

# Unified Development Ordinance

*Greenville County, South Carolina*



## Article 7: Tree Preservation

PUBLIC REVIEW DRAFT | August 11, 2023

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# ARTICLE 7: TREE PRESERVATION

## 7.1 TREE PRESERVATION<sup>1</sup>

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### 7.1.1 FINDINGS<sup>2</sup>

- A. Greenville County’s natural resources are essential to its prosperity, quality of life, and character. Trees and the tree canopy provide positive benefits to all residents of Greenville County and contribute to community image, pride, and quality of life.
- B. The benefits of trees and the tree canopy include:
  - 1. Enhancement of the aesthetics and property values in an area;
  - 2. Critical habitat and food sources for animal and plant species;
  - 3. Shade that mitigates the urban heat island effect resulting from development;
  - 4. Prevention of soil erosion;
  - 5. Reduction of stormwater impacts and improvement of groundwater recharge;
  - 6. Buffers to noise and screening of unsightly areas;
  - 7. Wind breaks that prevent damage to buildings and crops; and

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<sup>1</sup> This Article significantly changes the existing tree ordinance in Article IV: *Tree Standards and Practices*. The consulting team engaged a group of conservation stakeholders and development stakeholders as well as County staff to identify areas to improve the County’s tree preservation standards. Based on this feedback, the proposed revisions prioritize the preservation of existing tree canopy, an approach the conservation and development stakeholders generally preferred. The UDO relocates current §17-51 stream buffers to proposed §6.3: Riparian Buffers. The Article Implements *Plan Greenville County Objective D-2, Strategies*:

- 1. Make floodplains a part of a tree and habitat protection plan. (pg. 138.)
- 2. Require stream buffers sufficient to protect water quality, streambank integrity, and wildlife habitat. (pg. 138.)
- 4. Maintain and improve connectivity of natural systems that supports wildlife corridors and habitats. (pg. 139.)
- 6. Identify and preserve healthy tree canopies. (pg. 139.)
- 7. Identify and preserve significant heritage or landmark trees. (pg. 139.)
- 8. Expand tree canopy through the promotion of tree planting within all new developments or individual properties. (pg. 139.)
- 9. Rewrite the county’s tree ordinance to implement the goals of the comprehensive plan and protect the county’s tree canopy. (pg. 139.)

<sup>2</sup> This Section includes findings from current §17-51: *Purpose* and adds the benefits of trees described in the comprehensive plan sections on Forestry (pgs. 130-31) and Natural Resources (pg. 136).

8. Wood products used in our buildings and landscapes.
- C. Some trees possess added value due to their age, size, location, or connection to history or local culture.
- D. The loss of trees and tree canopy associated with mass grading and of other development practices negatively impacts human health, environmental quality, the overall quality of life, and general property values.
- E. The loss of trees and tree canopy resulting from development practices adversely affect air quality, water quality, stormwater runoff, property values, scenic quality, urban design, human health and well-being, outdoor recreation, and wildlife.
- F. Urbanization is now the primary cause of deforestation in South Carolina, and Greenville County is losing its tree canopy at a rapid rate due to urbanization.

### 7.1.2 PURPOSE<sup>3</sup>

The purpose of this Article is to:

- A. Implement the County's comprehensive plan;
- B. Protect the County's diminishing tree canopy;
- C. Maintain and improve connectivity of natural systems that support wildlife corridors and habitats;
- D. Identify and preserve healthy tree canopies;
- E. Identify and preserve significant specimen trees;
- F. Expand the tree canopy through the promotion of tree planting within all new developments or individual properties;
- G. Mitigate the adverse effects of the loss of trees in Greenville County occurring as a result of residential, commercial, institutional, and industrial land development practices;
- H. Protect the rights of all citizens and property owners by ensuring that a reasonable and prudent policy of conservation and replenishment of tree cover is applied during the process of land development;

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<sup>3</sup> This Section combines current §17-51: *Purpose* and 17-52: *General Policy* with significant changes to incorporate the purposes proposed by the comprehensive plan (Natural Resources, pgs. 138-39) and stakeholder input.

- I. Preserve existing trees by requiring reasonable maintenance after planting; and
- J. Providing public education on the benefits of trees, tree conservation, and tree care.

### 7.1.3 APPLICABILITY<sup>4</sup>

- A. **Generally.** The provisions of this Article apply to all new development in unincorporated areas of Greenville County that cause land disturbing activities for which a grading permit is required pursuant to the Storm Water Management Ordinance of Greenville County, codified as Article III of Chapter 8 of the Greenville County Code.
- B. **Exemptions.** This Article does not apply to:
  - 1. Land disturbing activities that only require the approval of a Simplified Storm Water Management and Sediment Control Plan; and
  - 2. The land disturbing activities that are exempt under the Storm Water Management Ordinance, including individual single family-family residences, agriculture, forestry, and certain mining activities. Refer to [§ 8-67: Prohibitions and Exemptions](#) for a full list of and criteria for all exemptions.
- C. **Limitations.** Clearing trees through development activity that uses timber harvesting as a means to prepare a site for non-exempt development to circumvent the requirements of this Article is prohibited. The County will defer any application:
  - 1. For one year after the completion of a timber harvest if:
    - (a) The harvest results in the removal of all or substantially all of the trees from the specific area included in a building permit, site disturbance, or subdivision plan; and
    - (b) The removal qualified for an exemption contained in S.C. Code Ann. [§ 48-23-205\(B\)](#); or
  - 2. For five years after the completion of a timber harvest if:

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<sup>4</sup> This Section significantly changes the requirements of current §17-53: *Application and Exemptions*. Clarifies that the tree preservation requirements apply to both zoned and un-zoned areas in all situations where stormwater permits are required, except for a simplified stormwater permit (which includes exceptions for agriculture, single-family homes not part of a common plan, and other common minor impacts). Prohibits using exempt forestry activities to clear land for development as provided in S.C. Code Ann. § 48-23-205. Provides for the use of mandatory tree save areas to satisfy other requirements of the UDO, including buffers, open space, and floodplains. The current regulations require that tree preservation be in addition to other requirements, so developers will be able to “double-count” preservation of some sensitive areas.

- (a) The harvest results in the removal of all or substantially all of the trees from the specific area included in a building permit, site disturbance, or subdivision plan;
- (b) The removal qualified for an exemption contained in in S.C. Code Ann. § 48-23-205(B); and
- (c) The harvest was a willful violation of County regulations.

**D. Tree Save Areas and Other Tree Requirements.**

1. *Generally.* The requirements of this Article to preserve or plant trees may also be used to satisfy other requirements for the provision of trees in this UDO, including:
  - (a) *Buffers.* Retention of existing tree canopy in tree save areas may be used to satisfy riparian and perimeter buffer requirements under **Article 6: Buffers & Screening**;
  - (b) *Open Space.* Retention of existing tree canopy in tree save areas may be used to satisfy the open space requirements in **Section 11.3: Open Space**;
  - (c) *Floodplain.* Retention of existing tree canopy on land that is within a Flood Hazard Area as defined by County Code Chapter 8: Flood Control, Drainage, Stormwater Management or within an area designated as wetlands by any State or Federal agency may be used to calculate tree save areas; and
  - (d) *Low Impact Development.* Retention of existing tree canopy may be used in areas that are used for low impact development techniques stormwater mitigation practices as defined in **Article 14: Water Quality**.
2. *Exceptions.* Tree save areas required by this Article will not be used for or count towards:
  - (a) *Lot Trees.* The tree save areas required by this Article will not be used to satisfy the requirement for placement of lot trees under Subsection 7.1.7: *Lot Trees*. However, existing individual trees or stands preserved on a lot may be used to satisfy the lot tree provision requirements.
  - (b) *Parking Lot Landscaping.* The tree save areas required by this Article will not be used to satisfy the requirements for parking lot landscaping under **Section 5.4: Interior Parking Lot Landscaping**. However, individual trees or stands may be used to satisfy the tree provision requirements for parking lots.
  - (c) *Detention Ponds.* The tree save areas required by this Article will not be used for detention ponds and other traditional stormwater management practices required by County Code Chapter 8: Flood Control, Drainage, Stormwater Management.

**7.1.4 TREE PRESERVATION STANDARDS<sup>5</sup>**

All new development must provide tree save areas, preserve specimen trees, and include lot trees as set out in Table: 7.1.4-1. *Tree Preservation Standards by District.*

Table: 7.1.4-1. Tree Preservation Standards by District			
District/Area	Tree Save Requirement	Specimen Tree Preservation Required	Lot Trees Required
Unzoned	20%	Yes	4
AG, ESD-PM, R-R3, R-R1, R-S, R-20A, R-20, R-15	20%	Yes	4
R-12, R-10, R-7.5, R-6, RU-V	15%	Yes	2
R-M8, R-M10, R-M16, R-M20, R-MA, R-MHP	15%	Yes	No
O-D, C-N, C-1, C-2, C-3, RU-C, S-1, I-1,	10%	No	No
I-2, BTM, FRD, PD	30%	Yes	No

**7.1.5 TREE SAVE AREAS<sup>6</sup>**

**A. Tree Save Area Required.**

1. *In General.*

- (a) If existing trees are present on a land development site, the percentage of the total development site that must be preserved as tree save area is the lesser of:

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<sup>5</sup> This new Section provides one table with an overview of all tree preservation standards and allows the standards to vary by district. The revision replaces the previous “tree density unit” with more common terminology that provides understandable metrics based on the desired outcome, which is preservation of tree canopy and specimen trees.

<sup>6</sup> This Section significantly changes §17-55: *General Criteria for Tree Conservation in All New Developments*. The primary change is a move from the option of planting of new trees or preservation of existing trees to a requirement that a minimum area of the site is protected as a tree save area if the site includes sufficient existing tree coverage. Replaces the current measurement standard of “tree density unit” with more the more common standard of “tree save areas” that provides understandable metrics based on the desired outcome, which is preservation of tree canopy. There is no planting requirement if the site does not have existing adequate tree cover to meet the percentage requirement. There is an incentive for the developer to designate areas with conditions preferred by stakeholders and staff, such as existing hardwoods, riparian areas, and wildlife corridors. The incentive results in a slight reduction in the tree save area. The revision adds a dwelling unit density bonus for voluntary tree save areas in addition to the required area.

- (1) The percentage of the site covered with existing tree canopy; or
  - (2) The percentage of the site area stated in Table 7.1.4-1: *Tree Preservation Standards by District*.
- (b) Figures 7.1.5-1 through 7.1.5-3 Illustrate the process of identifying tree save area on a hypothetical development site.

**Figure 7.1.5-1: Proposed Development on a Wooded Site**



**Figure 7.1.5-2: Identification of Tree Save Area from Existing Canopy**





Figure 7.1.5-3: Subdivision Sketch Identifying Tree Save Area



2. *Sites without Trees or with Less than Required Tree Save Area.* Land development sites without trees or with a smaller area of existing tree canopy than this Section requires for tree save areas are not required to plant additional trees to satisfy the tree save area requirement.
  3. *Sites with Recent Tree Removal.* The removal of trees prior to land development may result in the penalties described in § 7.1.3C: *Limitations*.
- B. **Tree Save Area Dimensions.** Tree save areas must have a minimum width that is the lesser of:
1. 50 feet along a dimension that is 1,000 feet or more; or
  2. 5% of the site width in any dimension that is less than 1000 feet.
- C. **Incentives for Preferred Locations.** Sites with preferred preservation conditions qualify for an incentive that reduces the overall percentage of the site that must be preserved as tree save area. The maximum reduction of tree save area using more than one condition is 5% of the site.
1. *Existing Hardwood Stands.* If the designated tree save area consists of deciduous forest or mixed forest as shown in the most recent [National Land Cover Database \(NLCD\)](#), the site qualifies for a reduction of the tree save area by 2.5% of the total site area. The current conditions of the site must be verified to match the NLCD for the incentive to apply.

2. *Riparian Areas.* If the designated tree save area includes or is adjacent to the entire length of blue line streams and all wetlands designated by any State or Federal agency, the site qualifies for a reduction of the tree save area by 2.5% of the total site area.
3. *Wildlife Corridors.* If the designated tree save areas are adjacent to one or more parcels containing more than five acres of existing contiguous forest as identified in the NLCD, the site qualifies for a reduction of the tree save area by 2.5% of the total site area. The minimum width of the tree save area at the boundary line for this incentive to apply is 100 feet.

**D. Incentive for Additional Tree Save Area.**

1. *Density Bonus.* Conventional subdivisions that exceed the required tree save area by at least 10% of the development site are entitled to a reduction in minimum lot size of 15% of the applicable lot size standard.
2. *Applicability.* Conservation and open space subdivisions do not qualify for this density bonus.

**E. Use and Maintenance of Tree Save Areas.**

1. *Trails and Greenways.* Tree save areas may include greenways and trails. Trail placement must be coordinated with the County so that the effective tree save area required is maintained.
2. *Structures.*
  - (a) Structures are prohibited within the specified buffer distance of all tree save areas. A building restriction must be noted on the recorded plat for the subdivision.
  - (b) The required buffer for structures from the margin of a tree save area is the greater of 10 feet or one foot per inch DBH (referred to in more detail as the critical root zone in § 7.1.9A: *Tree Protection Plans*) of the trees in the tree save area adjacent to the structure.
3. *Maintenance.*
  - (a) Generally, the tree save area must be maintained in a natural state.
  - (b) Invasive plant species and hazardous trees may be removed without County approval.
  - (c) Any alterations or maintenance to the tree save area must be accomplished without heavy equipment.

**F. Removal of Trees Necessary to Fulfill the Tree Save Area Requirement.**

1. *Generally.* Existing trees necessary to fulfill the requirement for tree save area may not be removed from a parcel without an administrative tree removal permit.
2. *Mitigation Requirement for Removal of Trees from Tree Save Areas.* Land development activity that results in the removal of existing trees necessary to fulfill the requirement for tree save area shall provide replacement or mitigation by planting new shade trees at a rate of 34 trees per acre for the total acreage of required trees that are removed or payment of a fee-in-lieu pursuant to 7.1.14: *Fee-in-Lieu of Compliance*.
3. *Penalty.* If existing trees necessary to fulfill the requirement for tree save area are removed without an administrative tree removal permit and either mitigation or payment of a fee-in-lieu of tree preservation or mitigation as set out in this Article, any new development will be prohibited as provided in Subsection 7.1.3C. Other penalties may also apply as provided by this Article.
4. *Administrative Approval.* For land development sites with a smaller area of existing tree canopy than this Section requires for tree save areas or sites where the applicant proposes to remove trees required to meet the tree save area requirement, the Subdivision Administrator may approve requests to remove required tree save areas on development sites under limited circumstances, based on, but not limited to, the following factors:
  - (a) The location of the existing trees to be used in a tree save area on the property prevent the development of the site based on locations for connections to existing roads, trails, and utilities (electric, gas, water, sewer, and the like);
  - (b) The location of the existing trees to be used in a tree save area on the property would cause detriment to public well-being in regard to sight visibility onto existing streets or hinder widening and enhancement plans for existing streets;
  - (c) The location of the existing trees to be used in a tree save area on the property would cause detriment to public well-being in regard to the placement of proposed utilities, such as electric, gas, water, and sewer;
  - (d) The location of the existing trees to be used in a tree save area on the property would cause detriment to public well-being in regard to drainage and stormwater measures;
  - (e) The location of the existing trees to be used in a tree save area on the property conflict with necessary elements of the site design that unreasonably impede or diminish the objectives of the development or prevent the provision of necessary features;

- (f) A professional arborist or landscape architect indicates in writing that the tree(s) is diseased, or the soil and climate are not suitable for proper growth and health of the tree(s), or the tree(s) is prone to cause property damage or personal injury; or
- (g) Any other situation where the application of the standards of this Section would result in unnecessary hardship to the applicant.

**7.1.6 PROTECTION OF SPECIMEN TREES<sup>7</sup>**

A. **Specimen Trees.** Table 7.1.6-1: *Specimen Trees* identifies the species and size qualifications for specimen trees.<sup>8</sup> In general, specimen trees represent the principal canopy trees for the plant communities present in Greenville County.

Table 7.1.6-1: Specimen Trees	
Tree Type	DBH (min)
Appalachian Basswood ( <i>Tilia americana</i> var. <i>heterophylla</i> )	24 in
American Beech ( <i>Fagus grandifolia</i> )	24 in
Birches ( <i>Betula</i> spp.)	24 in
Black Gum ( <i>Nyssa sylvicata</i> )	24 in
Black Walnut ( <i>Juglans nigra</i> )	24 in
Elms ( <i>Ulmus</i> spp.)	24 in
Hemlocks ( <i>Tsuga</i> spp.)	24 in
Hickories ( <i>Carya</i> spp.)	24 in
Maples ( <i>Acer</i> spp.)	24 in

<sup>7</sup> This Section significantly revises the current standards of §17-55: *General Criteria for Tree Conservation in All New Developments*. Based on feedback from stakeholders and staff, preservation of specimen trees is now mandatory instead of voluntary. However, a procedure is provided for removal of some specimen trees with either replacement or payment of a fee-in-lieu. In addition, the revision provides a clear definition for specimen trees by species that prioritizes the types of canopy trees identified by stakeholders and staff as essential for preservation. The revision changes the current 30” DBH standard for specimen trees to 24” DBH for the specified species based on stakeholder and staff input.

<sup>8</sup> The list of species represents the canopy and larger understory trees of the principal forest communities present in Greenville County, including the mountain communities of cove forest, chestnut oak forest, montane oak-hickory forest, and Canada hemlock forest and the piedmont communities of basic-mesic forest, beech forest, oak-hickory forest, piedmont xeric hardpan forest, and piedmont springhead seepage forest. All canopy trees for these communities are included except ash, tulip tree, pines, and sweetgum.

Table 7.1.6-1: Specimen Trees	
Tree Type	DBH (min)
Oaks ( <i>Quercus spp.</i> ), except Water Oak ( <i>Q. nigra</i> )	24 in

**Key:** min = minimum required to qualify | in = inches

- B. **Preservation of Specimen Trees.** All specimen trees must be preserved on any development site on a parcel in the areas identified in Table 7.1.4-1: *Tree Preservation Standards by District* unless the applicant obtains permission to remove the trees as provided in this Section.
- C. **Identification of Specimen Trees.**
  - 1. *Trees in the Disturbed Area.* Each specimen tree located within the proposed disturbed area and those in a tree save area but less than 40 feet from the limits of the disturbed area must be identified on stormwater site plans, including information on the species, size, and health of the trees.
  - 2. *Trees in the Undisturbed Area.* Specimen trees are not required to be identified if they are located in the undisturbed area and will be located in a tree save area that complies with this Article, unless they are within 40 feet of the edge of the disturbed area.
- D. **Removal of Specimen Trees.**
  - 1. *Generally.* A specimen tree may not be removed from a parcel without an administrative tree removal permit.
  - 2. *Mitigation Requirement for Removal of Specimen Trees.* Land development activity that results in the removal of specimen trees with administrative approval shall provide replacement or mitigation by planting of new shade trees equal to at least 75% of the cumulative DBH of the trees removed or payment of a fee-in-lieu pursuant to 7.1.14: *Fee-in-Lieu of Compliance.*
  - 3. *Penalty.* If a specimen tree is removed without an administrative tree removal permit or payment of a fee-in-lieu of tree preservation or mitigation as set out in this Article, any new development will be prohibited as provided in Subsection 7.1.3C.
  - 4. *Administrative Approval.* The Subdivision Administrator may grant a tree removal permit approval for the removal of specimen trees. The Subdivision Administrator may approve the request based on, but not limited to, the following factors:
    - (a) The location of specimen trees on the property would cause detriment to public well-being in regard to sight visibility onto existing streets or hinder widening and enhancement plans for existing streets;

- (b) The location of specimen trees on the property would cause detriment to public well-being in regard to the placement of proposed utilities, such as electric, gas, water, and sewer;
- (c) The location of specimen trees on the property would cause detriment to public well-being in regard to drainage and stormwater measures;
- (d) The location of specimen trees on the property conflict with necessary elements of the site design that unreasonably impede or diminish the objectives of the development or prevent the provision of necessary features;
- (e) A professional arborist or landscape architect indicates in writing that the tree(s) is diseased, or the soil and climate are not suitable for proper growth and health of the tree(s), or the tree(s) is prone to cause property damage or personal injury; or
- (f) Any other situation where the application of the standards of this Section would result in unnecessary hardship to the applicant.

### 7.1.7 LOT TREES<sup>9</sup>

- A. **Lot Trees Required.** The applicant must provide trees for individual lots that are platted as part of a new residential subdivision at the rates set out in Table 7.1.4-1: *Tree Preservation Standards by District*.
- B. **Tree Selection.**
  - 1. *Selection Requirements.* Lot trees planted to satisfy the requirements of this Section must be listed in **Table 6.1.3-2: Suggested Plant List**.
  - 2. *Ratio of Shade Trees to Small Trees.* At least 50% of the trees provided on each lot must be shade trees identified in **Table 6.1.3-2: Suggested Plant List**.
  - 3. *Existing Trees.* Existing trees preserved on an individual lot may satisfy the requirement for lot trees if it is a species included in **Table 6.1.3-2: Suggested Plant List** or Table 7.1.6-1: *Specimen Trees*.
- C. **Location Requirements.** If the lot tree requirement is satisfied by planting new trees, at least one shade tree required by this Section must be planted on the lot between the front façade of

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<sup>9</sup> This Section maintains the required number for lot trees for individual lots under §17-58: *Provisions For Residential Projects*. Multifamily parcels and other uses will have trees as provided in 7.1.5: *Tree Save Areas*, as well those required by Article 5: *Parking & Loading* and Article 6: *Buffers & Screening*.

the dwelling and the eight-foot setback line from the sidewalk, the edge of pavement, or the right-of-way provided for in § 7.1.10E: *Planting Locations*.

### 7.1.8 APPLICATION REQUIREMENTS<sup>10</sup>

- A. **Applications that Trigger Review.** The information required by this Article must be submitted with applications for storm water permits, site plan review, and subdivision plat review.
- B. **Method for Identification of Tree Save Areas.** The selection and measurement of tree save areas may be confirmed by the most recent [National Land Cover Database](#) (NLCD), aerial or satellite imagery, or Light Detecting, Imaging, and Ranging (LIDAR). However, the current conditions of the site must be certified by the applicant's engineer to match the selected method of identification.
- C. **Tree Surveys and Plans.** Applications must include the following surveys and other documentation to identify and verify the existing tree canopy on the development site.
1. *Tree Survey.* A tree survey and inventory must be a to-scale map or a site plan prepared and sealed by a registered surveyor that includes the following information:
    - (a) All specimen trees that are to be counted toward tree planting requirements that are greater than two inches DBH, including size and species;
    - (b) All specimen trees outside of the tree save area and all specimen trees located in the tree save area but within 40 feet of the margins of the disturbed area as provided in § 7.1.6C: *Identification of Specimen Trees*, with an indication whether they are to be retained or removed;
    - (c) Tree protection zones and tree save areas must be delineated; and
    - (d) Specimen trees must be flagged and labeled with a numbered tag in order to be located in the field.
  2. *Assessment Report.* A tree assessment report prepared by a qualified professional for all specimen trees. The tree assessment report must:

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<sup>10</sup> This section significantly revises the application standards in current §17-55: *General Criteria For Tree Conservation In all New Developments*. The current regulation requires a tree survey if the applicant is seeking credit for tree save areas. The proposed draft does not require a tree survey of trees in tree save areas. Visual Analysis (Satellite, LIDAR, NLCD) can be used to select tree save areas with field verification. However, locations of qualifying specimen trees must be shown in a tree survey for disturbed areas.



- (a) Describe the current condition of the tree, including its condition, form, structure, and location;
  - (b) For trees that the applicant proposes to remove, a brief summary of the reason the tree is not proposed for incorporating into the design based upon condition, form, structure, or location; and
  - (c) Include reference numbers used on field tags.
3. *Site Plan.* An integrated site plan showing tree save areas and specimen trees to be saved and those to be removed, existing utilities and those to be installed, grading, the approximate location of all structures, driveways and curb cuts and all proposed tree plantings and other landscaping, including a planting schedule.
- D. Compliance Required for Final Plats and Certificates of Occupancy.**
- 1. *Final Plats.* The applicant must comply with the provisions of §§ 7.1.5: *Tree Save Areas* and 7.1.6: *Protection of Specimen Trees* before the issuance of any final plat, or the applicant must provide acceptable security pursuant to § 7.1.10G: *Time for Planting*.
  - 2. *Certificates of Occupancy.*
    - (a) The applicant must comply with the provisions of §§ 7.1.7: *Lot Trees* and 7.1.6: *Protection of Specimen Trees* before the issuance of a certificate of occupancy.
    - (b) If the applicant provides acceptable security pursuant to § 7.1.10G: *Time for Planting*, the applicant is entitled to a temporary certificate of use pursuant to **Section 16.4: Certificate of Occupancy** and must comply with the requirements for a final certificate of occupancy.

### 7.1.9 TREE PROTECTION<sup>11</sup>

#### A. Tree Protection Plans.

- 1. *When Required.* The applicant must provide a Tree Protection Plan that complies with this Article if the land development requires tree save areas or the preservation of specimen trees.
- 2. *Generally.* A Tree Protection Plan (TPP) is a plan of the same scale as, and superimposed on, a development site plan or preliminary plat that indicates the Root Protection Zone

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<sup>11</sup> This Section carries forward the standards of current §17-54: *Tree Protection Plans* and current §17-55: *General Criteria For Tree Conservation In all New Developments* but adds standards for implementation of the tree protection plans during construction.



of all trees to be protected or preserved on a development site. A TPP shall locate and identify by species and size those trees that are to be protected during land disturbance (development) activities required by this Article.

3. *Standards.*

- (a) The TPP must provide a root protection zone protecting all trees of 12 inches DBH or more at the margins of tree save areas and all specimen trees. The critical root zone must measure the greater of:
  - (1) A one-foot radius from the trunk of the tree per each inch of diameter at breast height, or
  - (2) A six-foot radius around the tree.
- (b) Trees that are in the interior of tree save areas, floodplains, undevelopable areas on the property, and required stream buffers do not have to be located or identified on the TPP.

4. *Timing of Review.* When required, the applicant will submit a TPP after the proposed land development plan has been given preliminary approval by the appropriate governing authority. This allows the TPP to identify those areas where trees will be subject to preservation or removal based on the development plan.

5. *Review by County.* Upon receipt of a TPP, the County will review the plan for compliance with the requirements of this Article and tree protection measures within 15 calendar days of receipt. If the submitted TPP does not meet the technical requirements of this Article, staff will ask the applicant for additional information or a revised plan.

**B. Tree Protection During Construction.**

1. *Protective Fencing Required.*

- (a) Protective fencing is required for any tree to be retained following construction. Protective fencing shall:
  - (1) Be at least 4 feet in height;
  - (2) Completely encircle the critical root zone as provided on the TPP; and
  - (3) Be in place prior to any earth disturbing activity begins and remain in place for the duration of the project.
- (b) Groups of trees may be protected by one perimeter fence meeting the specifications outlined in this Section.

- 2. *Signs Required.* Signs must be installed on the protective fence visible on all sides of the fenced-in area (minimum one on each side or every 300 linear feet). The sign must contain the following or similar text in both English and Spanish: "TREE PROTECTION ZONE: KEEP OUT."
- 3. *Development Activity Within Fenced Area Prohibited.* No construction, grading, parking, equipment, material storage, or any other land development activity is allowed within the fenced area at any time during the project except as provided in Paragraph 4, below.
- 4. *Trenching and Boring.*
  - (a) Trenching is not allowed without the Subdivision Administrator’s approval and requires a showing that boring is not a viable alternative construction method.
  - (b) Boring is allowed to install site access for utilities, but corridors for the boring must be identified on the tree protection plan.

**7.1.10 PLANT MATERIAL INSTALLATION<sup>12</sup>**

- A. **Plant Variety.** All required plants shall be of the type and species appropriate for the climate of Greenville County and location being planted. In order to reduce the threat and impact of plant disease, multiple species shall be utilized on each site.
- B. **Sizes and Varieties.** All required plant material will meet the size requirements in Table 7.1.10-1: *Minimum Plant Sizes and Heights*.

Table 7.1.10-1: Minimum Plant Sizes and Heights		
Plant Type	Minimum Size at Planting	Minimum Height at Planting
Shade Tree	2-Inch Caliper	10 feet
Small or Multi-Stem Tree	1.5-Inch Caliper	6 feet

- C. **Selection of Materials.**
  - 1. *Biodiversity.*

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<sup>12</sup> The installation standards of this Section are new and generally conform with the installation standards for Buffers in Article 6 with additional detail added, including an option for delay planting to the optimal planting season with a security requirement.

- (a) Biodiversity of the genus and species of trees is required in order to prevent monocultures, which could result in large-scale losses in the event of disease or blight.
  - (b) A minimum of six species of trees are required for installations calling for greater than 20 trees. However, the biodiversity requirement does not apply to:
    - (1) Development sites of one acre or less; or
    - (2) Plantings in riparian buffers. Refer to [Section 6.3: Riparian Buffers](#) for plant genus and species requirements in such buffers.
2. *Plant Material.* Trees planted pursuant to this Section shall be good, healthy nursery stock. The form, size, quality, and proportions of proposed trees must meet the guidelines outlined in the ANSI Z60.1 American Standard for Nursery Stock.
- D. **Preferred Trees.**<sup>13</sup> Trees listed in Table [6.1.3-2: Suggested Plant List](#), will be utilized to fulfill the requirements of this Article. Trees that are not listed in Table [6.1.3-2: Suggested Plant List](#) are allowed and may comply with this Section if the Subdivision Administrator determines that:
- 1. The plant is not a prohibited species;
  - 2. Is either native to the region or not invasive; and
  - 3. Provides habitat for native wildlife or migratory birds.
- E. **Planting Locations.**
- 1. *Spacing.*
    - (a) In general, all shade trees shall be spaced 40 to 60 feet on-center. Spacing may be varied to account for site features such as roads, driveways, utilities, and structures.
    - (b) However, shade trees planted to mitigate the removal of existing trees necessary to fulfill the requirement for tree save area may be planted at the rates per acre as provided in § 7.1.5F.2: *Mitigation Requirement for Removal of Trees from Tree Save Areas.*

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<sup>13</sup> The tree list will be updated by staff in conjunction with revisions to Article 6: *Buffers & Screening*. The current preference is to relocate an updated tree list to an appendix to the UDO.

2. *Rights-of-Way.* Shade trees provided pursuant to this Article may not be located in the right-of-way of any County or State road. Small or multi-stemmed trees may be located in the right-of-way.
3. *Setback for Shade Trees.* Shade trees shall be set back at least 8 feet from either the sidewalk, the edge of pavement, or the right-of-way, and the setback will apply from the measure that is further from the centerline of the road.

F. **Material Installation.** All plant material installation must conform to the minimum standards of the American National Standards Institute (ANSI) A300 Standards for Tree Care Operations.

G. **Time for Planting.**

1. *Generally.* New plant material should generally be installed after construction of the project or phase has been completed.
2. *Delayed Planting.*
  - (a) The Subdivision Administrator may approve delay of the required tree planting until the appropriate planting season, generally from October through March.
  - (b) Security Required.
    - (1) In the event of delayed planting, the applicant will provide a performance bond in a form acceptable to the Subdivision Administrator. If the applicant provides a bond, it must conform with the following criteria:
      - (i) The County must be a named obligee on the bond;
      - (ii) The bond will stipulate that it is intended to insure performance of the plant installation required by this Section;
      - (iii) The bond must be in an amount sufficient to ensure the installation of all plant material required by this Section;
      - (iv) The bond may not be released without a written release from the County; and
      - (v) The bond must be issued by a surety licensed to do business in South Carolina.
    - (2) In the alternative, the applicant may provide a cashier's check in an amount sufficient to ensure installation of all plant material required by this Section.

- H. **Tree Warranty.** The contractor installing trees to meet the requirements of this article must provide a one-year warranty on plant material to the owner, and this warranty must be noted in the planting notes included with the plans.
- I. **Professional Expertise.** The applicant should seek professional expertise to determine the appropriate plant materials for any particular site, when considering individual site, soil, moisture, and microclimate conditions.

### 7.1.11 INSPECTIONS AND ENFORCEMENT<sup>14</sup>

#### A. Inspections.

##### 1. *Subdivision and Development.*

- (a) Tree save areas and conformity with the Tree Protection Plan will be inspected by County staff as part of Storm Water Permit inspections.
- (b) The inspections will be conducted before and after the grading phase and at the end of the project before a final plat is approved.
- (c) Any damage noted must be treated in accordance with the recommendations of County staff before a final plat is approved.
- (d) Installation may be delayed until the appropriate season pursuant to § 7.1.10G: *Time for Planting.*

##### 2. *Commercial Lots.*

- (a) Tree save areas and conformity with the Tree Protection Plan will be inspected by County staff before and after the grading phase and at the end of the project before a certificate of occupancy is issued for commercial developments.
- (b) Any damage noted must be treated in accordance with the recommendation of County staff prior to the issuance of a certificate of occupancy.
- (c) Installation may be delayed until the appropriate season pursuant to § 7.1.10G: *Time for Planting.* If the applicant provides acceptable security pursuant to § 7.1.10G: *Time for Planting*, the applicant is entitled to a temporary certificate of

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<sup>14</sup> This Section replaces the standards of current §17-63: *Violations Civil Penalties And Enforcement* with a cross-reference to the general enforcement authority of the UDO and topic-specific requirements for mitigation. It also adds a framework for inspections based on staff input and new staffing for subdivision inspections.

use pursuant to **Section 16.4: Certificate of Occupancy** and must comply with the requirements for a final certificate of occupancy.

3. *Residential Lots.*

- (a) Lot trees will be inspected by the building inspector prior to the issuance of a certificate of occupancy.
- (b) Installation may be delayed until the appropriate season pursuant to § 7.1.10G: *Time for Planting*. If the applicant provides acceptable security pursuant to § 7.1.10G: *Time for Planting*, the applicant is entitled to a temporary certificate of use pursuant to **Section 16.4: Certificate of Occupancy** and must comply with the requirements for a final certificate of occupancy.

B. **Enforcement.**

- 1. *Generally.* Violations of this Article will be processed, enforced, and penalized as provided in § 7.1.3C: *Limitations* and **Article 20: Violations & Enforcement**.
- 2. *Mitigation.* In addition to the enforcement and penalties in Article 20, a property owner may be required to replant shade trees at a rate not to exceed one inch DBH of trees for each one inch DBH of shade trees that are removed or compromised in violation of this Article.

### 7.1.12 APPEALS<sup>15</sup>

- A. **Right to Appeal.** The applicant may seek review of administrative decisions under this Article from the Planning Commission under the provisions of **§ 17.18: Appeals**.
- B. **Standard for Appeal.** The Planning Commission will review an administrative decision based on the standards set out in this Article.

### 7.1.13 GREENVILLE COUNTY TREE BANK ESTABLISHED<sup>16</sup>

- A. **Establishment and Charge.** The Greenville County Tree Bank is established as a separate, interest-bearing account managed by the County and will be used solely for the purposes of:

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<sup>15</sup> This Section revises § 17-57: *Density Variances and Appeals* to provide a procedure for an administrative decision on tree preservation that is appealable to the Planning Commission.

<sup>16</sup> This new Section propose a Tree Bank for Greenville County. The tree bank was suggested by stakeholders and staff to fund the County's tree program.

1. Administration of the activities authorized by this Article;
  2. Procurement and installation of plant material for trees on public property and rights-of-way;
  3. Maintenance of existing tree canopy on public property and rights-of-way; and
  4. Purchase of real property interests, including land and conservation easements, for the purposes of tree plantings or the preservation of existing tree canopy.
- B. **Payments to Tree Bank.** The Greenville County Tree Bank will receive all payments made for removal of trees necessary to fulfill the requirement for tree save areas or for the removal of specimen trees pursuant to this Article, as well as such appropriations as the County may make.

**7.1.14 FEE-IN-LIEU OF COMPLIANCE<sup>17</sup>**

- A. **Determination of Availability of Fee.** In cases where tree preservation or mitigation is required but planting is impractical or would compromise the health of preserved or planted trees, as determined by the Subdivision Administrator, the applicant may request, and the Administrator may approve, a fee-in-lieu of mitigation by payment to the Greenville County Tree Bank. Fees will be calculated as provided in this Section
- B. **Fee-in-Lieu for Removal of Required Trees.** The fee-in-lieu for any tree preservation that is subject to this Article will be deposited in the Greenville County Tree Bank and used for the purposes identified in Subsection 7.1.13: *Greenville County Tree Bank Established*.
- C. **Tree Save Areas.** The fee-in-lieu of compliance for tree save areas will be assessed at the rate of \$\_\_\_ per acre.
- D. **Specimen Trees.** A specimen tree that is removed shall be assessed with a fee-in-lieu of compliance of \$\_\_\_ per inch DBH.
- E. **Maximum Fee-in-Lieu.** The total fee-in-lieu of Compliance for the requirement of this Article may not exceed \$\_\_\_\_\_ per acre or a proportional fee per acre for lots that include fractions of an acre.

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<sup>17</sup> This new Section is proposed to fund the Greenville County Tree Bank. The fees will be set based on consultation with staff if this option is preferred by Council.