

ARTICLE 1 FORSYTH COUNTY TREE PROTECTION AND REPLACEMENT ORDINANCE

Section 1.0 Purpose

The intent of this article is to provide a uniform standard for the protection and replacement of trees on all real property that requires the issuance of a Land Disturbance Permit, as referenced in the Forsyth County Unified Development Code, within the unincorporated areas of Forsyth County.

The County recognizes the importance of trees, which sustain and enhance quality of life, health and economic development of the community. Tree conservation and planting enhancement contributes positive impacts toward stormwater runoff, environmental health, air quality and property values as well as offering protection for environmentally sensitive areas.

Section 1.1 Short Title

This enactment may be cited as the “Forsyth County Tree Protection and Replacement Ordinance.”

Section 1.2 Definitions

The following words and terms, when used in this article, shall have the meanings as described in this section, unless the context indicates otherwise:

Agriculture: The commercial cultivation or growth from or on the land of horticultural, floricultural, forestry, dairy, livestock, poultry, and apiarian products. Included within the definition of "agriculture" shall be the importation, storage, or distribution in bulk, unpackaged form of raw materials directly to persons engaged in agriculture. "Raw materials" for purposes of this definition shall include organic materials such as straw, hay, animal feeds, sawdust, mulches, and like items. "Raw materials" shall also include inorganic dolomitic lime. "Raw materials" shall not include farm equipment, building materials, chemicals, fertilizer, manure not produced on the premises, packaged materials

not produced on the premises, materials distributed for resale not produced on the premises, or materials not expended in the production of the above listed products.

Arborist: A professional certified by the International Society of Arboriculture who possesses the technical competence through experience and related training to provide for or supervise the management of trees and other woody plants in the residential, commercial, and public landscape.

Boundary Tree: A tree located along a property line with any portion of its trunk crossing the property line.

Buffer: An undisturbed naturally-existing area, a landscape area or combination of both designed for screening and protection around the perimeter of a parcel or water body.

(a) State waters buffer is defined as an area along the course of any state waters required by federal, state or local statute or ordinance, to be maintained in an undisturbed and natural condition.

(b) Zoning buffer is defined as a natural or landscaped open space required by the Forsyth County Unified Development Code for buffering incompatible land uses to achieve a visual barrier between the use on the lot and adjacent uses.

Caliper: A forestry standard of tree trunk measurement. Caliper will be measured at ground level for trees having a four-inch caliper or less.

Clearcut: A silvicultural system in which all merchantable trees are harvested over a specified area in one operation.

Clearing: The removal of vegetation from a property, whether by cutting or other means.

Commercial Zoning District: For the purposes of this ordinance the following zoning districts are defined as commercial: NS, UV, HB, CBD, HC, BP, O&I, OR, and OCMS. Additionally, any zoning district created after the adoption of this ordinance will be classified as a 'Residential Zoning District,' 'Commercial Zoning District,' 'Industrial Zoning District,' or 'Mixed Use Zoning District' by the Director of the Department of Planning and Community Development, depending on the characteristics of the new zoning district.

County Arborist: A staff position within the Department of Planning and Community Development with the primary responsibilities of administration and enforcement of the Tree Protection and Replacement Ordinance.

Critical Root Zone: The minimum area beneath a tree that must be left undisturbed in order to preserve sufficient root mass to give a tree a reasonable chance of survival. The critical

root zone (CRZ) is a circle centered on the tree's trunk with a radius equal in feet to 1.3 times the number of inches of the tree's diameter at breast height.

EXAMPLE: A tree with a diameter breast height of 20 inches would have a CRZ radius of 26 feet.

Density Factor: A unit of measure used to prescribe the calculated required tree coverage on a site.

Department of Planning and Community Development: Forsyth County Department of Planning and Community Development, or successor department, by whatever title designated.

Disturbed Area: Land area subject to any land-disturbing activity.

Diameter Breast Height (DBH): The standard measure of tree size, is the diameter of a tree trunk measured in inches at a height of 4.5 feet above the ground. If a tree splits into multiple trunks below 4.5 feet, then the trunk is measured at its most narrow point beneath the split.

Director: The manager of the Department of Planning and Community Development, or his successor to his duties, by whatever title designated, or his designee.

Dripline: A line on the ground established by a vertical plane extending from a tree's outermost branch tips down to the ground; i.e., the line enclosing the area directly beneath the tree's crown from which rainfall would drip.

Grading: The placement, removal, or movement of earth by use of mechanical equipment on a property. This includes stripping, cutting, filling, stock piling, or any combination thereof, and shall include the land itself in its cut or filled condition.

Growing Season: A period of not less than 12 months during which there are at least three contiguous months of dormancy followed by a spring leafing.

Hardwood Tree: Any tree that is not coniferous (not cone bearing or a needle leaf evergreen).

Industrial Zoning District: For the purposes of this ordinance the following zoning districts are defined as industrial: M1, M2, and MINE. Additionally, any zoning district created after the adoption of this ordinance will be classified as a 'Residential Zoning District,' 'Commercial Zoning District,' 'Industrial Zoning District,' or 'Mixed Use Zoning District' by the Director of the Department of Planning and Community Development, depending on the characteristics of the new zoning district.

Land Disturbance Permit: The authorization necessary to begin a land-disturbing activity under the provisions of the Unified Development Code.

Land-Disturbing Activity: Any grading, scraping, excavating, or filling of land; clearing of vegetation; and any construction, rebuilding, or alteration of a structure. Land-disturbing activity shall not include activities such as ordinary maintenance and landscaping operations, individual home gardens, yard and grounds upkeep, repairs, additions or minor modifications to a single-family dwelling, and the cutting of firewood for personal use.

Landmark or Historic Tree: Any tree or group of trees which the Georgia Tree Council has included on The Georgia Landmark and Historic Tree Register based on their importance in national, state or local history.

Lot: A portion or parcel of land separated from other portions or parcels by description (such as on a subdivision plat of record or a survey map or plat) or described by metes and bounds, and intended for use, transfer of ownership, or for building development. The word "lot" shall not include any portion of a dedicated right-of-way. For purposes of calculating lot sizes, a lot shall also exclude any areas reserved for easements upon which, by the nature thereof, construction is prohibited, i.e., easements for ingress and egress to other lots or properties, major power line transmission easements, etc. For purposes of calculating lot sizes, "lot" shall also not include strips of property, with widths less than the minimum lot width of the particular zoning district, intended to provide access to a given lot or parcel; provided, however, land less than the minimum required lot width may be considered as part of the square footage lot size calculation in those instances where lot lines are radial to a curved street or cul-de-sac on a major or minor subdivision plat approved by the Department of Planning and Community Development.

Mixed Use Zoning District: For the purposes of this ordinance the following zoning districts are defined as mixed use: PUD, MPD, MRD, and MCD. Additionally, any zoning district created after the adoption of this ordinance will be classified as a 'Residential Zoning District,' 'Commercial Zoning District,' 'Industrial Zoning District,' or 'Mixed Use Zoning District' by the Director of the Department of Planning and Community Development, depending on the characteristics of the new zoning district.

Naturalistic Planting: A freely intermingled tree planting in groupings that avoid monoculture in tree species and size. Void of repeating planting patterns throughout larger grouping.

Overstory Tree: Those trees that compose the top layer or canopy of vegetation and will generally reach a mature height of 40 feet or more.

Parking Bay, Single: The clear space containing one row of parking stalls.

Parking Bay, Double: The clear space containing two rows of parking stalls.

Person: A natural human being, estate, association, firm, partnership, corporation, or other legal entity.

Replacement Tree: A new tree planted on a site to meet minimum site density factor requirements.

Residential Zoning District: For the purposes of this ordinance the following zoning districts are defined as residential: R1R, CR1, R1, R2R, OSR, R2, R3, R4, RES1, RES2, CR2, RES3, RES4, RES6, LR, A1, and AG-RES. Additionally, any zoning district created after the adoption of this ordinance will be classified as a ‘Residential Zoning District,’ ‘Commercial Zoning District,’ ‘Industrial Zoning District,’ or ‘Mixed Use Zoning District’ by the Director of the Department of Planning and Community Development, depending on the characteristics of the new zoning district.

Significant Tree: Any landmark or historic tree, any tree determined by the County Arborist, a certified arborist, a registered forester, or a registered landscape architect to be of high value because of its species, size, age, or other professional criteria, or any tree deemed to be a rare or unusual species and confirmed by the County Arborist.

Site: Any lot or parcel of land, or a combination of contiguous lots or parcels of land, where grading, building, construction, or alteration is performed or permitted.

Site Density Factor: The minimum number of tree density units per acre, including recompense for significant trees, that must be achieved on a property after development.

Tree: Any self-supporting woody perennial plant, usually having a main stem or trunk and many branches, and at maturity normally attaining a trunk diameter greater than three inches at any point and a height of over ten feet.

Tree Density Unit: A credit assigned to a tree, based on the diameter of the tree, in accordance with tables contained in this ordinance.

Tree Diameter: The widest cross-sectional dimension of a tree trunk measured at diameter breast height (DBH) or at a point below DBH for new trees or multi-trunked species, but in no case less than six inches from the ground.

Tree Grouping: A community of ten or more existing trees with one continuous dripline, as determined by the landscape architect, arborist or County Arborist to merit special consideration as an ecological feature based upon species composition, condition, age, and structure.

Tree Protection Area: Any portion on a site wherein are located existing trees that are proposed to be retained in order to comply with the requirements of this ordinance or any other existing trees proposed to be retained due to zoning conditions or requirements from other ordinances.

Tree Protection Plan: A plan that identifies tree protection areas on a site, and which provides sufficient information and detail to clearly demonstrate that all applicable requirements and standards of this ordinance will be fully satisfied.

Tree Replacement Plan: A plan that identifies proposed trees and other landscaping to be planted on a site, and which provides sufficient information and detail to clearly demonstrate that all applicable requirements and standards of this ordinance will be fully satisfied.

Tree Save Area: Any portion of a site wherein are located existing trees that are proposed to be retained in order to comply with the requirements of this ordinance. The tree save area shall include no less than the total area defined by the critical root zone (CRZ) of a tree or a group of trees, collectively.

Understory Tree: A tree that, under normal forest conditions, may grow to maturity beneath overstory trees and will generally reach a mature height of at least ten feet but less than 40 feet.

Section 1.3 Scope

The terms and provisions of this ordinance shall apply to all real property being within the unincorporated areas of Forsyth County.

Section 1.4 Severability and Conflicts

A. If any provision of this ordinance is found by a court of competent jurisdiction to be invalid or unconstitutional, or if the application is found to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect other provisions

or applications of this ordinance which can be given effect without the invalid or unconstitutional provision or application.

- B. All laws, resolutions, or ordinances or parts thereof that conflict with the provisions of this ordinance are repealed, including the repeal of the heretofore-existing Ordinance 81 and any amendments thereto.

ARTICLE 2 APPLICABILITY AND PERMITTING

Section 2.1 Exemptions

The following activities are specifically exempted from this Ordinance:

1. Land clearing or clearing and grubbing activities for bona fide agricultural purposes permitted in agricultural zoning districts.
2. Construction of single-family detached residential dwellings that are not part of a major subdivision as defined by the Forsyth County Unified Development Code.
3. Any addition, alteration, improvement or minor remodeling of an existing residence or construction of structures accessory to an existing residence.
4. Tree removal by an existing, single-family homeowner.
5. The construction of telecommunication towers (cell towers).
6. Removing trees from nurseries and botanical gardens, which are being grown for retail or wholesale sale.
7. Growing orchards of trees in active commercial operation for bona fide agricultural purposes only.
8. Public utility companies and government agencies conducting operation on public and utility rights-of-way and easements or on sites for electric power substations and similar facilities in which operations are for the purpose of assuring uninterrupted utility and governmental services and unobstructed passage on public streets.
9. Removal of dead, diseased or infested trees upon receiving written confirmation from the Georgia Forestry Commission or Arborist.
10. Unzoned tracts of property as described in O.C.G.A. § 12-6-24(e)(4)(B).
11. Timber Harvesting as provided in O.C.G.A. § 12-6-24(e).
12. The removal of trees from existing stormwater infrastructure, including but not limited to lakes and detention ponds, and drainage easements, unless planted as part of the stormwater system.
13. Removal of trees for County trails and greenways on public easements.

Section 2.2 Zoning Applications

- A. All zoning applications shall include a sworn statement that the property has not been clear cut within three years prior to the zoning application and shall state that the

property will not be clear cut prior to a decision by the Board of Commissioners on the zoning. Any property which has been clear cut within three years prior to the date of the zoning application, shall not be eligible for rezoning for a period of three years from the date said property was clear cut.

- B. A pre-submittal meeting with the County Arborist shall be required prior to the submission of any application requiring inclusion of a site plan and approval by the Board of Commissioners (including but not limited to applications for rezoning, sketch plat approval, and zoning condition amendment) for any project involving a residential use on property of at least ten acres, excluding projects to be located in a Mixed Use Zoning District. A completed tree survey and site plan for the project shall be provided to the County Arborist prior to scheduling the pre-submittal meeting with reasonably sufficient time to allow the County Arborist to review the plan before the meeting. The County Arborist may visit the site ahead of the pre-submittal meeting. The pre-submittal meeting requirement may be waived if sufficient data is provided prior to the meeting to render the meeting unnecessary as determined by the County Arborist. Submitted site plans that accompany residential proposals as noted above shall include a table that contains square footage calculations for the total site area, the existing tree canopy coverage and the estimated post-development tree canopy coverage. Site plans must show the proposed disturbed area, required buffers, any existing easements, and wetland areas as well as proposed tree save areas to satisfy the requirements below and to count towards the required site density factor in accordance with Section 2.11.
- C. The County Arborist in consultation with the applicant shall identify significant trees, based on the locations provided by the tree survey, when required, to be preserved within required tree groupings.

Tree groupings shall be required in accordance with the following:

1. Property located or proposed to be located in Residential Zoning Districts shall designate a minimum of ten percent of the site acreage for the retention of tree groupings.
2. Property located or proposed to be located in Commercial, Mixed Use and Industrial Zoning Districts shall designate a minimum of eight percent of the site acreage for the retention of tree groupings. This area must be designated on the site

plan at the time of application submittal, but the application does not have to include a tree survey.

3. For sites that do not have substantial, existing tree coverage, such as pastures or sparsely vegetated areas that have few existing trees, the estimated tree replacement area in square feet necessary to accommodate the replacement trees needed to satisfy the required site density factor in Section 2.11 shall be indicated on the site plan. Any tree replacement for tree grouping areas shall reflect a naturalistic planting scheme.
4. Tree groupings shall not overlap with required buffers as referenced in the Unified Development Code.

Site plans for residential uses that are submitted for Board of Commissioner approval shall reflect the preservation of specific significant trees as determined through consultation with the County Arborist within identified tree groupings that meet the requirements of this ordinance.

Section 2.3 Permit Procedures

- A. All applications for a land disturbance permit shall require submission and approval of Tree Protection and Replacement Plans as defined in this article.
- B. Tree Protection and Replacement Plans shall be prepared by a registered landscape architect, urban forester, or arborist in accordance with the specifications for such plans contained herein. The performance of professional services in the preparation of plans required herein shall comply with Georgia law governing the practice of the applicable profession. When the planting of replacement trees is not required to meet the site density factor, licensed professionals (e.g. architects, engineers, surveyors etc.) may be authorized by the County Arborist to prepare the Tree Protection and Replacement Plans, provided that they demonstrate, to the satisfaction of the County Arborist, competency and knowledge in the principles and practices of arboriculture.
- C. All Tree Protection and Replacement Plans and related documents shall be reviewed by the Department of Planning and Community Development for conformance to the provisions of these regulations. The permit process shall be identical to that described in the Unified Development Code but will require approval and sign-off of the Tree Protection and Replacement Plans.

- D. After the submission of the plans, the County Arborist will perform a site walk. The Tree Protection and Replacement Plans shall provide sufficient information and detail to clearly demonstrate that all applicable requirements and standards of this ordinance will be fully satisfied.
- E. Prior to the site walk, all significant trees regardless of condition, whether being retained or removed, shall be tagged in the field with metal numerical identification tags corresponding to the survey, inventory, and Tree Protection and Replacement Plans. Significant trees to be saved shall remain tagged until the project receives final approval for as-built or final plat application as referenced in the Forsyth County Unified Development Code.
- F. The Tree Protection and Replacement Plans shall be shown on a copy of a site plan, as appropriate to the proposed development, drawn to the same scale as the other plan documents prepared for a land disturbance permit application on the property, shall cover the same area, and shall include the following:
1. A tree survey and inventory showing the location of all significant trees, regardless of condition, and tree groupings within the property line with an indication of DBH, species, and whether they are to be retained or removed.
 2. When a sample method is used, a minimum sample area of three percent of the total site area is required.
 3. All tree protection areas.
 4. Those significant trees to be removed and reason for removal.
 5. Property lines and limits of disturbed area.
 6. Location of all boundary trees over eight inches in diameter that could be impacted, and how they will be protected, including trees on neighboring properties.
 7. Existing and proposed location of underground utilities or easements.
 8. All existing utilities and those to be installed, proposed site grading, approximate location of all existing and proposed structures, driveways and curb cuts, and utility easements shall be shown and identified.
 9. Proposed grades shall be shown on the plans including labeling for slopes greater than ten percent at two-foot contours, along with identification of all environmentally sensitive areas and required site and natural buffers.

10. Methods of tree protection for all tree protection areas and replacement trees, including but not limited to tree fencing, erosion control, retaining walls, tunneling for utilities, aeration systems, transplanting, staking, signage, etc.
11. Staging areas for parking, material storage, concrete washout, and similar areas that may negatively impact protected trees.
12. Demonstration of compliance with the required site density factor including existing trees or groupings of trees used in the density calculation.
13. A planting schedule showing the type (common and botanical names), size and quantity of trees to be planted, and any special planting notes.
14. Demonstration of compliance with all County landscaping requirements.
15. A three-year maintenance plan for all trees installed within parking lots, building facade zones, and landscape strips, which shall include a schedule of assessments and adjustments to pruning, irrigation, fertilization, pest and disease control, and other practices necessary to ensure long-term viability.
16. The locations of all trees to be planted on the site to meet density requirements.
17. A note indicating the type of irrigation to be used.
18. Additional information as required by the County Arborist on a case-by-case basis to show compliance with this ordinance.

G. The following notes shall be shown on the Tree Protection and Replacement Plans:

TREE PROTECTION NOTES:

Tree protection fencing must be installed and inspected prior to or concurrent with any clearing, grubbing, or grading.

The density requirements shown on the Tree Protection and Replacement Plans must be verified prior to the issuance of the certificate of occupancy or acceptance of the final plat.

With the exception of single-family residential developments, maintenance inspection by the County Arborist for trees will be performed after one full growing season from the date of the final site inspection. Ongoing maintenance shall follow, at a minimum, the three-year maintenance plan, and is the responsibility of the property owner.

Section 2.4 Permit Review Procedures

The Department of Planning and Community Development administers the Forsyth County Tree Protection and Replacement Ordinance. The County Arborist is the primary Tree Protection and Replacement Plans reviewer and is responsible for making professional judgments regarding any arboricultural principles or practices related to the implementation of this ordinance.

A. Pre-Submittal Conference

Developers and design professionals are encouraged to meet with the County Arborist and/or other Department of Planning and Community Development professional staff prior to submitting Tree Protection and Replacement Plans. The County Arborist is available for field inspections of site conditions prior to submittal to give advice as to the relative value of trees and which trees should be preserved. Information can also be disseminated about how to prepare Tree Protection and Replacement Plans.

B. Land Disturbance Permit

Tree Protection and Replacement Plans shall be submitted with other permit drawings as part of the plan approval and/or land disturbance permit process as required in the Unified Development Code. The Department of Planning and Community Development shall review these plans for conformance with the Tree Protection and Replacement Ordinance in the manner specified in the Unified Development Code.

C. Clearing, grading and development activities shall conform in all respects with the approved Tree Protection and Replacement Plans. If any revisions to the plans occur that affect the clearing and grading limits, changes must be reflected in a subsequently submitted permit application and shown on revised and approved Tree Protection and Replacement Plans prior to the commencement of changed activities on site.

D. A post development tree survey shall be submitted and approved prior to issuance of a final plat or as-built for residential uses located on property of at least ten acres excluding Mixed Use Zoning Districts.

Section 2.5 Tree Protection and Replacement Plan Standards

The following section establishes standards by which plans and field conditions are to be evaluated to determine compliance with the Forsyth County Tree Protection and Replacement Ordinance.

A. Protection of Existing Trees

If trees are existing on the site, the required density (see section 2.11) should be met with those trees to the maximum extent possible. Where preservation of existing trees has been demonstrated by the applicant to be infeasible due to site constraints, replacement trees are required. Tree Protection and Replacement Plans must be a part of the approved land disturbance plan (refer to section 2.6 for specific requirements of Tree Protection and Replacement Plans).

When a choice is available as to which existing trees to save, significant trees, even isolated individual trees, should be given preference over other trees. Non-significant trees, however, should be saved in stands rather than as individual trees scattered over a site.

Tree groupings shall be identified on the as-built plan or final plat and shall be protected and maintained to preserve long-term tree health and structural integrity.

B. Tree Protection and Grading

Site work allowed pursuant to an approved land disturbance permit shall be coordinated to protect significant trees and tree groupings. Efforts shall be taken to minimize changes to natural grade to preserve existing trees by avoiding impacts to the established CRZ.

C. Tree Inventories and Surveys

All trees that are to be counted toward meeting density requirements must be inventoried. Significant trees must be shown on the Tree Protection and Replacement Plans with an indication whether they are to be retained or removed. Approximate locations are acceptable.

When a sample method is used, a minimum sample area of three percent of the total site area is required.

D. Plan Review Standards

1. All tree save areas must be delineated on the Tree Protection and Replacement Plans along with a designation whether protection during construction is to be active or passive as set forth in Section 3.1A.
2. The method used to inventory the trees must be indicated on the plans.
3. All buffers must be identified on the Tree Protection and Replacement Plans.

Section 2.6 Tree Replacement Standards

The following section establishes standards by which the Tree Protection and Replacement Plans, and field conditions are to be evaluated to determine compliance with the Forsyth County Tree Protection and Replacement Ordinance.

- A. Tree Protection and Replacement Plans shall be prepared with appropriate consideration given to the function of trees in the landscape. Every effort should be made to maximize the environmental benefit of the plant material.
- B. Criteria for Replacement Trees
 1. Trees selected for planting must be free from injury, pests, disease, nutritional disorders or root defects, and must be of good vigor in order to assure a reasonable expectation of survivability.
 2. Spacing and the potential size of species chosen shall be compatible with spatial limitations of the site.
 3. The selected species must be ecologically compatible with the intended growing site.
 4. Ornamental and columnar form trees are acceptable for use in meeting density requirements only with prior approval from the County Arborist and only for the replacement of understory trees.
 5. Trees must be replaced with at least 60% overstory species.
 6. The tree must be compatible in extent of crown and root systems at maturity with nearby utilities.
 7. Where trees must be added to achieve the SDF, pines may not comprise more than 40% of the required units. Where existing pines already comprise more than 40% of the required units, no more pines may be credited toward the required units. This limitation applies to replacement planting only; existing pines may comprise 100% of the existing density factor.
 8. No more than 40% of the replacement trees can be composed of any one genus
 9. In order for replacement trees to qualify toward the density credits, overstory trees shall be a minimum caliper of two inches and 12 feet in height. All understory trees shall be a minimum caliper of two inches and eight feet in height.

C. Minimum Root Zones

In order to provide sufficient growing area for planted trees, the following minimum criteria must be observed for replacement trees:

Large Trees: 400-sq. ft. of pervious root zone minimum

Small Trees: 100-sq. ft. of pervious root zone minimum

Section 2.7 Significant Trees

Some trees on a site warrant special consideration and encouragement for protection. These trees are referred to as significant trees. To obtain credit as a significant tree, significant trees are to be protected in their natural state, free from damage. Significant trees that need to be removed require written documentation indicating evidence of hardship impacting preservation, to be submitted to the Department of Planning and Community Development prior to removal. Significant trees removed with prior approval from the Department of Planning and Community Development must be replaced at the rate of one unit for each unit awarded in Table A, Section 2.11, in addition to the minimum site density factor in recompense for their removal. Significant trees must be replaced by species with similar characteristics. For commercial and industrial zoning districts, significant tree recompense will not exceed 30.0 units/acre.

A. Criteria for Determining Significant Trees

Any tree identified as a landmark or historic tree shall qualify as a significant tree. For all other trees, the County Arborist will determine if a tree qualifies as a significant tree using the following criteria:

1. Size

Tree Type	Size
Overstory Hardwood Trees	18-inch DBH
Pine, Poplar, Sweetgum Trees	25-inch DBH
Understory/Small Trees	8-inch DBH

2. Smaller trees can be considered significant trees if rare or of unusual quality, species, or historical significance.
3. A sound trunk with less than 20% radial trunk dieback.
4. No major insect or pathological problems.
5. Life expectancy of 15+ years for hardwoods, 8+ years for pines.

Section 2.8 Removal of Significant Trees

If a significant tree is damaged or removed without prior approval by the County Arborist, recompense or penalty will be required or imposed as follows:

- A. If a landmark or historic tree is damaged or removed without prior approval of the County Arborist, the Department of Planning and Community Development will require replacement by trees with a total density equal to eight times the unit value of the tree removed.
- B. Any other significant tree that is damaged or removed without the appropriate review and approval of the County Arborist must be replaced by trees with a total density unit value equal to four times the unit value of the tree removed with a minimum of three-inch caliper trees.

Section 2.9 Special Requirements

The following classifications will be required to comply with these special requirements in addition to the standard requirements of this ordinance.

A. Residential Zoning District

1. The site density factor for development in residential zoning districts shall be met by preserving or replacing trees in open space, rear and exterior setbacks, and other areas that are not to be disturbed during house construction.
2. Each detached single-family residential lot shall contain a minimum of two trees, at least one of which must be located in the front yard. Corner lots shall contain a minimum of three trees with at least one tree located in each yard abutting the streets. The required trees must be a minimum of two-inch caliper size and be an overstory hardwood species. Where planting space is limited or an overstory tree would not be compatible with the intended growing site, the use of understory species may be approved on a case-by-case basis as determined by the County Arborist. Existing or replacement trees may be used to satisfy this requirement. The trees may be counted toward the required site density factor for the project.
3. Open space in new, major subdivisions and future phases of existing, major subdivisions shall preserve or provide 15 overstory trees per acre. Preserved healthy overstory trees over 16-inch DBH can count for three newly planted overstory trees, as approved by the County Arborist.

B. Commercial and Industrial Zoning Districts Subdivisions

Subdivisions in Commercial and Industrial Zoning Districts require the site density factor to be shown on the as-built. At the time of site development, each lot must submit Tree Protection and Replacement Plans indicating compliance with the Tree Protection and Replacement Ordinance. Significant tree liability shall be assessed against the entire development on a prorated per lot basis.

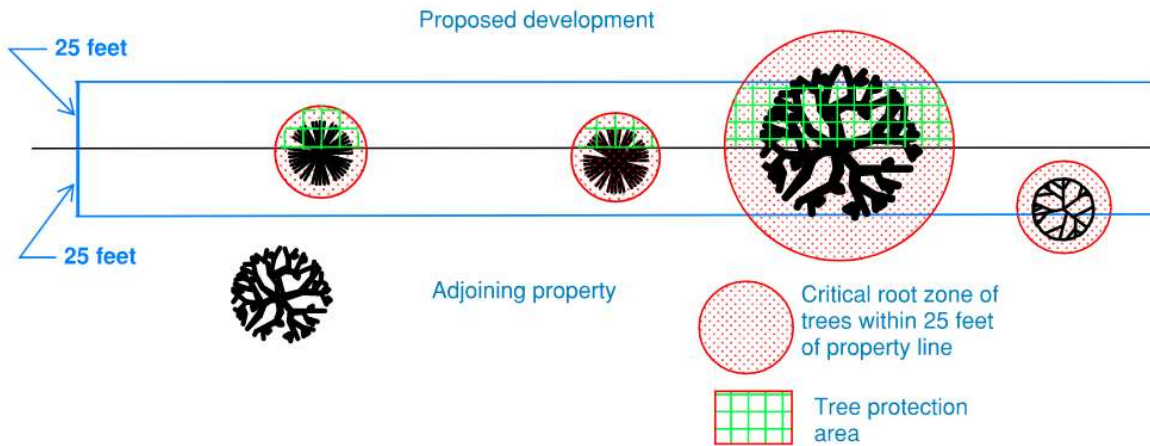
C. Protection of Boundary Trees and Trees on Adjoining Properties

In order to protect boundary trees and trees on adjoining property, the Tree Protection and Replacement Plans shall show all trees within 25 feet of the property line that are eight inches DBH and greater, along with the critical root zone (CRZ) of each such tree. The limits of disturbance on the subject property shall be adjusted so that there is no land disturbance, other than the minimum necessary for utility installation and maintenance, within the CRZ of each such tree. In lieu of identifying each such tree, the area of protection may be identified along the property line where trees exist on the adjoining property. The maximum area of protection is 25 feet from the property line. Notwithstanding the area of protection requirements of this subsection, the area of protection described herein is not required along the internal lot lines of a multi-parcel development approved under a single zoning application located in a commercial or industrial zoning district. In the event of a conflict between this section and any other language in the Code of Forsyth County, Georgia, including the Unified Development Code, that would otherwise allow land-disturbing activity prohibited by this section, this section shall prevail.

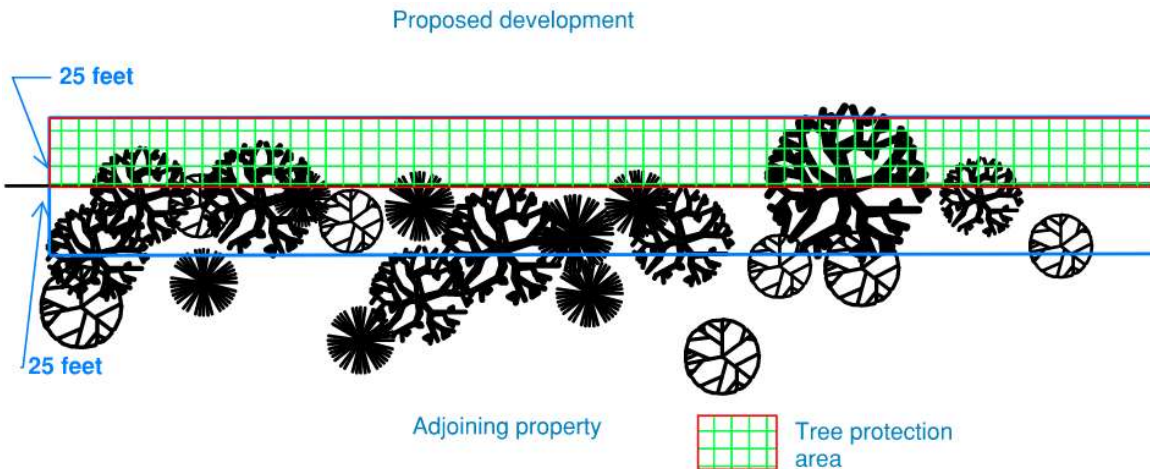
Exhibit A

EXAMPLES:

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Section 2.10 Location of Trees within a Development other than Single-Family Development

Forsyth County has given priority to the retention and placement of trees in frontage planting strips and parking lot planting islands. Trees retained or placed in these areas may be used to meet the site density factor for a project. However, if the site density factor is met with trees saved or planted in other areas, the tree location guidelines outlined below must still be performed with additional tree plantings.

A. Frontage Planting Strips

Planting strips shall meet the minimum depth requirements as indicated in the following table. Trees equivalent to at least one tree density unit (see Sec. 2.11) for every 75 linear feet of length shall be saved or planted in such strips (trees may be planted in groups rather than in a single line). Any trees placed between the right-of-way line or utility easement and the construction area (the buildings, accessory uses, or parking area) may be considered to be in the planting strips.

Zoning District	Depth of Strip Adjoining Street right-of-way or easement (feet)
Multi-Family Residential	20
Commercial	10
Industrial	10

B. Landscape Islands

Landscape islands shall be provided within parking areas (but not within vehicle storage, maneuvering, or display areas) as follows:

1. Landscape islands shall be located at the end of every parking bay and at every 150 linear feet of continuous parking space. No portion of an island less than six feet in width may be counted in the area. Landscape islands for single parking bays shall contain a minimum of 300 square feet. Landscape islands for double parking bays shall require a minimum of two 300 square foot islands or one continuous landscape island of 600 square feet.
2. Landscape islands shall be located in such a manner as to divide and break up the parking area. A planting area, which intrudes upon or is located wholly within a generally rectangular area that is (a) devoted to parking and (b) between a building and a lot line or between two buildings will generally serve this purpose.
3. At least one overstory tree shall be planted in every landscape island.
4. Sod and rock mulch are prohibited.
5. Double digging is required ahead of planting to reduce soil compaction, improve drainage, and allow air to reach the newly forming roots. Topsoil must be loosened to a depth of 20 inches. Soil compaction will be verified by the County Arborist.

6. Method of irrigation shall be indicated on the Tree Protection and Replacement Plans.

Section 2.11 Tree Density Requirements

The site density factor shall be calculated using the total acreage from disturbed areas. Replacement trees should be distributed throughout the development and not located in only one area.

The quantity of total existing and replacement trees on a site must be sufficient so as to produce a total site density factor of no less than:

- A. Disturbed acreage multiplied by 20 tree density units for single-family residential zoned property.
- B. Disturbed acreage multiplied by 15 tree density units for commercial, mixed use, industrial and all other non-single-family zoned property.

The density may be achieved by counting existing trees to be preserved, planting new trees, or some combination of the two as represented by the following formula:

$$\text{Site Density Factor (SDF)} = \text{Existing Density Factor (EDF)} + \text{Replacement Density Factor (RDF)}$$

Site Density Factor (SDF)

The SDF is calculated by multiplying the disturbed area by the multiplier established in sections A and B above based on the zoning of the property and adding any required significant tree recompense.

Existing Density Factor (EDF)

The EDF is calculated by converting the diameter of individual trees to remain on the site to tree density units. The density factor conversion table for existing trees is shown in Table A below, "Trees to Remain on Site (Existing)."

Replacement Density Factor (RDF)

The RDF is calculated by subtracting the EDF from the SDF. The tree density unit conversion table for replacement (new) trees is shown in Table B below, "Replacement Tree Table".

Trees within Buffers

Existing significant trees located within a required zoning Buffer area may be included in the existing density factor if the entire CRZ is protected. However, non-significant trees,

or significant trees that are not fully protected, may not be counted toward the existing density factor. Existing trees (excluding significant trees located within required zoning buffers) to be retained in order to meet buffer requirements as required in the Unified Development Code will not be considered in the existing density factor. Replacement trees in required buffer areas may count towards the replacement density factor only under the following circumstances:

- A. Buffer (zoning or state waters) does not have existing tree cover or is sparsely vegetated with trees prior to land disturbance; or
- B. Tree replacement is required by zoning condition(s) that necessitate buffer (zoning or state waters) disturbance for tree installation.

In either circumstance noted above, buffers would remain undisturbed except for replacement tree installation or any disturbance required to comply with a condition of zoning.

EXAMPLE:

1. A commercial Site with 7.5 acres of Disturbed Area and no Significant Trees removed would result in a Site Density Factor of 112.5 tree density units, calculated as follows:

$$7.5 \text{ acres} \times 15 \text{ Tree Density Units} = 112.5 \text{ SDF}$$
2. A total of 13 trees will remain on the 7.5-acre Site. The tree count is as follows:
 - 7 - 12" diameter pines
 - 3 - 14" diameter pines
 - 3 - 18" diameter oaks
3. Converting diameters (DBH) to tree density units, the EDF is determined below (see Table A):

DBH	Units	x	No. of Trees	Total
12"	2.4	x	7	16.8
14"	3.3	x	3	9.9
**18"	5.4	x	3	16.2
EDF				42.9

**See Section 2.7, *Significant Trees*, for explanation of credits.
4. The RDF is calculated by subtracting the EDF from the SDF.

$$\text{RDF} = 112.5 - 42.9 = 69.6$$
5. A total of 69.6 replacement tree density units are required.

Table A: Trees to Remain on Site (Existing)

Conversion from **tree diameter** in inches to **tree density units** for TREES REMAINING ON SITE

Caliper/Dia.	Units
2—4	0.3
5—7	0.9
8—9	1.5
10	1.8
11	2.1
12	2.4
13	2.7
14	3.3
15	3.6
16	4.2
17	4.8
18	5.4
19	6
20	6.6
21	7.2
22	7.8
23	8.7
24	9.3
25	10.2
26	11.1
27	12
28	12.9
29	13.8
30	14.7
31	15.6
32	16.8
33	17.7

Caliper/Dia.	Units
34	18.9
35	20.1
36	21.3
37	22.5
38	23.7
39	24.9
40	26.1
41	27.6
42	28.8
43	30.3
44	31.8
45	33
46	34.5
47	36
48	37.5
49	39.3
50	40.8
51	42.0
52	43.5
53	44.7
54	46.2
55	47.4
56	48.9
57	50.1
58	51.6
59	52.8
60	54.3

Table B: Replacement Tree Table

Conversion from **tree diameter** in inches to **tree density units** for PROPOSED NEW TREES

Caliper/Dia.	Units
2	.5
3	.6
4	.7
5	.9
6	1.0
7	1.2
8	1.3
9	1.5
10	1.7

Tree Relocation: Replacement units will be granted to trees relocated on site. Tree relocation is subject to approval of the County Arborist.

Section 2.12 Exclusions from Tree Density Acreage

- A. Areas within public utility easements which contain petroleum, gas, electric transmission easements or major sanitary sewer mains (eight inches or greater), and water mains (16 inches or greater) shall be excluded from the total acreage of the property when calculating the required tree density provided that no proposed improvements (building, parking lots, roadways) are within the easement.
- B. Public athletic field and trails shall be excluded from the disturbed area of the property when calculating the required site density factor calculations.
- C. For parcels in industrial zoning districts with building footprint aggregates greater than 30,000 square feet in size, the area of the building(s) shall be excluded from site density factor calculations.

Section 2.13 Additional Credits

- A. Additional tree density units will be granted under the following:
 - 1. Existing trees to be preserved on slopes greater than ten percent will receive an additional bonus credit of 50% of the unit amount.
 - 2. In major subdivisions, tree groupings connected with a continuous dripline will receive an additional bonus credit of 50% of the earned credit when such tree groupings are not located within or adjacent to an identified buffer.
- B. If excess existing density factor (EDF) units remain above and beyond the required site density factor (SDF), these excess units may be applied toward required significant tree replacement units.

Section 2.14 Alternative Compliance

Where the minimum density requirements cannot be fully met, due to site conditions, the applicant may, with the approval of the Director, contribute to the Tree Replacement Fund of Forsyth County. Contributions will be used for tree planting and care on public property at the direction of the County Arborist. Funds are intended for the planting of new trees, care for special or unusual trees, and tree related education (including tree education signage, teaching materials, and digital product creation). These funds may also be used to cover the labor required to perform tree planting and tree care activities. Contributions to the tree replacement fund must be paid in full prior to the issuance of any permit.

The tree replacement fund is to act as an “emergency relief valve” and is to be utilized at the County’s discretion. When it has been determined the required site density factor cannot be met with residual or planted trees, a contribution equal to \$1,500.00 per unit for each unit short of the requirement must be paid into the tree replacement fund by the developer.

For commercial or industrial zoning districts, the applicant may count significant tree replacement unit credit for trees to be planted in the subject property’s side or rear buffer, if required as a condition of zoning. The applicant may also request to plant trees within the public right of way or on public property within one mile of the subject property; this method of offsite planting compliance may be allowed at the County’s discretion based upon the feasibility of plant material installation on public property within the distance specified above. If off-site planting as described in this section is approved, an

indemnification agreement must be executed requiring on-going maintenance of the landscaped area by the applicant and all subsequent owners of the subject property.

Section 2.15 Maintenance Period for Development in Commercial, Mixed Use and Industrial Zoning Districts

Trees used to meet the density requirements shall be maintained for one full growing season after the date of final inspection. After one full growing season a maintenance inspection will be performed by the County Arborist to determine if the project is still in compliance with the Tree Protection and Replacement Ordinance. Any trees planted to meet the required site density requirement which are dead or near death must be replaced. Trees protected to meet the required site density which are dead or near death at the time of the maintenance inspection must be replaced if there is evidence that the demise of such trees was due to an act or omission that caused the tree to deteriorate.

Any trees required to be replaced by this inspection must be planted within 30 days of receipt of notification by the current owner(s). New tree plantings may be postponed for up to six months by posting a performance security (see Section 4.1). Failure to plant new trees in accordance with these provisions will constitute a violation of this Ordinance and will subject the property owner to civil penalties as set forth in this Ordinance.

ARTICLE 3 METHODS / TECHNICAL STANDARDS

Section 3.1 Construction Standards for Tree Protection Devices

Tree protection devices are necessary to eliminate activities detrimental to trees including but not limited to:

- Soil compaction in the critical root zone from heavy equipment, vehicular or excessive pedestrian traffic, or storage of equipment or materials;
- Root disturbance due to cuts, fills or trenching;
- Wounds to exposed roots, trunks or limbs;
- Other activities such as chemical storage, cement truck cleaning, fire, etc.

A. Location and Types of Tree Protection Devices

Tree protection devices are to be installed as shown on the Tree Protection and Replacement Plans or otherwise completely surrounding the critical root zone of all trees to be preserved. Active protection is required where tree save areas are located in proximity to construction activity. Passive protection may be used in more remote locations and in all tree protection areas not designated as tree save areas as determined by the County Arborist. Once tree protection areas are established and approved, any changes are subject to Department of Planning and Community Development review.

B. Materials

1. Active tree protection shall consist of chain link, orange laminated plastic, wooden post, rail fencing or other equivalent restraining material of at least four feet in height.
2. Passive protection shall consist of heavy mill plastic flagging of a bright color or equivalent signage on a continuous, durable restraint sufficient to delineate the bounds of any tree protection or save areas.

C. Sequence of Installation and Removal

All tree protection devices shall be installed prior to any land-disturbing activity. The Department of Planning and Community Development will inspect the installation of tree protection devices. It shall be the sole responsibility of the property owner and/or developer to ensure that all tree protection devices remain in functioning condition throughout all phases of development and until all certificates of occupancy are issued,

including for residential properties. In the event passive tree protection is not kept in functioning condition, active tree protection may be required throughout the project. When fencing is required to remain in place following land-disturbing activities, it is the responsibility of the property owner and/or developer to ensure compliance. Each individual lot within a residential development may remove tree protection fencing once the certificate of occupancy for that specific lot is issued.

D. Other Specifications

1. Where clearing has been approved, trees shall be removed in a manner that does not adversely impact the trees to be preserved. Avoid felling trees into tree protection areas or disturbing roots inside the tree protection areas.
2. All erosion and sedimentation control measures shall be installed so that sediment will not accumulate within the tree protection areas.
3. All tree protection areas shall be designated as such with "Tree Protection Area" signs posted visibly on all sides of the fenced-in area. These signs are intended to inform subcontractors of the tree protection process. Signs requesting subcontractor cooperation and compliance with the tree protection standards are recommended for Site entrances.

Section 3.2 Standards for Transplanting

Standards for transplanting shall be in keeping with those established in the International Society of Arboriculture publication, "Tree and Shrub Transplanting Manual" or similar publication. Reference the American Association of Nurserymen publication "American Standard for Nursery Stock" (ANSI Z60,1) for plant material quality specifications. Reference the "Manual for Woody Landscape Plants" (Michael A. Dirr) or similar publication for information on tree species site requirements.

A. Tree planting standards.

1. Always pick a tree up by the container or root ball, never by the trunk.
2. The hole shall be a minimum of two times the width of the root ball with sloped sides, and backfilled with native soil.
3. The depth of the hole shall be no deeper than the height between the bottom of the root ball and the trunk flare.

4. Once the tree is placed in the hole, a minimum of the top one-half of the burlap and wire basket must be removed.
5. The trunk flare shall be set one to two inches above finished grade to allow for settling.
6. Backfill soil shall not be amended.
7. Stake only if necessary for stability.

Section 3.3 Standards for Pruning

All pruning shall be done in accordance with the most current best management practices for tree care issued by the American National Standards Institute. Tree topping is not allowed. Crown reduction pruning must be used instead.

Section 3.4 Standards for Tree Placement and Maintenance

Proper tree placement and appropriate maintenance are critical components to the establishment and maintenance of healthy trees. The following requirements must be met with respect to plantings conducted pursuant to the requirements of this Ordinance in order to enhance longevity of installed trees as they mature in the landscape so that they may continue to provide environmental and visual benefits.

- A. In order to provide adequate growing area and soil volume for planted trees, the following minimum criteria must be observed unless trees are to be located within parking lot landscape islands or as otherwise approved by the County Arborist to improve the viability of the planted trees:
 1. Minimum open soil surface area with average soil depths greater than or equal to three feet:
 - Overstory Trees: 400 square feet
 - Understory Trees: 100 square feet
 2. Minimum setbacks from exterior of trunk to buildings:
 - Overstory Trees: 20 feet
 - Understory Trees: 10 feet
 3. Minimum setbacks from exterior of trunk to sidewalks, driveways, and other impervious surfaces:
 - Overstory Trees: eight feet

Understory Trees: four feet

- B. In some situations, certain conditions or constraints, such as but not limited to existing or proposed utilities, infrastructure, streams, wetlands or other environmental factors, may limit the ability of a site to support the minimum number of required trees. The County Arborist may require alternative planting locations or other means of compliance for fulfilling the planting requirement for any tree required by the Tree Ordinance, Unified Development Code, or other development regulations. Such decisions shall be based on established principles and practices of arboriculture and with consideration to maximizing the tree's health and contribution to the landscape and environment in order to fulfill the purpose and intent of this Article.
- C. Plant trees in locations where limbs will not impede access for delivery or emergency vehicles.
- D. Street trees should be pruned to provide at least eight feet of vertical clearance under branches to avoid hazards created by low branches. Prune tree regularly to maintain pedestrian and vehicular clearances and reduce the potential for damage or vandalism.
- E. Use a variety of species to reduce susceptibility to disease.
- F. Consider the use of pervious pavements and soil systems such as silva cells or structural soil to increase soil volumes and moisture penetration
- G. Consider the installation of root barriers along curbs, sidewalks, and tree wells to reduce potential damage to the pavement.
- H. Where possible, locate trees such that conflicts with utilities are minimized, including both underground utilities and overhead power lines.
- I. Consider providing irrigation or methods to provide regular watering to tree planting areas during the plant establishment period to ensure the survival of new trees and improve overall tree health and longevity.

ARTICLE 4 ENFORCEMENT PROCEDURES

Section 4.1 Performance Security

When planting stock availability is low or weather conditions are not appropriate for planting new trees, the project owner may postpone planting for up to six months, provided that performance security is posted with Forsyth County in accordance with the following criteria:

- A. Security shall be in an approved form submitted to the Department of Planning and Community Development with appropriate documentation of stock availability and weather conditions.
- B. Security shall be in an amount equal to 150% of the cost of materials, installation, and guarantee, as demonstrated by a signed contract between the owner and a landscape contractor and approval by Department of Planning and Community Development.

An inspection shall be made by the Department of Planning and Community Development of all tree plantings to ensure compliance with plan requirements prior to release of the performance security. Forsyth County will use the performance security at the time of expiration if the planting requirements have not been fulfilled, or if the owner has not requested an extension. Funds received from the performance security will be used to bring the project into compliance. One six-month extension is permitted with documented justification. Any inspections performed after the final inspection (for project release) are subject to re-inspection fee schedules, which shall be maintained on file at the Department of Planning and Community Development.

Section 4.2 Inspection

The County Arborist may periodically inspect the project during the course thereof and shall make a final inspection following the completion of work. Applicants shall cooperate with the Department of Planning and Community Development in making such inspections. The Department of Planning and Community Development shall have the power to conduct such investigations as it may reasonably deem necessary to carry out duties as prescribed in this article, and for the purpose of entering at reasonable times upon any property, public or private, for the purpose of investigating and inspecting the sites of any land-disturbing activities.

No person shall refuse entry or access to any authorized County employee who request entry for the purpose of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties.

Prior to any land-disturbing activity, the Department of Planning and Community Development must inspect all tree protection devices for compliance with the Tree Protection and Replacement Plans. Failure to adhere to Tree Protection and Replacement Plans will subject the project to enforcement procedures found in this article.

Prior to the issuance of a certificate of occupancy, final plat, or other forms of County acceptance, the Department of Planning and Community Development shall inspect for compliance with all Tree Protection and Replacement Ordinance requirements. Any disturbances in tree save areas or deficiencies in the required site density factor will be cited at this time. Tree save area deficiencies must be corrected with new tree plantings prior to project release.

Existing trees, which are not expected to survive, will not be counted toward meeting density requirements. Conversely, any existing trees not shown to remain on plans but which have been saved (meeting all tree protection standards) through field adjustments may be counted toward density requirements, provided that all changes are recorded.

Once a tree save area has been established through the Department of Planning and Community Development plan approval process, any destruction of trees in that area must be mitigated by planting new trees to a density factor of 60 units per acre. Revised Tree Protection and Replacement Plans must be submitted and approved by the Department of Planning and Community Development.

Section 4.3 Remedial Care

Trees in tree save areas, which have been adversely impacted by the construction process, may be subject to remedial care. Remedial care will be performed at the discretion of the County Arborist and may include (but is not limited to) the following:

- Pruning
- Soil aeration
- Fertilization
- Supplemental watering

Section 4.4 Stop-Work Orders, Suspension, Revocation and/or Modification of Permit

Civil Penalties

Any County issued permit may be suspended, revoked or modified by the Director - upon finding that the holder is in violation of the terms of the permit or any portion of this Ordinance.

- A. If it is determined that a person has engaged in land-disturbing activities and has failed to comply with the terms and conditions of this Ordinance, a written notice to comply shall be posted on site. Failure to comply with the terms and conditions of this ordinance within three days after such notice of non-compliance has been issued shall result in immediate issuance of a stop work order. Where any emergency exists, as determined by the Director, no written notice shall be required before a stop work order is issued.
- B. Any person violating any provision of this article, approved Tree Protection and Replacement Plans, or stop-work order shall be subject to issuance of a Magistrate Court Citation, which may result in a fine up to \$1,000.00 per violation. Regarding tree violations, a violation shall be considered an individual removed or damaged tree. Each calendar day a violation exists shall be considered a separate offence. There is no maximum to the accrual of fines. All fines will be deposited into the Tree Replacement Fund of Forsyth County.

In addition to or in lieu of any Magistrate Court action or civil penalty, the Department of Planning and Community Development shall require the replacement of trees by the person violating this Ordinance in order to meet the minimum requirements set out herein.

Section 4.5 Fees

Permit processing and/or inspection fees may be established from time to time by the Department of Planning and Community Development.

ARTICLE 5 APPEALS

Section 5.1 Appeals of Decisions of Administrative Officials

Any person aggrieved by a decision issued pursuant to this ordinance may appeal such decision to the Forsyth County Zoning Board of Appeals. Such person shall be entitled to the benefit of and subject to the powers and procedures of the appeal process provided in the Unified Development Code.