protected Tree Classifications

The County intends to preserve mature, healthy, native trees which are of significant size or historical value. Heritage trees and historical trees, as defined below, shall be collectively known as Protected Trees.

Heritage Tree. A heritage tree is a deciduous, native tree that has achieved decades of growth and whose removal would result in an immediate loss of valuable environmental benefits. Heritage trees measure between 18 to 28 inches in diameter at breast height (DBH).

Historical Tree. Due to its age and stature, a historical tree is considered to have irreplaceable value and is defined as any tree measuring 28 inches or greater in DBH.

4.5. Protected Tree Requirements

Protected Trees shall be saved unless the applicant demonstrates to the satisfaction of the Appearance Commission that no reasonable alternative exists and that retaining such trees unreasonably burdens development.

Buffers and Floodplains. Protected Trees shall not be removed from required buffers or floodplains.

Vehicular Access and Parking. Historical trees shall not be removed to make way for parking lots, parking spaces, drive aisles, or driveways.

4.6. Incentive for Tree Preservation

The Appearance Commission may approve a reduction of one parking space for every healthy Heritage Tree that is saved outside of the required buffers and floodplains. Other incentives?

5. Tree Canopy Coverage Requirements

5.1. Purpose

The purpose of these requirements is to reduce the heat generated by non-reflective pavement and to improve the visual impact of large expanses of paved areas, such as roadways and parking lots. The species of trees used to achieve the canopy coverage requirements are recommended to survive in challenging urban environments and restricted planting spaces. For a list of suitable trees for these situations, see Appendix___.

5.2. Street Tree Requirements

In addition to the many environmental benefits that trees provide, trees planted along streets create vertical visual walls that frame streets, provide defined edges that help motorists guide their movement, assess their speed, and provide safer and more pleasant environments for pedestrians.

Tree Size. When installed, trees shall be of at least 2-inch caliper and reach a minimum height of 30 feet at maturity.

Tree Spacing. Trees shall be required along all streets at intervals of 40 feet.

Overhead Utilities. Trees are not permitted under overhead power-lines.

Distance from Roadway. Trees shall be installed between 5 feet and 15 feet from the road right of way. Variances may be allowed to accommodate existing utilities or natural obstructions.

Diversity. It is recommended that a variety of tree species be used for more diversity.

Reductions for the Street Tree Requirement. Credit may be given for the preservation of existing shade trees that are native and healthy. To receive credit, existing trees must be protected throughout construction and development of the site as specified in Section 6.

5.3. Shade Requirement for Parking Areas

All off-street parking spaces shall be no more than 60 feet from the trunk of a canopy tree.

Reductions for the Shade Requirement. Reflective materials may reduce the shading requirement for parking spaces if deemed appropriate by the Appearance Commission.

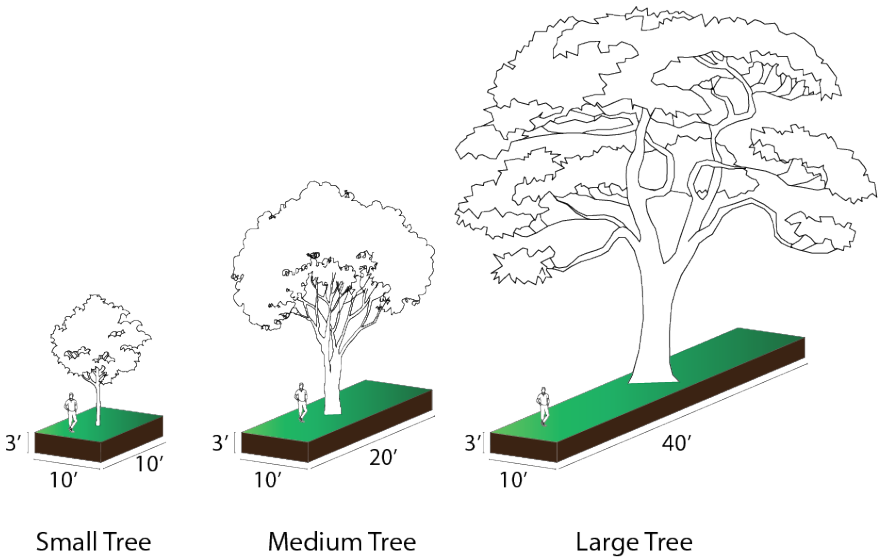
5.4. Planting Area Minimums for Mature Tree Sizes

Shade trees often struggle to survive in restricted planting spaces, such as parking lot islands and tree wells, and often do not achieve maturity. Minimum planting areas are required to ensure that shade trees achieve their intended mature canopy coverage.

Large Trees. Trees over 50’ in height at maturity shall have a minimum planting area of 400 square feet.

Medium Trees. Trees between 30’ and 50’ in height at maturity shall have a minimum planting area of 200 square feet.

Small Trees. Trees less than 30’ in height at maturity shall have a minimum planting area of 100 square feet.



Alternative to Planting Area Minimums. Minimum planting areas are not required if modular under-pavement systems that provide ample space for tree root development, such as Silva Cells, are used.

6. Tree Protection During Construction and Development

6.1. Purpose

The purpose of these requirements is to establish minimum protection standards to ensure trees that are to be saved remain undamaged, thus improving their long-term chances of survival. Trees survive the stress of construction best when they are left in stands or larger groupings. For that reason, it is recommended that the site be designed and developed so that Protected Trees, buffers, and other existing vegetated areas that are to remain undisturbed are contained in contiguous Do Not Disturb areas.

6.2. Tree Protection Fencing

Before any land disturbance and during the entire construction activity on the site, all Protected Trees and other Do Not Disturb areas shall be surrounded by approved tree protection fencing fabric or rigid fencing. The ground directly beneath and within the drip line of a tree canopy shall be designated as the Critical Root Zone (CRZ). Tree protection fencing shall be installed outside of the CRZ. For Historical Trees, this distance shall be increased one foot for every one inch in DBH. Tree protection fencing shall be maintained until a final certificate of occupancy has been issued. Failure to do so will invoke a stop-work order until the fencing has been appropriately installed or remedied.

6.3. Prohibited Activities Within Do Not Disturb Areas

During the entire construction period, there shall be no soil disturbance, compaction, or changes to the existing grade within Do Not Disturb Areas. Prohibited activities in these areas include the following.

- No stockpiling of construction materials.
- No parking of vehicles or storage of equipment.
- No portable buildings or portable toilets.
- No ropes, signs, wires, unprotected electrical installation, or other device or material shall be secured or fastened around or through a tree.
- No bore sampling.
- No toxic chemicals, gas, oil, salt brine, or other injurious substances shall be stored or allowed to seep, drain, or empty into a Do Not Disturb area.

- No silt from stormwater runoff shall be allowed to run onto Do Not Disturb areas. Silt protection fencing shall be installed on the uphill side of all Do Not Disturb areas.

7. Buffers and Screening Requirements

7.1. Purpose

The purpose of vegetative buffers around the perimeter of a site is to retain the rural character of Chatham County and to preserve mature, healthy, existing trees and other native vegetation. These requirements do not intend to remove existing stands of trees and native vegetation to plant immature species or maintain unhealthy tree stands.

7.2. Buffer Requirements

Buffers may consist of undisturbed vegetation, planted trees and shrubs, or a combination of existing vegetation, planted trees and shrubs, walls, berms, and fencing that effectively screen the development from the abutting road or property. The minimum buffer sizes and types of screen (A, B, or C) for proposed land use classes are shown below.

	Land Use Class of Adjacent Property Development					Land Use Class Across an Adjacent Street				
Proposed Land Use Class	**Com**	**O&I**	**Ind-L**	**Ind-H**	**R-A**	**Com**	**O&I**	**Ind-L**	**Ind-H**	**R-A**
Com	x	x	20’ B	20’ B	20’ A	20’ C	20’ B	20’ C	20’ C	20’ B
O&I	x	x	20’ B	20’ B	30’ A	20’ B	20’ B	20’ B	20’ B	20’ B
Ind-L	40’ B	40’ A	x	x	60 A	20’ A	20’ A	20’ C	20’ C	40’ A
Ind-H	60’ B	60’ A	x	x	80’ A	40’ A	40’ A	20’ C	20’ C	60’ A
R-A	x	x	x	x	x	x	x	x	x	x

Buffers with Supplemental Walls or Berms. When walls or berms meet the following requirements, the minimum width of a required buffer may be reduced by five feet. Fences shall have no impact on the minimum required width of a buffer.

Walls. Any wall used as part of a buffer shall be constructed in a durable fashion of brick, stone, or other masonry material or a combination thereof. Walls shall be a minimum height of 6 feet. Where walls are included in the buffer, they shall be located along the interior side of the buffer.

Berms. Earthen berms shall be a minimum height of four feet with a maximum slope of 3:1 and a top width of at least half of the berm height. Berms shall be stabilized to prevent erosion and shall be landscaped such that the screening requirements are met.

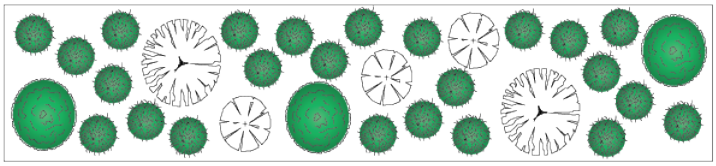
Retaining Walls. Retaining walls 3.5 feet or less in height may be located within a buffer. Retaining walls greater than 3.5 feet in height may be permitted if the wall material visually blends with the buffer, such as a vegetated living wall system.

Buffer Maintenance. Required buffers will not be disturbed for any reason except for permitted signs, driveways, sidewalks, or other pedestrian or bicycle paths, walls, fences, or required landscaping, landscaping maintenance and replacement, or maintenance and construction of utility lines and drainage features that cross the buffer.

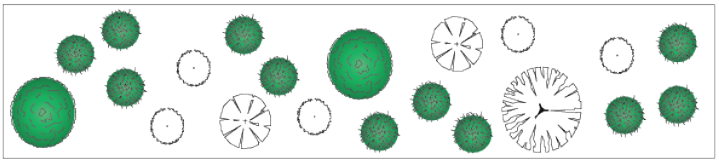
7.3. Types of Screens

Depending on the amount of visual barrier required, screens may be either opaque, semi-opaque, or minimal. Example buffers that are 20' wide by 100' long are shown below for each type of screen.

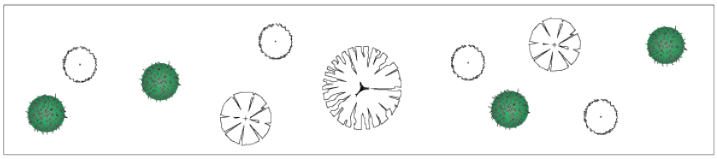
Screen A. Opaque. Creates a visual barrier such that there are no direct views from the street or from the adjacent properties to the development at any time of year. Plants are typically 100% evergreen.



Screen B. Semi-opaque. It 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.



Screen C. Minimal. It is intended less as a visual barrier and more for a specific purpose. Examples include preserving existing vegetation, providing continuity with nearby wooded areas, providing wildlife habitat, aesthetic purposes, etc.



Minimum Number of Plants Required by Buffer Width and Type of Screen Required

		Minimum Number of Plants Per 100 Linear Feet of Buffer Length				
Screen Type	**Buffer Width**	**Evergreen Tree**	**Large Canopy Tree**	**Understory Tree**	**Evergreen Shrub**	**Deciduous Shrub**
A	**20'**	3	2	2	24	x
	30'	5	3	3	36	x
	40'	6	4	4	48	x
	60'	9	6	6	72	x
	80'	12	8	8	96	x
B	**20'**	2	1	2	11	5
	40'	4	2	4	23	9
	60'	6	3	6	34	14
C	**20'**	x	1	2	4	4

New Plantings. New plantings are to reach recommended screening goals within three years of the installation and to be maintained at a determined level appropriate to the site into perpetuity.

Diversity of Plants. Not more than 25% of required trees or shrubs may be of the same species.

Incentive for Reduction in the number of Buffer Plants Required
Existing, healthy, native trees and vegetation in buffer areas may be counted in the number of buffer plants required if the buffer area remains undisturbed and protected during construction and development.

7.4. Additional Screening Requirements

This section addresses the screening of outdoor storage, utility, and equipment areas often associated with commercial uses. Outdoor storage includes areas where materials are stored, waste and recycling are handled and stored, mechanical/electrical equipment is located, or loading and vehicular work yards are located. These requirements do not apply to mercantile locations where commodities for sale are displayed on the sales site. Screening may include breaks in the visual barrier for vehicular and pedestrian egress. Where possible, storage areas should be concealed by site or building design. Where such is not possible, screening should be provided as follows.

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

Ground-mounted Electrical Transformer. Border plantings that are at least as high as the equipment shall be planted on the two most visible sides to achieve an 80% visual screen.

Dumpsters, Recycling Containers, and Stored Materials. Required screening may be achieved in one of three ways.

- A built enclosure of the same architectural style as the structures on the site, or
- An approximate 95% dense planting of evergreen shrubs and/or small trees that reaches the screen density within two years of installation and is maintained in perpetuity or until a fence is erected, or
- A 95% solid, treated, wood fence or wall 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.

Repair Work, Dismantling, or Servicing of Vehicles. An 8' high, 100% opaque fence, with evergreen border plantings that conceal 35% of the fence or equivalent screening is required.

Satellite Dish Antennas that are 25" in Diameter or Greater. A 70% visual screen that is the height of the dish or greater when viewed from the public right-of-way or adjacent residential usages is required.

Loading Areas. 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, screens, walls, berms, and other design techniques.

Delivery Door or Overhead Door Without Exterior Dock and Steps. No screening is required.

Overhead Delivery Doors With Exterior Loading Docks and Steps. Required screening may be achieved in one of two ways.

- An opaque fence or wall that is 6' high with low border plantings at the corners or 25' on center for areas of border plantings, **or**
- An approximate 95% dense planting of evergreen shrubs and/or small trees that reaches effective density within two years and is maintained in perpetuity or until a landscaped fence is erected.

Loading Dock Areas that also Store Dumpsters, Recycling Containers, or Materials
Required screening may be achieved in one of two ways.

- A 95% solid, wooden fence or wall at least 1' higher than the tallest piece of equipment to be screened. Fences 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 two years of installation and is maintained in perpetuity or until a landscaped fence is erected.

8. Landscape Design Standards

8.1. Purpose

Attractive landscaping is an essential component of the overall visual appeal of development. It softens the impact of structures and visually connects the built environment to the natural environment. Chatham County seeks to maintain its rural, forested, natural aesthetic; therefore, landscaping should be designed using the following standards.

8.2. Selection of Plants

The selection of landscaping plants shall be, for the most part, naturally occurring species that are found in the natural plant communities endemic to the area. Non-native plants should only be considered when native species and cultivars cannot meet the needed requirements. A list of preferred trees, shrubs, grasses, perennials, and groundcovers can be found in Appendix___.

Invasive Exotic Plants. Under no circumstances should invasive exotic plants be used in any landscape plan. A list of invasive exotic plants can be found in Appendix___.

Edible Plants. Food insecurity is a problem in many areas of Chatham County. Increasing access to healthy food by incorporating plants that produce edible fruit and nuts in landscape plans is encouraged. A list of suggested edible plants can be found in Appendix___.

Heat and Drought Tolerance. Plants resistant to drought and do not require heavy irrigation are preferred, particularly in areas receiving full sun.

Deer Resistance. Chatham County has an abundance of deer. Plants resistant to deer browsing are encouraged, particularly in areas near roadways or other areas of conflict with human activity.

8.3. Naturalistic Landscaping Design

Naturalistic landscapes are the preferred aesthetic for Chatham County. Achieving a naturalistic landscape relies on thoughtful plant placement and a natural flow of the design. Naturalistic landscapes are not random, messy, or chaotic.

Benefits. Naturalistic plantings are not only more drought-resistant, they also help control invasive species while keeping maintenance and chemical needs low. Properly designed, naturalistic landscaping can reduce water usage, enhance water quality, compensate for habitat loss, and encourage biodiversity.

Design Principles. The following naturalistic design principles should be used to achieve a natural-looking aesthetic.

Rhythm. A naturalistic landscape will have a rhythm that is present but not easily defined. In nature, trees are often found in clusters of the same species, and ground layer plants are often found in drifts or sweeps. Large swaths of same-species plants enlarge a space visually, while their repeated patterns create rhythm and flow.

Vertical Lines. While horizontal lines create stability, vertical lines help to break up the view and lead the eye around the landscape. Vertical lines also help unify a design and visually contain the exuberance of naturalistic plantings. Massed trees, architecture, or art can serve as outstanding vertical elements.

Asymmetry. As found in nature, planting design should be asymmetric but balanced in terms of size, form, and texture.

Color Palette. Limit the color palette, and use color to draw attention to building entrances, signs, or other areas that are to be noticed. An over-abundance of flowering species at any given time is not typically found in nature.

Natural Forms. Avoid using plants that require shearing or pruning to maintain a desired size or shape. All plants have a natural shape and form that improves over time if left alone. Allowing each plant to achieve its natural form will result in a natural-appearing landscape.

Hedges. The use of hedges is discouraged. Where space is limited, and hedges are needed to accomplish screening, the plants should be staggered to create a sense of depth.

8.4. Soil Cover

No disturbed soil shall be left bare after construction. Shrubs, grasses, perennials, groundcovers, or mulch are preferred over turfgrass to protect against soil erosion.

Groundcovers. Groundcovers are preferred over mulch, particularly in plant beds. Groundcovers shall be regularly weeded until they are established enough to provide natural weed control.

Mulch. Where mulch is used, it shall be maintained year-round as a 3 to 4-inch fine-textured organic layer (wood chips, composted leaves, shredded bark, or pine straw) to conserve moisture and reduce the need for supplemental irrigation. Inorganic mulches such as gravel or river rock are discouraged around the base of plants since they accelerate water loss from plants and soil by absorbing and reradiating heat from the sun. Plastic as a soil cover is not permitted as it prevents oxygen exchange and encourages shallow root growth.

Turfgrass. Groundcovers are preferred over turfgrass because of the heavy use of irrigation, fertilizers, and chemicals that are commonly needed to maintain turfgrass. In areas where turfgrass is used, it is recommended to be mowed at the highest setting, especially during periods of drought.

8.5. Drainage, Access, or Utility Easements

Plants shall not be installed in drainage, access, or utility easements.

8.6. Sight Triangles

Plants shall not be installed in sight triangles.

8.7. Landscaping of Parking Areas

A mix of trees and shrubs shall be planted within and around the perimeter of parking areas to provide screening, shade, and visual variety.

Screening Requirements. Screening of parking lots is required for aesthetic purposes and to prevent the glare of auto lights upon adjacent properties. The screen used may be composed of structures, plant material, fences, walls, berms, or any combination of these elements.

Structures. Parking lots may be located to the side and rear of structures and away from roadways, thereby using buildings or other architectural elements as a visual barrier for the parking area.

Planting Areas. A planting area at least 8 feet wide and planted with evergreen shrubs may be a visual barrier for the parking area. All shrubs shall achieve a height of 4 feet within three years.

Fences and Walls. Fences and walls shall be compatible with adjacent structures and supplemented with plant material that screens 25% of the fence or wall area within one year of installation.

Berms. Earthen berms shall be a minimum height of 4 feet with a maximum slope of 3:1 and a top width of at least half of the berm height. Berms shall be stabilized to prevent erosion and shall be landscaped such that the screening requirements are met.

Landscaping Requirements. Landscape plantings and trees are required in parking lots for shading and to reduce the visual impact of large open pavement areas.

Proximity to Structures. Parking spaces shall not directly abut structures. A minimum of 15 feet between parking areas and structures shall be left for sidewalks and landscaping.

Parking lot Islands. Landscaped islands are required at the ends of parking aisles and a maximum of every ten spaces.

Tree Canopy Coverage. All parking spaces shall be within 60' of the trunk of a canopy tree.

Conflict with Parking Lot Lighting. Trees shall be located so as not to diminish the effectiveness of required lighting, and in no instance shall lighting be located closer than 15 feet to medium or large canopy trees, and 8 feet to small, understory trees.

Barriers or Wheel Stops. Wheel stops or 6-inch standard curbs shall be provided between vehicular use areas and landscaped areas. Otherwise, trees and shrubs shall be kept a minimum of 5 feet from the edge of the pavement.

8.8. Landscaping Around Buildings

Plantings adjacent to building walls should be included along sides of buildings where devoid of architectural interest. Any good sources for this?

Building Planting Minimums To be determined.

8.9. Water Conservation Standards

To preserve Chatham County's limited natural resources, it is highly recommended to practice year-round water conservation.

Recycled Rainwater. All possible efforts should be made to collect and store rainwater from the roofs of structures for use in irrigating landscapes. Ideas for incentives?

Tree Watering Gator Bags. Gator Bags should be used around the base of newly planted trees during their first year after installation.

Efficient Irrigation. It is strongly recommended that efficient irrigation be used to maintain new plantings. No water runoff shall occur during irrigation periods. Watering of walks, driveways, and streets is not permitted.

Zones and Rain Sensors. Plants should be grouped in zones that have similar water requirements and irrigated by separate zone control. Rain sensors shall be installed with all irrigation systems.

Irrigation Times. Irrigation shall occur between the hours of 9:00 p.m. and 9:00 a.m. to decrease water loss due to evaporation.

Drip Irrigation. Drip irrigation shall be used in plant beds that are mulched or on steep slopes to thoroughly soak the area without washing away the mulch or causing runoff.

Overhead Watering. Overhead watering should be limited to turfgrass or micro-sprinklers for small areas. Turfgrass should not be watered daily except when establishing new turf, and that watering should decrease after 3 weeks.

8.10. Plant Material and Installation Standards

Project landscaping shall be installed before the facility earns a certificate of occupancy. The owner's responsibility is to maintain the landscape plantings in good health and promptly replace any failed plants.

Plant Material. All new plant material shall conform to the American Standards for Nursery Stock, published by and available from the American Association of Nurserymen. All plant material shall be free of disease and pests, have good structure and branching form, be free from constricting ties, have a healthy root system without girdling roots, have a visible root collar at the time of planting, and be in vigorous health.

Large Trees. Trees over 50' in height at maturity shall have a minimum caliper of 2 inches and a height of 16 feet when installed.

Medium Trees. Trees between 30' and 50' in height at maturity, shall have a minimum caliper of 2 inches and a height of 10 feet when installed. Multi-stemmed trees shall have at least three stems with a minimum caliper of 1 inch on any stem and must be at least 8 feet in height when installed.

Small Trees. Trees less than 30' at maturity, must have a minimum caliper of 1.5 inches and a height of 6 feet when installed. Multi-stemmed trees shall have at least three stems with a minimum caliper of 0.5 inches on any stem and must be at least 4 feet in height when installed.

Shrubs. All shrubs shall have a minimum height or spread of 18 inches at the time of planting. Shrubs required in buffers shall be a minimum of 3 feet in height at the time of installation.

Plant Installation. Installation of trees and other plant material shall be in accordance with the standards established by the American National Standards Institute (ANSI).

Timing of Plantings. Preparation of planting beds and installation of plants shall not occur until all other site construction activity is finished. Frozen or saturated soils should not be worked, and plants should not be installed during periods of extreme drought and water restrictions. To improve survivability, trees should be planted after October 1 and before March 31.

Soil Modification. Before planting, soil characteristics such as soil type and texture, pH, nutrient availability, and drainage shall be determined. Soil modifications shall be required on sites where the soil is poor in quality and structure. Soil modifications may include tilling, deep ripping, the addition of fertilizer or other organic compounds, conditioning additives to effect a change in the water holding capacity of the soil, soil structure, soil texture, or pH.

Preparation of Individual Planting Holes

- Remove soil to approximate depth of root ball or container and three times the width.
- Scarify bottom and sides of the hole.
- Soak roots if necessary to loosen any circling roots or heavy root masses to provide maximum root to soil contact.
- Place root ball such that the trunk flare or crown sits above grade.
- For balled and burlap plants, remove ties.
- Fold burlap and wire basket away from the top third of the root ball. Synthetic burlap must be removed completely.
- Completely break up backfill before use.

- After planting, create a raised collar of native soil around the root ball to retain water.
- Water thoroughly.
- Mulch with a fine-textured organic layer, such as wood chips, composted leaves, shredded bark, or pine straw. Three inches of mulch is sufficient for wood chips or composted leaves; 5-6 inches is suggested for pine straw. The mulch shall be kept at least 6 inches away from the trunk of any tree and 3 inches away from the base of shrubs.

Trimming and Pruning. All required plantings shall be allowed to reach their mature size. Trimming and pruning shall be done in strict accordance with the ANSI A300 standards. Topping is not an acceptable pruning practice. The County may require the removal and replacement of any trees that have been topped or excessively trimmed.

Tree Staking. Staking trees is permitted at the discretion of the installer, who also bears responsibility for tree establishment and removal of the stakes and guy wires. Conditions for which staking may be helpful include exposure to wind, trees planted on slopes, trees with large crowns in proportion to their roots, damage to the root ball during installation, or trees planted in areas where people may pull on them or use them for support. Removal of staking material is the responsibility of the installer. All ropes, wires, straps, or other material attached to the tree must be secured 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 also be removed at the same time unless it is biodegradable, and removal would result in injury to the tree.

Plantings near Parking and Vehicular Use Areas. All planting areas adjacent to parking or vehicular use areas shall be protected from vehicular intrusion or damage from excessive vehicular lubricants or fuels.

9. On-Site Signage Design Standards

9.1. Purpose

On-site signage shall be architecturally compatible with the building's style, materials, and colors and should not dominate the landscape or building facade. The following criteria shall be used when designing on-site signage.

- Signs should be architecturally compatible with the style, composition, materials, colors, and details of the building and other signs used on the building or within that development project.
- Signs should be confined to signage areas, and should not interfere with door and window openings, conceal architectural details, or obscure the facade’s composition.
- When possible, signs located on buildings should be placed at the same height to create a unified signage band. The size, color, lighting design, and style of all signs for commercial projects such as shopping centers shall be consistent throughout the project. This includes out-parcels, signs attached to buildings, and signs at the entrance(s) to the center.
- Illuminated signs may be either spotlighted or backlighted with a diffused light source. Spotlighting shall require complete shielding of all light sources, and the light shall be contained within the sign frame and shall not significantly spill over to other portions of the building or site. Neon signs shall employ low-intensity colors. Flashing signs are prohibited.

10. Exterior Lighting Design Standards

10.1. Purpose
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. To minimize light pollution, Dark Sky compliant light fixtures are encouraged. The use of the site and parking lot lighting provided by a utility company does not relieve the owner or developer from conforming to lighting design standards. The following criteria shall be used when determining the design of the exterior lighting for a site.

- The type and style of light fixtures shall be consistent with the style and character of architecture on the site.
- Light poles and fixtures shall be of a matte or low-gloss grey, black, dark earthen, or bronze finish, unless the Appearance Commission grants permission for a special color scheme or theme.
- Background spaces such as parking lots and driveways shall be illuminated as unobtrusively as possible to meet the functional needs of safe circulation and protect people and property.
- Foreground spaces, such as building entrances and plaza seating areas, shall utilize lighting that defines, highlights, or enhances the space without glare.
- No outdoor pole lighting fixture shall be located within any required landscape buffer.
- Light sources must be compatible with the light produced by surrounding uses and must produce an unobtrusive degree of brightness in both illumination levels and color temperature.
- Natural areas and natural features shall be protected from light spillage from off-site sources.
- All exterior lighting shall be either amber or white except for low-light output (800 lumens or lower) landscaping or another decorative lighting, signage lighting, or customer entrance or service area lights aiming down and installed under a canopy or similar roof structure.

11. Review by the Chatham County Appearance Commission

11.1. Mission Statement of the Appearance Commission
One of the missions of the Appearance Commission is to apply and facilitate these *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 these Design Standards.

11.2. Procedure for Reviews
Submittals to the Appearance Commission shall be digitally submitted to the Chair **7 days** before the review date. The submittal will be immediately forwarded to all other members of the Appearance Commission. All presentations to the Appearance Committee shall be limited to 15 minutes to allow for questions from the Commission and the public. Incomplete submittals will not receive a review.

Preliminary Review:
At a preliminary design stage, the Appearance Commission may take one of the following actions:

- Approve the project plan as presented, or
- Approve the project plan with recommendations or conditions, or

- Disapprove the project plan as presented.

Final Review:
For projects that have received preliminary approval by the Appearance Commission, a presentation of the final plans shall be made before obtaining a building permit to confirm that recommendations and requirements related to the preliminary plan have been implemented satisfactorily. The Appearance Commission may require the plan to be modified to address or implement the requirements or recommendations previously issued.

11.3. Requirements for Submittals
The following drawings and maps constitute a complete submittal. Examples of each type of drawing and map are shown in Appendix___.

For a Preliminary Review:

1. **Existing Conditions Map on an Aerial Photo**
   An aerial photo of the site zoomed out to a scale that includes all adjacent parcels, provides necessary context for the site, and provides an opportunity to minimize fragmentation of dwindling wildlife habitat by preserving and connecting forested and open space areas within and across sites. The Existing Conditions Map shall show:
   - Vicinity Map
   - Scale and north arrow
   - The site and all adjacent parcels, labeled with their zoning designations
   - Location of existing roadways, labeled with names
   - Topography showing existing contours
   - Location of natural features including streams, wetlands, floodplains, rock outcroppings, steep slopes, upland pools, and mature forests
   - Location of all Protected Trees on the site
   - Location of existing historical structures
   - Location of existing adjacent sidewalks, hiking trails, greenways, and bicycle lanes
   - Location of existing overhead and underground utility easements
   - Riparian and watershed boundaries and wetlands
   - Special flood hazard areas

2. **Preliminary Site Plan on an Aerial Photo**
   An aerial photo of the site, overlaid with a preliminary site plan, shows how the proposed development fits within the site's constraints. The Preliminary Site Plan shall show:
   - Vicinity map
   - Scale and north arrow
   - Property lines
   - Required setbacks
   - Required buffers with screen types
   - Topography showing existing contours
   - Proposed structures, dimensioned

- Location of all Protected Trees on the site
- Location of existing vegetation that is to be preserved as Do Not Disturb areas
- Location of existing and proposed roadways, driveways, and parking areas
- Location of existing and proposed overhead and underground utility easements
- Proposed forms of pedestrian circulation such as sidewalks, trails, and greenways
- Proposed locations for retention and detention ponds
- Proposed landscaped areas for the site, such as for street trees, parking areas, around structures, and within buffers

For a Final Review:

1. Provide the drawings and documents presented during the preliminary review.

2. **Final Site Plan on an Aerial Photo**
   Provide a final site plan overlaid on an aerial photo that shows the existing vegetation in the buffers around the site's perimeter. The Appearance Commission reserves the option to add reasonable requirements to the final site plan if they determine it to be appropriate. The Final Site Plan shall show:
   - Vicinity map
   - Scale and north arrow
   - Property lines
   - Required setbacks
   - Required buffers
   - Overhead and underground utility easements
   - Limits of disturbance
   - Tree protection fencing
   - Structures, loading areas, outdoor storage areas, electrical transformers, and trash receptacles
   - Roadways, driveways, and parking areas
   - Pedestrian circulation such as sidewalks, trails, and greenways
   - Retention and detention ponds
   - Landscaped areas for the site, such as for street trees, parking areas, around structures, and within buffers

3. **Final Landscape Plan**
   The Final Landscape Plan shall show:
   - Vicinity map
   - Scale and north arrow
   - Property lines
   - Required setbacks
   - Dimensioned buffers with screen types

- Overhead and underground utility easements
- Limits of disturbance
- Location of Protected Trees and their critical root zones (CRZ)
- Tree protection fencing and type of fencing to be used
- Riparian and watershed boundaries and wetlands
- Special flood hazard areas
- Tree canopy coverage calculations required for paved areas
- Locations and dimensions of planting areas and parking lot islands
- Number of parking spaces
- Paving materials (asphalt, concrete, pervious materials, etc.)
- Sight triangles
- Locations and dimensions of walls, berms, and fencing
- Locations of new plant material with a plant list that includes common and botanical plant names, quantity, caliper, height, and spacing
- All pertinent details, specifications, procedures, and schedules for new tree and shrub installation, transplanting, tree wells, tree staking, etc.

4. **Landscape Maintenance**
   Provide a summary that describes plans for irrigation, plant fertility, pruning, mowing, mulching, weed control, pest management, plant replacement, litter, removal of staking, and other essential aspects of site maintenance, including the protection of existing vegetation which is designated to be preserved.

5. **Architectural Drawings** Architects: anything else you need to see?
   Provide drawings that show the following:
   - Scaled drawings of the floor plans. Include square footage figures for each floor. Show all proposed door and window locations
   - Elevations of each façade indicating heights, floor levels, and materials
   - A color rendering of each façade, describing the location and use of each color and material for roofing, siding, doors, windows, etc.
   - Illustrative perspective renderings of the proposed building(s), including at least one eye-level view from a public right-of-way and one view illustrating the character of any adjacent buildings in context

6. **On-Site Signage Plan**
   Provide an on-site signage plan that shows:
   - A color rendering of all on-site signs
   - Dimensions of the signs
   - Dimensions of each sign's supporting members
   - The maximum and minimum heights of the sign
   - The proposed location of the sign in relation to the building and/or physical surroundings

- The Underwriters' Laboratory label number shall be required before erecting any electrical sign

7. **Exterior Lighting Plan**
   Provide an exterior lighting plan that shows:
   - The type and style of light fixtures to be used on the site, including the poles and brackets
   - The location of all light fixtures on the site
   - The degree of brightness of all light fixtures, including both illumination levels and color temperature