

Part II

Chapter 30 - Environment

Article X - Community Tree Management

Purpose - the purpose of this chapter is to sustain and enhance the functions and benefits of trees and the necessity of planting trees within groups for the citizens of Effingham County and to utilize trees for their value and positive effects on air quality, water quality, stormwater runoff, local climate, environmental health, property values, business revenues, scenic quality, urban design, human health and well-being, outdoor recreation, forest products, and wildlife.

Intent - The intent of this chapter is to regulate the quantity, quality, and distribution of trees within Effingham County, within each zoning district, and on individual sites as prescribed herein. Further, the intent of this chapter is to regulate the quantity of trees through the establishment of minimum requirements for conserved and planted tree canopy, to regulate the quality of trees through adoption of technical standards for species selection, tree planting, tree maintenance, and tree protection, and to regulate the distribution of trees so that their function is maximized.

Administration – Unless otherwise stated herein, Development Services shall be the administrator of this chapter.

Division 1 - Definitions

The terms listed below are hereby defined for the purpose of administering this chapter. All other terms shall have their meaning as defined in other parts of the Effingham County Code of Ordinances, or their common meaning if undefined in the Code.

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.

Effingham County tree. Any tree whose trunk is growing wholly or partially on land owned by Effingham County, including, but not limited to, public street rights-of-way, parks, and building and facility yards.

Branch. A secondary shoot or stem arising from one of the main axes (i.e., trunk or leader) of a tree or woody plant.

Caliper. The diameter of a tree trunk measured at six inches above the ground up to and including four inches' caliper size, and 12 inches above the ground for larger trees. Used for nursery stock and newly planted trees, and not for established trees.

Canopy tree. A large or medium tree with a crown size and shape that will typically provide significant shade and beneficial effects on temperature, air quality, water quality, and other environmental conditions, at maturity. Synonymous with "shade tree."

Champion tree. A tree of sufficient points—given for the total of the circumference of the trunk in inches at 4.5 feet above the ground plus the total vertical height in feet plus the average crown spread in feet—to qualify as the largest tree of its species within Effingham County, the State of Georgia, or the United States.

Community forest. The collection of individual trees and forest stands within Effingham County, including trees on both public and private property.

Community tree. Any tree growing within Effingham County, whether on public or private property.

Conservable tree. A healthy tree at least two inches dbh that can and will be protected in accordance with the technical standards set forth in this chapter.

Conserved tree canopy cover. That portion of the tree canopy cover represented by natural cover of individual conservable trees, forested areas, forest regeneration areas, and/or future forest areas.

Critical root zone. A circular area above and extending 24 inches below the ground around the trunk of a tree with a radius equivalent to the distance to the dripline, or 1.25 feet for every one inch in dbh, whichever is greater. The critical root zone increases in size as a tree grows larger.

Crown. The leaves and branches of a tree or shrub; the upper portion of a tree from the lowest branch on the trunk to the top.

Decay. Degradation of woody tissue caused by biological organisms.

Diameter breast height (dbh). The outside diameter of the trunk of a tree, measured 4.5 feet above ground level. For trees with co-dominant (forked) stems, the trunk is measured below the fork and above the trunk flare, at the point of the smallest diameter. For multi-stemmed trees, the diameter is the sum of the diameters of all of the stems that contribute significantly to the crown.

Dripline. A line extending down to the ground from the greatest horizontal extent of a tree's branches, forming a cylinder around the tree.

Establishment period. The length of time it takes to successfully establish a tree in the landscape, generally considered to be three years from the time of planting.

Flush cut. An improper cut made into the stem or parent branch of a limb or branch being removed during pruning, instead of outside the branch collar.

Forest management. A class of agriculture that includes management of land, forested areas, and trees for timber production, wildlife, recreation, or other purposes.

Forest regeneration area. A specified area where native seedlings, saplings, or larger trees are replanted to recreate natural forest conditions and functions to the greatest extent possible.

Forested area. An area which contains more than 100 trees of greater than six inches dbh per acre, and which is more than 70 percent covered in tree canopy at full leaf-out.

Future forest area. An area currently devoid of trees but permanently set aside for natural forest succession to take place over time.

Future tree canopy cover. A standardized amount of future mature tree canopy cover credited to a particular species based upon its mature size category—large, medium, small, or very small—and the typical shape of its crown.

Hazard tree. A tree or any part thereof, that is at risk for failure and threatens the health, safety, or general welfare of a person(s) or property.

Healthy tree. A tree that is vigorous as indicated by leaf color and annual shoot extension, with a relatively symmetrical form typical of the species, with $\frac{1}{3}$ or more of its height in live crown (live crown ratio of 33 percent or more), with roots, trunk, and crown absent of extensive and significant signs of insect or disease infection, wounds or other mechanical damage, decay, and structural defects. For pine trees the live crown ratio may be less than 30 percent and the tree is still otherwise considered healthy.

Included bark. Bark that is caught between co-dominant stems, or a stem and a branch, and/or within narrow branch angles, creating a structural weakness.

International Society of Arboriculture, ISA. A worldwide professional organization dedicated to fostering a greater appreciation for trees and to promoting research, technology, and the professional practice of arboriculture. Administers certification programs for arborists, tree workers, utility arborists, and municipal arborists.

Landmark tree. Individual trees, groups of trees, or forested areas that meet one or more criteria for age, size, species, form, character, history, location, or association with an historic event, person, or landmark.

Large canopy tree. A tree with a canopy that covers at least 1,600 square feet at maturity under urban conditions, with crown diameter of at least 45 feet.

Lateral. A branch or twig growing from a parent branch or stem.

Leader. A dominant upright stem, usually the main trunk. There can be several leaders in one tree.

Limb. Same as "branch" but larger and more prominent.

Live crown ratio. The vertical extent of a tree's live crown as compared to its total height and expressed as a fraction or percent.

Medium canopy tree. A tree with a canopy that covers at least 900 square feet at maturity but less than 1,600 square feet under urban conditions, with a crown diameter of at least 35 feet.

Mulch. Organic matter composed of pine straw, leaves, aged wood chips, compost, pine bark, or a combination thereof, that is applied in a layer on the ground over the roots of a tree to retain soil moisture, improve soil texture, cover and suppress the growth of unwanted vegetation, increase soil nutrients, and provide a favorable habitat for beneficial soil organisms.

Native tree. A tree species that naturally occurs within Effingham County.

Open soil surface area. The minimum area around a planted tree that shall remain in a permeable condition.

Parent branch or stem. The tree trunk; or a large limb from which lateral branches grow.

Planted tree. A new tree, native or non-native, planted on a site outside of a tree conservation area, forested area, forest regeneration area, or future forest area.

Protected trees. Trees planted or conserved to meet the requirements of this chapter, Effingham County trees, and designated landmark trees.

Pruning. Removal of woody plant parts.

Roots. Woody and fibrous (or "feeder") structures extending from the base of the tree trunk and contained primarily within the soil that function to anchor the tree, store food, and absorb water and nutrients. A tree's root system extends out from the trunk generally two to three times the width of the crown.

Scaffold limbs. The large, main limbs that diverge from the trunk of a tree and that support the remainder of the branches and leaves.

Shade tree. See "canopy tree".

Small canopy tree. A tree with a canopy that covers at least 400 square feet at maturity but less than 900 square feet under urban conditions, with a crown diameter of at least 25 feet.

Stub. An undesirable short length of a branch remaining after a break or an incorrect, internodal pruning cut is made.

Topping, top (heading, lopping, tipping). An improper method of pruning that involves cutting a currently growing or one-year-old shoot back to a bud or cutting an older branch or stem back to a stub or lateral branch not sufficiently large enough to assume the terminal role.

Tree. A woody perennial plant that has the potential to attain a height of 15 feet or greater and a dbh of three inches or greater.

Tree canopy cover. The land area covered by a tree crown or crowns, as measured in square feet. For a site or lot it may be expressed as the percent of the land area covered by tree canopy and is calculated by dividing the tree canopy cover in square feet by the total land area of the site or lot.

Tree conservation. The conservation of specified areas on a site or lot where existing, noninvasive, healthy trees, groups of trees, and/or forested areas will remain.

Tree establishment. The activities associated with installing a tree in the landscape including tree selection, tree placement (site selection), soil preparation, planting, and new tree maintenance.

Tree-planting season. The time of year most suitable for planting trees, while they are dormant, considered to be December through March in Effingham County.

Tree protection zone (TPZ). A more or less cylindrical area surrounding a tree (planted or conserved) and including the critical root zone and extending up to the top of the tallest branch and out from the trunk to the dripline of the tree or the critical root zone, whichever is greater. This area includes the trunk, crown, and that portion of the tree's roots within the critical root zone. For a group of trees, it includes the area within the group and extending out to the critical root zones of the trees located along the entire perimeter of the group. The tree protection zone increases in size as a tree grows.

Trunk. The main stem(s) of a tree, located above ground, extending up from the root system, and supporting the crown. The trunk is responsible for water, nutrient, and carbohydrate transport within the tree and the storage of carbohydrates for future use.

Unhealthy tree. A tree demonstrating one or more signs of loss of vigor and decline, as indicated by atypical leaf color, recurring short annual shoot extension, or less than one-third live crown ratio, or severe insect or disease infestation, or with damage or structural defects that may include, but are not limited to: severed or damaged roots greater than two inches in diameter within the critical root zone; signs of previous topping or other improper pruning practices resulting in decay or a structural defect; longitudinal cracks in the trunk; wounds that encompass greater than one-third of the circumference of the trunk; trunk cavities equal to or greater than two-thirds of the trunk diameter at the point of the cavity; cracks, wounds, or cavities of one or more of the scaffold limbs resulting in a structural defect that cannot be corrected to ensure a safe or healthy condition; and any other defect that cannot be corrected through standard arboricultural practices.

Vegetation management. All planned work activities relating to landscape and roadside development on the right-of-way. These activities may include the removal and/or pruning of trees or other vegetation, landscape planting, construction, and any maintenance management of their related features (i.e., mowing, chemical control and pruning and tree removal).

Very small canopy tree. A tree with a canopy that covers at least 150 square feet at maturity but less than 400 square feet under urban conditions, with a crown diameter of at least 15 feet.

Wound. The opening that is created any time the tree's protective bark covering is penetrated, cut, or removed, injuring or destroying living tissue.

Division 2 - Landmark Trees

A classification of trees known as "landmark trees" is hereby established:

(a) *Criteria for designation.* Landmark trees shall be healthy trees that meet one or more of the following criteria:

- (1) Age greater than 50 years as determined by planting records or the written opinion of an arborist.
- (2) Large canopy trees greater than 36 inches dbh, medium canopy trees greater than 24 inches dbh, and small canopy trees greater than 12 inches dbh.
- (3) National, state, or Effingham County champion trees.
- (4) Unique or rare species.
- (5) Association with a documented historic event, person, or community landmark.

- (6) Trees planted for Arbor Day celebrations and other community-wide public celebrations.
- (7) Trees planted in honor or memory of an individual or an event.
- (8) Trees belonging to a significant cross-property or neighborhood-wide planting that affect the greater landscape beyond the property on which they grow.

(b) *Application.* Only the owner may apply for landmark tree status for a tree growing on their property. Applications shall be available from Effingham County Development Services.

(c) *Landmark tree official record.* An official record of the location and description of all designated landmark trees. Such record shall be maintained for public inspection. In addition, the location of a designated landmark tree shall be entered into a landmark tree GIS layer and maintained by the GIS/graphics division of the planning department.

(d) *Maintenance of landmark trees.* The pruning, maintenance, and protection of landmark trees shall be done in accordance with the technical standards set forth. Failure to comply with these technical standards may result in the revocation of landmark tree status. An appeal to reinstate a landmark tree designation may be made by the tree owner in writing. Landmark tree owners are encouraged to hire professional certified arborists experienced in the care of mature and special trees to assist in maintaining landmark trees.

Division 3 - Effingham County Trees

All trees growing on Effingham County property, including the public street rights-of-way, Effingham County offices and facilities, parks and recreation areas, and all other public areas, shall be protected trees. Development Services shall be responsible for the administration of requirements of this chapter related to Effingham County trees.

(a) *Damage or destruction of Effingham County trees.* It shall be unlawful to damage or cause the death of any Effingham County tree, or to engage in the prohibited activities or to exceed the limitations set forth within the tree protection zone of any such tree.

(b) *Effingham County right-of-way encroachment permit required.* An Effingham County right-of-way encroachment permit issued by Development Services shall be required for any activity that occurs both on the public right-of-way and within the tree protection zone of an Effingham County tree. A right-of-way encroachment permit is not required for utility vegetation maintenance activities performed on public rights-of-way.

(1) *Tree protection required.* When encroachment occurs within the tree protection zone of an Effingham County tree, the tree shall be protected from damage or destruction in accordance with the tree protection standards.

(c) *Annual vegetation management schedule required from utility companies.* All utility companies having wires, cable lines, pipe, or other facilities within Effingham County right-of-way shall submit an annual vegetation management schedule no later than January 1 of each year to perform any vegetative maintenance activities on any Effingham County tree or public right-of-way. Vegetation maintenance activities shall include:

- 1) mowing;
- 2) chemical control; and
- 3) pruning and tree removal.

For non-routine projects not included on the annual vegetation management schedule, notification is not required but is preferred. In no event shall the requirements of this chapter be more restrictive with respect to utility companies affected thereby than are equivalent regulations promulgated by the Georgia Department of Transportation with respect to utilities on the state highway system under the authority of O.C.G.A. section 32-6-174. The annual vegetation management schedule requirements include:

- (1) One vegetation management schedule shall be submitted for each maintenance activity, annually for all of the sites within Effingham County.
- (2) One schedule for all three maintenance activities may be submitted, or up to three separate schedules.
- (3) The name and contact information of the utility company representative shall be included with the schedule.
- (4) The vegetation management schedule shall be submitted to Development Services.
- (5) The utility company shall have one year to perform the maintenance activities described in the vegetation management schedule.

(6) A minimum of five working days notification of any changes to the vegetation management schedule shall be provided by the utility company to Development Services. Vegetation maintenance activities shall conform to the standards set forth in this ordinance.

(d) *Vegetation maintenance standards.* All vegetation maintenance activities performed by utility companies and their agents on Effingham County right-of-way, including mowing, chemical control, and tree pruning and removal shall conform to the following minimum standards as required by the Georgia Department of Transportation with respect to utilities on the state highway system under the authority of O.C.G.A. section 32-6-174.

(1) Tree removal, tree pruning, mowing, and chemical control may be performed at any time.

(2) Chemical control shall meet all state and federal regulations.

(3) Aerial applications of chemicals are prohibited.

(4) The utility company shall repair any damage that results from the mishandling or misuse of materials at the utility's expense and to the satisfaction of Effingham County.

(5) Crown reduction of pine tree is limited to lateral limbs.

(6) Cutting the leader of mature wood constitutes topping and is prohibited.

(7) Pruning which removes more than one-third of the canopy of a tree and/or leaves the tree with unnatural symmetry is prohibited. If this type of activity is contemplated, removal should be considered.

(8) Within right-of-way mowable areas, tree stumps and roots projecting through or appearing on the surface of the ground shall be removed to a depth of six inches below the average contour of the ground surface. Removal shall be accomplished by means of stump grinding equipment designed for this purpose, or by hand.

(9) Holes or voids created by the removal of stumps shall be filled, graded, and compacted with acceptable fill material. In areas where stumps are adjacent to grass areas, sod shall be used to repair the bare spots created by the stump removal, areas damaged by equipment and/or currently exposed on site.

(10) In non-mowable areas stumps may remain at a maximum of four inches above the ground line.

(11) All work shall be done without damage to native trees and shrubs that are to remain in the vegetation management zone or are adjacent to the vegetation management zone. All work shall be done without damage to existing site conditions.

(12) All waste and debris shall be properly disposed of and the site left in an acceptable condition on a daily basis. When completed, the work site must be clean of all litter and debris created by the utility company and, if a mowable area, acceptable for mowing by conventional mowing equipment.

(13) Cut trees, limbs, and shrubs must be removed in their entirety from the site, unless other arrangements have been made.

(14) Woody and leafy debris shall not be discarded onto adjacent property without permission of the landowner.

(15) Maintenance activities that do not conform to these standards shall be deemed unsatisfactory and shall promptly be corrected by the utility company within 15 working days after notification by the landscape management division office.

(16) Maintenance activities that result in a safety hazard or cause erosion shall be deemed unsatisfactory and shall be halted and corrected immediately.

Division 4 - Protected Trees

Officially designated landmark trees, trees on private property that have been conserved or planted to satisfy Effingham County Code requirements, and Effingham County trees shall be classified as protected trees. Protected tree status does not apply to trees on single-family residential lots after the certificate of occupancy has been issued.

(a) *Protection of protected trees.* All protected trees shall be actively and passively protected within the tree protection zone from damage or destruction and from any activity that may cause damage or destruction, including, but not limited to, those prohibited and limited activities listed, using all measures necessary. Tree protection measures shall conform to the tree protection standards.

(b) *Planting of other vegetation.* Planting of perennial shrubs, herbaceous plants, turf, sod, or ground cover is limited to the outer two-thirds of the tree protection zone for a conserved tree, and to no closer than 2.5 feet to the trunk of a planted tree.

(c) *Pruning of protected trees.* The pruning of protected trees shall conform to the tree pruning standards. A right-of-way encroachment permit shall be required for the pruning of any Effingham County tree, except for pruning by Effingham County or for vegetation management.

(d) *Removal of protected trees.* A, Effingham County tree shall not be removed without prior approval from the Development Services Director or designee, except for the removal of trees by Effingham County or for vegetation management. Any tree planted or conserved on private property to meet code requirements shall not be removed without prior approval from the Development Services Director or designee. Approval shall be granted or denied based upon the tree removal standards.

(e) *Replacement of protected trees.* The property owner shall replace any protected tree that dies or is removed from a site if such removal results in the decrease of the tree canopy cover on the site or lot less than that required. Replacement is required by the next tree-planting season with a tree of the same or similar species and canopy size in the same location. Replacement of landmark trees for which tree canopy cover credit was received during development shall be at the rate of two times the landmark tree's actual tree canopy cover or two times the future tree canopy cover, whichever is greater. Replacement is encouraged, but not required for landmark trees removed from single-family residential lots. All tree replacement shall be in accordance with the tree establishment standards set forth.

Division 5 - Tree Management Plan

The property owner or his/her agent shall provide an approved tree management plan prior to the issuance of a land development/land disturbance activity permit, or the issuance of a building permit for lots that appear on a preliminary plat and/or preliminary plan approved after the adoption of this chapter.

The tree management plan shall show the amount, location, and type of tree canopy cover currently existing on the site or lot, and that which is to be conserved and planted on the site, and the percent to be included on each individual lot within a subdivision. Tree management plans submitted with a notice of timber harvest are only required to demonstrate that the tree canopy conservation standards will be met. The following components shall be included on the tree management plan:

(a) *Existing and proposed utilities.* The location and type of all existing and proposed utilities.

(b) *Existing forested areas and individual trees inventory.* The location and description of all existing forested areas, groupings of trees with overlapping canopies, individual, isolated trees greater than 18 inches in diameter, and landmark trees.

(c) *Effingham County trees.* The location of any and all individual trees greater than two inches dbh, groupings of trees, and forested areas growing on the public right-of-way adjacent to the property being developed.

(d) *Current tree canopy cover.* An estimate of the amount of tree canopy cover currently existing on the site or lot to the nearest one percent.

(e) *Individual trees to be conserved.* For individual trees to be conserved the species common and Latin names, dbh, canopy cover, location of the trunk, extent of the crown, boundaries of the tree protection zone, and location of tree protection fencing.

(f) *Groups and stands of trees to be conserved.* For groups and stands of trees the square foot and percent canopy cover represented, the location of the groups or stands, boundaries of the tree protection zone, and location of tree protection fencing.

(g) *Tree planting.* For each tree that will be planted to satisfy tree canopy cover requirements, including street trees and parking lot trees, the location, species common and Latin names, variety or cultivar, caliper at time of planting, and extent and location of open soil surface area.

(h) *Summary table.* A summary table of tree canopy cover by acres and percent of total site for tree canopy cover meeting conserved, planted, and total tree canopy cover requirements.

Division 6 - Technical Standards

American National Standards Institute (ANSI) Technical standards and International Society of Arboriculture (ISA) Best Management Practices (BMPs) for tree conservation, protection, establishment, pruning, and maintenance are hereby established and shall be the minimum standards required.

All activities associated with protected trees shall conform to these technical standards. In addition, all tree conservation, protection, establishment, pruning, and maintenance shall conform to applicable American National Standard for Arboricultural Operations—Safety Requirements Z133.1 safety standards, published by the American National Standards Institute, and as officially revised and amended from time to time.

(a) *Professional assistance.* Any person or firm subject to the requirements of this chapter is encouraged to seek professional assistance from a registered forester or certified arborist. A list of consulting foresters and arborists is available from the Georgia Forestry Commission, and certified arborists can be located online on the International Society of Arboriculture's website.

(b) *Arboricultural (tree) services.* Any person or firm subject to the requirements of this chapter is encouraged to hire only qualified, established businesses to perform arboricultural services, to require references for similar work before hiring, and to require adequate insurance for property damage, personal liability, vehicles, and workers compensation. The hiring of arboricultural businesses and tree services that employ certified arborists who can supervise the requested work is recommended.

(c) *Tree conservation standards; individual trees.* The conservation of individual healthy trees or groups of healthy trees shall meet the minimum criteria below.

(1) Each tree must meet the definition of a conservable tree.

(2) The tree protection zone of each tree shall be conserved, and the tree protected according to the tree protection standards.

(h) *Tree protection standards.* Effingham County trees or trees on private property conserved and planted to meet tree canopy cover requirements shall be actively protected during development, based on ANSI and ISA BMPs, and passively throughout their life in accordance with the requirements for protected trees.

(1) *Prohibited activities.* The following activities and conditions, and any other activities and conditions harmful to a tree's roots, trunk, or crown, within the tree protection zone are prohibited:

a. Vehicle or equipment traffic, parking, or storage.

b. Materials or supplies storage.

c. Placement of temporary or permanent structures.

d. Equipment maintenance or washout.

e. Wounding of trunk.

f. Wounding or breakage of scaffold limbs or branches greater than six inches in diameter.

g. Topping or other improper pruning, such as stub cuts or flush cuts.

h. Fires; excessive heat from equipment exhaust pipes.

(2) *Limited activities.* The following activities and conditions within the tree protection zone are limited to one side of the tree in the outer ½ of the critical root zone, but in no case closer than 2.5 feet to the trunk of a planted tree and ten feet to the trunk of a conserved tree:

- a. Site or lot clearing or grubbing.
- b. Soil excavation.
- c. Soil cuts.
- d. Soil fill.
- e. Grading.
- f. Trenching.
- g. Tilling.
- h. Edging.
- i. Soil compaction.
- j. Top dressing with soil greater than two inches in depth.
- k. Paving.

(3) *Active tree protection standards.* Active tree protection shall meet the following minimum criteria:

- a. Tree protection fencing shall be installed prior to any land development or land disturbance activity around a tree at the location of the tree protection zone and shall remain in place until construction activities end, or a certificate of occupancy is issued, whichever is later.
- b. Tree protection fencing shall be four feet high, high-visibility polypropylene fencing erected with sturdy posts.
- c. Low hanging limbs that may be damaged by equipment traffic or other construction activities shall be pruned prior to the commencement of any land development/land disturbance activity; all pruning shall be in accordance with the pruning standards.
- d. When equipment movement is such that damage to tree trunks is possible, then tree trunks shall be wrapped vertically with one layer of two inch by four-inch lumber spaced a maximum of 12 inches apart and covered with corrugated cardboard secured with strapping. The wrapping shall remain on throughout the period of potential damage.

(4) *Active tree protection area sign standards.* Prior to any land development or land disturbance activity and after tree protection fencing is installed around any conserved trees or tree conservation area, tree protection area signs shall be installed. Signs shall be installed along the perimeter of all tree protection zones at least every 50 feet and shall include, at a minimum, the following text: "Tree Protection Area, Entry Prohibited, No Construction Activity, Materials or Equipment Storage, Equipment Washout, or Vehicle Traffic Allowed". The sign shall be fabricated out of a sturdy material, shall be at least 18 inches wide by 24 inches high, and shall be placed on a sturdy post with the bottom of the sign at a minimum height of 30 inches above the ground. The signs must always remain present during construction.

(5) *Passive tree protection standards.* Passive tree protection shall be required throughout the life of a protected tree and shall require, at a minimum, the avoidance of all prohibited activities and (2) within the tree protection zone.

(i) *Tree establishment standards.* Tree establishment involves a series of steps that includes site selection, species selection, quality tree selection, site preparation, tree planting, and new tree maintenance. Tree establishment standards, based on ANSI standards, shall be as set forth in subsections (1) through (7) below.

(1) *Site selection standards.* Trees shall be placed such that they have adequate space to grow unobstructed to maturity. Minimum distances at the time of planting as measured from the tree trunk to structures and infrastructure shall be required. In addition, the following standards apply:

- a. Trees shall not be planted directly over property boundary lines or corners.
- b. In no case shall a planting site be less than three feet wide in any one direction.

(2) *Species selection standards.* Species planted to satisfy the requirements of this chapter shall conform to the following standards:

- a. Species shall be selected that are tolerant of the growing conditions existing on the site, including growing space, sunlight, soil moisture, temperature, and soil volume.
- b. No more than 30 percent of any one species shall be planted on a lot.
- c. For street trees, where no obstructions to growth exist, large canopy trees shall be planted; where obstructions to growth exist for large canopy trees, medium canopy trees shall be planted; where obstructions to growth exist for medium canopy trees, small canopy trees shall be planted.

(3) *Tree size and quality standards.* Trees planted to satisfy the requirements of this chapter shall meet minimum quality standards as established in the *ANSI Z60.1 American Standard for Nursery Stock* and published by the American Horticulture Industry Association, as officially revised, and amended from time to time. Trees shall also conform to the following standards to be considered tree canopy:

- a. Trees shall be a minimum of two inches in caliper for deciduous trees, a minimum of eight feet in height for evergreen trees, and a minimum of one inch caliper per trunk for multi-trunk trees at the time of planting.
- b. Trees outside of forest regeneration areas may be container grown or balled and burlapped.
- c. Trees with forked stems and included bark shall not be counted for tree canopy cover.
- d. Trees that require staking to stand upright shall not be counted for tree canopy cover.

Division 7 – Maintenance

(a) *Tree maintenance standards.* tree maintenance includes pruning, mulching, fertilization, cabling and bracing, and lightning protection. When required for protected trees as set forth herein, these activities shall be based on ANSI A300 Standards and done in accordance with the standards set forth below.

(1) *Tree pruning standards.* Protected trees shall be pruned in accordance with the American National Standard for Tree Care Operations A300 published by the American National Standards Institute and Best Management Practices published by the International Society of Arboriculture, as officially revised and amended from time to time. Tree owners and their agents are encouraged to hire businesses that employ certified arborists who can supervise the pruning work on site and ensure that proper pruning is being done. In addition, the following standards shall apply to protected trees:

- A. Pruning activities shall not disturb nesting, rare, or endangered wildlife to the greatest extent possible.
- B. Co-dominant stems less than four inches in diameter at the fork shall be subordinated or removed and one main stem shall remain.
- C. Pruning shall be done such that a tree's natural form is maintained to the greatest extent possible.
- D. Tree topping or heading is not permitted.
- E. Reasons for which tree pruning is not permitted include, but are not limited to:
 - i. Sign installation, clearance, or visibility, excluding traffic, directional, warning, or information signs owned by any public or semipublic agency.
 - ii. Clearance for temporary or permanent equipment traffic or storage, the erection of temporary structures, or materials storage within the tree protection zone.

(2) *Mulching standards.* Individual planted trees, individual conserved trees, and groups of ten or less conserved trees shall be mulched in accordance with the following standards. For conserved groups of more than ten trees, forested areas, future forest areas, and forested buffers, the addition of mulch is not required; however, the ground surface and natural leaf litter within these areas shall remain present and undisturbed.

- A. Mulch shall be composed of organic materials only and may include, but is not limited to, pine straw, leaves, wood chips aged at least three months, compost, and pine bark.
- B. Grass clippings, plastic sheeting, and rocks or gravel shall not be used as mulch and shall not be applied within the tree protection zone.
- C. For all trees the critical root zone shall be mulched out from the trunk at least one-third the distance to the outer edge of the critical root zone, except that no mulch ring shall have a radius less than 2.5 feet or shall be required to be greater than ten feet.

D. Mulch shall be three to four inches in depth and shall be spread in an even layer from six inches out from the trunk to outer extent of the mulched area.

E. Mulch is not allowed closer than six inches to the tree trunk.

F. Mulch shall be applied at least annually, preferably in the late winter or early spring.

(3) *Fertilization standards.* Fertilization is not required for protected trees. However, if protected trees are fertilized, they shall be fertilized in accordance with the American National Standard for Tree Care Operations A300 (Part 2), published by the American National Standards Institute, and as officially revised and amended from time to time and Soil Management for Urban Trees (2014) and Tree and Shrub Fertilization, Third Edition (2013) published by the International Society of Arboriculture.

(4) *Tree support systems standards.* Any tree support systems placed in protected trees shall be designed, installed, and maintained in accordance with the American National Standard for Tree Care Operations ANSI A300 (Part 3), published by the American National Standards Institute, and as officially revised and amended from time to time.

(5) *Lightning protection systems standards.* Any lightning protection systems placed in protected tree shall be designed, installed, and maintained in accordance with the American National Standard for Tree Care Operations ANSI A300 (Part 4), dated August 30, 2002, published by the American National Standards Institute, and as officially revised and amended from time to time.

Division 8 – Tree Removal

(a) *Tree removal standards.* The removal of protected trees shall be done in accordance with the standards set forth below.

(1) Tree removal shall not disturb nesting, rare, or endangered wildlife to the greatest extent possible, and removal shall be delayed until nesting wildlife is safely removed.

(2) Tree removal shall be approved if a tree meets one or more of the following conditions.

a. Dead.

b. Unhealthy condition.

c. Dieback of 50 percent or greater of the crown.

d. Insect infestation or disease condition for which treatment is impractical, causing tree decline, and with a high probability of spreading to other trees.

e. Trunk wounds greater than one-third the circumference of the trunk.

f. Trunk cavity greater than two-thirds the diameter of the trunk at the point of the cavity.

g. Structural defects in scaffold limbs, where defect correction through pruning will result in removal of 50 percent or greater of the tree's crown.

h. Litter originating from the tree that creates an unsafe condition or poses a hazard to public health, safety, and welfare.

i. Unresolvable conflict with infrastructure that is creating an unsafe condition or poses a hazard to public health, safety, and welfare.

(3) Reasons for which tree removal is not permitted include, but are not limited to:

a. Sign installation, clearance, or visibility, excluding traffic, directional, warning, or information signs owned by any public or semipublic agency.

b. Unwanted production of leaves, fruit, or other organic litter that does not create an unsafe condition or that is not a hazard to public health, safety, and welfare.

(4) *Stump grinding standards.* After removal, stumps of protected trees, except for landmark trees on single-family residential lots, that are greater than six inches in diameter shall be ground to a depth of 12 inches, and the resulting woody debris mixed with an equal part of soil. The surface of the ground in the area of the stump shall be level with the surrounding ground after grinding and incorporation of soil.

Division 9 – Variances

Except as otherwise provided in this chapter as administrative waivers, where practical difficulties, unnecessary hardships, and results inconsistent with the purpose and intent of this chapter may result from the strict application of certain provisions thereof, variances may be granted by the Effingham County Board of Commissioners upon a finding that the criteria set forth have been met. In granting a variance, the Board of Commissioners is hereby given jurisdiction to hear variances herein and may impose conditions to protect the best interests of the surrounding property and property owners, the neighborhood, or the community as a whole and consistent with the purpose and intent of this chapter.

(a) *Application.* Such application shall be accompanied by:

(1) A tree management plan.

(2) A statement and evidence demonstrating that the following criteria are met:

- a. There are extraordinary and exceptional conditions pertaining to the particular piece of property in question because of its size, shape, character, topography;
- b. The application of the provisions of this chapter to this piece of property would create an unnecessary hardship;
- c. The benefits of granting the variance will be greater than any negative impacts on adjacent uses and will further the purpose and intent of this chapter;
- d. The special conditions and circumstances on the site do not result from the actions of the applicant; and
- e. The variance, if granted, will represent the minimum variance that will afford relief from the identified hardship and will represent the least deviation possible from the zoning regulation and from the comprehensive plan.

(3) Proposed mitigation plan that offsets the effects of the proposed variance during site preparation, construction, and post-construction phases.

Division 10 – Inspections

Inspections shall be required to ensure that the purpose, intent, and provisions of this chapter are met.

(a) *Preliminary inspection.* The site shall be inspected with the applicant or his/her agent prior to plans review or preliminary plat and/or site approval for the purpose of discussing options for tree conservation, compliance with technical standards and enforcement procedures. In no case shall a site plan or preliminary plat be approved without a preliminary inspection and approved tree management plan.

(b) *Tree protection inspection.* An inspection shall be made after the approval of a preliminary plat and/or plan and prior to the issuance of a land development/land disturbance activity permit for the purpose of insuring that all tree protection standards have been met. The approval of tree protection measures shall be required before any land disturbance activities commence. In no case shall a land disturbance activity permit be issued without a site inspection for tree protection compliance and without an approved tree management plan as required.

(c) *Periodic inspections.* Additional site inspections may take place periodically during construction or encroachment to ensure that all technical standards and conditions of the tree management plan are being met. Inspections may be made at any time to ensure that tree canopy cover is being maintained on a site or lot as required by this chapter.

(d) *Certificate of occupancy inspection.* An inspection of the site shall be required prior to the issuance of a certificate of occupancy for the purpose of ensuring all applicable requirements of this chapter have been met.

(e) *Inspection of right-of-way encroachment activity.* Site inspections may be made at any time after the permit is issued to enforce the provisions of this chapter.

Division 11 - Enforcement

Failure to comply with any of the provisions of this chapter shall result in a citation, or one of the following actions.

- (a) *Stop work order.* Upon notice from the issuing authority or its agent, work on any project that is being done contrary to the provisions of this chapter shall be immediately stopped. Such notice shall be in writing and shall be given to the owner of the property, his authorized agent or the person or persons in charge of the activity on the property and shall state the conditions under which work may resume. Where an emergency exists a written notice to comply nor a written notice to stop work is not required.
- (b) *Withholding of certificate of occupancy.* If the person engaged in development activity fails to comply with a written notice to comply within the time specified, he shall be deemed in violation of this chapter and, in addition to other penalties, the administrator may request that the Effingham County Building Department refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the measures necessary to achieve compliance with this chapter have been completed and all violations of this chapter have been brought into compliance.

3.5.11.1 - Violations and Penalties

Any person violating or causing the violation of any of the provisions of this chapter or failing to comply with its provisions has committed an infraction, and upon conviction thereof is punishable as prescribed in the Effingham County Code.