

10.9 Chatham County Corridor Overlay Districts

Formatted: Bullets and Numbering

A. Purpose and Intent

The purpose of the node overlay districts is to ensure that proposed developments are designed in a way that promotes or retains rural character throughout Chatham County by the following actions:

- 1- Preserving and protecting the identity and character of Chatham County.
- 2- Encouraging the proper use of the land by promoting an appropriate balance between the built environment and preservation/conservation of open space (note that some places may be appropriate for more urban type development and less open space, such as the nodes designated in the Land Conservation and Development Plan);
- 3- Promoting air and water quality by preserving the natural landscape whenever possible, in part by placing the built environment behind existing tree cover, which is of paramount importance to maintaining rural character in the presence of such development;
- 4- Providing proper standards that ensure a high quality appearance for development while promoting good design allowing individuality, creativity, and artistic expression;
- 5- Encouraging connectivity for developments, thoroughfares, and streets;
- 6- Enhancing the business economy by promoting tourism, associated industry, and commerce;
- 7- Preserving and improving property values and protecting private and public investment.

Deleted: or crossroads

B. Applicability

The standards established herein apply to all areas defined as one of the overlay districts listed in 10.9.5 or 10.9.6. The node overlay districts are locations along the major corridors deemed appropriate in terms of access, infrastructure availability, and environmental footprint but are scale dependent in that some nodes are appropriate for a small grocery store, while others might be regional shopping destinations. The scenic overlay district encompasses the remainder of the corridor overlay area where preservation and conservation of open space should be the main objective. These districts are shown on the Official Zoning Map.

Formatted: Bullets and Numbering

The following are exempt from these standards:

- Single-family construction,
- active, bona fide farm and forestry uses,
- any otherwise permitted accessory use associated with a farm or forestry use,
- valid home occupations with a permit
- communications towers that are subject to the Chatham County Cell Tower Ordinance,
- valid permits as of the adoption date of this amendment, and
- expansion of non-conforming business uses (these still require a conditional use permit and should attempt to incorporate elements of their overlay where feasible

Formatted: Bullets and Numbering

Deleted: on existing lots of record (that existed as of the date of this amendment)

Deleted: and

C. Procedure

All non-residential or mixed use development in the corridor overlay district is considered to be conditional use and shall be subject to the conditional use process in §15 of the Chatham County Zoning Ordinance. Any major subdivision is also subject to this conditional use requirement.

Pursuant to §15.2 of the Chatham County Zoning Ordinance, all projects in the corridor shall submit plans as part of the conditional use process. In the case of corridor projects, these shall be to scale except renderings, which should be reasonably close to scale and include:

- Site plan;
- Landscape plan;
- Drainage plan;
- Sign plan;
- Parking and Access plan;
- Lighting Plan;
- Perspective drawings, or an acceptable equivalent of the project from four (4) surrounding elevations showing as many proposed improvements as possible, in a way that accurately conveys a sense of what those improvements will look like when constructed.

To ensure efficient application of the landscaping provisions of this district:

- At the conceptual stage of development an informal walk-through of the site be scheduled with the Planning Department, so the developer has an idea up front as to the Planning Department's assessment of the site conditions and surrounding area.
- A landscape plan shall be submitted to the Planning Department for review. Buffer areas where plant material will be preserved or installed shall be marked on the landscape plan, as well as location of all utilities. Photographs depicting all relevant site conditions are required.

D. Violations

Any violation of a term or condition of a conditional use permit shall be treated the same as a violation of this ordinance and shall be subject to the same remedies and penalties as any such violation. Specific to this section is a requirement that the development look reasonably similar to the renderings submitted with the plans. In a situation where non-conformity with the submitted renderings is suspected, the Appearance Commission will review architectural designs from the submitted renderings and architectural drawings for similarity and report findings to the Planning Board. Projects with significant amounts of introduced vegetation may be required to post a bond to ensure the quality and maintenance of the introduced vegetation for a five (5)-year period. The Planning Department will determine the necessity of such a bond and make the determination on whether the renderings and the development are reasonably similar.

E. Types of Nodes

There are four (4) scales of intensity spelled out in the Land Conservation and Development Plan: Neighborhood, Community, Regional, and Special. Performance standards for the Neighborhood, Community, Regional, and Special Areas are the same, but the mix of uses, the size and number of buildings, and the cumulative allowed non-residential uses will differ.

The square footage measurements are cumulative for the node, regardless of property ownership. For example, if 80,000 square feet of grocery and 80,000 square feet of other

Deleted: <#> are exempt from these standards.¶
The major corridors as defined by this ordinance are shown on the Official Zoning Map and include a 1500' distance perpendicular to the public right-of-way measured from the edge of the right-of-way on the following thoroughfares in Chatham County's jurisdiction:
-----Section Break (Continuous)-----
<#>US 15-501¶
<#>US 64¶
<#>US 421¶
<#>US 1¶
<#>NC 87¶
<#>NC 751¶
<#>Pittsboro-Moncure Road
-----Section Break (Continuous)-----
The standards established herein apply to all areas defined as one of the overlay districts listed in 10.9.5 or 10.9.6. The node overlay districts are locations along the major corridors deemed appropriate in terms of access, infrastructure availability, and environmental footprint but are scale dependent in that some nodes are appropriate for a small grocery store, while others might be regional shopping destinations. The scenic overlay district encompasses the remainder of the corridor overlay area where preservation and conservation of open space should be the main objective. These districts are shown on the Official Zoning Map.
-----Section Break (Continuous)-----
P

Deleted: ¶
A clearing permit from consultation with the Planning Department to help identify opportunities to save vegetation is required for projects not subject to Conditional Use requirements of this overly (small residential subdivisions and residential building permits).

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

Deleted: five

Deleted: 5

Deleted: Crossroads,

Deleted: The Crossroads Activity Center is of a much smaller scale and performance standards for the Crossroads Activity Center are spelled out separately.¶

shops already exist in a given Neighborhood Node Overlay District on one or two properties, other properties would not be eligible for additional non-residential uses without a change of the overlay district and the Land Conservation and Development Plan.

← - - - Formatted: Bullets and Numbering

1. Neighborhood Node Overlay District

All property in a Neighborhood Node Overlay District (NNOD) as designated on the Chatham County Zoning Map is subject to the NNOD standards. This is generally defined as an area along one of the major corridors that has been specifically designated as a Neighborhood-scale Node in the Land Conservation and Development Plan.

The NNOD permits retail, office, research, and civic uses. Residential uses are encouraged as part of an overall, mixed-use development, but not as a stand-alone use. This node scale envisions up to two small retail or grocery anchors (up to 40,000 square feet each) with ancillary retail, restaurant, services and offices collectively equaling the square footage of the anchors to a maximum of 160,000 square feet of non-residential space in any given, contiguous node.



Figure 3: Neighborhood Activity Center Examples

Deleted: Crossroads Activity Center (CAC)¶

<sp>Crossroads Activity Centers are allowed as “floating” areas within the scenic corridor overlay district. The site footprint<sp> is not to exceed two (2) acres for the purpose of local convenience shopping—i.e., gas station, convenience store, ancillary grill or restaurant (with residential encouraged as an ancillary use). The site may be larger provided the non-residential uses, excluding septic field, do not exceed two (2) acres. Crossroads centers are ideally around five (5) miles apart, but are not allowed within three (3) miles (measured on the corridor) from each other. Once one CAC exists at any crossroads location, any further development would require a reclassification of the node as a Land Conservation and Development Plan map change by the BOCC.¶

Development in the CAC is subject to the following building and site design standards that differ from the standards in the other nodes;¶

¶
<sp>Any structures in the CAC are subject to a 50 foot vegetated buffer depth which runs concurrent with and is limited to the frontage of the improvements. Frontage beyond the footprint of improvements will abide by the standard depth of buffers given herein. Where applicable, a building shall screen any refueling areas or car washes from view; flat or parapet roofs are prohibited; refueling station canopy roof pitch and materials shall match the main building; any outbuildings or ancillary buildings will follow the same architectural styles and materials as the main building; All other provisions of the general standards— architectural requirements, parking, signs, access, and landscaping standards shall apply. ¶

Formatted: Bullets and Numbering

2. Community Node Overlay District (CNOD)

Deleted: ¶

Page Break

All property in a CNOD district as designated on the Chatham County Zoning Map is subject to the CNOD standards. This is generally defined as an area along one of the major corridors that has been specifically designated as a Community-scale Node in the Land Conservation and Development Plan.



The CNOD permits retail, office, research, and civic uses. Residential uses are encouraged as part of an overall, mixed-use development, but not as a stand-alone use. This node scale envisions up to two large retail or grocery anchors (up to 80,000 square feet each) with ancillary retail, restaurant, services and offices collectively equaling the square footage of the anchors to a maximum of 320,000 square feet of non-residential space in any given, contiguous node.



Figure 4: Community Level Activity Center Examples

Formatted: Bullets and Numbering

3. Regional Node Overlay District

All property in a Regional Node Overlay District (RNOD) as designated on the Chatham County Zoning Map is subject to the RNOD standards. This is generally defined as an area along one of the major corridors that has been specifically designated as a Community-scale node in the Land Conservation and Development Plan.

The RNOD permits retail, office, research, and civic uses. Residential uses are encouraged as part of an overall, mixed-use development, but not as a stand-alone use. This node scale envisions multiple large-format retailers and related other retail, dining, and entertainment. Office and other uses are permissible but should compliment the core retail component of the regional center. Residential is also permitted as part of the overall mix, but should be carefully considered and integrated where appropriate. Multiple stories that integrate residential units over smaller commercial tenants are encouraged, especially if used in conjunction with parking structures.



← Formatted: Bullets and Numbering

Figure 5: Regional Node Examples



4. Special Node Overlay District



Figure 6: Alternative Office Architecture

The Special Node Overlay District is for nodes that do not fit a standard mix of non-residential uses, but would be primarily non-retail, i.e., corporate campus, research campus, industrial use, or a node with a significantly different character. Architectural guidelines may be modified if done as part of an overall corporate or research campus or for industrial uses. Retail uses would remain subject to the architectural guidelines.



Figure 7: Office Campus Illustration

Formatted: Bullets and Numbering

5. Scenic Overlay District

The Scenic Overlay Districts are locations along the corridor where preservation and conservation of open space is paramount. Standards for intensive development are higher in the scenic overlay district to lessen the impact of the intensity in the rural or natural surroundings.

These districts differ from the node districts in that:

- They have a deeper buffer requirement from the corridor—150 foot buffers are required;
- Single-use buildings can be no larger than 65,000 square feet except for farm and industrial buildings, which are exempt from this requirement;
- Allow only one access along the corridor unless additional access is required for public safety reasons (and then right-in, right-out only);
- Allow fewer, smaller signs on the corridor (only at entrances), see §10.9.10.4.3.
- Require a unified sign plan that limits the color palette of the development to earth-tones and no more than 3 colors.

Otherwise the same development standards as the nodes would apply.



Figure 8: Scenic Rural Road

F. Access

Formatted: Bullets and Numbering

All developments in the 15-501 North corridor (Orange County line to Mount Gilead Church Road) will be inter-connected for both vehicles and pedestrians. All other developments in other corridors shall be inter-connected when practicable and desirable unless impractical because of physical features. This will take the form of cross-access between adjacent properties, keeping traffic off the public streets, encouraging shared parking, and promoting shorter, pedestrian-friendly connections between developments. These connections include (but are not limited to) residential to commercial connections, commercial-to-commercial connections, and connecting to stub-outs in existing developments. Traffic directly generated by a new development's connection to an existing neighborhood may require some off-site traffic calming improvements be done by the new project developer to mitigate for pedestrian safety. In cases where motor vehicle connectivity is deemed impractical, bicycle and pedestrian connectivity shall be provided.

Formatted: Bullets and Numbering

1. Acceleration and Deceleration Lanes

For driveways on NCDOT maintained roads where acceleration and deceleration lanes are required, said improvements will be built to NCDOT specifications. All other driveways are subject to the following (including those on NCDOT roads that do NOT require them per NCDOT):

Deceleration/Right Turn Lane. A minimum 50' long lane (10' wide) is required where traffic volume warrants no specific right turn lane length. The 10' lane widening must extend across the curb or pavement returns of the proposed entrance design where no acceleration lane is required. This section does not affect other ordinances which set forth minimum required frontage street improvements at proposed subdivision street access points.

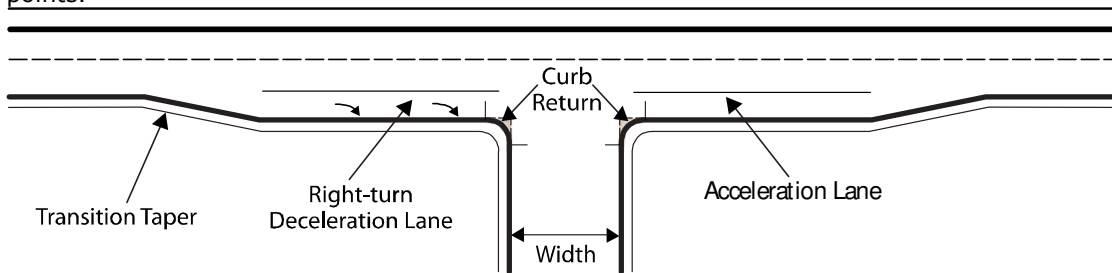


Figure 9: Deceleration/Acceleration Lane Illustration

Acceleration Lane. A minimum 50' long acceleration lane is required where traffic volume warrants no specific acceleration lane length. The 10' lane widening must extend across the curb or pavement returns of the proposed entrance design where no deceleration lane is required. This section does not affect other ordinances which set forth minimum required frontage street improvements at proposed subdivision street access points.

Applicants are encouraged to consider alternative entrance widening geometrics for minor roads and private mini-roads, where appropriate, but must provide the Planning Department with adequate written justification for a waiver during each project's Conditional Use Permit (which must be approved by the BOCC). For minor & major residential collector streets, the

Deleted: preliminary design stage

minimum standards shall normally be met, except where additional acceleration lengths are required as noted above. Industrial/commercial access locations shall be designed to accommodate the appropriate American Association of State Highway and Transportation Officials (AASHTO) design for vehicle turning movements and lane width & length requirements.

Diagonal throat road entrances are also encouraged because they screen the view from the corridors more effectively than a perpendicular entrance.

2. Number of corridor access points

Motor vehicle access points along the corridor shall be limited to the greatest practical extent to allow for the free flow of traffic along the corridor. Access points along the corridors will be encouraged to use right-in, right-out access where ever possible to discourage left-turn movements and maintain a free flow of traffic. A landscaped island shall separate points of ingress from egress and shall be of sufficient size to permit the inclusion of a future signalized straight/left lane without destroying the island or its intended aesthetic and traffic calming effect.

Access points on existing local thoroughfares off the major corridor shall be used instead of direct corridor access where possible.

Driveways greater than 2 lanes wide shall include a median separation wide enough to be a pedestrian refuge. For all driveways, crosswalks will be clearly defined across ingress and egress points and signage alerting right-turning motorists to pedestrians will be included as part of the site plan. When pedestrian facilities are not directly at the intersection with the street or traffic speeds are slow enough for their safe use, a raised crosswalk with differentiated pavement or pavers will be used to slow motorists and alert them to the presence of the pedestrian crossing.

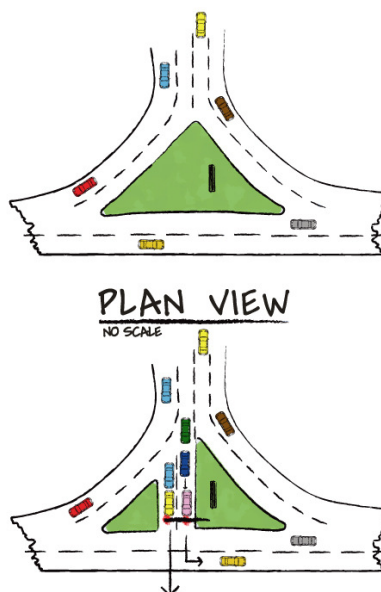


Figure 10: Entrance Island Illustration

3. Internal Circulation

The internal circulation of a development functions well when it is designed with respect to highway access point(s) rather than the building(s). The internal circulation of a development will:

- a. Provide safe and reasonable access to and from the street to motorists, cyclists, and pedestrians.
- b. Provide a reasonable transition between the access and the internal circulation, especially by making sure the driveways are wide and long enough.

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

Deleted: 1. .

Formatted: Bullets and Numbering

Deleted: 2. .

- c. Design the building footprint(s) within the constraints of the internal circulation and the parking.
- d. Keep internal blocks short, using greens, squares, and circles to slow and control the flow of traffic.

The throat length is the distance between the street and the end of the driveway inside the land development and is an important part of internal circulation. The following table provides recommended throat lengths when the corridor buffer does not exceed the recommended throat length (in which case the driveway could be no shorter than the buffer distance):

Table 1: Recommended Driveway Throat Length

Commercial Development Type	Recommended Driveway Throat Length
Large and medium shopping centers with greater than 200,000 gross leaseable square feet in floor area	200 to 250 feet (about 15 car lengths)*
Small commercial developments with signalized access driveways	<u>100 feet in nodes, 150 feet in scenic overlay, otherwise</u> 80 to 90 feet (five to six car lengths)*
Small commercial developments with unsignalized commercial driveways	<u>100 feet in nodes, 150 feet in scenic overlay, otherwise</u> 30 to 50 feet (two to three car lengths)*

*In all cases, the throat length cannot be less than the undisturbed vegetative buffer.

Deleted: Source: Florida Department of Transportation¶

Formatted: Bullets and Numbering

4. Transit Access

Each site identified should reserve adequate space for a transit shelter to be constructed at a future date if public transit service becomes available. This site should include adequate space to allow for the loading, unloading, and smooth passage of wheelchairs, as determined by the transit provider reviewing the plans for the proposed site.

Each bus stop should have direct sidewalk access that links it to the pedestrian network for the development as a whole.

In the case of a stop located along the major road, adequate space should be reserved for a bus bay so that buses can pull out of traffic.



Figure 11: Sites identified for future bus stops should have direct sidewalk access and include adequate space for a bus shelter and for people in wheelchairs.

Formatted: Bullets and Numbering

5. Bike Access

On local streets low traffic speeds and volumes allow bicyclists and motorists to safely share the road. Where improvements are made to public streets that front the development

property, wide outside lanes or bike lanes shall be incorporated based on input from NCDOT and/or Chatham County Staff. Sidewalks are not acceptable as substitutes for bike lanes, but multi-use paths can be used provided they provide a safe alternative for bicycle through traffic, merging them safely on and off the road or connecting to adjacent paths. When used, bike lanes shall be a minimum of five feet in width (excluding adjacent curb and gutter).

Development shall provide appropriate bicycle amenities to encourage cyclists such as bike racks close to building entrances. Signage indicating the presence and location of such amenities shall be scaled for easy reading by bicyclists and pedestrians as well as motorists. Bicycle parking shall be provided as part of all high-density residential, commercial, retail, office, industrial, and mixed-use development as noted in the parking section of the Corridor District.

Where project frontage exists on any public street with bike lanes or state-or locally-designated bike route, the design of the ingress/egress points for the properties shall not impede the movement of cyclists on the public street. Where an "internal main street" concept is used for a development, bike lanes on the central internal street shall be incorporated that connect to the public street bike facilities unless deemed impossible or impractical by the Planning Department, in which case alternative circulation for cyclists must be provided to ensure the safety of the cyclists as they enter the development.

Greenway and multi-use path connections shall be given similar design considerations, plus adequate lighting and signage indicating the connection for cyclists using the path(s) and greenway(s).

Formatted: Bullets and Numbering

6. Pedestrian Access

a. Sidewalks

Sidewalks a minimum of five (5) feet wide shall be installed within and along the frontage of all new development or redevelopment except where a path (see **b. below**) is used in-lieu of a sidewalk to preserve rural character. Paths should be used along any roads subject to the corridor buffer landscaping and preservation requirements. Paths must approximately parallel the course of the sidewalk they are "replacing" and must be approved as part of the Conditional Use Permit. On local roads, sidewalks shall be required on only one side of the street. Loop streets and/or residential cul-de-sacs are not required to have sidewalks, unless the street is located within 1.5 miles of a school, or 0.5 miles of a greenway, park, or shopping area, in which case a sidewalk shall be required on one side of the street only.

Deleted: §10.9.6.6.2

Deleted: by the Planning-
Department

Pedestrian crossings shall be made safer for pedestrians whenever possible by shortening crosswalk distance with curb extensions, reducing sidewalk curb radii, and eliminating free right-turn lanes. Signals that allow longer crossing times in shopping districts, mid-block crossings in high-pedestrians use areas (if well marked and traffic speeds are low), and raised crosswalks in a differentiated pavement and medians shall be provided as appropriate.

Within residential and/or non-residential developments, pedestrian ways, crosswalks, or multi-purpose trails no less than five feet in width, shall be constructed near the center and entirely through any block which is 900 feet or more in length where necessary to provide adequate pedestrian circulation or access to schools, churches, retail stores, personal service establishments, recreational areas, or transportation facilities.

Pedestrian walkways shall form an on-site circulation system that minimizes conflict between pedestrians and traffic at all points of pedestrian access to on-site parking and building entrances. Pedestrian walkways shall connect building entrances to one another and from building entrances to public sidewalk connections and existing or planned transit stops. Pedestrian walkways shall be provided to any pedestrian access point or any parking space that is more than 50 feet from the building entrance or principal on-site destination. All developments that contain more than one building shall provide walkways between the principal entrances of the buildings. All non-residential buildings set back more than 100 feet from the public right-of-way shall provide for direct pedestrian access from the building to buildings on adjacent lots, preferably along the same route as the cross connecting roadway.

Where residential developments have cul-de-sacs or dead-end streets, such streets shall be connected to the closest local or collector street or to cul-de-sacs in adjoining developments via a sidewalk or multi-use path, except where deemed impractical by the Planning Department. Where adjacent development does not yet exist, pedestrian stub outs for future connection are required.

Any required "structural" barriers required by other portions of the Zoning Ordinance shall be designed to allow pedestrian traffic a pass-through where no other route is available.

Formatted: Bullets and Numbering

b. Paths and Multi-use Greenways

While not encouraged to substitute for a good system of on-street facilities within a development, multi-use paths may be used to enhance pedestrian and bicycle travel along the corridors or where an on-street system would adversely impact the preservation of rural character, where the existing circulation system does not serve these patrons well, or where abandoned railroads or other open spaces provide corridors free of obstacles. However, all paths shall connect to the street system in a safe and convenient manner, and shall meet the following requirements in addition to other applicable standards:



Figure 12: Off-road Multi-use Path

All path connections shall be well signed with destination and directional signing.

All paths shall be built in locations that are visible and easily accessible, for the personal safety of users.

Whenever possible, paths shall be designed in such a manner that motor vehicle crossings can be eliminated or significantly minimized. Where crossings exist, they must be carefully designed to ensure the safety of the users. In situations where asphalt paths are proposed to run parallel with roadways they shall be offset a minimum of 12' from the back of curb, and separated from the roadway with public street trees unless deemed unsafe by the local NCDOT Engineer. Asphalt paths will only be permitted parallel to roadways where there are a

Deleted: plant materials of at least 30" in height and 72" in planted width

limited number of driveway and street crossings. Property owners will be responsible for upkeep and maintenance of the path in the right-of-way along their property frontage.

All paths shall be constructed of durable, low-maintenance materials, with sufficient width and clearance to allow users to proceed at reasonable speeds. Generally, paths shall be at least six feet in width.

Paths shall be maintained to the same level as adjacent on-street facilities, including mowing and snow removal as appropriate.

In all instances, asphalt paths shall respect the critical root zone (CRZ) of adjacent trees per the landscape section of the overlay district.

G. Parking Areas

The Chatham County Zoning Ordinance entitled "Parking Lot Improvement, Design and Location Requirements" Section 12 sets forth minimum requirements for design and buffering. The following guidelines supplement or supersede those requirements. A parking plan showing compliance with these standards shall be shown on the development plan submitted to Chatham County.

Formatted: Bullets and Numbering

1. Placement and Design of Parking Lots

a. Off-street parking areas

Off-street parking areas shall be designed to minimize breaks in the pedestrian environment along the public street and create safe and comfortable passage for pedestrians. The following standards shall therefore be met:

Ingress and egress points on the corridor must be minimized in width and number and placed in accordance with the Parking section of the Zoning Ordinance (Section 12) and Access & Traffic Section of the Corridor Overlay District.

Off-street parking areas shall be broken into smaller, interconnected modules that allow pedestrians to move parallel to their vehicles toward the building they serve. These breaks can be achieved through building placement or the use of landscaping and pedestrian features.

Plants and trees in parking lots improve the site's appearance as well as provide shade and reduce the surface temperature during summer months which is helpful for both air quality, water quality, and reduced energy consumption.

Development will be oriented toward interior "main streets", not to the major corridor, and parking shall be located away from the main street using buildings as a visual barrier, thereby bringing the building closer to the street for transit users and pedestrians. Where practical, parking should be shared between neighbors of the node.

Structured parking (i.e., parking deck) is permitted provided it presents architectural compatibility with the surrounding buildings. The placement of smaller buildings in front of and around structured parking to reduce its apparent

Formatted: Bullets and Numbering



Figure 13: Example of Corner Buildings With Parking In the Rear



Figure 14: A parking structure wrapped by the buildings it serves

mass is encouraged; wrapping the structure with the buildings it serves is preferred.

Off-street parking areas shall be designed so that parked vehicles do not encroach upon or extend onto public rights-of-way, sidewalks or strike against or damage any wall, vegetation, utility, or other structure. Adequate space (15' minimum) should be left for sidewalks, landscaping and plantings between parking areas and structures.

Adjoining parking areas serving non-residential buildings shall be interconnected per the Access Section of this chapter.

Parking areas shall not occupy a portion of a development that terminates a vista from a major corridor. If deemed impractical, adequate screening must be put in place to obscure the view of the parking from the corridor.

Off-street parking areas shall be designed to facilitate adequate movement and access by delivery, sanitation, emergency, and other public service vehicles without posing a danger to pedestrians or impeding the function of the parking area. Care should be taken that landscaping and architectural features will not be damaged by large vehicles by having appropriate turning radii where service vehicles will frequently pass.

All paved parking areas shall be subject to stormwater management practices required in other ordinances for watershed, flood, and environmental protection.

b. On Street Parking

Diagonal, on street parking is encouraged along areas of the interior street network of a node, where practical. Parallel parking can also be used, preferably on side streets of the development. Stalls shall be 10' wide by 20' long for on-street parking unless an other recognized standard (such as AASHTO or Institute of Transportation Engineers) is demonstrated to be more feasible. This style of parking must be fronted by a sidewalk that is a minimum of five feet wide, the closest point of which is ten feet from a building line, or if practical shall run continuously from the back of curb to the building line, in which case it will be a minimum of 12' wide measured from the back of curb.

c. Required Parking and Parking Dimensions

For non-residential uses, the number of spaces shown in §12.1.C of the zoning ordinance shall be considered the *maximum* allowed for such uses. The maximum number of allowable parking spaces requirements may only be exceeded by a waiver from the Board of Commissioners provided that adequate information needed to determine the cumulative parking needs for a site is provided by the applicant. The minimum number of spaces shall not be less than 85% of maximum, except where other provisions of this section or section 12 of the Zoning Ordinance allow for additional reduction of parking spaces. Additional reduction will be determined as part of the conditional use process.

Parking Dimensions for parking (other than on street parking) do not differ from those within §12 of the Zoning Ordinance. Parking structures will also meet the standards of §12 of the Zoning Ordinance, but are also subject to all applicable placement, screening, and other standards for non-residential structures in this section.

d. Parking Lot Shading

~~Deleted: be curbed using a standard curb and integrated gutter with a minimum width of 1'-6". This requirement may be waived to permit sheet flow drainage into pervious areas or as part of an alternative engineered storm water retention system and storm water maintenance plan. All parking areas, regardless of surfacing, shall detain stormwater on site. Where pervious curb is used for stormwater management, the horizontal line of the curb should be continuous, not scalloped or otherwise uneven along the top line to aid with traffic calming and pedestrian safety.¶~~

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

~~Deleted: special~~

Formatted: Bullets and Numbering

Shade in parking areas is highly desirable and strongly encouraged. It provides for cleaner air and cooler surface temperatures, which make for a more comfortable environment for pedestrians while also mitigating energy use required to cool buildings and automobiles. Fifty percent (50%) of the paved parking lot surface shall be shaded with tree canopies within 15 years of acquisition of building permit; development of such canopy shall be in accordance with the landscaping section and design guidelines of the corridor overlay. To accomplish this shading goal, shade trees shall be located at a minimum of 50 feet on center throughout the parking areas.

Deleted: is district

Deleted: (See Section 10.9.9.5.1 Tree and Shrub Design Standards.)

The following guidelines are offered to benefit applicants and designers to ensure adequate compliance with the ordinance:

Deleted: ¶

At least every third row of plant pits shall be joined together with a soil median strip with sufficient width such that the bumper-to-bumper distance between cars parked directly across the strip from each other will not be less than seven feet. The median strip shall be crowned 12" above the perimeter top of curb or parking surface (in absence of curbing). A vegetative ground cover should be planted so as to cover the entire soil median strip. (Refer to the Appearance Committee's Plant List for a Groundcovering Shrubs list.) Due to the great number of possible herbaceous ground covers, a corresponding list was deemed impractical herein. However, should a landscape designer wish to use such a plant, submissions to the Planning Department should be made and will be considered on a project by project basis. Figure 27 [to be renumbered] shows appropriate shade tree spacing and the location and recommended size of soil median strips.

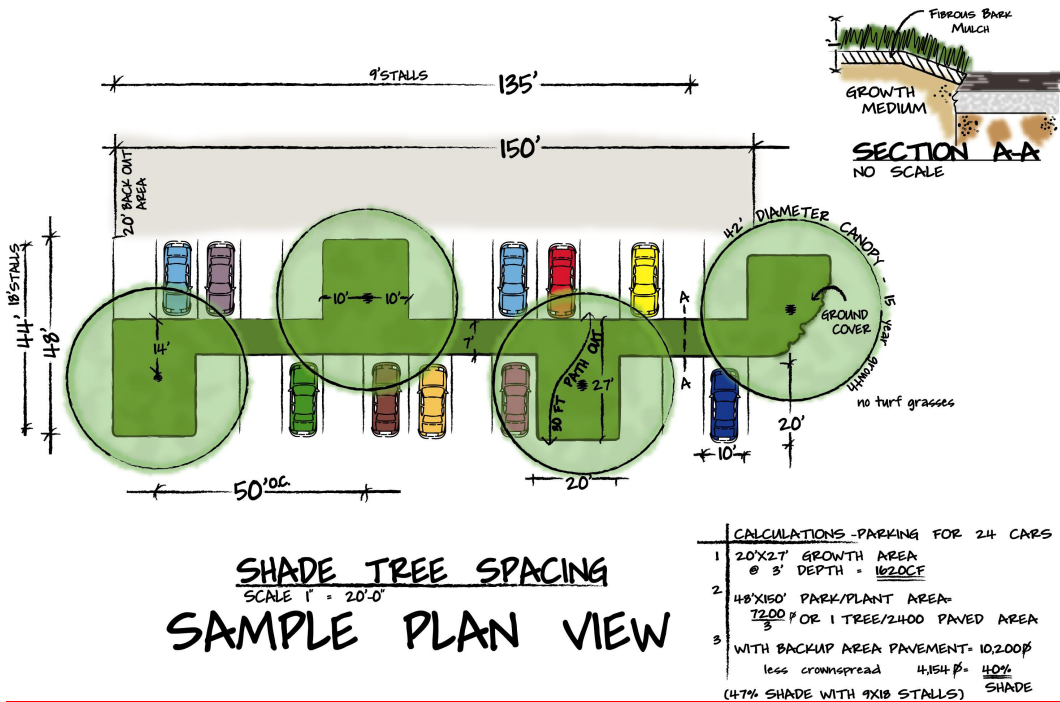


Figure 15: Sample Parking Lot Shading Illustration

Pedestrian cut-throughs should be located so as to avoid adverse effects on the root structures of shade trees.

Formatted: Bullets and Numbering

e. Parking Lot Shading Plan

A parking lot shading plan shall be submitted with the plan application for all new parking lots. The plan shall clearly show all surfaced areas included in the calculation. Trees shall be drawn to scale representing the canopy size at 15 years as listed in the landscaping section of the Ordinance. The percentage of shade for each tree shall be clearly indicated.

Deleted: and reconstructed

Formatted: Bullets and Numbering

f. Paved Area Calculation

All surfacing on which a vehicle is designed to maneuver on shall be clearly indicated on the shading plan and the total area calculation noted in the shade calculation table. This includes all parking stalls, loading areas, drives within the property line, and areas for maneuvering. The following are not considered paved parking lot areas and are not required to meet the 50% shading requirement:

- Truck loading in front of overhead doors.
- Truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking.
- Surfaced areas for lumber yards, boat storage and ramp/loading areas, and agricultural uses. All required parking for these uses is still subject to the 50% shading requirement.

If a site has two or more unconnected parking areas (see 10.9.G.1.a), shade is calculated separately for each area. If they are connected by a joining drive, they are calculated as one lot.

Deleted: 7.1.1

Formatted: Bullets and Numbering

g. Shaded Area Calculation:

Shaded parking lot area is determined by using the appropriate percentage of the crown as indicated on the approved shade list. (see Shade Tree List portion of Plant List). Only trees from this list may be used as parking lot shade trees unless otherwise approved by the county's arborist. It is acceptable that the genera of trees be varied throughout the parking area. Trees shall receive 25 percent, 50 percent, 75 percent or 100 percent shading credit based on their location relative to paved surfaces. Areas where canopies overlap shall not be counted twice.

Formatted: Bullets and Numbering

2. Shared Parking

The Board of Commissioners may approve shared parking facilities for new developments or uses with different operating hours or different peak business periods if the shared parking complies with all of the following standards:

Formatted: Bullets and Numbering

a. Location

Shared parking spaces must be located within 1000 feet of the primary entrance of all uses served, unless remote parking shuttle bus service is provided. Shared parking spaces must not be separated from the use they serve by a thoroughfare or collector roadway (roads internal to the development are not included in these categories). In addition, adequate and safe pedestrian access must be provided from and to the shared parking areas.

Formatted: Bullets and Numbering

b. Zoning Classification

Shared parking areas must be located on a site with the same or a more intensive zoning

classification than required for the primary uses served.

c. Shared Parking Study

Those wishing to use shared parking as a means of satisfying off-street parking requirements must submit a shared parking request to staff that justifies the feasibility of shared parking. Justification should include information on the size and type of the proposed development, the composition of tenants, the anticipated rate of parking turnover, and the anticipated peak parking and traffic loads for all uses that will be sharing off-street parking spaces.

- The maximum reduction in the number of parking spaces required for all uses sharing the parking area shall be 35 percent.
- Directional signage which meets the requirements of this Ordinance must be added to direct the public to the shared parking spaces. It is preferable for the employees of an establishment to utilize these spaces.

Formatted: Bullets and Numbering

d. Agreement for Shared Parking

A shared parking plan will be enforced through written agreement among all owners of record. An attested copy of the agreement between the owners of record must be submitted to the Register of Deeds for recordation and a copy provided to the Planning Department for inclusion in the Conditional Use Permit. Recordation of the agreement must take place before issuance of a building permit for any use to be served by the shared parking area. A shared parking agreement may be revoked only if all required off-street parking spaces will be provided in accordance with the requirements of §12 of the Zoning Ordinance.

Formatted: Bullets and Numbering

Deleted: Planning Department

3. Bicycle Parking

All non-residential and multi-family residential buildings shall include an area for parking bicycles. This area may be a designated parking space near the building and within the parking lot or an area outside the parking lot adjacent to the building. The bike parking area must include a bike rack; Covered bike parking or bike lockers can be used to reduce the number of required parking spaces in special use permit or conditional use cases as determined by staff and the governing body. Racks shall be steel construction with a mar-resistant finish and set in concrete or similar medium. They shall be of standard size accommodating from 8 to 12 bicycles designed for moderate security to accept a standard U-shaped lock.

Formatted: Bullets and Numbering

4. Transit Parking

Parking areas with over 100 total spaces may be allowed additional parking above the parking maximum if a pullout for buses and passenger shelter or similar amenities are provided. The additional spaces would give priority to park and ride users and should be coordinated with local and regional transit agencies to ensure the design of the facilities will meet the requirements of the transit providers and transit customers.

Formatted: Bullets and Numbering

5. Alternative Vehicle Parking

Additional parking spaces or additional reductions in the number of parking spaces can be allowed as part of the conditional use permit when refueling kiosks are provided for alternative vehicles such as those powered by biodiesel and electricity.

Formatted: Bullets and Numbering

Deleted: special

Deleted:

Deleted:

6. Consistency With Zoning Ordinance

All other details of parking area design shall be consistent with generally accepted design principles and as set forth in Section 12.2 of the Zoning Ordinance

Formatted: Bullets and Numbering

H. BUILDING DESIGN AND LAYOUT STANDARDS

Building form and relation of buildings to public spaces shall adhere to the Chatham County Major Corridor Design and Planting Guidelines. The Guidelines are available from the Planning Department and are included as an appendix to this ordinance.

1. Building Placement

Buildings are pulled off the corridor and screened from view by vegetation (see Landscape and Buffering section). An entrance road running perpendicular or diagonally to the corridor shall make its way into the site, and shall become the "main street". When possible, it is desirable that at a point well into the depth of the commercial node, a secondary road parallel or diagonal to the corridor shall become a cross connector. (See Access section.) Buildings shall be arranged so as to enclose and define space, and sidewalks created to provide for safe, comfortable and inviting interaction and mobility between buildings and parking. (See Parking section.) Mixed-Used Developments, which have both residential and commercial buildings, are encouraged as a way of reducing corridor traffic, pollution, and energy usage.

2. Building Types

a. Storefront Types

May accommodate a variety of commercial uses providing they incorporate the standards contained herein. May be stand-alone, but a group of storefront buildings is strongly preferred. Buildings are to have substantial glazed areas that face the internal street on which they front. Floors above the storefront shall be compatible with the overall façade character. Multiple storefronts shall be unified through architecturally compatible materials, details, awnings, signage and lighting fixtures

b. Gas Stations/Convenience Stores

Design of any building or covering being used as a refueling center shall be in conformance with the appearance and architecture of the node in which it is located. Any covering or envelope being used as a refueling area or car wash shall have the same architectural lines as its parent building, including roof form, so as to provide a unity of architectural presentation, and be placed so as to shield it from the corridor view and from the main internal road network.

c. Civic and Institutional Buildings

Buildings used for public purposes are encouraged. These buildings must be designed appropriately to fit within neighborhoods as integral parts of the community. The scale and architectural sophistication of these buildings should match their civic importance and complement the best of Chatham County's existing civic buildings. Civic and institutional uses include, but are not limited to: community buildings, including meeting halls, libraries, post offices, schools, child-care centers, religious institutions, recreational facilities, museums, performing arts buildings, and municipal buildings.

d. Mixed-Use Units

Residential unit(s) placed within the same building envelope as commerce, such as an apartment over a storefront. Workplace and live/work building types are permitted, and may have single or multiple tenants.

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

~~Deleted: Placement of non-residential buildings on a site shall take one of two forms: ¶
<#>Crossroads Villages-¶
(Applicable only in the Crossroads Activity Center)-¶
Buildings are to be sized and massed in a proximity to the roadway that recognizes the possibility of future road widening. Residential units (such as apartments above stores) are encouraged as part of this type of development. ¶
Refueling centers, should they be included in the village, shall be placed behind the building envelopes so as to screen them from the corridor view. ¶
<#>All Nodes Other Than Crossroads-¶
¶
(Special, Neighborhood, Community and Regional Overlay Districts) ¶~~

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

~~Deleted: If within a Crossroads Activity Center, it shall be residential in form, scale and detail.~~

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

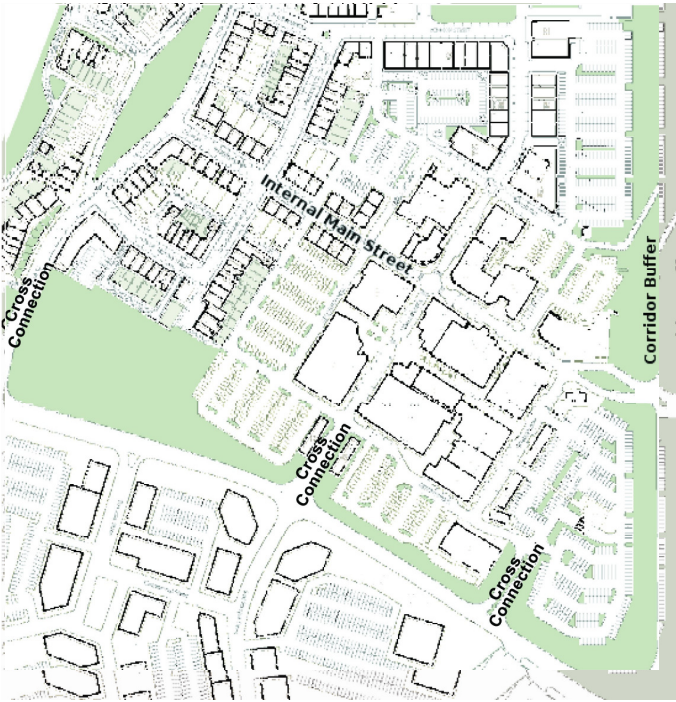
e. Residential Type Units

Buildings designated exclusively for residential use may take the form of single-family or multiple-family configurations. This shall not preclude home-based businesses otherwise permitted in residential areas. Single-family, unattached structures are exempt from the architectural guidelines.

f. Industrial and Agricultural Buildings

Buildings designated exclusively for industrial or agricultural use are exempt from the architectural guidelines.

3. Site Layout and Building Arrangement



Buildings shall follow the Major Corridor Design and Planting Guidelines in the Appendix. In addition, buildings should cluster their façades along the "internal main street" as much as possible. Buildings that do not front an "internal main street" should still be oriented to the other buildings in such a way that the following are achieved:

- The buildings are generally clustered together to foster pedestrian movement between buildings.
- Large parking lots should not separate buildings, but be around the periphery of the core area where the buildings are massed
- An internal grid pattern of streets and sidewalks should be the basis for the building layout, respecting the access points of each site but creating a logical flow of structures for both pedestrian and motorist.

streets and sidewalks should be the basis for the building layout, respecting the access points of each site but creating a logical flow of structures for both pedestrian and motorist.

Figure 20: Idealized Layout Arrangement

Deleted: Residential Type Units

Formatted: Bullets and Numbering

Deleted: residential use may take the form of single-family or multiple-family configurations. This shall not preclude home-based businesses otherwise permitted in residential areas.

Formatted: Bullets and Numbering

Deleted: Mass, Scale, and Proportion

<#><sp>Standards for Crossroads Villages

Architecture shall be residential in form, scale, and detail, including pitched roof (minimum 9/12 pitch), fenestration with window surrounds, cornice detailing, and well-defined entryway. Siding materials and neutral colors commonly associated with residential buildings shall be used. Vinyl and aluminum siding materials as wall cladding and soffit/cornice construction are discouraged unless they closely replicate the appearance of their natural counterparts.

<#>Standards for All Non-residential and multifamily residential buildings in Nodes Other Than Crossroads

** **

<#>Ground floors and storefronts should be integrally designed with upper floors to be compatible with the overall façade character. All buildings shall have a dominant vertical proportion and all non-residential buildings will have a discernable top, middle, and bottom (see Figure 15: Top, Middle, Base Illustrative Architectural Concept). The first floor would be taller than upper floors, which may be set back from the street elevation. All sides of the building shall include material and design characteristics consistent with those on the front. Use of lesser quality materials for side or rear elevations shall be prohibited.

** **

<#>On a given block, all buildings shall use approximately the same setback from the street; and voids between buildings along the street are discouraged. Exception: In a condition where a deeper setback from the street creates a pedestrian courtyard or café seating area.

<sp>

<#>The enclosure ratio (relation of building height to street width) shall be approximately 1:2 or 1:3. No building in a node shall exceed the mature height of the vegetativ... [1]

Formatted: Bullets and Numbering

**Deleted: **

4. Site Amenities

Formatted: Bullets and Numbering

1. Where possible, within a central part of the node, provide open space, with seating, for community gatherings (e.g., amphitheater, common/green, fountains, playgrounds, etc.). Stormwater management ponds should be used as an architectural feature where possible. Define these spaces using the arrangement of the buildings, and the materials palette, to create a sense of place that becomes a desirable amenity for the center. Use expanded sidewalks in areas adjacent to such places, to encourage al fresco, café-style dining (outdoor cafes). Façade breaks for pedestrian courtyards with retail frontage and outdoor seating for restaurants are encouraged in larger nodes.

Deleted: (A)

2. Outdoor Cafes: Restaurants shall be permitted to operate outdoor cafes on sidewalks, and in courtyards, provided pedestrian circulation and access to business entrances is not impaired. Extended awnings and large umbrellas are permitted; colors shall complement building colors. Outdoor cafes are required to provide additional outdoor trash receptacles, tables, chairs, benches and other elements of street furniture. They shall be compatible with the architectural character of the building where the establishment is located. Such permissible site furniture shall be of a professional quality and workmanship to ensure public safety.



Deleted: (B)

3. Unifying Elements: Though architectural variety is encouraged to promote innovative, unique places, some elements should be used to tie a place together. These include but are not limited to:

Deleted: (C)

- Directional Signage and way-finding Signage with consistent materials, features, and colors;
- Streetlight Fixtures and type of lighting;
- Repeated architectural features, such as garden walls, ornamental planters, or public art.

Figure 21: Outdoor Café Example

5. Lighting

Provisions of the Lighting section of this ordinance shall apply.

Formatted: Bullets and Numbering

Deleted: A lighting plan shall be submitted; fixtures should be consistent and architecturally compatible throughout the development. High-pressure sodium lighting shall be used in all corridor districts; exceptions that may be permitted to use metal halide lighting if merited for safety reasons include ATMs and refueling areas. All other aspects defer to

Deleted: the lighting section of the Chatham County Zoning Ordinance

Deleted: e

Formatted: Bullets and Numbering

Deleted: or the Planning Department

6. Deviations

The County Commissioners may consider alternative designs for buildings. They may also approve alternative site design layouts for developments, but in any case both shall adhere to the purpose and intent of this ordinance.

I. LANDSCAPING AND BUFFERING

Formatted: Bullets and Numbering

Additional information is included in the Chatham County Major Corridor Design and Planting Guidelines. These Guidelines shall be incorporated into the site plan. The Guidelines are available from the Planning Department and are included as an appendix to this ordinance.

Formatted: Bullets and Numbering

1. Permitted Uses within the Buffer Area

Buffers shall be left in an undisturbed natural vegetative state where possible, and/or provided with supplemental plantings. Selective thinning, removal of dead, diseased or unsuitable vegetation shall be permitted as long as the intent of the buffer requirement is maintained (see 10.9.I.7 below). This determination will be based on the findings and evaluation of the Chatham County Planning Department.

Deleted: 10.9.9.8

Driveways or walkways shall cross the buffer approximately at a diagonal angle, if practical, to minimize the visual opening from the corridor or any other fronting road. Excavating or grading within the buffer area is discouraged, but if necessary, or if there is inadequate existing vegetation within the buffer to screen the view from the corridor or any other fronting road, these issues must be addressed in the submitted plans to the satisfaction of the Planning Department in advance of site plan approval, to ensure compliance with the intent of this section.

All utilities that cross the buffer shall do so only alongside or beneath the ingress/egress roadway clearings, so as not to interrupt the remaining buffer or disturb a newly planted buffer (in the case of needed future access to or maintenance of such utilities). All utility lines in the public right-of-way serving uses proposed or developed within or along the scenic or commercial corridors, including electric, telephone, data, and CATV are strongly encouraged to be installed underground. All above-ground utility boxes and cabinets shall be shielded from view from the corridor with vegetation, and shall be painted a neutral or earth-tone color to blend in with their surroundings.

Signs, light poles and flagpoles are permitted in the buffer areas near ingress and egress points only, and shall meet the standards contained herein (see 10.0.J.4.c Freestanding Signs).

Deleted: 10.9.10.4.3

Multi-use paths are allowed in the buffer, but must be built in such a way that the root systems of nearby trees are not adversely impacted. This will generally be a prohibition on compacted soil and impervious materials within the critical root zone, unless otherwise noted by the county arborist.

Formatted: Bullets and Numbering

2. Location of Buffers

Required buffers shall be designed and located to provide necessary visual screening of the development from the major corridor and any other public roads that it borders fronts, as provided herein. Topography, existing landscape features, and other factors may suggest buffering locations that are alternative or additional to the usual perimeter location. One-hundred foot (100') perimeter buffers are required along property boundaries fronting on the road rights-of-way, unless otherwise specified, and between new commercial and existing residential, with the same 20' Critical Root Zone (CRZ), 60' Undisturbed, 20' CRZ layout; otherwise perimeter buffers and landscaping as required by the underlying zoning applies

Deleted: , as well as along its perimeter

unless waived by the Board of County Commissioners because a site plan effectively integrates the new development with adjacent properties visually, architecturally, and with appropriate transportation connections (see §10.9.F).

3. Types of Buffers

a. Existing vegetative buffers

Existing vegetative buffers shall provide both physical and visual separation using landscape elements, and shall be a minimum of 100 feet wide, and configured as follows:

- Minimum. 60 feet of undisturbed existing tree cover, plus
- Surrounding 20 feet (all sides) of the existing stand, considered the Critical Root Zone (CRZ). This area can be left undisturbed.

Underplantings are permitted within the CRZ provided that:

- No underplanting is closer than six (6) feet from an existing protected tree;
- Planted shrubs are no closer than three (3) feet on center; and
- No more than 25% of the CRZ of an existing protected tree is disturbed with new planting.

The required buffer shall begin at a point measured from the final edge of the right-of-way (ROW) of the public street or in the case of adjacent residential from the property line, taking into account any required ROW dedication for necessary roadway improvements. Existing natural vegetation shall be kept undisturbed, wherever possible.

Through on-site inspections and evaluation, the Planning Department shall determine the appropriate course of action or approach to providing the necessary buffer. The landscape plan shall indicate all vegetation to be saved.

Within the buffer areas, plant species that are found to be invasive (as listed in "Invasive Exotic Plants in NC 2006" compiled for the North Carolina Native Plant Society) should be considered for removal, if removal can be accomplished without damage to other existing vegetation or substantial use of licensed chemical means. Such species shall be replaced, if necessary, with suitable plants from the plant list on file with the Planning Department.

The Demolition or Grading Plan shall detail the protective measures that shall be used throughout the construction process. The construction fence should be placed beyond the dripline of trees to be saved and no activity should be conducted inside the fence.

b. Newly planted vegetative buffers

Newly planted vegetative buffers shall be considered part of the overall Landscaping plan which shall be prepared by a certified landscape architect. They shall also be a minimum of 100 feet wide, measured and configured as described later in this section.

The proposed landscaping shall include a mix of larger shade trees, evergreen trees, understory trees/large shrubs, and small shrubs to provide a naturalized planting closely matched to the natural conditions of the site as determined by the soil type or greater surrounding area. Evergreens are added to the buffers to provide a more opaque screen but they should be added in such a way as to enhance the natural appearance of the buffer. The mix shall be designed to create a buffer which, with five (5) years of maturation, will provide a satisfactory

Deleted: 6

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

Deleted: ¶

Deleted: corridor

Deleted:

Deleted: and shall include the location and diameter of both the trees and the root zones of all shade trees 10" DBH and larger and all understory trees 6"DBH and <sp> larger, within the preserved buffer area. It shall also contain an inventory of all trees, shrubs and groundcover within a minimum 20 foot by 20 foot sample area for each unique stand of vegetation proposed to be retained. (See Figure 21: Tree Sample Area).

Deleted: ¶

Deleted: If it is discovered that there are any species invasive to North Carolina (as listed in Invasive and Exotic Plants in NC (most current edition), compiled by the NC Native Plant Society, part of the NC Botanical Garden), living within the existing buffers, those species shall be removed by mechanical or licensed chemical means.

Deleted: (See Figure 22: Tree Protection Fence Detail). ¶

NOTE: In the Crossroads Village settings, and for small-lots (less than two acres), the buffer depth minimums along the corridor and other fronting roads shall be fifty (50) feet, for both existing and newly planted buffers, and shall be configured as: ¶

<#>a minimum thirty (30) feet of undisturbed existing tree cover, plus ¶

<#>ten feet surrounding all sides of the existing stand, comprising the critical root zone (CRZ). ¶

¶

This shall apply only in the event that the two acres or less are wide (frontage) but shallow in depth, measured perpendic ... [2]

Deleted: Prior to planting, the native soil type shall be determined using the most recent soil survey data from ... [3]

Deleted: Evergreens are added to buffers to provide a more opaque screen, as well as a more natural appearance to the buffer.

screen under normal conditions, care, and irrigation, while allowing room for the various plants to continue to mature naturally.

Although species selection and composition will vary, they should be compatible with the soil types and other conditions into which they are planted. The following species should be considered for use within each 100 feet of buffer frontage:

~~Deleted: Though species selection will vary according to soil type and existing conditions, the following species mix ratio will apply. Numbers below represent minimum number of trees and shrubs planted per 100' of buffer frontage:¶~~

- 7 Deciduous Shade Trees
 - 1 Evergreen Tree
 - 5 Deciduous Understory
 - 12 Evergreen Understory
 - 30 Large Shrubs
 - 55 Small Shrubs

~~Deleted: Mixed Evergreen¶~~

Care shall be taken not to plant any species considered to be invasive Rank 1 (severe threat as listed in the "Invasive Exotic Plants in North Carolina 2006" compiled for the North Carolina Native Plant Society) within the buffers and the development.

~~Deleted: Care shall be taken to not plant anew any species considered to be invasive (see section 10.9.9.2.1 above).--¶~~

In calculating buffer planting requirements, areas of walkways, driveways, entrance roadways and sight distance triangles are excluded. Planted vegetative buffers shall be configured as a staggered triple row of shade trees (at least 2-1/2" caliper measured 6" off the ground, making at least 14 feet of height) planted 40 feet on center, and shall be in-filled with understory plantings according to the ratio detailed above. Built-up areas of gradient (berms), onto which plants would be set, shall be permitted only if they are worked into the natural surrounding areas in such a way as to produce a finished, natural-looking contour and compaction within the planted sections of the berm is kept within parameters consistent with the parameters of the typical soil type. They will be limited in height to six feet above average surrounding grade, and shall present an average return slope ratio of no less than 3:1 (3 ft. horizontal to 1 ft. vertical). Berms will be subject to soil sampling. Remediation activities will be required (tilling and amendment, see section 10.9.9.5.2 below) if results of the sampling show unfavorable growing conditions.

~~Deleted: The goal is to achieve a buffer that will provide 80% opacity to a ten-foot height above the ground within a five-year growth period after planting.—~~

Formatted: Bullets and Numbering

c. Exceptions

If a condition should exist whereby a unique topographical or landscape feature and/or historic or culturally significant buildings provide for the requisite screening for a node from the corridor view, said topography or structure may be used in lieu or as part of the screening requirement. The Board of County Commissioners (on the recommendation of staff) can waive or alter the vegetative buffer requirements in these cases if the stated goals of 10.9 A. Purpose and Intent are met.

Field Code Changed

~~Deleted: 10.9.1 (Purpose and Intent)~~

If a retention pond, not visible from the major corridor, is created within a new development to address storm water runoff from impermeable areas, and is done in such a way as to be considered a positive architectural visual element to the development, then the Board of Commissioners may accept a thinning of the peripheral vegetative buffer under-story between neighboring uses (including residential). If thinning is to be done it must conform to the American National Standards Institute, Inc., ANSI A300-(Part 1)-2001 Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices (Pruning). The specific operation that would be deemed appropriate is "Elevation", or "Thinning". "Vista Pruning", "Topping", and "Pollarding" are not appropriate practices. Relevant portions of this document may be reviewed by contacting the Planning Department). In that case, the neighboring

~~Deleted: Planning Department~~

property would share the view of the pond. Nothing here shall be construed to permit a thinning of the buffer that would result in a negative effect on the neighboring property.

In the case of small lots ~~(under 2 acres)~~ (see 10.9.9.4.1) ~~existing lots of record that would be otherwise undevelopable, the undisturbed or replanted buffers will be half of what would otherwise be required, and~~ a newly created planted vegetative buffer shall be configured as a staggered double row of shade trees rather than a triple row. The total number of underplantings will also be adjusted downward by approximately 50%. All other related specifications (spacing, plant sizes, etc.) would continue to apply.

In the case of the larger buffer required in the Scenic Overlay District, if newly planted, would be configured as a staggered quadruple row of shade trees rather than a triple row. The total number of underplantings would also be adjusted upward by approximately 50%. All other related specifications (spacing, plant sizes, etc.) would continue to apply.

4. Planting Details

a. Tree & Shrub Design Standards

Plant materials shall conform to the requirements of the latest edition of American Association of Nurserymen (ANA) Z60.1-1996, American Standard for Nursery Stock. Ground covers and under-story shrubs shall be full and well-branched. A minimum of 35% of under-story shrubs shall be evergreen. Trees shall be full, with a balanced head, and well-furnished with branches. Trees and shrubs shall be distributed along the entire length of the buffer, and selected and placed in order to meet the 80%, five-year screening requirement. All shade trees and shrubs installed within or along the periphery of a parking area shall conform to the following minimum size requirements: Shade Trees, 2-1/2" caliper, and 14' in height, Evergreen Trees, 6 - 8' minimum height, Understory Trees, 2-1/2" caliper and 10 - 14' in height, Large Shrubs, 5-gallon container size and 3' in height, and Small Shrubs, 3-gallon container size and 18" in height.

b. Mulch

All newly planted areas and disturbed areas within natural buffers shall receive a top-cover of either a three-inch (3") depth of dark brown fibrous bark mulch, or four to six inches (4 - 6") of pine straw mulch (two-inch (2") settled depth). No synthetic mulches shall be permitted. All mulch cover shall be pulled back a minimum of one inch from the trunk of all trees and shrubs to inhibit the growth of adventitious roots and basal decay organisms and to permit the root systems to more freely exchange gases with the atmosphere. Mulch shall be replenished on as-needed basis to meet depth requirements.

Deleted: or in the CAC

Formatted: Bullets and Numbering

Deleted: .

Formatted: Bullets and Numbering

Formatted: Bullets and Numbering

Deleted: ¶

Installation¶

¶

The installation of trees and shrubs in the landscaped buffers and in the Parking lot Islands shall conform to the Tree Planting and Shrub Planting Details contained herein (Sample Figures 23 and 24).<sp>¶

¶

Shade in parking areas is highly desirable and strongly encouraged. It provides for cleaner air and cooler surface temperatures, which make for a more comfortable environment for pedestrians, while also mitigating energy use required to cool buildings and automobiles.¶

¶

¶

Planting within parking areas shall utilize a "plant for the roots" philosophy. Shade trees<sp> shall be located a minimum of 50 feet on center throughout the parking areas (see Figure 26), in planting pits of 20' x 27' at a 36" depth. The pits will be loosened and amended to a depth of 36" measured from the surrounding grade. It is not acceptable to deepen the plant pits, and decrease the square footage for shade trees, in an effort to achieve the cubic foot requirements given in Figure 25: Soil Volume Requirements.¶

<sp><sp>¶

Three to five percent of the total soil volume shall consist of added organic matter (e.g., composted leaves, etc.), thoroughly mixed in. The resulting soil volume will provide for a minimum of 1600 cu. ft. of soil volume available to the tree roots as growth medium (see Figure 25: Soil Volume Requirements).¶

¶

The prepared planting pit shall be protected from compaction by outlining the area with colored surveyors ribbon after soil preparation, until the planted area has been finish planted, inspected and accepted. Pi (... [4]

Deleted: .

c. Tree Staking

Staking shall conform to the Tree Planting and Shrub Planting Details shown herein as sample Figures 23 and 24. 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, and trees planted in areas where people may pull on them or use them for support.

Deleted: .

Formatted: Bullets and Numbering

Removal of staking material is the responsibility of the installer. All ropes, wires, straps and 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, in any event no later than one (1) 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.

Deleted:Page Break.....

5. Landscape Plan Development & Approval

Formatted: Bullets and Numbering

a. Land Disturbance

For any corridor property requiring site plan approval, the following steps shall be taken *before land disturbance (clearing, grading excavating, etc)*:

- See §10.9.3 for procedures.
- The Planning Department shall perform an on-site inspection and evaluation of the submitted plan to determine whether the characteristics of the proposed buffer are adequate for the screening requirements. This may result in a finding that the natural tree buffer should remain pristine, be supplemented with additional plant materials, or be planted anew. Special attention shall be paid to the various views from the corridor and other fronting roads and the topographical characteristics of the land.
- Before any clearing or disturbance takes place along the corridor, the buffer areas shall be marked on the actual site (with colored surveyors' ribbon or equivalent). Preserved/natural buffer areas shall be distinguished from "new vegetation" buffer areas. The Planning Department shall verify that the buffer areas represented on the plan have been accurately translated in the field, and shall approve by signing off on the landscape plan before clearing and construction may begin.

Formatted: Bullets and Numbering

b. Plan Requirements

Deleted: .

A landscape plan shall be drawn to scale and shall include:

- A North arrow, legend, and location map
- Location of flood plains (if any) and rock outcroppings
- Locations, type and size of vegetation to be preserved
- Locations, type and size of required buffers (See Sections 0 and 0)
- Methods and details for protection of existing vegetation (Figure 22)
- Soil survey overlay of proposed planting buffer (for newly planted buffers only).
- Existing and new buildings, paved areas with type of paving, walkways with type of material used, loading areas, dumpsters, walls, fences, berms with gradients, water features, parking areas, lighting and signs
- Underground utilities: gas, electric, electronic, water, sewer (storm and sanitary), telephone
- Proposed modification to the public right-of-way
- Sedimentation and erosion control efforts

- Proposed new or additional plants, size, location and type
- Planting details (Figure 23: Shrub Planting Detail, Figure 24: Tree Planting Detail)
- Irrigation layout with delivery rates correlated to a gallons-per-hour unit of measure
- Type of mulch used in specific areas.

6. Recommended List of Plant Materials

Formatted: Bullets and Numbering

~~A recommended list of plant materials is on file and available at the Planning Department. The Planning Department should be consulted regarding use of plant materials not on the recommended list.~~

Deleted: The Approved Plant List is on file and available at the Planning Department. Deviations from the list of acceptable plant materials shall require the written approval of the Planning Department.

7. Certificate of Compliance

Formatted: Bullets and Numbering

A site inspection by the Planning Department must be scheduled after the landscape plan has been implemented. If the work is deemed to be in compliance with the approved landscape plan, a Certificate of Compliance will be issued by the Planning Department, and is required before a Certificate of Occupancy may be issued. If the inspector ~~or~~ ~~an~~ official finds that there are missing or undersized items, work that is poorly done based on accepted trade standards, or dead or deteriorated plants which cannot be replaced because of weather or seasonal conditions, *and* these comprise in the official's ~~official's~~ **inspector's** judgment less than 5% of the overall landscape effort, then an extension of 120 days may be granted for remedial work to be done. In that case, the Certificate of Compliance may be issued, as long as a performance bond is posted with the Planning Department in an amount representing triple the cost of the remedial work.

8. Required Maintenance of Buffer

Formatted: Bullets and Numbering

Developer is responsible for ensuring the adequacy of the screening provided by the buffer area. During the initial five-year establishment period, Developer shall replace dying, deteriorating or damaged plant materials with pieces of like size and type, in a timely manner (generally within 90 days, or at the next appropriate planting season). Developer shall also permit natural regeneration of buffer plants (volunteer growth, or self-seeding) to occur, even if it produces 100% screening. Replacement activities will be required after the initial establishment period only in the event that natural regeneration has been halted by chemical (herbicide) or mechanical (mowing, bush-hogging, etc.) means.

Wooded area clean-up is permitted within buffer and other areas, if done in such a way that it does not inflict damage to the trunks or the roots of remaining trees within the critical root zone, or compact the soil. Such clean-up may include removal of unsuitable vegetation and shade trees less than 1-1/2" DBH, and under-story trees less than 1" DBH, that have self-seeded and are considered undesirable either from a horticultural or aesthetic standpoint.

Pruning of trees is only permitted if it corresponds to the American National Standards Institute, Inc., ANSI A300-(Part 1)-2001 Tree Care Operations - Tree, Shrub and Other Woody Plant Maintenance - Standard Practices (Pruning). The specific operations that would be deemed appropriate for the buffer are "Cleaning", or "Thinning". Inappropriate (prohibited) practices include "Elevation", "Vista Pruning", "Topping", "Reduction" and "Pollarding". Relevant portions of this document may be reviewed by contacting the Planning Department.

8. 9. Penalty for Vegetation Removal

No major subdivisions as defined by the subdivision ordinance, conditional use permit plan, or non-residential building permit can be issued or approved on any parcel when clear-cutting or tree harvesting on the parcel or parent tract has occurred within the last three (3) years without preservation of the required, undisturbed vegetative buffers along transportation or riparian corridors, or other natural areas designated by development ordinances. Replanted buffers will be required and should be replanted as soon as reasonably possible so that there will be vegetation in place once the three (3) year period has elapsed, unless a willful violation is demonstrated, whereby a five (5) year waiting period can be applied. This is to ensure that the item number 4 of the purpose and intent section of the overlay district is met.

Formatted: Bullets and Numbering

Deleted: 1

J. Signs

Formatted: Bullets and Numbering

1. Signs subject to control

All signs shall be erected, maintained and operated in accordance with this article and other relevant controls, unless specifically excepted.

Formatted: Bullets and Numbering

a. Base district signs normally exempt, but regulated in node overlay districts

The following signs are not subject to permits in the Zoning Ordinance but are subject to restrictions as noted as part of the node overlay district:

- Signs not exceeding four square feet in area and bearing only property numbers, post office box numbers, names of occupants of premises, or other identification of premises not having commercial connotations.
- Flags and insignias of any government.
- Integral decorative or architectural features of buildings, walls, or decorative architectural features visible from the public right of way that are identifiable with the development or a corporate identity.
- Signs directing and guiding traffic and parking on private property, but bearing no advertising matter.
- Announcement signs of professions or businesses, not exceeding two square feet in area, fixed flat against the building where such profession or business is carried on. There shall be a limit of one such sign per establishment.
- Church, community or public building bulletin boards and identification sign, ~~lighted or unlighted~~ shall not exceed 16 square feet in area. There shall be a limit of one such sign for each street abutting the lot.
- Signs identifying, by name only, residential sub-division, planned housing development, recreational facility, or mobile home parks and not exceeding 16 square feet in area. There shall be a limit of one double-faced sign or two single-faced signs for each road or driveway entrance to the development named on the sign.
- Directional signs not exceeding 16 square feet in area (beyond which a permit is needed, not to exceed 32 square feet) referring only to organizations, which are non-profit in character, or to construction projects in progress.

Formatted: Bullets and Numbering

2. Zoning compliance permit required.

Before any sign, except those specifically exempted from such a requirement, shall be erected or structurally altered, a zoning compliance permit must be obtained.

Formatted: Bullets and Numbering

3. Determining the number of signs.

- a.) For the purpose of determining the number of signs, a sign shall be considered to be a single display device containing elements organized, related and composed to form a unit. Where matter is displayed in a random manner without organized relationship of elements, each element shall be considered a single sign.
- b.) Without limiting the generality of subsection (a) of this section, a multisided sign shall be regarded as one sign. Unless specifically permitted elsewhere, no more than one ground mounted sign having not more than two sign surface areas, each limited to 150 square feet (or smaller as required), may be erected on any one lot.

4. Allowable Signs

Formatted: Bullets and Numbering

a. Wall Signs (including awning or canopy signs)

Wall mounted signs are permitted subject to the following:

- i. Size may be up to 10% of building façade area or 100 square feet, whichever is less. Combination wall signs with awning or canopy are allowed provided the square footage maximums are not exceeded. In such cases the lettered area and any identifying graphic or logo is used to determine the area of the awning or canopy considered a sign.
- ii. A permitted wall sign may be divided into two separate signs on the same building facade as long as the total area of the two signs does not exceed the maximum permitted.
- iii. Notwithstanding any other provision, the total area of all wall signs on any building facade shall not exceed the maximum permitted area set out above. Additionally, no building facade shall contain more than two separate wall signs.
- iv. Maximum height is 18 feet above the ground at that facade.
- v. Wall signs cannot be located on windows or doors.
- vi. Metal applied letter signs may substitute for wall signs. The sign size is calculated by drawing a four-sided polygon around the text and images, adding a two-inch border on all sides, and calculating the size of the resulting box.
- vii. Wall signs may not contain more than six square feet of neon copy area. See applied letter signs for calculation method. Neon cannot be used in awning or canopy signs.

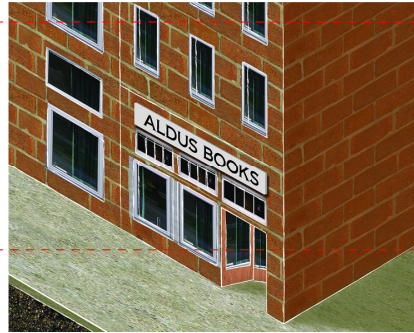


Figure 28: Wall Sign Illustration

Deleted: a.)

Formatted: Bullets and Numbering

Deleted: b.)

Deleted: c.)

Deleted: d.)

Deleted: e.)

Deleted: f.)

Deleted: g.)

Formatted: Bullets and Numbering

b. Projecting Signs

Signs that project from the face of a building will be permitted subject to the following:

- i. Maximum sign area is 6 square feet per side.
- ii. Distance from the lower edge of the signboard to the ground shall be seven feet or greater.
- iii. Height of the top edge of the signboard shall not exceed the height of the wall from which it projects for single story buildings, or the height of the sill or bottom of any second story window for multistory buildings.
- iv. Distance from the building to the signboard shall not exceed 12 inches.
- v. Width of signboard shall not exceed 42".



Figure 29: Projecting Sign Illustration

Deleted: a.)

Formatted: Bullets and Numbering

Deleted: b.)

Deleted: c.)

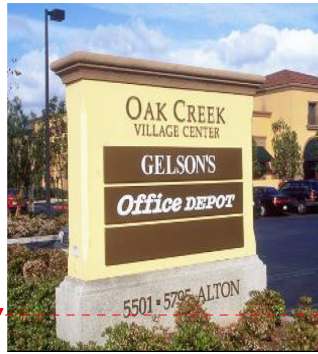
Deleted: d.)

Deleted: e.)

c. Freestanding (ground mounted) Signs

Formatted: Bullets and Numbering

For corridor frontage within the node areas, one monument sign with downcast lighting may be erected at each entrance point with a maximum area of 150 square feet per side of each sign (other requirements and maximums of the base zoning district still apply). In the Scenic Corridor District, this is limited to one sign per lot (regardless of number of entrances) and a maximum of 100 square feet per side. Similar directory signs giving early announcement of the development are also allowed at the property frontage extremities up to 16 square feet per side.



Deleted: (except in Crossroad Nodes)

No other illumination will be allowed on the corridor signs or any sign on a side access drive visible from the corridor right-of-way.

Figure 30: Freestanding Monument Sign Example with Address, Center Name, and Tenants

Deleted: or changeable copy

Height of freestanding signs in both districts is limited to 10 feet from the ground plane including the base. Where the sign base is below the grade of the frontage road served by said sign, the base may be taller to bring the bottom of the sign face to the road grade if it is integrated into the overall architectural line of the sign.



Deleted: in a visually pleasing way

Within the development, internal directory signs, amenity signs, or similar directional or informational freestanding signs are permitted subject to the following:

- i. Maximum sign area is 8 square feet per side. Freestanding signs on County-owned property may exceed the height and copy area restrictions, with approval of Board of Commissioners.
- ii. The height of the top of the signboard, or of any posts, brackets, or other supporting elements shall not exceed 7 feet.

Deleted: a.)

Deleted: Chatham County Appearance Committee

Deleted: b.)

Figure 31: Freestanding Internal Directory Sign

5. Prohibited Signs

The following signs are prohibited:

- i. Signs that are dilapidated or in disrepair
- ii. Internally illuminated signs (not neon)
- iii. Signs on roofs, chimneys and balconies
- iv. Billboards
- v. Flashing, blinking or moving signs that can be seen from the public row (including interior signs)
- vi. Mobile signs
- vii. Any freestanding sign (such as a monopole sign) that is not a monument sign or internal directory sign as described previously.
- viii. Banners for more than 30 days

Deleted: _

Formatted: Bullets and Numbering

Deleted: a.)

Formatted: Bullets and Numbering

Deleted: b.)

Deleted: c.)

Deleted: d.)

Deleted: e.)

Deleted: f.)

Deleted: g.)

Formatted: Bullets and Numbering

6. Color Restrictions

Color is not restricted in the Node Overlay Districts as it relates to the signage graphics and language. However the structure of the sign base, the field portion of the sign, and other architectural elements shall be compatible with the material and architecture of the rest of the development. Color is restricted in the Scenic Overlay District.

Deleted: (see **Error! Reference source not found.**, Scenic Node

Deleted:)

Mass, Scale, and Proportion

Standards for Crossroads Villages

Architecture shall be residential in form, scale, and detail, including pitched roof (minimum 9/12 pitch), fenestration with window surrounds, cornice detailing, and well-defined entryway. Siding materials and neutral colors commonly associated with residential buildings shall be used. Vinyl and aluminum siding materials as wall cladding and soffit/cornice construction are discouraged unless they closely replicate the appearance of their natural counterparts.

Standards for All Non-residential and multifamily residential buildings in Nodes Other Than Crossroads

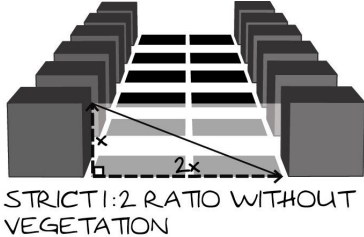
Ground floors and storefronts should be integrally designed with upper floors to be compatible with the overall façade character. All buildings shall have a dominant vertical proportion and all non-residential buildings will have a discernable top, middle, and bottom (see Figure 15: Top, Middle, Base Illustrative Architectural Concept). The first floor would be taller than upper floors, which may be set back from the street elevation. All sides of the building shall include material and design characteristics consistent with those on the front. Use of lesser quality materials for side or rear elevations shall be prohibited.

On a given block, all buildings shall use approximately the same setback from the street; and voids between buildings along the street are discouraged. Exception: In a condition where a deeper setback from the street creates a pedestrian courtyard or café seating area.



Figure 16: Top, Middle, Base Illustrative Architectural Concept

The enclosure ratio (relation of building height to street width) shall be approximately 1:2 or 1:3. No building in a node shall exceed the mature height of the vegetative buffer at the corridor's edge as measured at the corridor's edge.



Consistent proportioning systems are encouraged, preserving a width-to-height ratio along a façade. This ratio can differ among façades, but once chosen should be used for the entire façade. See the 1 to 1.75 example in Figure 17—the red dashed lines show the repetition of the ratio throughout the façade.

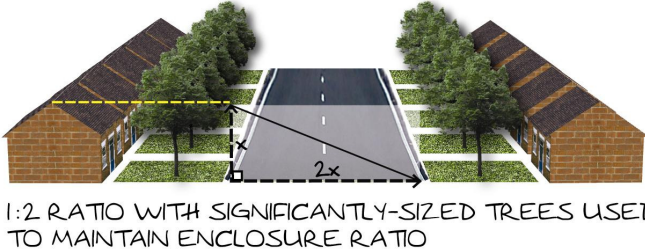


Figure 17: Enclosure Ratio Illustrations

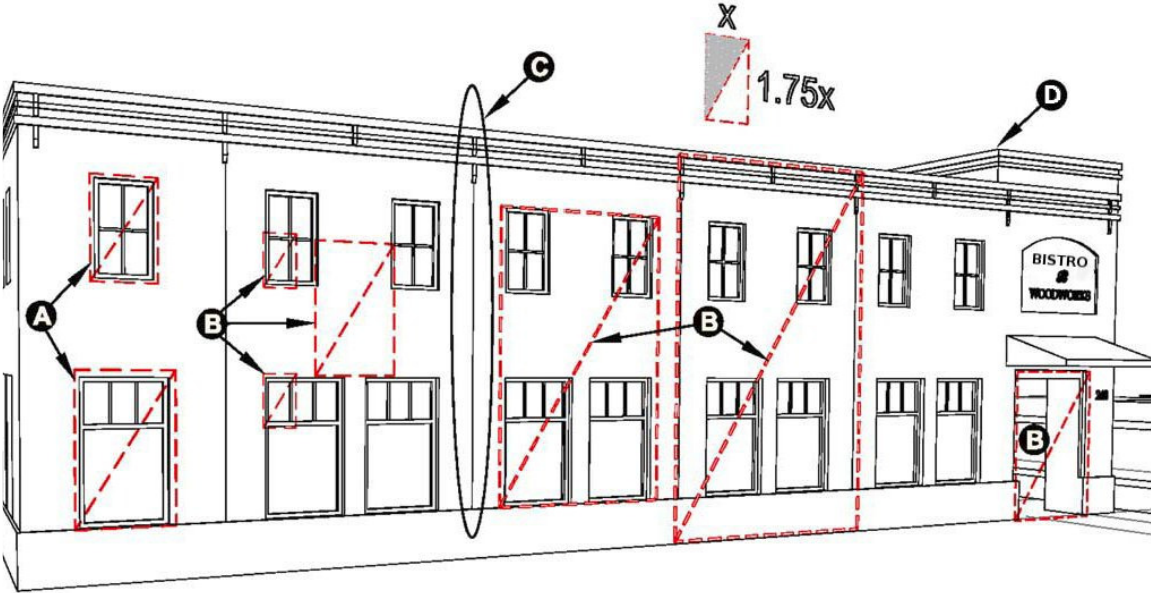


Figure 18: Consistent Proportioning System

Generic corporate prototype buildings are prohibited; all structures should be built with "individual architectural merit" to allow for adaptive re-use and avoid future empty or abandoned structures.

The principal entrance to a building, both functionally and architecturally, shall front the primary public street or internal focus "street" or a public open space such as a square, plaza, courtyard, or sidewalk. They shall be clearly defined, i.e., recessed or framed. Sheltering elements such as awnings, or a portico at a building corner, are encouraged. It is desirable that corner buildings have corner entrances where possible. Secondary entrances may be located off a rear parking area.

Large buildings fronting multiple streets should provide multiple entrances. Entrances connecting to a central lobby should be accessible from each street-fronting façade of the building.

Provide transitions between building types by using complementary architectural design and manipulated massing. Larger-scaled buildings shall respect the scale and form of adjacent lower-density spaces. Unbroken mass of more than 75 linear feet is prohibited; varying wall surfaces and depths and varying the façade height can break the mass. Putting smaller storefronts along the main street façade of large-scale buildings and structured parking buildings to reduce their massive appearance and create pedestrian scale is strongly encouraged.



Figure 19: Example of Break In Façade Massing. Note both horizontal setback variation (entrance) and vertical steps to break up the roofline.

Architectural details such as pitched roofs, heavy cornices, ornamental window surrounds, shutters, awnings, detailed entrances, quoins, columns and vertical divisions between buildings may be incorporated into the design so as to create a sense of human scale and architectural interest.

The part of the structure at a street intersection should have some architectural feature that accentuates the importance of the corner; this can include corner entrances, some kind of additional architectural detail, such as a entry portico or additional height see (D in Figure 17: Consistent Proportioning System).

Building mechanical and accessory equipment attached to or protruding from the roof shall be incorporated into the design of the building and enclosed with building materials which are the same as the building, to screen all machinery from view.

Conduit, meters, vents and other equipment attached to the building or protruding from the roof of the building shall be painted to match the surrounding building surface. Where practical, the use of a screen wall or landscape plants to further remove such elements from view is strongly encouraged. Individual antennas or satellite dishes shall be located behind parapet walls or similarly screened from view at ground level.

Loading docks, solid waste facilities, and other service areas shall be visually unobtrusive and also screened by walls or vegetation from view of the public street. They may be recessed into or surrounded by the building envelope.

Window and Door Proportions and Design

(A) Ground level façades shall be designed to make the uses inside the building easily discernible by passersby. This applies to all street facing façades including internal "streets" as noted on the site plan elevations. A minimum of 50% of this elevation shall be some form of transparent glass window, and framed with an architecturally compatible frame. Where practical, windows should functionally open to provide natural ventilation.

(B) Highly reflective or highly tinted glazing and awning-type windows are prohibited anywhere on the building. Shutters, if used, shall be sized to provide full coverage of the window they flank. Faux windows, if they are used, must closely replicate the fenestration pattern and detailing used elsewhere on the building.

(C) Second floor facades that face or can be seen from a "street" shall be made up of a minimum of 25% glazed area, at least half of which shall be able to be opened. An ornamental surround in proportion to the glazed area shall be provided, except where shutters are to be used. In those cases only an ornamental sill and lintel may be provided. Balconies, both functional and ornamental, are encouraged, providing the balustrade is detailed in a manner that adds to and is in keeping with the overall architecture of the building.

(D) Awnings: The use of awnings is encouraged, providing they contribute to the overall architecture of a building in a positive way, and do not interfere with the passage of pedestrians. Awnings shall be mounted in locations that respect the design of the building, including the arrangement of bays and openings. It is preferred that solid colors, and woven exterior-grade fabrics

(not vinyl), be used. Retractable awnings, or those that appear to be retractable, are preferred.

-----Page Break-----

Page 25: [2] Deleted **Paul Black** **5/8/2008 11:34:00 AM**
(See Figure 22: Tree Protection Fence Detail).—

NOTE: In the *Crossroads Village* settings, and for small-lots (less than two acres), the *buffer depth minimums* along the corridor and other fronting roads shall be fifty (50) feet, for both existing and newly planted buffers, and shall be configured as:

- a minimum thirty (30) feet of undisturbed existing tree cover, plus ten feet surrounding all sides of the existing stand, comprising the critical root zone (CRZ).

This shall apply only in the event that the two acres or less are wide (frontage) but shallow in depth, measured perpendicular to the corridor or fronting street. In order to be considered "wide", the lot's frontage must be wider than its depth by a ratio of at least 1.5 to 1

-----Page Break-----

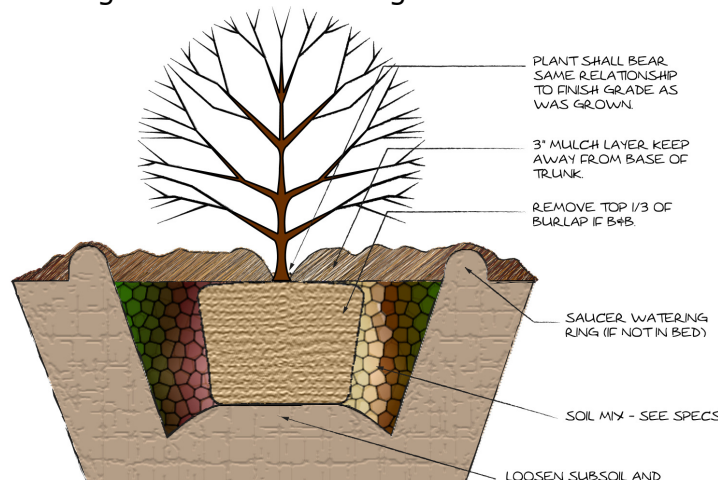
Page 25: [3] Deleted **Paul Black** **5/8/2008 11:34:00 AM**
Prior to planting, the native soil type shall be determined using the most recent soil survey data from the U.S. Geological survey, and the soil type(s) existing within the vegetated buffer shall be clearly shown as a layer superimposed upon the Landscape Plan. The species composition of the newly planted vegetative buffer shall be matched to the soil type contained therein. Compatibility will be verified by the Chatham County Planning Department.—

Page 27: [4] Deleted **Paul Black** **6/4/2008 4:00:00 PM**

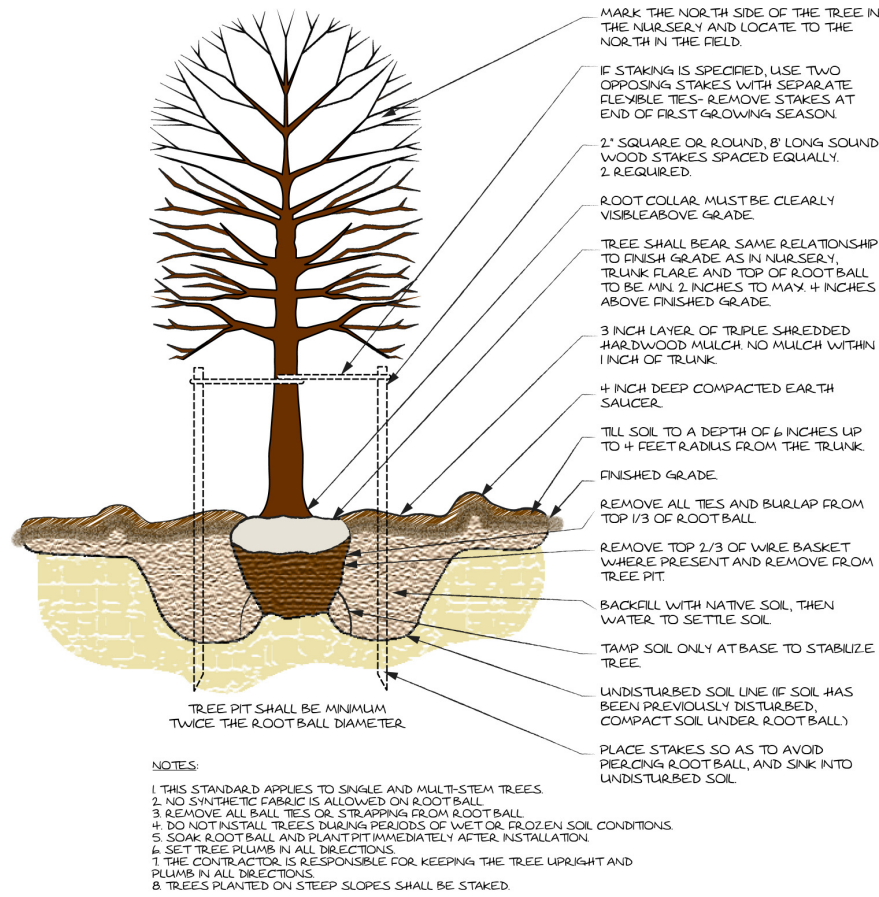
Installation

The installation of trees and shrubs in the landscaped buffers and in the Parking lot Islands shall conform to the Tree Planting and Shrub Planting Details contained herein (Sample Figures 23 and 24).

Shade in parking areas is highly desirable and strongly encouraged. It provides for cleaner air and cooler surface temperatures, which make for a more comfortable environment for pedestrians, while also mitigating energy use required to cool buildings and automobiles.



Planting within parking areas shall utilize a "plant for the roots" philosophy. Shade trees shall be located a minimum of 50 feet on center throughout the parking areas (see Figure 26), in planting pits of 20' x 27' at a 36" depth. The pits will be loosened and amended to a depth of 36" measured from the surrounding grade. It is not acceptable to deepen the plant pits, and decrease the square footage for shade trees, in an effort to achieve the cubic foot requirements given in Figure 25: Soil Volume Requirements.



TREE PLANTING DETAIL
NO SCALE

Figure 24: Tree Planting Detail

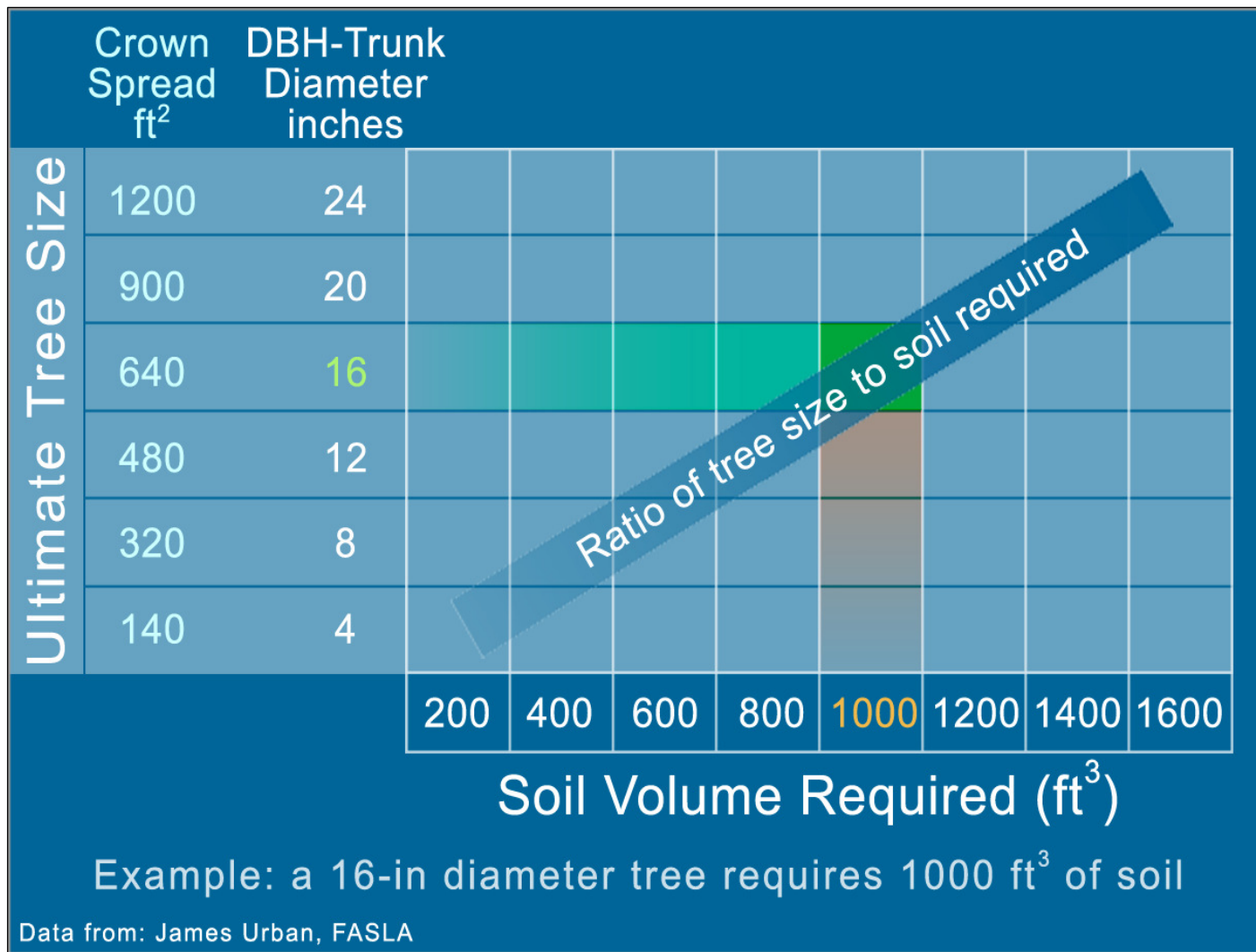


Figure 25: Soil Volume Requirements

Three to five percent of the total soil volume shall consist of added organic matter (e.g., composted leaves, etc.), thoroughly mixed in. The resulting soil volume will provide for a minimum of 1600 cu. ft. of soil volume available to the tree roots as growth medium (see Figure 25: Soil Volume Requirements).

The prepared planting pit shall be protected from compaction by outlining the area with colored surveyors ribbon after soil preparation, until the planted area has been finish planted, inspected and accepted. Pits will be probed to a depth of 36" during final inspection to verify that the soils contained within them are soft and friable. The percentage of organic matter in the soil profile will be verified by the Planning Department at the discretion of the Inspector if field testing indicates that soils appear to be unacceptable within the 36"

~~depth profile. Soils found to be unacceptable will be rejected, and remedial work will be required.~~

~~During soil preparation, any rock over four-inch diameter, gravel, building materials (including sand, cement, and concrete), inorganic waste or other material incompatible with plant growth shall be removed, to result in no more than 5% of the final soil volume comprising these elements. Any such volume removed shall be replaced with suitable soil.~~

~~The replacement soil should be the following planting mix for most plants: 10%—30% sterile well pulverized red clay, 30%—50% silt, 30%—45% coarse sand, 1.0 mm to 0.5 mm in diameter, minimum 5% organic material such as completely decomposed compost/humus. The acidity range of the plant mix should be pH5.5 to pH7.0. The planting mix should have the following nutrients at the specified percent base saturation: calcium at 55% to 80%, magnesium at 10% to 30%, and potassium at 5% to 8%.~~

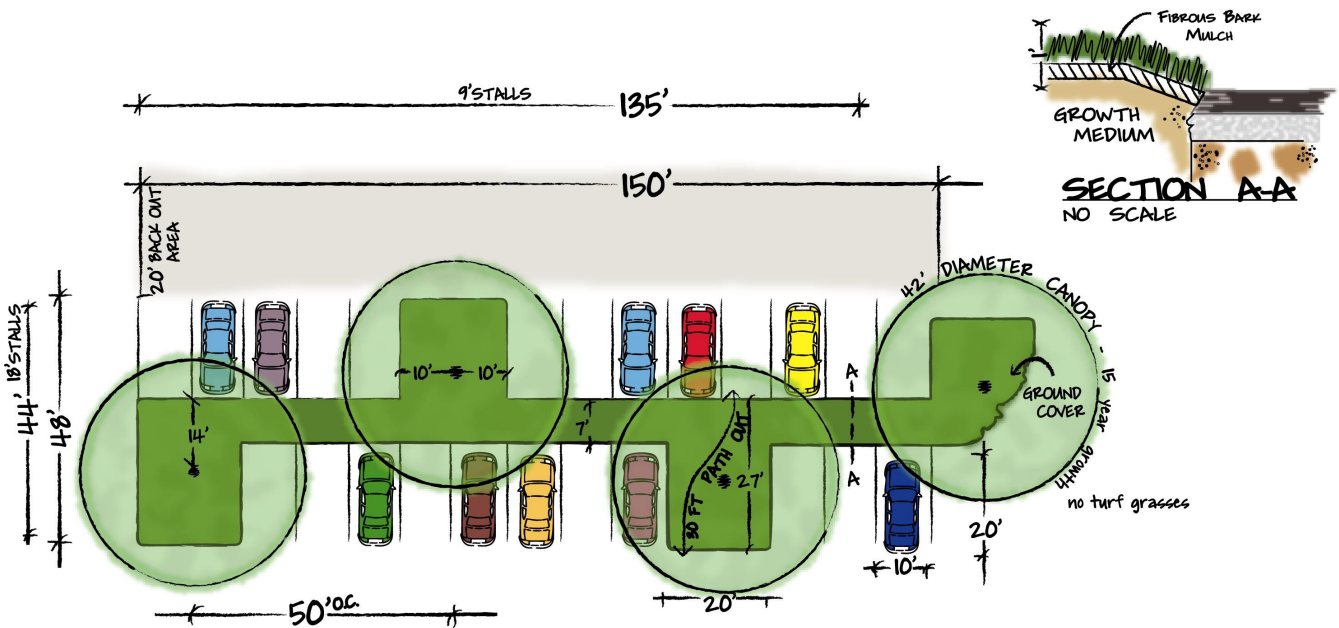
~~The new tree or shrub shall be installed plumb (vertical) and maintained as such until the warranty period has elapsed. Before backfilling:~~

~~Wire baskets used in mechanical digging shall have the top two-thirds removed from the hole.~~

~~All ties and burlap are to be removed from the top one-third of the root ball.~~

~~Synthetic or treated burlaps and ties shall be removed from all sides of the root ball.~~

~~The root flare of the planted tree should be slightly above the top of the soil after planting.~~



SHADE TREE SPACING SCALE 1" = 20'-0" SAMPLE PLAN VIEW

CALCULATIONS - PARKING FOR 24 CARS	
1	20'X27' GROWTH AREA @ 3' DEPTH = 1620CF
2	48'X150' PARK/PLANT AREA = 7200 SF OR 1 TREE/2400 PAVED AREA
3	WITH BACKUP AREA PAVEMENT = 10,200 SF less crownspread 4,154 SF = 40% SHADE (47% SHADE WITH 9X18 STALLS)

When installing under story shrubs and plants, care shall be taken to not disturb the root system (root ball) of the shade tree.

At least every third row of plant pits shall be joined together with a soil median strip with a seven-foot minimum width (back of curb/pavement to back of curb/pavement) and crowned 12" above the perimeter top of curb or parking surface (in absence of curbing). The soil within the median strip shall be loosened and augmented as outlined above to a minimum depth of 12" over its entire area. A vegetative ground cover planting over the entire median area is required (See Groundcovering Shrubs list). Due to the great number of possible herbaceous ground covers, a corresponding list was deemed impractical herein. However, should a landscape designer wish to use such a plant, submissions to the Planning Department should be made and will be considered on a project by project basis. NOTE: Mowable turf grasses are strongly discouraged within parking areas, and shall be minimized elsewhere on site, due to their required high levels of maintenance, which contribute to pollution, and high energy and water consumption.

Pedestrian cut throughs from parking aisle to parking aisle as used to meet the pedestrian requirements of the Access section shall be constructed in-

such a way that the root structures of the shade trees are not adversely affected.—

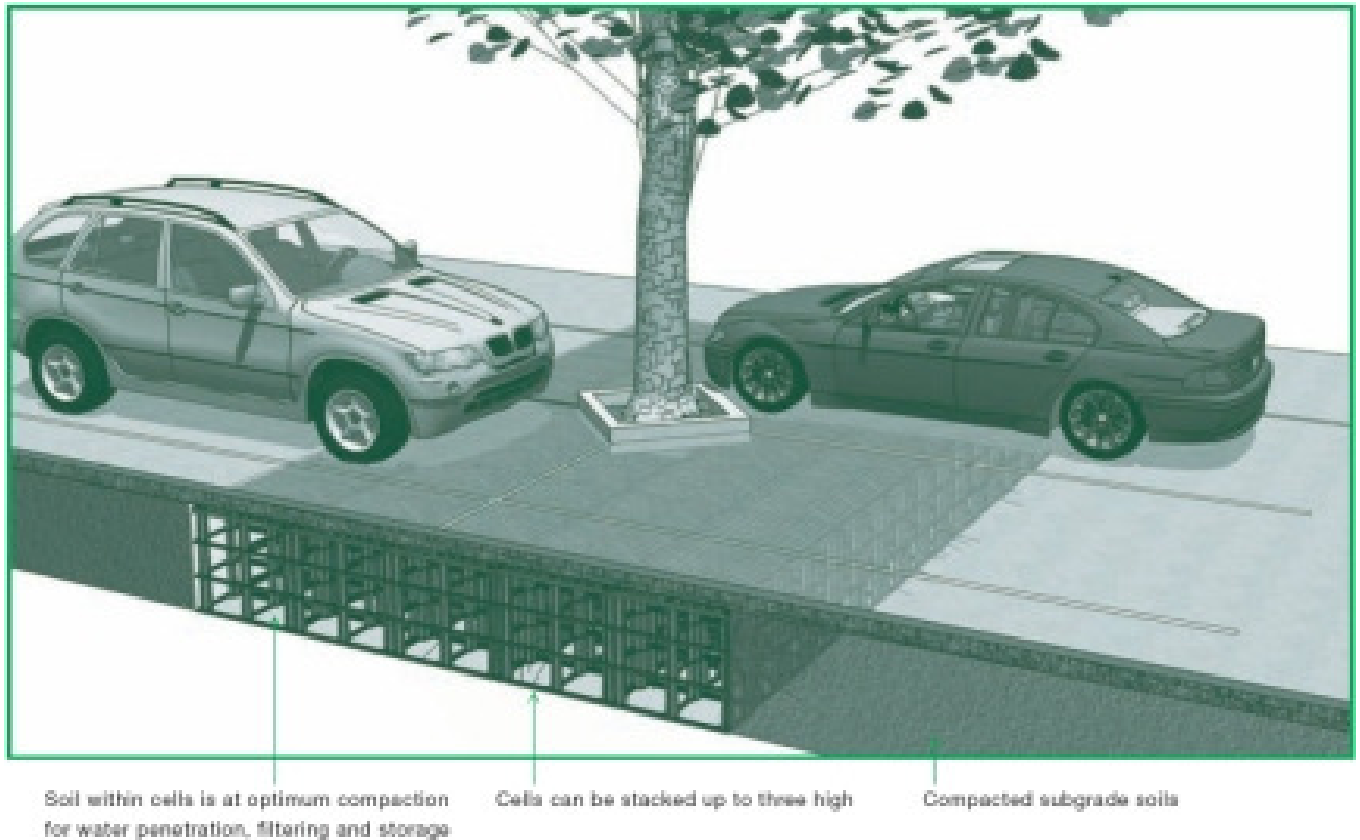


Figure 27: Structural Cells (image used with permission from [vendor name])

Exception: Where the required soil volume for tree planting (see Figure 25: Soil Volume Requirements) cannot be attained via a dedicated 20 x 27' planting pit, a subterranean modular structural framework, such as Silva Cell by Deep Root Products (see Figure 27: Structural Cells), shall be permitted as an alternative. The calculated volume of such structural cells must meet the requirements shown in Figure 25: Soil Volume Requirements. Planting pits should generally be wide and shallow versus narrow and deep; the depth of the pits should not exceed the bottom of the root ball in most cases.—

Irrigation

An automatic spray and/or drip style irrigation system shall be provided for all newly established plantings except in Crossroads Activity Centers. The system, which shall be centrally controlled with an electric timer and equipped with a rain sensor mechanism, shall be capable of providing the following minimum rates of water:

Vegetation Type	Minimum water requirement
-----------------	---------------------------

Turf grasses	One inch per week
Groundcovers	One half inch per week
Small shrubs 18" - 24" H	6 gals. per week (gpw)
Medium shrubs 25" - 47" H	12 gpw
Tall shrubs 48" - 72" H	25 gpw
Shade trees 4" caliper	50 - 60 gpw*

~~Irrigation systems shall use treated wastewater from onsite treatment plants whenever possible, or be installed in such a way that they can be easily retrofitted should recycled wastewater become available. Without recycled wastewater (or in CACs without irrigation) any plantings done shall use drought-tolerant vegetation wherever possible.~~

~~NOTE: It is preferred that irrigation be applied less often but longer and more deeply, in an effort to encourage greater root penetration in a downward as opposed to a lateral direction.~~

~~Two concentric circles of drip irrigation shall be required around each shade tree, at radius points of five (5) feet and ten (10) feet from the centerline of the trunk.~~

~~Exception: Where Low Impact Design uses on-site catchment and retention of rainwater to sustain new plantings, this natural alternative to irrigation can be used if it can provide sufficient water to sustain the new plantings during a severe drought as defined by the State Climate Office. Since different plants require and/or tolerate different amounts of water, care should be taken when choosing species. This can be grading and natural flow to planting areas and can be supplemented with man-made irrigation supplied by cisterns, rain barrels, stormwater retention ponds recycled wastewater, et cetera (but not private wells or drinking water).~~