

ORDINANCE NO.: 2002-050

Amending the Code of Ordinances of the City of Columbia, South Carolina, Chapter 17, Planning, Land Development and Zoning and Chapter 21, Stormwater Management and Sedimentation Control

BE IT ORDAINED by the Mayor and Council this 5th day of June, 2002, that the Code of Ordinances of The City of Columbia, South Carolina, Chapter 17, Planning, Land Development and Zoning and Chapter 21, Stormwater Management and Sediment Control, is amended as follows:

Section 1: Section 17-55, "Definitions", is amended by deleting the current definition for "Buffer and buffer yard" and adding the following definitions:

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Buffer transition yard. A landscaped transitional area intended to separate and screen adjacent differing land uses. The buffer yard is located within the property to be screened and is adjacent to the lot lines of the property but not to lot lines abutting the right of way. (See *street protective yard*.)

Caliper. The standard for trunk diameter measurements of nursery stock. Caliper of the trunk is measured six (6) inches above the ground for four(4)-inch or smaller caliper trees and twelve (12) inches above the ground for larger sizes.

Cambium. The layer of formative cells between the wood and bark in woody plants.

Clear cutting. The removal of all trees from a property, whether by cutting or other means, excluding stream buffer requirements.

Commercial timber operations. Activities occurring on tracts of land five (5) acres or more in size devoted to the production of marketable forest products through generally accepted silvicultural practices including, but not limited to, harvesting, site preparation, and regeneration.

Critical root zone. The area of tree roots within the crown dripline. This zone is generally defined as a circle with a radius extending from the tree trunk to a point no less than the farthest crown dripline. Disturbances within this zone will directly affect a tree's chance for survival.

D.B.H. Diameter at breast height, the standard for trunk diameter measurements of trees existing on a site. D.B.H. is measured in inches at a height of four and one-half (4½) feet above the ground. If a tree splits into multiple trunks below four and one-half (4½) feet, the trunk is measured at the narrowest point beneath the split.

Deciduous. Not evergreen; shedding leaves annually.

Density factor for the site (DFS). A unit of measure used to prescribe and calculate required tree coverage on a site. Unit measurements are based on tree size.

Display area. An outdoor area for storage or display of merchandise for sale or lease, whether permanent or temporary, containerized or openly displayed.

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Display area. An outdoor area for storage or display of merchandise for sale or lease, whether permanent or temporary, containerized or openly displayed.

Encroachment. Any disturbance in the natural grade, through construction of impervious surfaces, trenching or excavation, storage of equipment, materials or earth, or through parking or circulation of vehicles or equipment.

Evergreen. A tree, shrub, or other plant whose leaves remain green throughout all seasons; opposed to "deciduous."

Grand tree. A grand tree is any tree in fair or better condition that equals or exceeds the following diameter sizes:

| <u>Tree Type</u> | <u>Tree Diameter</u> | <u>Examples</u> |
|------------------|----------------------|--------------------------------------|
| Large Hardwoods | 24" d.b.h. | Oak, Hickory, Tulip Poplar, Beech |
| Large Softwoods | 30" d.b.h. | Pine, Deodar Cedar, Red Cedar |
| Small Hardwoods | 10" d.b.h. | Dogwood, Redbud, American Holly |

A lesser-sized tree can be considered a grand tree if it is a rare or unusual species, of exceptional quality, or of historical significance.

Grand tree stand. A contiguous grouping of trees that has been determined to be of value by the zoning administrator. Determination is based on any of the following criteria: maturity (even-aged); purity of species composition; rare or unusual nature of the species; historical significance; or exceptional aesthetic quality.

Hardwood tree. A broad-leaved tree, so called because its wood is harder and more compact than that of a softwood, or needle-bearing conifer.

Masonry wall. A wall constructed of brick, stone or stucco.

Person. The word "person" includes an individual or a firm, association, partnership, trust, company, corporation, or any other entity defined in legal usage as a person.

Protected zone. Portions of a property required by permit to remain in open space; areas required by permit to be landscaped areas and buffer transition yards.

Screening. A visual shield against a higher impact land use created in a buffer transition yard with plantings, walls, fencing, etc.

Shade tree. An evergreen or deciduous tree of a species with an expected mature height of over forty (40) feet and an expected crown spread of over (30) feet.

Shrub. A woody plant, usually maturing at less than twelve (12) feet, having several permanent stems, instead of a single trunk.

Small-maturing tree. An evergreen or deciduous tree with a mature height of over fifteen (15) feet but no greater than twenty-five (25) feet.

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Softwood tree. A coniferous (cone-bearing) tree such as pine, cedar and bald cypress.

Street protective yard. A landscaped area planted with trees and other vegetation that is parallel and adjacent to the recorded or proposed public street right of way.

Thinning. The selective cutting or removal of trees.

Timber harvesting. The felling of trees for timber products. This term may include both clear-cutting and the thinning of timber.

Tree. A self-supporting woody perennial plant with a trunk diameter of at least two (2) inches measured at six (6) inches above ground level, with a mature height of at least twelve (12) feet, and usually having one main stem or trunk and many branches.

Tree form. Plants that have been grown and maintained as trees, not shrubs, usually with three (3) to five (5) stems, trunks, or canes, and free of limbs from the ground up to three (3) or four (4) feet.

Tree inventory. A tally of the number, species, approximate size and approximate location of existing trees on a site, obtained through photos, including aerials. To be verified by on-site viewing of city staff authorized to perform the verification.

Tree survey. A survey completed by a registered land surveyor, usually as part of a site plan, of the location, size (as D.B.H.) and species of the existing trees on a site. (For purposes of this ordinance, this survey shall include *grand trees*, trees of 12" or greater D.B.H. in any areas to be disturbed, and any other trees identified to meet the required *density factor for the site*.) To be verified by on-site viewing of city staff authorized to perform the verification.

Utility service area. An area that contains a utility box, booster box, switching station, lift station, substation, transformer, pedestal, or similar above-grade device used to serve an underground utility.

Vehicular display area. An area where vehicles are stored and displayed for sale or lease.

Vehicular surface area. An area where motor vehicles are either stored or driven, including private driveways, private streets built in accordance with this chapter, parking lots, rental lots and depots.

Section 2: A new Division 13, "Landscaping Requirements", shall be added to Article III, "Zoning", of the Ordinance as follows:

DIVISION 13. LANDSCAPING REQUIREMENTS

See Section 17-55, "Definitions", of the Zoning Ordinance for clarification of terms used in the landscaping sections.

Sec. 17-411 Purpose, Intent and Applicability.

- (a) *Purpose and Intent.* Recognizing that trees and landscaping contribute to the public health, safety and welfare, the City of Columbia has set standards for landscaping and screening in the City. Among the benefits of trees, shrubs, and other plants are: improved air quality; beneficial climate modification; reduction of glare, noise, odors and dust; reduction of storm water runoff and flooding; screening of undesirable views; provision of buffers between incompatible land uses; shelter and food for birds and other wildlife; the psychological benefits of experiencing nature in the city; the aesthetic enjoyment provided by the diversity and dynamism of the planted landscape. All of these benefits contribute to a higher quality of life, enhancing the appeal and economic value of both residential and business properties in the City.

The intent of these requirements, as set forth in this Division, is to provide for landscaping between dissimilar uses (*buffer transition yards*), along public rights of way (*street protective yards*), and within and around parking lots and other *vehicular surface areas*. *Screening* for loading, trash collection, display, and utility areas is required; and minimum *tree density* standards, along with *tree protection* standards to preserve existing grand and other protected trees, must be met for all developments to which this Division applies. To ensure that the landscaping continues to thrive and enhance the quality of life in the City of Columbia, requirements for *maintenance* are also included.

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- (b) *Applicability.*
- (1) *General Requirements.* When a zoning permit is applied for within the City of Columbia, the permit applicant must present a **Landscape plan (Sec. 17-412)** and must comply with the pertinent requirements of the following sections: **Single family residential subdivisions (Sec. 17-413)**; **Buffer transition yards (Sec. 17-417)**; **Street protective yards (Sec. 17-418)**; **Vehicular surface area interior landscaping (Sec. 17-419)**; **Screening (Sec. 17-420)**; and **Required density factor for the site (Sec. 17-422)**. See also **Sec. 17-421, Protection of existing trees during development**. Even when a zoning permit has *not* been applied for, see **Article VII, Divisions 3 and 4**, for tree protection and preservation requirements.

Any violation of the regulations set forth in any of these divisions shall be a violation of the zoning regulations for the City of Columbia and subject to all penalties and remedies set forth in **Article III, Division 13, Sec. 17-424** and **Article VII, Division 3, Sec. 17-816** of this Ordinance.

See general applicability in subsections immediately below; in addition, see the pertinent sections covered later in this Ordinance.

- (2) *Exemptions.* These requirements shall not apply to:
- a. Lots zoned for single-family detached dwellings. The initial development of a subdivision of single-family or two-family homes is subject to the **Tree protection (Sec. 17-421)**

requirements for trees that have been identified to meet the **Required density factor for the site (Sec. 17-422)**. See **Sec. 17-413, Single-family residential subdivisions**.

- b. Public and private utilities, except when a zoning permit or subdivision approval is required. Such utilities may include but are not limited to storm drainage installation, street construction, water and sewer construction, and electric, gas, communications and other similar service installations.
- c. Improvements to existing structures if there is an expansion of less than twenty-five (25) percent of the total gross floor area of the building and/or an expansion of less than twenty-five (25) percent of the vehicular surface area.
- d. Improvements to existing structures if there is a renovation/reuse (not a more intense use) that is valued at less than fifty (50) percent or more of the existing recorded tax value of the building.

Note: A vacant lot shall be treated as if in the highest category for which it is zoned. For example, if the lot is zoned residential, a transitional buffer yard is required for an adjacent commercial or industrial development.

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Full Compliance. See also **Sec. 17-411 (b) (4)**, *Partial Compliance*, below.

- a. Any new development other than those exempted in (2), above, must fully comply with the requirements set forth in the following sections: **Landscape plan (Sec. 17-412)**; **Single-family residential subdivisions (Sec. 17-413)**; **Buffer transition yards (Sec. 17-417)**; **Street protective yards (Sec. 17-418)**; **Vehicular surface area interior landscaping (Sec. 17-419)**; **Screening for loading areas, trash collection areas, display areas and utility service areas (Sec. 17-420)**; **Required density factor for the site (Sec. 17-422)**; and **Protection of existing trees during development (Sec. 17-421)**.
- b. Any existing structure for which a zoning permit has been applied for a change of use to a more intense use must fully comply with the requirements for **Buffer transition yards (Sec. 17-417)** and **Screening (Sec. 17-420)**; any new, additional or expanded portions of vehicular surface areas must fully comply with **Street protective yard requirements for vehicular surface areas (Sec. 17-418)** and with **Vehicular surface area interior landscaping requirements (Sec. 17-419)**.
- c. Any existing structure for which there is an expansion that, singularly or collectively, equals twenty-five (25) percent or more

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of the gross floor area of an existing building and/or twenty-five (25) percent or more of the existing vehicular surface area, must meet one hundred (100) percent of the requirements for **Street protective yards (Sec. 17-418)** for vehicular surface areas and for **Vehicular surface area interior landscaping (Sec. 17-419)** in any new, additional or expanded vehicular surface areas.

- d. Any existing structure for which there is a renovation/reuse (not a more intense use) that is valued at fifty (50) percent or more of the existing recorded tax value of the building, must meet one hundred (100) percent of the requirements for **Screening (Sec. 17-420)** and in any new, additional or expanded vehicular surface areas, one hundred (100) percent of the requirements for **Street protective yards (Sec. 17-418)** and for **Vehicular surface area interior landscaping (Sec. 17-419)**.
- e. Any existing vehicular surface that is used to satisfy the parking requirements for a new building must fully comply with **Street protective yards (Sec. 17-418)** for vehicular surface areas and **Vehicular surface area interior landscaping (Sec. 17-419)**.

Partial Compliance for certain expansions or renovations. See also **Sec. 17-411** (b) (3), *Full Compliance*, above. Notwithstanding any of the provisions set forth below or in any other section of this ordinance, no **buffer transition yard (Sec. 17-4174)** shall at any point have a width measuring less than ten feet, no existing buffer yard shall be reduced in size from its existing width, and no **street protective yard (Sec. 17-418)** shall at any point have a width of less than five feet.

Partial compliance, as set forth below, is required in either of the following types of development: 1) any existing structure for which there is an expansion that, singularly or collectively, equals twenty-five (25) percent or more of the gross floor area of an existing building and/or twenty-five (25) percent or more of the existing vehicular surface area, or 2) any existing structure for which there is a renovation/reuse (not a more intense use) that is valued at fifty (50) percent or more of the existing recorded tax value of the building.

- a. Fifty (50) per cent of the **Buffer transition yard (Sec. 17-417)** requirements. This reduction applies both to the width of the yard and to the quantities of required shrubs.
- b. A **street protective yard (Sec. 17-418)** for the entire property that is no less than the length of the property adjacent to the right of way times five (5) feet (and shall not at any point be less than five (5) feet in width).
- c. Fifty (50) percent or more of the **Vehicular surface area interior (Sec. 17-419)** planting requirements for any existing

vehicular surface area. See *Full Compliance*, subsection (3) c., above, for new parking areas.

- d. **Screening (Sec. 17-420)** for any new locations for trash collection, loading, or display areas.
- (5) *Parking reductions to facilitate compliance in existing developments.* In order to facilitate compliance in situations involving expansion, renovation/reuse and change of use of existing developments, the zoning administrator may allow up to a ten (10) percent reduction in the number of off-street parking spaces. The board of zoning appeals must determine whether any further reductions may be allowed, provided that the reductions will not create on-street parking congestion.

Sec. 17-412. Landscape plan, tree inventory and survey requirements.

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- (a) *Plan to be submitted with zoning permit application.* Prior to obtaining a zoning permit, an applicant must receive approval of a landscape plan, which shall be submitted with the zoning permit application. The landscape plan must contain all information necessary to show that the planned use, structure, or development complies with the standards set forth in this Division and must conform to the standards for landscape plans set forth in the administrative guidelines. This shall include utility and irrigation plans, if applicable, any required tree survey or tree inventory, and any required tree protection plans. See **Single-family residential subdivisions (Sec. 17-413)** and **Sec. 17-422, Required density factor for the site.**
- (b) *Commercial developments or subdivisions.* The initial development of commercial properties is subject to all landscaping requirements and specifically to the landscape plan, preservation plan, tree inventory and survey requirements as set forth below.
 - (1) Proposed commercial structures of less than 25,000 square feet must submit a tree inventory of all trees of twelve (12)-inch or greater DBH, a tree preservation plan, and a landscape plan for review and approval.
 - (2) Proposed commercial structures of 25,000 square feet or more must submit a tree survey of all trees of twelve (12)-inch or greater DBH, a tree preservation plan, and a landscape plan for review and approval.
 - (3) As part of the zoning permit process a tree inventory or survey, a tree preservation plan, and a landscape plan must be reviewed and approved by the Zoning Administrator or his designee.
- (c) *Multi-family developments or subdivisions.* The initial development of multi-family (three (3) or more units) is subject to all landscaping requirements and specifically to the landscape plan, preservation plan, tree inventory and survey requirements as set forth below.
 - (1) Proposed multi-family projects of ten (10) or fewer units must submit a tree inventory of all trees of twelve (12)-inch or greater DBH, a tree preservation plan, and a landscape plan for review and approval.

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- (2) Proposed multi-family projects of eleven (11) or more units must submit a tree survey of all trees of twelve (12)-inch or greater DBH, a tree preservation plan, and a landscape plan for review and approval.
- (3) As part of the zoning permit process, a tree inventory or survey, a tree preservation plan, and a landscape plan must be reviewed and approved by the Zoning Administrator or his designee.
- (d) *Approval.* Issuance of a valid zoning permit shall be contingent upon approval by the land development planner of the required landscape plan and shall indicate conformance to the provisions of these regulations.

Sec. 17- 413. Single-family residential subdivisions and required density factor for the site (DFS).

- (a) *General.* All single-family residential subdivisions must comply with a **Required density factor (Sec. 17-422)** for the site of 20 units per acre. This requirement may be met as an average for the total acreage of each phase of the subdivision development, rather than for each individual acre. Trees may be retained or planted along the street right of way, as edge plantings along a development's perimeter, in entranceways, or in common open space. Emphasis shall be placed upon retaining grand trees.
- (b) *Tree Protection.* All existing trees to be counted towards meeting the density factor for the site must comply with **Protection of existing trees during development (Sec. 17-421)**.

Sec. 17-414. Credit for existing vegetation.

Existing vegetation in good health that meets the requirements set forth in the pertinent subsections (**Buffer yards, Street protective yards, Vehicular surface areas**, etc.), may be used to satisfy these planting requirements, provided that all tree protection standards are met. (See **Sec. 17-421** for "fair or better condition" tree criteria and for tree protection standards.)

Sec. 17-415. Planting specifications.

- (a) *Species.* Trees, shrubs and other vegetative material shall be selected from those listed in the administrative guidelines or shall be approved by the zoning administrator. Plants shall be adapted to the site conditions where they will be planted. Please refer to the administrative guidelines for more detailed plant and materials specifications.
- (b) *Trees.* See Sec. 17-55, "Definitions", for tree classifications.
 - (1) *Size.* All shade trees planted in accordance with the requirements of this section shall be a minimum of ten (10) feet in height, and small-maturing trees a minimum of eight (8) feet in height, when planted. Both shade trees and small-maturing trees must be two (2) inches in caliper (measured one-

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half foot above ground level) when planted. Any new trees of above (4)-inch caliper size shall be measured twelve (12) inches above the ground.

- (2) *Spread relationship.* The height-to-trunk caliper ratio, root ball sizes, or spread relationship for any tree to be planted shall meet the current "American Standards for Nursery Stock" as set forth by the American Association of Nurserymen.
- (3) *Multi-trunk trees.* All multi-trunk trees must be "tree form" with a maximum of three (3) to five (5) stems or trunks and a minimum height of eight (8) feet at planting.
- (c) *Shrubs.* All shrubs planted to meet the requirements of this Section, unless required to be larger, as set forth in later subsections such as *Screening, Vehicular surface areas*, etc., shall be a minimum of three (3)-gallon container size and eighteen (18) inches in height or spread (depending on whether the growth habit is upright or spreading) measured from the top of the root zone.
- (d) *Mulch.* All planted materials are to be mulched with an approved material in the amount (depth and area) specified in the Guidelines. Generally, an organic material such as bark mulch or pine straw shall be applied as follows: for trees and shrubs, three to four inches deep at the base of shrubs and trees from the trunk to the dripline; for ground cover and perennials, one to two inches deep—sufficient in coverage to conserve moisture and suppress weeds without inhibiting growth of the landscape plants.

Sec. 17-416. Alternative compliance; Columbia Landscaping and Tree Fund.

- (a) Alternative landscaping plans or plant materials may be used where unreasonable or impractical situations would result from application of the landscaping requirements. Such situations may result from streams, natural rock formations, topography, lot configuration, utility easements, or from other unusual site conditions. The alternative compliance committee, comprised of the zoning administrator, the land development planner, and the planning director, must approve such alternatives.
- (b) Alternative compliance shall *not* be interpreted as a means to remove a grand tree.
- (c) The alternative compliance committee may approve an alternate plan that proposes a different, creative design solution provided that the design meets the standards of quality, effectiveness, durability and performance (the spirit and intent) required by this Division.
- (d) The zoning administrator shall review the performance of alternate landscaping plans. The purpose of this review shall be to determine if the alternate plan meets the intent and purpose of this Division. This determination shall take into account the land use of adjacent property; the amount and species of plant material; its arrangement and coverage of the lot; the level of screening; and the mature height, spread and canopy of the plantings.

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- (e) Decisions of the zoning administrator or the alternative compliance committee regarding alternate methods of compliance may be appealed to the board of zoning appeals.
- (f) In the event that certain constraints, such as those listed in (a) above, make it impossible for the development to comply with the landscaping requirements, the unmet requirements must be compensated for via payment to the Columbia Landscaping and Tree Fund of 125 % of the estimated cost of plant materials and installation.

Sec. 17-417. Buffer transition yards.

(a) *Purpose, definition and applicability*

(1) *Purpose and definition.* The buffer transition yard is a landscaped area designed to provide separation and screening between land uses of different intensities. The required land area and the specified type of screening for each buffer transition yard are designed to buffer the effects of traffic, noise, glare, trash, activity, vibration, odor, visual disorder, and any other harmful or noxious effect associated with a more intensive use. Buffer transition yard regulations are also intended to prevent an adverse community appearance, to protect the character of an area and to conserve the values of buildings and land.

(2) *Applicability.* See **Sec. 17-411 (b)**.

(b) *Location.*

(1) *General.* Buffer transition yards are to be located on the property of the proposed or changing land use that is to be screened. Such transition yards are to be located between the property line and any vehicular use areas, buildings, storage, service areas or other areas of activity on the property to be screened and shall extend along the entire property line abutting the less intensive land use. Ornamental entry columns and gates, flagpoles, lamp or address posts, mailboxes, approved driveway openings, public utility wires and poles, fences, retaining walls or similar structures are permitted in required buffer transition yards, provided that the general separation of land uses is achieved and that the total number of required plantings are still met. Plantings shall not obstruct the view of motorists using any street, driveway or parking aisle.

(2) *Planting/screening in easements.* No vegetative screening or fencing required by this section shall be planted inside utility and drainage easements, excluding overhead easements, without the consent of the zoning administrator and the easement holder. If plantings or fences inside utility and drainage easement areas are allowed, these plantings and fences shall be maintained in accordance with the terms of consent and any applicable maintenance provisions. Any tree planted within the right of way of overhead utility lines shall be a small-maturing tree. (See Sec. 17-55, "Definitions," of the Zoning Ordinance.)

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- (3) *Buffer transition yards and required yards (Setbacks).* Where front, side or rear yards (setbacks) are required by this Chapter, buffer transition yards may be established within such setbacks. If the setback requirement is less than the buffer transition yard requirement, the buffer transition yard width requirement shall prevail.
- (c) *Determination of buffer transition yard requirements.* To determine whether a buffer transition yard is required between two (2) different land uses, and if so, what the buffer-width and planting-density requirements are, the procedure below should be followed:
- (1) Identify the proposed new or expanding land use and each existing adjacent land use. Identify the land use impact of each of these identified uses as set forth in the Land Use Impact Table (d) below. A proposed land use is considered existing on an adjacent property when a building permit is issued for the use. If an adjacent property is vacant, and no building permit has been issued for its use, its use shall be determined by assigning it the highest level of use in its zoning classification.
 - (2) Determine the type of buffer transition yard required as set forth in (e) below.
 - (3) Identify the buffer transition yard width and planting requirements for the required yard type as set forth in (f) below.
 - (4) Notwithstanding the required buffer transition yard widths as set forth in this section, any buffer transition yard of less than fifteen (15) feet in width shall have a six-foot masonry wall along the length of such buffer yard.
- This process must be applied to each property line, except when street protective yards (**Sec. 17-418**) apply.
- In a development in which there are *mixed land uses*, internal buffers are not required. On external property lines, however, compliance is required and is determined by the predominant new use. In addition where a land use bordering external property lines is of a higher intensity than that of the adjacent property, buffer requirements must be met for the portion that abuts the lower intensity land use.
- (d) *Land use impact table.* See table on following page.

TABLE 13-1
LAND USE IMPACT TABLE

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| | | |
|-----|---|-------------------|
| (1) | <i>Residential uses.</i> | |
| | Single family and duplexes | Low Impact Use |
| | Multifamily, three to ten units | Medium Impact Use |
| | Multifamily, more than ten units or high-rise | High Impact Use |
| (2) | <i>Institutional uses (Public/semi-public uses)</i> | |
| | 25,000 square feet or less | Medium Impact Use |
| | Over 25,000 square feet | High Impact Use |
| (3) | <i>Office/Commercial uses</i> | |
| | 25,000 square feet or less | Medium Impact Use |
| | Over 25,000 square feet | High Impact Use |
| (4) | <i>Industrial uses.</i> | |
| | All industrial uses | High Impact Use |
| (5) | <i>Other uses.</i> | |
| | For land uses not listed, the zoning administrator shall determine the land use impact based on the classification of similar uses. | |

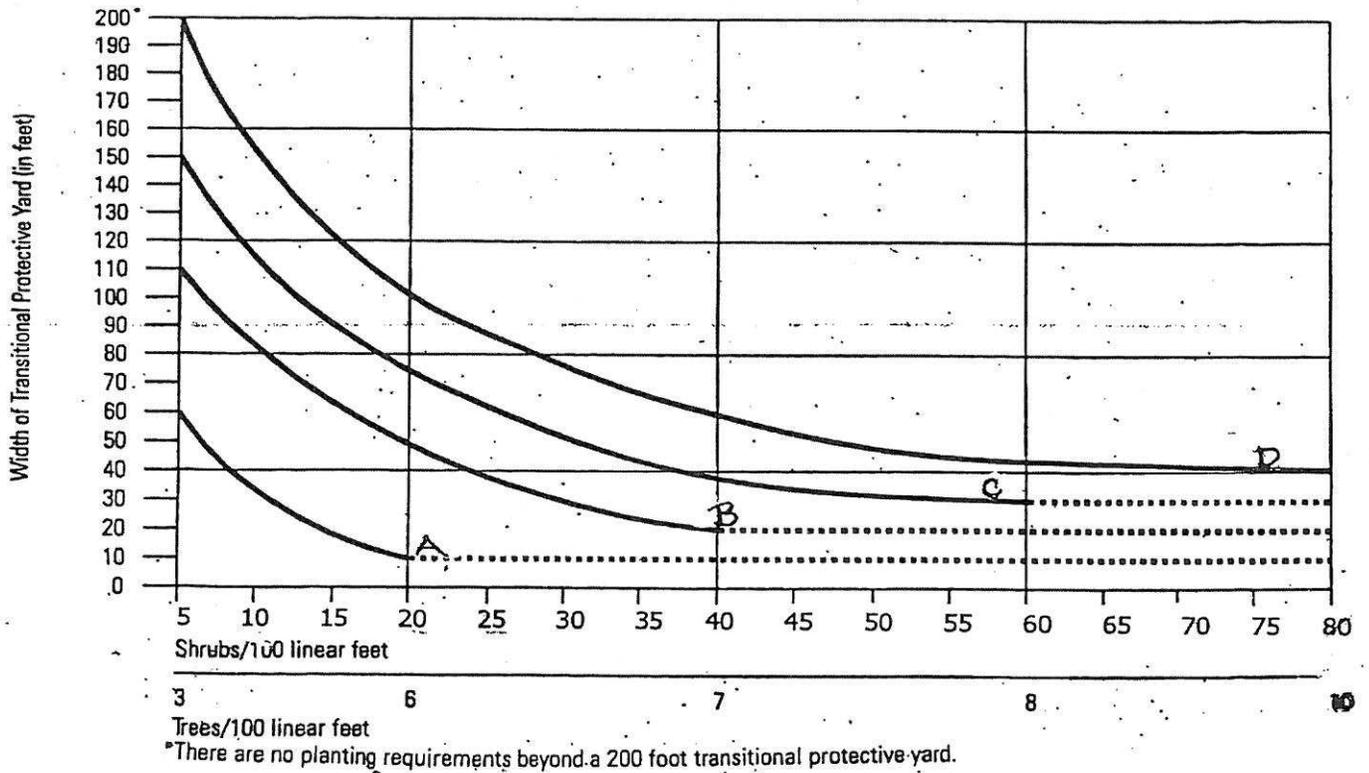
(e) *Table of buffer transition yard types.* See table on following page.

**TABLE 13-2
BUFFER TRANSITION YARD TYPES**

| PROPOSED USE | EXISTING ADJACENT LAND USE: | | | | |
|---|-----------------------------|---------------------------|---|-------------------------|---------------------------------------|
| | LOW IMPACT (RESIDENTIAL) | MEDIUM IMPACT RESIDENTIAL | MEDIUM IMPACT COMMERCIAL/ INSTITUTIONAL | HIGH IMPACT RESIDENTIAL | HIGH IMPACT COMMERCIAL/ INSTITUTIONAL |
| LOW IMPACT (RESIDENTIAL) | NONE | NONE | NONE | NONE | NONE |
| MEDIUM IMPACT RESIDENTIAL | B | NONE | NONE | NONE | NONE |
| MEDIUM IMPACT COMMERCIAL/ INSTITUTIONAL | C | B | NONE | A | NONE |
| HIGH IMPACT RESIDENTIAL | C | B | A | A | NONE |
| HIGH IMPACT COMMERCIAL/ INSTITUTIONAL | D | C | A | B | NONE |

(f) Buffer transition yard description table.

**TABLE 13-3
BUFFER YARD DESCRIPTION TABLE**



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(g) *Buffer yard reductions.*

Notwithstanding any of the provisions set forth in this section, or in any of the provisions set forth in **Section 17-411 (b), Applicability**, no property on which a buffer transition yard is required shall have such a yard that is less than ten (10) feet in width. Any buffer transition yard that is less than fifteen (15) feet in width must contain a six-foot tall masonry wall along the length of such yard.

(1) The width of a buffer transition yard and the required plantings may be reduced as follows by the addition of a fence or masonry wall, or if there are grade elevation changes as set forth below.

a. *Fences.* The addition of a closed wooden fence in the required transition yard allows reduction of the required width of the applicable buffer transition yard by twenty-five (25) percent if said fence meets the following standards:

1. *Height and arrangement.* The fence must be a minimum of eight (8) feet in height, measured on the side facing away from the property to be screened. Such fence must also have its finished side facing away from the property to be screened.
2. *Materials.* Rot-resistant wood is the acceptable material. Chain link does not meet buffer yard requirements.
3. *Required plantings.* The number of required shrubs is reduced by fifty (50) percent in a buffer yard in which a fence is installed.

b. *Masonry walls.* The addition of a masonry wall along the length of the required buffer yard allows reduction of the required width of the yard by fifty (50) percent and the amount of required planting as follows, if said wall meets the following standards:

1. *Height.* The wall must be a minimum of six (6) feet in height measured on the side of the wall facing away from the property to be screened.
2. *Materials.* Materials shall be brick, stone, or stucco. The wall shall not be of cinder block.
3. *Required plantings.* If a masonry wall that meets the above standards is installed, the planting of shrubs shall be optional and not mandatory, and small-maturing trees may replace one-half of the required shade trees. The requirement that one-half of the buffer yard's trees shall be evergreen still applies.

c. *Grade elevation changes.* The existence of a natural or man-made grade separation in the required buffer transition yard allows reduction of such yard by twenty-five (25) percent in

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width if said elevation change achieves a screening effect similar to a wall or a fence and meets the following standards:

1. *Elevation.* The grade change must be at least six (6) feet in elevation.
2. *Slope.* The side slopes of such grade may not be greater than three to one (3:1).
3. *Retaining wall.* A greater slope is allowable if it is retained by a structurally sound retaining wall that meets engineering standards for such a wall.
4. *Relationship to properties from which developing property is to be screened.* The developing property must be located at an elevation lower than the properties from which it is to be screened.
5. *Location of required plantings.* In order to maximize the effectiveness of the screen, the required plantings shall be located at the top of the slope in the reduced buffer transition yard.

- (2) *Credit for existing vegetation.* See **Sec. 17-414.**

Buffer material specifications. See **Section 17-415** for general specifications for trees, shrubs and other vegetation.

- (1) *Trees.*
 - a. *Size.* Except as provided above under (g) *Buffer yard reductions*, trees planted in a buffer transition yard shall be shade trees unless within fifteen (15) feet of an overhead power line, in which case small maturing trees shall be used. (See Sec. 17-55. "Definitions" in Zoning Ordinance for definitions of tree types.)
 - b. *Species.* One-half (1/2) of the required trees shall be locally adapted evergreen species.
 - c. *Distribution.* Trees shall be distributed throughout the yard so as to minimize gaps between them. Trees counted to meet the required number shall be spaced at least ten feet apart.
- (2) *Shrubs.* All shrubs are to be evergreen and shall be a minimum of three (3) feet in height when planted and shall be expected to reach a height of six (6) feet or greater within five (5) years of planting.

Sec. 17-418. Street protective yard.

(a) *Purpose, definition and applicability.*

- (1) *Purpose and definition.* A street protective yard is a landscaped area located parallel and adjacent to a recorded public street right of way. This area contains plantings of trees and other vegetation designed to: provide more pleasing views along city travel ways; provide for continuity of vegetation throughout Columbia; reduce the amount of impervious surface and thereby reduce stormwater runoff; provide shade; and preserve a remnant of Columbia's natural vegetative cover.
- (2) *Applicability.* See **Section 17-411** (b).

(b) *Street protective yard requirements, general*

- (1) *Location.* Street protective yards shall be located along all existing or proposed street rights of way that are adjacent to the property to which this Section is applicable. Such street protective yards must be located on private property and not within any street right of way. Portions of the property needed for driveways are exempted from street protective yard requirements. No vehicular surface, storage, utility surface, display, loading or service areas shall be permitted in this yard.
- (2) *Street protective yards for new developments.*

a. *Width.*

1. *Minimum requirement.* No street protective yards shall be less than five feet as measured from the recorded public street right of way abutting the property.
2. *Developments smaller than two acres or with a lot depth of less than 200 feet from the right of way.* The minimum square footage of the street protective yard shall equal the length in linear feet of the property adjacent to the right of way times ten (10) feet, and shall have a minimum width of five (5) feet.
3. *Developments greater than two acres but less than five acres or with a lot depth of less than 400 feet from the right of way.* The minimum square footage of the street protective shall equal the length in linear feet of the property adjacent to the right of way times fifteen (15) feet, and shall have a minimum width of ten (10) feet.
4. *Developments greater than five acres but less than ten acres or with a lot depth of 400 feet or greater from the right of way.* The minimum square footage of the street protective shall equal the length in linear feet of the property adjacent to the right of way times twenty (20) feet, and shall have a minimum width of fifteen (15) feet.

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5. *Developments greater than ten acres.* For properties greater than ten acres in size, each incremental increase of five acres shall require a corresponding increase in the street protective yard's minimum square footage and minimum width by five feet, but no street protective yard shall be required to measure greater than fifty feet in width.
- b. *Tree quantity and spacing for street protective yards.* Each street protective yard shall contain at least one (1) shade tree for every forty (40) linear feet of street protective yard or fraction thereof, as measured along the property line abutting the right of way. No street protective yard shall contain less than one (1) shade tree. (See definition for shade tree in **Sec. 17-55** of the Zoning Ordinance.)
- c. *Shrubs and other vegetation in street protective yards not adjacent to vehicular surface areas.* In street protective yards other than those for vehicular surface areas, shrubs, ground cover, small-maturing trees, or turf shall cover at least sixty (60) percent of the street yard area not used for shade trees or for pedestrian or vehicular access. (See (c), below for vehicular surface area shrubs, etc.)

Street protective yards for vehicular surface areas—full compliance requirements. Vehicular surface areas to which this subsection is applicable are required to provide, in addition to the general requirements for location, width and tree plantings as specified in (b), above, a visually modifying screen or barrier to the vehicular surface area, as set forth below.

- (1) *Density.* Evergreen shrubs or a masonry wall combined with plantings, as specified below, must form an opaque screen along the length of the street protective yard adjacent to the vehicular surface area. If such screen is comprised of evergreen shrubs, these shall measure at least two feet in height at time of planting and shall reach a mature height of two and one-half (2½) to three (3) feet in height within one year of planting. Such evergreen screen shall be maintained at a maximum height of three feet for security reasons. This screen shall be measured exclusive of driveways and sight lines needed for easy and safe automobile access and egress.
- (2) *Reduction of width and shrub requirements for street protective yards with masonry wall.* The required width and shrubs plantings for street protective yards adjacent to vehicular surface areas may be reduced by the use of a masonry wall if it meets the requirements set forth below.
 - a. *Width.* The width of the street protective yard may be reduced by half if a masonry wall meeting the requirements below runs the entire length of the yard, exclusive of driveways and sight lines needed for easy and safe automobile access and egress.

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- b. *Masonry wall materials.* Materials shall be brick, stone, or stucco, or a combination of one of these materials with decorative metal, such as wrought iron.
 - c. *Height and opacity.* The height of the masonry wall shall be a minimum of two and one-half (2½) feet and a maximum of three feet if composed of masonry alone, or shall achieve an average opacity of two and one-half (2½) to three (3) feet in height if wall is a combination of masonry and decorative metal, such as wrought iron.
 - d. *Planting requirements.* The required shrubs may be reduced by two-thirds. Such shrubs shall not exceed three feet in height and shall be planted between the wall and the right of way. Forty percent of such shrubs may be deciduous. The use of evergreen vines and ground cover are encouraged.
- (3) *Material specifications for street protective yards for vehicular surface areas.* See **Sec. 17-415** (Planting specifications) for general size and species requirements and **Sec. 17-414** (Credit for existing vegetation).
- (d) *Street protective yards for expansions equal to or greater than twenty-five (25) percent.*
 - (1) *Width.* See *Partial Compliance*, **Sec. 17-411** (b)(4). No width of the street protective yard shall measure less than five (5) feet.
 - (2) *Contiguity with right of way.* The street protective yard must be contiguous with the right-of-way.
 - (e) *Street protective yards for changes of use to a more intense use.*
 - (1) *Width.* See *Partial Compliance*, **Sec. 17-411** (b) (4) b. 2.
 - (2) *Tree quantity and spacing.* Tree quantity and spacing for street protective yards required in conjunction with changes of use to a higher impact use shall be as set forth in **Sec. 17-418** (b) (2) b., above (full compliance).
 - (f) *Street protective yards for renovation/reuse of a building (not a more intense use), the value of which is fifty (50) percent or more of the existing value (per tax valuation) of the building.* See *Partial Compliance*, **Sec. 17-411** (b) for yard-width and tree-planting requirements.
 - (g) *Street protective yard in zero setback zoning areas.* In districts or design areas where required or permitted zero setbacks result in structures adjoining public street rights-of-way, the street protective yard is required along the vehicular surface area (parking lot).
 - (h) *Material specifications for street protective yards.* See also **Sec. 17-415**, *Planting specifications*, and **Sec. 17-419**, "Vehicular Surface Area Interior Landscaping", below.

- (1) *Trees.* Seventy-five (75) percent of the trees in any street protective yard shall be shade trees. (See *shade tree* in **Sec. 17-55**, "Definitions," of the Zoning Ordinance.)
- (2) *Species.* Along major thoroughfares seventy-five (75%) percent of the trees required to be planted under this section must conform with any approved City of Columbia corridor plan. Within twenty (20) feet of an overhead power line, small-maturing trees shall be used and shall typically be spaced thirty (30) feet apart. (See *small-maturing trees* in **Sec. 17-55**, "Definitions," of the Zoning Ordinance.)

Sec. 17-419. Vehicular surface area interior landscaping.

(a) *Purpose, definition and applicability.*

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- (1) *Purpose and definition.* A vehicular surface area is any area where motor vehicles are stored or driven. (See complete definition in Sec. 17-55, "Definitions," of the Zoning Ordinance). The requirements set forth in this section for the provision of landscaping in such areas are designed to: enhance the appearance of these areas; provide shade to reduce heat and glare reflected by paving; reduce storm water runoff; filter particulate and gaseous pollutants from the air; and reduce the glare of headlights and noise on surrounding properties. Developments shall comply with both the applicable street protective yard screening and interior planting requirements set forth in this section.
- (2) *Applicability.* See **Section 411** (b) for general applicability and compliance requirements.

(b) *Vehicular surface area interior planting requirements.*

- (1) *Standards for vehicular surface area interior plantings (parking lots) other than parking structures (parking garages) or vehicular display areas—full compliance.*

a. *Location and size of required interior plantings.*

1. *Placement.* The required interior landscaped planting areas are to be placed in any of the following site locations:

- [a] Within or adjacent to the parking lot area as tree islands.
- [b] At the end(s) of parking bays.
- [c] Inside medians that are five (5) feet or greater in width.
- [d] As part of continuous street protective yards or transitional buffer yards between rows of cars.

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2. *Distance from parking spaces.* No vehicular parking space shall be located farther than forty (40) feet from the tree trunk of a shade tree in a planting area with one (1) tree. (See **Sec. 17-415** for shade tree specifications.) Distances between trees and parking spaces separated by an intervening building(s) may not be considered in meeting this requirement.
 3. *Size of planting areas.* Unless otherwise provided, a minimum of two hundred (200) square feet of planting area is required for each tree. Any dimension in any planting area shall be a minimum of five (5) feet.
- b. *Plant quantity and spacing for parking lot interior plantings.*
1. *Plant materials.* At least sixty (60) percent of the planting areas provided shall contain living plants—trees, shrubs, groundcover or turf.
 2. *Trees.* Trees shall be required for vehicular surface area interior plantings at the minimum rate of one (1) shade tree from an approved list for every 3200 square feet of total vehicular surface area. Each planting area shall contain at least one (1) shade tree. Required shade trees should typically be spaced forty (40) feet apart, with minimum spacing of twenty-five (25) feet when planted in groups. Within fifteen (15) feet of overhead power lines, small-maturing trees shall be planted in place of shade trees. Such trees should typically be spaced at least thirty (30) feet apart, with a minimum of twenty (20) feet between trees planted in groups. Trees shall be planted at least ten (10) feet from any tree located in the public right-of-way.
- (2) *Standards for vehicular surface areas (parking lots) other than parking structures or vehicular display areas—partial compliance—for expansions, change of use, and renovations/reuse of building, etc.* See **Sec. 17-411** (b), *Applicability*.
- (3) *Additional requirements for large vehicular surface areas greater than two acres in size—parking lots and vehicular display areas.* In addition to the requirements set forth in **Sec. 17-419** (b)(1) above, all new and expanded vehicular surface areas greater than two acres in size shall meet all of the following:
- a. *Planted medians.* Large vehicular surface areas must be broken by continuous planted medians. A planted median measuring 840 square feet of planted space is required for every two acres, rounded off to the closest two-acre increment. (For example, 3.5 acres shall be rounded off to require two medians.) The minimum median width shall be five feet. The length of the

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planted median shall be uninterrupted except for access ways approved by the zoning administrator. The amount of impervious surface within the median shall be limited to a maximum of twenty (20) percent.

- b. *Shade trees.* Large vehicular surface areas, other than vehicular display areas, must contain shade trees planted in the required medians at a maximum spacing of forty (40) feet on center and shall provide each tree with a planting area of at least two hundred (200) square feet.
 - c. *Shrubs and other plants.* Shrubs, ground cover, turf, and other plants shall cover at least sixty (60) percent of the required medians in large vehicular surface areas.
- (4) *Standards for parking structures (not parking lots).* A perimeter planting strip adjacent to the public right of way shall be required for all parking structures. Such planting strip shall be equal to the setback requirements for the zoning district in which the structure is located. However, no planting strip shall be required to be greater than twenty (20) feet in width. The planting strip shall include one (1) large shade tree for every forty (40) feet of frontage or fraction thereof. (See plant materials specifications, **Sec. 17-415**). Where no building setback is required, trees for parking structures shall be provided as required by any applicable guidelines or streetscape standards.
- (5) *Standards for vehicular display areas.*
- a. *Location and size of vehicular display area interior plantings.*
 - 1. *Location and size.* Standards for location and size of interior planting spaces for vehicular display areas shall meet those set forth above in **Sec.17-419** (b) (1) a. 1 and 3 for parking lots.
 - 2. *Spacing from stored vehicles.* No stored vehicle shall be located farther than forty (40) feet from the edge of any landscaped planting area.
 - b. *Plant quantity and spacing for vehicular display area interior plantings.* Vehicular display area interior planting spaces shall meet the requirements for plant quantity and spacing set forth in **Sec. 17-419(b)(1) b.** for parking lots. In interior landscaped planting areas in vehicular display areas, however, it is acceptable to replace shade trees with small-maturing trees. Each planting area shall contain at least one small-maturing tree eight (8) feet in height, or one shade tree of minimum 2-inch caliper and eight feet in height, at time of planting.
- (6) *Material specifications for vehicular surface area interior plantings.* (See **Sec. 17-415** "Planting specifications", for tree specifications; see also **Sec. 17-414** "Credit for existing vegetation.")

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- a. *Trees.* All trees planted in accordance with the requirements of this subsection, unless otherwise specified, shall be shade trees.
- b. *Shrubs.* All shrubs installed to satisfy the requirements of this subsection shall be a locally adapted species expected to reach a minimum height of thirty (30) inches and a minimum spread of thirty (30) inches within three (3) years of planting. All shrubs shall be a minimum of eighteen (18) inches tall when planted

Sec. 17-420. Screening for loading areas, trash collection areas, display areas and utility service areas.

(a) *Purpose and applicability.*

(1) *Purpose.* All loading areas, trash collection areas (including dumpsters), display areas (except vehicular display areas, covered in **Sec. 17-419**, above) and utility service areas visible from a public street or from an adjacent property shall be screened as set forth below unless already screened by an intervening building or buffer yard. These provisions are designed to improve the visual quality of the City of Columbia and to minimize the negative impacts of the areas to be screened on surrounding properties. Such screening shall not interfere with the access and operation of any such area or facility.

(2) *Applicability.* See **Section 17-411** (b).

(b) *Screening of loading and trash collection areas.*

Screening of loading and trash collection areas must be accomplished with an opaque wall of masonry, rot-resistant wood, or evergreen shrubs that are one foot taller than the object to be screened. If evergreen shrubs are used, they must achieve the required screening at the time of planting.

(c) *Screening for display areas.* (See Section 1, "Definitions") Screening for display areas (not vehicular display areas, covered in Sec. 17-416, above) may be accomplished by natural plants, closed fences, walls, or any combination thereof as long as the following requirements are met:

(1) *Screening area.* The natural plants, closed fences or walls, or a combination thereof must occupy at least seventy-five (75) percent of a vertical rectangular plane equal to the peripheral length of the display area, in feet, times three (3) feet in height. Such rectangular plane shall be measured exclusive of driveways and sight lines used for safe automobile access and egress. No additional consideration towards meeting the seventy-five (75) percent average requirement shall be given for any screening material greater than sixty (60) inches in height.

(2) *Continuity of screen.* No more than six (6) continuous feet of the vertical plane as measured and viewed perpendicular to the street may be void of any natural plants, closed fences or walls, or combinations of these.

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- (3) *Spacing of trees.* See **Sec. 17-415**, "Plant materials specifications" and **Sec. 17-414**, "Credit for existing vegetation." Along street protective yards for display areas, there shall be no less than one shade tree for every forty (40) linear feet. Trees shall be planted at least ten (10) feet from any tree on the public right of way.
 - (4) *Shrubs.* All shrubs installed to satisfy the requirements of this subsection shall be locally adapted species expected to reach a minimum height of twenty-four (24) inches within three (3) years of planting. All shrubs shall be a minimum of eighteen (18) inches tall when planted. At least sixty (60) percent of all shrubs shall be evergreen.
 - (5) *Fences and walls.* Screening for display areas may be accomplished with a closed wooden fence, with finished side facing away from the area to be screened, or with a masonry wall. Additional planting materials may be provided along the surface areas of the fence or wall.
- (d) *Screening for utility service areas.*
- (1) *Applicability.* Utility service areas that are located outside the public right-of-way and exceed forty-two (42) inches in height and forty-two inches in any other dimension shall be screened from the public right of way and from adjacent residentially zoned properties. Foundation pads six (6) inches or less in height, will not be included in the measurement of the dimensions. Screening shall not be required for utility service areas located farther than fifty (50) feet from the public right of way or from residentially zoned properties.
 - (2) *Screening requirements.* Utility service areas that are required to be screened shall be located a sufficient distance from the public right of way to allow the required screening to be planted outside the public right of way. Screening may be accomplished by locally adapted evergreen plantings that are a minimum of twenty-four (24) inches tall when planted. Landscaping materials are expected to reach within three years of planting a mature height and width equal to, or greater than, the utility structures that require screening. Screening shall be accomplished in such a manner as to allow safe operation and access to the utility service area.

Section 17-421. Protection of existing trees during development.

- (a) *Purpose and applicability.* These regulations are designed to encourage the preservation and planting of significant trees within the City of Columbia, as stated in **Sec. 17-411** (a), above.
- (b) *Applicability.* See **Sec. 17-411** (b).
- (c) *Trees to be protected.* On sites where compliance with this section is required, the owner/developer shall protect the following trees:
 - (1) Any grand tree. (See **Sec. 17-55**, "Definitions")

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- (2) Any existing city-maintained tree two (2) inches in diameter or larger which is located in the right of way.
 - (3) All trees in fair or better condition that are eight (8) inches in diameter or larger that are located in a protected zone. (See *protected zone* in **Sec. 17-55**, "Definitions", of Zoning Ordinance. See (c) below for criteria to determine if a tree is in "fair or better" condition).
 - (4) Trees identified for use to meet the minimum tree-density requirements set forth in **Sec. 17-422**.
- (d) *Trees in fair or better condition.* A tree is deemed to be in fair or better condition if it meets the following minimum standards:
- (1) The trunk of the tree is relatively sound and solid with no extensive decay or hollow and less than twenty (20) percent of the cambium is dead. (See *cambium* in **Sec. 17-55**, "Definitions.")
 - (2) The tree contains no more than one major and several minor dead limbs.
 - (3) The tree has no major insect or pathological problem.
- (e) *Methods of tree protection.* All trees to be protected shall be delineated on a detailed, illustrated tree protection plan that shall be submitted as part of the landscape plan for a zoning permit and shall include all information required by the application. Tree protection methods to be utilized shall be clearly indicated on the tree protection plan. Such methods may include the installment of protective barriers and tree fencing and must follow the adopted "City of Columbia Landscape and Tree Ordinance Guidelines" (Administrative Guidelines).
- (1) *Tree protection plan.* A tree protection plan and/or permit for tree work is required for the following activities: construction, filling, demolition, grading, paving, trenching, or boring for installation of irrigation or utility lines, removal of protected tree(s) for any reason, or any other land disturbing activity. A grading permit may be issued following review and approval of a tree inventory or survey, site plan and tree protection and landscape plan. The tree protection plan and verification of tree species, size and condition on the tree survey shall be completed by an arborist who has completed the requirements for certification through the International Society of Arboriculture or by any forester registered in the state of South Carolina.
 - (2) *Tree protection zone.* The tree protection zone extends one foot in radius from the tree for each one inch of tree diameter (measured at 4.5 feet above ground level) or one-half the tree's height, whichever is greater. To protect the roots in this tree protection zone, the following are required:
 - a. Layout of the site utility and grading plans must accommodate the required tree protection zone. Utilities must be placed along corridors between tree protection zones.

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- b. Construction site activities such as parking, material storage, bury pits, concrete washout, burning of debris, shall not be allowed within tree protection zones.
- c. If there is no alternative location, utility lines may be tunneled or bored under the tree and its roots at a 25" minimum depth. Such work must be shown on the approved tree protection plan.
- d. Protective barriers or tree fencing shall be installed along the outer edge of and completely surrounding the tree protection zones. Acceptable tree barriers include: four foot-high wooden post and rail fence with 2 x 4-inch posts and a double 1 x 4-inch rail or four-foot-high orange polyethylene laminar safety fencing mounted on wooden posts, or any fencing method approved by the zoning administrator. All tree protection barriers must be installed prior to, and maintained throughout, the land disturbance and construction process and may not be removed until approved by the zoning administrator.
- e. Curb stops, concrete curb, or other devices to prevent vehicular damage to required trees must be shown on the landscape plan and installed prior to final inspection.

(f) *Requesting removal of protected trees.*

- (1) *General; procedure.* If an owner/developer proposes to remove any protected trees (see (b) above), then he/she must document the request and submit it as part of the landscape plan. The request shall be subject to the approval of the zoning administrator in conjunction with landscape plan/ zoning permit approval.
- (2) *Criteria for removal of grand trees.* It shall be unlawful to remove a grand tree without the written permission of the zoning administrator. The location of grand trees requested to be removed shall be indicated on the landscape plan and/or tree protection plan. The following criteria shall be utilized in evaluating requests to remove grand trees or stands of trees: topography of the site; proposed grade changes; location of utilities and driveways; location of the trees; proposed tree planting or transplanting to compensate for tree removal; public safety; tree health, condition and longevity; tree species; and any historic, aesthetic or exceptional quality associated with the tree(s).
- (3) *Requirements for replacement of grand trees.* When removal of grand trees is approved, the following replacement requirements shall apply: Grand trees shall be replaced with shade trees wherever possible. An equal number of density factor units of replacement trees shall be planted to replace the density factor units for trees removed. This planting shall be in addition to the required density factor for the site.

Sec. 17-422. Required density factor for the site (DFS).

(a) *Purpose, definition and applicability.*

(1) *Purpose and definition.* This requirement is designed to encourage the preservation of existing trees and to replenish removed vegetation in the city. The density factor for a site (DFS) is a unit of measure used to determine the tree coverage required on a site. Unit measurements are based upon tree size. All sites to which this section is applicable are required to meet a DFS of thirty (30) units per acre.

(2) *Applicability* See **Sec. 17-411** (b).

(b) *Requirements.*

(1) *Requirements, general.* All developments to which this section applies, other than single-family residential subdivisions, shall be required to meet the minimum density factor for a site (DFS) of thirty (30) units per acre. Multiplying the number of site acres in a development by thirty (30) gives the required DFS. The minimum tree density of thirty (30) units per acre shall include trees required in the street protective yard, buffer transition yard and vehicular surface areas. (See **Division 13**, Landscaping)

(2) *Required DFS for single-family residential subdivisions.* The required density factor for the site for single-family residential subdivisions shall be twenty (20) units per acre. See **Sec. 17-413**, "Single-family residential subdivisions."

(c) *Compliance with required DFS.* To determine the number of trees that must be planted to comply with DFS requirements, the landscape plan submitted with the zoning permit application must be evaluated. The following steps must then be taken to determine any additional tree planting requirements:

(1) *Calculation of existing density factor (EDF).* Calculate the existing density factor (EDF) for all trees indicated on the landscape plan as remaining on the site following development. (These trees are required to be protected during construction according to **Sec. 17-419**). EDF is determined by converting the diameter-at-breast-height (D.B.H.) for each individual existing tree (indicated as remaining) to density factor units using the following table (**Table 13-4**). For softwoods, such as pine or cedar, multiply the units listed below by 0.5. Palmetto trees shall have the value of 1.0 unit each. These units are then totaled to determine the EDF for the site.

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TABLE 13-4
CONVERSION FROM D.B.H. TO DENSITY FACTOR UNITS FOR TREES REMAINING ON SITE

| D.B.H. | UNITS | D.B.H. | UNITS | D.B.H. | UNITS |
|--------|-------|--------|-------|--------|-------|
| <6 | 0 | 21 | 9.6 | 36 | 42.6 |
| 6 | 2.4 | 22 | 10.4 | 37 | 45.0 |
| 7 | 3.0 | 23 | 17.4 | 38 | 47.4 |
| 8 | 3.6 | 24 | 18.6 | 39 | 49.8 |
| 9 | 4.2 | 25 | 20.4 | 40 | 52.2 |
| 10 | 4.8 | 26 | 22.2 | 41 | 55.2 |
| 11 | 5.6 | 27 | 24.0 | 42 | 57.6 |
| 12 | 6.0 | 28 | 25.8 | 43 | 60.6 |
| 13 | 6.4 | 29 | 27.6 | 44 | 63.6 |
| 14 | 6.8 | 30 | 29.4 | 45 | 66.0 |
| 15 | 7.2 | 31 | 31.2 | 46 | 69.0 |
| 16 | 7.6 | 32 | 33.6 | 47 | 72.0 |
| 17 | 8.0 | 33 | 35.4 | 48 | 75.6 |
| 18 | 8.4 | 34 | 37.8 | 49 | 78.6 |
| 19 | 8.8 | 35 | 40.2 | 50 | 81.6 |
| 20 | 9.2 | | | | |

- (2) *Calculating required replacement density factor (RDF).* To calculate the required replacement density factor, subtract the EDF from the required density factor for the site (DFS).
- (3) *Conversion of RDF to caliper.* The RDF can be converted back to caliper using the following table (**Table 13-5**). For softwoods, multiply the units in the table by 0.5; any palmetto tree shall have the value of 1.0 unit. Any number or combination of transplantable-size trees can be planted so long as their total density factor will equal or exceed the RDF calculated above and a DFS of thirty (30) per acre or greater is achieved.

TABLE 13-5
CONVERSION FROM CALIPER TO DENSITY FACTOR UNITS FOR REPLACEMENT TREES

| CALIPER | UNITS | CALIPER | UNITS |
|---------|-------|---------|-------|
| 1 | 0.0 | 8 | 1.8 |
| 2 | 1.0 | 9 | 2.0 |
| 3 | 1.1 | 10 | 2.2 |
| 4 | 1.2 | 11 | 2.4 |
| 5 | 1.4 | 12 | 2.6 |
| 6 | 1.5 | 13 | 2.8 |
| 7 | 1.7 | 14 | 3.0 |

- (d) *Relocation of trees on development site.* Replacement units will be granted for trees relocated on site. Tree relocation is subject to the approval of the zoning administrator.
- (e) *Spatial consideration for replacement trees.* The spacing of trees planted to meet the needed replacement density factor must be compatible with spatial

limitations and with responsible consideration of potential species size. Where the zoning administrator determines that site spatial constraints prevent meeting the required tree density, as many trees as possible must be planted on the site. The balance of trees must be allocated to the Columbia Landscape and Tree Fund.

(f) *Allocations to the Columbia Landscape and Tree Fund.* If an unmet quota of required trees is to be allocated to the Columbia Landscape and Tree Fund, City Council shall administer the fund, and the Columbia Tree and Appearance Commission shall serve as an advisory board. The Columbia Landscape and Tree Fund shall be used for landscaping and beautification projects upon public property within the city of Columbia and within the planning area from which the fund is obtained. If a balance of required trees is to be allocated to the Landscape and Tree Fund, the following standards apply.

- (1) Tree replacement cost estimates obtained from three (3) plant nurseries must be provided to the zoning administrator for approval. The tree replacement cost, which shall be the cost of the trees installed (not the wholesale price) shall be based on an average of the three (3) estimates.
- (2) The required replacement fee will be one hundred twenty-five (125) percent of the total cost to replant the balance of trees that could not be planted to satisfy the site density requirement.

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Sec. 17-423. Compliance and maintenance.

(a) *Certificate of zoning compliance.* Landscaping as required by this division must be installed and inspected prior to a development's receiving a certificate of zoning compliance. All plants shall be installed in a manner to ensure their best chance of survival and to reduce the potential expense of replacing damaged plant materials. If the season or weather conditions prohibit planting of trees, the developer may provide a bond, an irrevocable letter of credit, or other financial surety in an amount equal to one hundred twenty-five (125 percent) of the cost of installing the required trees to guarantee the completion of the required planting. Upon approval of the financial surety, the certificate of zoning compliance shall be issued. The financial surety shall be canceled and/or returned upon completion of the required landscaping.

(b) *Maintenance.*

- (1) *General.* The owner of the property where landscaping is required shall be responsible for the maintenance and protection of all plants and other screening materials. Landscaped areas shall be maintained in good condition and kept free of debris. Failure to maintain or replace dead, damaged or diseased plants or to repair a broken fence or wall shall constitute a violation of this chapter if not completed within thirty (30) days of notification of such violation. In the event that an unusual weather occurrence or other act of nature destroys landscape plants, the owner shall have two (2) years to replant. Landscaping to be replaced must be replaced with an equal number of density factor units.

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- (2) *Protection from vehicular intrusion.* Whenever any planting areas required by this division are adjacent to parking or vehicular circulation areas, the planting areas shall be protected from vehicular intrusion or damage from excessive vehicular lubricants or fuels.
- (3) *Soil erosion.* All landscape planting areas shall be stabilized from soil erosion immediately upon planting and the stabilization shall be maintained for the duration of the use.
- (4) *Topping prohibited.* All required trees shall be allowed to reach their mature size and shall be maintained at their mature size. Except for trimming and pruning done in strict accordance with the utility line clearance policies and standards set forth in this chapter, required plants shall not be cut or severely pruned or otherwise damaged so that their natural form is impaired. Topping of trees that reduces the height to less than the required height shall be considered a violation of this ordinance. The property owner shall be required to replace each unlawfully pruned, damaged or removed tree with a tree at least four (4) inches in caliper.
- (5) *Irrigation.* An irrigation system shall be planned, installed, maintained and utilized in such a way as to ensure the required landscape plants receive the optimum moisture needed for healthy survival and growth.
- (6) *Review of landscape plantings.* The zoning administrator or his designee shall have the authority to review landscaping and require replanting if necessary to maintain the required landscape plants in good health.

Sec. 17-424. Violations; penalties.

- (a) *Notification of violation.* If the zoning administrator shall find that any of the provisions of this article are being violated, he/she shall in writing notify the owner of the property of such violation. The notice shall specify what steps are necessary for compliance. No violations may be cited more than five (5) years after damage can be proven to have occurred.
- (b) *Penalties.* If the owner of the property subject to the violation notice fails to comply within the time specified on the notice, he/she shall be subject to citation for violation of this ordinance. Each calendar day a violation exists shall be considered a separate offense. Penalties for violation of this article could include:
 - (1) *Fines.* A fine may be charged of up to \$500.00 per day per violation.
 - (2) *Stop work orders.*
 - (3) *Modification, revegetation, revocation, suspension, voiding of permit.*

Secs. 17-425-460. Reserved.

Section 3: Article VII, Landscaping, shall be amended by deleting the present article in its entirety and replacing it with the following:

ARTICLE VII.

TREE PRESERVATION/PROTECTION WHEN NO DEVELOPMENT PERMIT IS REQUIRED

DIVISION 1. PURPOSE, DEFINITIONS AND APPLICABILITY

Sec. 17-791. Purpose and authority.

The intent of this article is to encourage the preservation and protection of trees on private and public property in the City of Columbia consistent with the economic and healthful enjoyment of property. This article is adopted pursuant to authority conferred by the South Carolina Code of Laws. The purpose of the provisions contained herein include: promotion of the public health, safety and general welfare through lessening air pollution; modifying climate; improving surface drainage and minimizing flooding; preventing soil erosion; and beautifying and enhancing the quality of life in the City of Columbia.

Sec. 17-792. Definitions. See **Sec. 17-55**, "Definitions," of the Zoning Ordinance.

Sec. 17-793. Applicability.

(a) *General.* The regulations contained herein regarding tree preservation and protection on private or public property and the trimming, pruning, planting and removal of trees on public property are applicable to all properties in the City of Columbia unless specifically exempted. The requirements concerning tree protection only apply when there is no application for a zoning permit. See Article III, Division 13, **Sec. 17-419** for tree preservation and protection standards where a zoning permit application has been submitted.

(b) *Exemptions.*

(1) *Single- and two-family residential.* Single-family detached or two-family detached dwellings occupying their own lots. The initial development of a subdivision of single-family or two-family homes is subject to these requirements. See **Sec. 17-413**, "Single family residential subdivisions."

(2) *Public and private utilities.* Public and private utilities are exempted from the timber harvesting requirements if an approved policy is in place to evaluate the trees to be removed and provide for tree preservation wherever possible. Such utilities include but are not limited to storm drainage, electric, gas, communications, and similar installation, street construction and water and sewer construction.

(3) *Bona fide agricultural use other than commercial timber operations.* It shall be the burden of the property owner to prove that any timber

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harvesting or land clearing is conducted for the purpose of a bona fide agricultural use, and said owner must adhere to the voluntary "Best Management Practices" published by the South Carolina Forestry Commission.

Sec. 17-794. Timber harvesting: *Commercial timber operations.*

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- (a) *Notification.* The property owner shall notify the Zoning Administrator prior to beginning any timber harvesting or land clearing conducted as a commercial timber operation.
 - (b) *Burden of proof of legitimate commercial operation.* It shall be the burden of the property owner to prove that any timber harvesting or land clearing is conducted as a commercial timber operation. A forestry plan shall be submitted that demonstrates that the intended forestry activities will contribute to the long term production of marketable forest products and ensure the continued existence of forests through regeneration. Conducting a timber sale as the sole timber management activity does not constitute a 'commercial timber operation.'
 - (c) *Buffer and Best Management Practices.* All timber harvesting shall comply with the buffer requirements and other voluntary protective measures known as "Best Management Practices" and published by the South Carolina Forestry Commission. This shall include an undisturbed buffer along the entire perimeter of the property, including road frontages, except for approved access crossings. Such buffer shall be fifty (50) feet wide or equal to the required setback for the zoning district in which the property is located, whichever is greater.
 - (d) *Development permits.* If an owner harvests timber reducing the density factor to less than 30 units per acre under the claim of good faith commercial timber operations, he/she shall have the burden of proving such claim by clear and convincing evidence. If timber harvesting has been conducted under the commercial timber operation notification, permits for development will be denied if requested within three years of the subject harvesting, regardless of ownership.

Sec. 17-795. Timber-harvesting: Non-commercial operations. Any non-commercial timber operations shall meet the following requirements:

- (a) *Notification.* The property owner shall notify the Zoning Administrator prior to beginning any timber harvesting or land clearing conducted as a non-commercial timber operation. Such notification shall indicate how the owner plans to meet the required density factor.
- (b) *Required density factor for the site (DFS).* Compliance with the minimum tree density of thirty (30) units per acre following the completion of timber harvesting. Trees used to meet the minimum tree density requirements shall be in fair or better condition (See **Sec. 17-421** (d)).
- (c) *Buffer and Best Management Practices.* All timber harvesting shall comply with the buffer requirements and other voluntary protective measures known as "Best Management Practices" and published by the South Carolina Forestry Commission. This shall include an undisturbed buffer along the entire perimeter of the property, including road frontages, except for approved access crossings. Such buffer shall be

fifty (50) feet wide or equal to the required setback for the zoning district in which the property is located, whichever is greater.

Sec. 17-796. Revegetation required.

If timber harvesting occurs, and the owner is unable to prove that the work is conducted as a commercial timber operation, or if non-commercial timber harvesting reduces the density factor for the site to less than the required 30 units per acre, the owner shall be responsible for revegetating the site. Revegetation shall provide 40 units per acre and shall be installed within twelve (12) months of the notice of violation.

Sec. 17-797-810. Reserved.

**ARTICLE VIII.
COLUMBIA TREE AND APPEARANCE COMMISSION; AUTHORITY OF FORESTRY &
BEAUTIFICATION SUPERINTENDENT; TREE PRESERVATION AND CARE ON CITY
PROPERTY AND PUBLIC RIGHT-OF-WAYS**

DIVISION 1. PURPOSE, DEFINITIONS AND APPLICABILITY

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Sec. 17-811. Purpose and authority.

The intent of this article is to establish the Columbia Tree and Appearance Commission, to define the authority of the Forestry and Beautification Superintendent, and to encourage the preservation and care of trees on public property in the City of Columbia consistent with the economic and healthful enjoyment of property. This article is adopted pursuant to authority conferred by the South Carolina Code of Laws. The purpose of the provisions contained herein include: promotion of the public health, safety and general welfare through lessening air pollution; modifying climate; improving surface drainage and minimizing flooding; preventing soil erosion; and beautifying and enhancing the quality of life in the City of Columbia.

Sec. 17-812. Definitions. See **Sec. 17-55**, "Definitions," of the Zoning Ordinance.

Sec. 17-813. Applicability.

The regulations contained herein regarding the care, pruning, planting and removal of trees on public property are applicable to all properties owned by the City of Columbia and all trees located on the public right-of-way within the City of Columbia unless specifically exempted.

DIVISION 2. ADMINISTRATION

Sec. 17-814. Columbia Tree and Appearance Commission.

- (a) *Established; powers and duties of the Columbia Tree and Appearance Commission.* A tree and appearance commission for the City of Columbia is hereby established, which shall have the following powers and duties:

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- (1) To review and recommend policies and ordinances affecting the planting, removal and preservation of trees on public and private property.
- (2) To provide advice on the allocation of resources and policies for the planting, care, and removal of trees in the City of Columbia.
- (3) To serve as an advisory body to the City Forestry and Beautification Superintendent in the administration of this article.
- (4) To review and make recommendations related to the City Forestry and Beautification Division's annual work plan and any comprehensive urban forestry or reforestation plans.
- (5) To provide public education and advocacy on tree value, preservation and care.
- (6) To make recommendations to Council on disbursements of the Columbia Landscape and Tree Fund.
- (7) To oversee the development and implementation of a master plan for the beautification of the City of Columbia.
- (8) To advise the City and its boards or commissions regarding landscaping, tree planting, protection and removal.

(b) *Membership; terms; vacancies.*

- (1) *Membership.* The commission shall consist of eleven (11) members (a majority of whom shall be residents of the city), all to be appointed by the city council as follows:
 - a. One (1) member shall be an arborist, horticulturist, or landscape architect;
 - b. One (1) member shall be a developer or realtor;
 - c. One (1) member shall be an architect or engineer;
 - d. One (1) member shall be a member of Columbia Green (designated by that organization); and
 - e. Seven (7) members shall be appointed at-large.
 - f. Advisory members shall include the Forestry and Beautification Superintendent for the City, the City Planning Director and/or his designee.
- (2) *Terms.* The initial commission shall consist of three (3) members appointed for a term of one (1) year, four (4) members appointed for a term of two (2) years and four (4) members appointed for a term of three (3) years. Thereafter, all subsequent appointments shall be for a term of three (3) years. Members of the commission may be appointed for consecutive terms. The city council may remove or replace a

member of the commission for nonperformance of duty. Any vacancy in the membership of the commission shall be filled in the same manner as the initial appointment for the unexpired term.

- (c) *Organization; officers; meetings; rules.*
- (1) *Organization; officers.* The commission shall organize itself, electing one of its members as chairman and one as vice-chairman. It shall appoint such other officers as deemed necessary.
 - (2) *Meetings.* The commission shall meet at the call of the chairman and at such times as the chairman or commission may determine.
 - (3) *Rules.* The commission shall adopt rules of organizational procedure. The commission shall keep a record of its resolutions, findings and determinations, which record must be a public record.

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Sec. 17-815. Forestry and Beautification Superintendent.

- (a) *Established.* A city position, Forestry and Beautification Superintendent, is hereby established. Said superintendent shall be appointed by the city manager.
- (b) *Duties; responsibilities.* The Forestry and Beautification Superintendent shall be responsible for the administration and enforcement of this article. This superintendent shall have the following powers and duties:
- (1) To maintain jurisdiction, authority, control, supervision and direction over all trees, shrubs and other vegetation planted or growing in or upon the public right of way and city-owned properties.
 - (2) To formulate a master street-tree plan for the city.
 - (3) To serve as staff to the Columbia Tree and Appearance Commission.
 - (4) To prepare, publish, and promulgate guidelines for tree care and preservation on city owned property and public right-of-ways in the City of Columbia and recommended species for compliance with the provisions of this article and Article III of this chapter.

Sec. 17-816. Violations; penalties.

- (c) *Notification of violation.* If the Forestry and Beautification Superintendent shall find that any of the provisions of this article are being violated, he/she shall in writing notify the owner of the property of such violation. The notice shall specify what steps are necessary for compliance. No violations may be cited more than five (5) years after damage can be proven to have occurred.
- (d) *Penalties.* If the owner of the property subject to the violation notice fails to comply within the time specified on the notice, he/she shall be subject to citation for violation of this ordinance. Each calendar day a violation exists shall be

considered a separate offense. Penalties for violation of this article could include:

- (4) *Fines.* A fine may be charged of up to \$500.00 per day per violation.
- (2) *Stop work orders.*
- (5) *Modification, site revegetation, revocation, suspension, voiding of permit.*

Secs. 17-817-830. Reserved.

DIVISION 3. TREE PRESERVATION/PROTECTION ON CITY-OWNED PROPERTY AND PUBLIC RIGHTS OF WAY

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Sec. 17-831. Trimming, pruning, planting and removal of trees on city-owned properties and public rights of way.

- (a) *General; permit required.* No person shall remove, destroy, cut, severely prune (including the root system) or otherwise treat any tree or shrub having its trunk in or upon any public right of way or on any city-owned property without first obtaining a permit from the Forestry and Beautification Superintendent. Such permits shall also be required for trenching, digging or changing the grade within the critical root zone of any trees on such property and for planting any tree or shrub in such areas.
- (b) *Utilities.* Public and private utilities shall submit written specifications for pruning, trimming, trenching and similar operations with respect to trees on city-owned property and public rights-of-way to the Forestry and Beautification Superintendent. Upon approval of its specifications, a utility shall not subsequently be required to obtain a permit for routine operations so long as work done is in strict accordance with approved specifications. Request for removal of trees shall require a permit as set forth in (a) above. Failure to comply with approved specifications is a violation of this article. Specifications shall be reviewed every three (3) years by the Forestry and Beautification Superintendent for any necessary improvements and as required by any modifications in this article.

Sec. 17-832. Injuring trees or shrubs on city-owned properties and public rights-of-way.

The following actions shall be unlawful, without written permit, on any city-owned properties or public rights of way due to the potential for injury to trees and shrubs through such actions:

- (a) *Impervious matter.* It shall be unlawful for any person to place or maintain upon the ground any compacted stone, cement or other impervious material in such a manner as to obstruct the free access of air or water to the root of any tree or shrub.

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- (b) *Construction work.* It shall be unlawful for any person to perform construction work (including the operation or storage of equipment or materials) within the drip line of any tree without an approved permit. Permitted work of this nature must comply with any requirements set forth by the Forestry and Beautification Superintendent, which may include the erection of protective barricades or enclosures at designated locations.
- (c) *Attachments to trees.* It shall be unlawful for any person to attach any object, including but not limited to rope, wire, chain or signs to any tree or shrub in or upon city-owned property or public rights of way. It shall also be unlawful to attach such objects to the guard or stake intended to protect these plantings, except for the purpose of protecting it or the public.

Sec. 17-833. Trees and shrubs adjacent to city-owned property and public rights of way.

- (a) *General requirements.* Trees, vines, shrubs or other plants, standing in or upon any lot or land adjacent to any public street or city-owned property and having branches, limbs, trunks or other parts projecting into the public street or place shall be kept trimmed by the owner of the property on which such trees, etc. are growing. This requirement is designed to ensure free and safe passage along the public way by pedestrians and vehicular traffic.
- (b) *Authority of city to remove.* If the owner of such property does not prevent plant growth from projecting into or on public ground, the city shall have the authority to order its removal. The order shall be in writing to the owner responsible for such growth and shall be acted upon within thirty (30) days from the time of receipt of the order. If after thirty (30) days the owner or occupant has not responded or acted to remove the projecting growth, then the city shall have the authority to enter upon the property to perform the work necessary to correct the condition and to bill the owner for the actual costs incurred. In situations deemed necessary to the public health, safety or welfare, the city may act without prior notification to the property owner or occupant.

Secs. 17-834-840. Reserved.

Section 4: The following sections of Chapter 17, Planning, Land Development and Zoning, Article III, Zoning, shall be deleted in their entirety:

- Section 17-313 - Buffer yards
- Section 17-344(b)(5) - Design of parking areas, landscaping
- Section 17-344(b)(6) - Design of parking areas, screening
- Section 17-621(5) - Design standards, landscaping
- Section 17-621(6) - Design standards, screening
- Section 17-761 (6) - Park standards, screening

Section 5: Chapter 21, Stormwater Management and Sediment Control, Section 21-81 shall be amended by adding the following language:

A grading permit may only be issued following receipt of a zoning permit for the property to be graded. Land clearing is prohibited. Land clearing is defined as the disturbance of land, including the cutting of trees, for the sole purpose of clearing the land or offering the land for sale.

This ordinance is effective as of final reading.

Requested by: _____



MAYOR

Approved by: _____

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City Manager

Approved as to form: _____



City Attorney

ATTEST: _____



City Clerk

Introduced: _____

Final Reading _____