

## DRAFT STAFF REPORT

DOCKET #: UDO-122

STAFF: [Kirk Ericson](#)

### REQUEST

The original UDO text amendment was proposed in 2004 by the Community Appearance Commission (CAC) along with the Garden Club Council, Keep Winston-Salem Beautiful, the West Salem Neighborhood Association, the West End Neighborhood Association and the Washington Park Neighborhood Association, to modify chapters A and B of the *Unified Development Ordinances* by amending existing landscaping standards and creating tree preservation requirements. It was remanded back to the Planning Board for re-working by the Board of County Commissioners and the City Council.

### BACKGROUND

The loss of existing, mature trees and the need for establishment of new high quality trees have been long-standing concerns of many in our community. Trees enhance quality of life and also provide economic and environmental benefits to the property owner, neighborhood, and community at large. These benefits include cooler temperatures, cleaner air, increased rainfall, reduced storm water runoff and runoff temperatures, enhanced flood and erosion control, wildlife habitat, and increased property values.

In 1999, the Land Sensitive Development Memorandum of Understanding (MOU) was signed between the Forsyth County Commissioners, the Home Builders Association of Winston-Salem, and the Winston-Salem Regional Association of Realtors. This document included emphasis on voluntary tree preservation and environmentally sound land use practices, but was vaguely worded and proved difficult to use in defining what kinds of specific expectations there were of developers submitting plans. Subsequent discussions focused on the need for regulatory action to be taken if tangible results were to be achieved.

In 2004, increasing concerns over the loss of existing tree canopy prompted the submittal of a Tree Ordinance proposal by the petitioners. During 2004, the petitioners refined their initial ordinance draft based on comments made by the Planning Board at their first public hearing on the ordinance. The petitioners worked with the Homebuilders/Realtors Association, Planning staff, and various other City/County departments on ordinance revisions until a Planning Board hearing was held in January 2005. The Board recommended against the Tree Ordinance at this hearing, citing a myriad of concerns. Some Board members believed the ordinance too strong, some believed an ordinance was not needed, and others believed it was too weak. Subsequently, the Forsyth County Commissioners and the Winston-Salem City Council remanded the ordinance to the Planning Board for further development. The Elected Bodies requested that staff involve a broad array of stakeholders in the ordinance revision process.

This led to the creation of the Tree Ordinance Committee, which met with the assistance of an outside facilitator from 2006-2007 and included members representing various community organizations and different perspectives. These organizations included the Winston-Salem

Chamber of Commerce, the Homebuilders/Realtors Association, the local chapter of the Sierra Club, and the Winston-Salem Neighborhood Alliance. The facilitator was hired from North Carolina State University, funded by a grant from the Winston-Salem Foundation. The Tree Committee was tasked with determining the content of a future Tree Ordinance, and their recommendations were summarized in a report released in December 2007. Planning staff, in conjunction with other City departments, was directed to develop a revised Tree Ordinance which respects the recommendations of the Tree Committee while also considering the costs to the development community and the costs and needs of local government administration.

Most large jurisdictions in North Carolina currently have tree ordinances, including Charlotte/Mecklenburg County, Durham City/County, Greensboro, and Raleigh. Although standards vary widely, all require tree preservation for commercial development, and all except Greensboro require tree preservation for single family development. The proposed ordinance borrows various features from these existing ordinances, but is tailored to the unique character of Winston-Salem and Forsyth County.

### **ORDINANCE DEVELOPMENT UPDATE: OCTOBER – NOVEMBER 2008**

A Planning Board public hearing was held on the proposed Tree Ordinance that staff was directed to develop on October 9, 2008. Support for the proposal was given by a number of people. However, various concerns were expressed by others about the proposed ordinance, particularly complexity and uncertainty in the site plan review process and costs for the development community and local government administration. Following this public hearing, the Planning Board directed staff to develop possible tree ordinance alternatives which the Board considered at its October 23, 2008 work session.

Staff presented three alternative scenarios at this work session based on the guiding principles of:

- Eliminating subjectivity in ordinance administration and development review;
- Minimizing or eliminating the need for additional public administration staff or private arborists;
- Encouraging the use of naturally undevelopable land as tree save areas, and;
- Providing incentives for saving trees.

After substantive discussion, the Planning Board agreed on a single alternative ordinance concept and asked staff to develop ordinance language based on this alternative. The analysis below is based on this ordinance alternative.

### **ANALYSIS**

The proposed Tree Ordinance is integrated with the existing landscaping standards in the *Unified Development Ordinances* (UDO) which were originally adopted in 1988. These existing standards include either tree preservation or tree planting requirements for areas such as bufferyards, streetyards, and parking lots. Additionally, UDO and City Code requirements ensure the preservation of floodplains, stream buffers, and open space in Planned Residential Developments (PRDs).

The proposed ordinance attempts to strike a practical balance between preserving existing trees and planting new, high quality trees in locations where they can grow to maturity. Requirements for minimum Tree Save Areas (TSAs) for residential and nonresidential development as well as planting and maintenance standards exist in the ordinance. The Tree Save requirements of the ordinance apply only to Growth Management Areas (GMAs) 2, 3, and 4. These requirements are not suited to the dense urban environment of GMA 1, and are unnecessary in GMA 5 where sewer is unavailable, very large lot zoning requirements prevail, and mass grading is not necessary to gain maximum development yield of a site.

The proposed Tree Ordinance requires saving trees which exist in areas off-limits to development (floodplains, stream buffers, and wetlands) for non-residential, single family, and multifamily development sites. These trees shall be saved until 10% of the development site has been set aside as Tree Save Area. Tree Save Area is satisfied by calculating the number and size of existing trees on site. Each existing tree between 3 and 12 inches in caliper will equal 1000 square feet of tree save area, trees with a caliper of 12-24 inches will equal 2000 square feet, trees with a caliper of 24-36 inches will equal 3000 square feet, and trees larger than 36 inches in caliper will be given 4000 square feet of Tree Save Area credit.

Where floodplains, stream buffers, and wetlands do not exist on a development site, existing trees are not required to be saved, but may be saved to satisfy minimum Tree Save Area requirements. Tree Save Area credit may be achieved by existing trees anywhere on site, including areas such as bufferyards, common open space areas in PRDs, and streetyards. This helps to minimize the site area a developer must set aside from development activities. The species of trees is an important consideration under the proposed ordinance. Invasive exotic trees and pine trees do not meet the intent of the Tree Save component of the ordinance and may not be counted towards minimum Tree Save Area requirements. Qualifying Tree Save Areas will be determined through field observations made by the petitioner and confirmed by City-County Inspections staff. The Suggested Plant Materials section of the ordinance has been revised to remove various trees which are considered invasive species.

Where the minimum amount of required trees do not exist on non-residential and multifamily development sites, new large variety trees must be planted to meet the minimum 10% Tree Save Area requirements in accordance with the recommendations of the Tree Committee report. New large variety trees must be able to take the place of large older trees as they naturally die out. Each large variety tree planted will equal 1000 square feet of Tree Save Area credit, recognizing the growth potential large variety trees have over time. Large variety trees will promote the establishment of an urban tree canopy where it is needed most. Where the minimum amount of required trees do not exist in areas off-limits for development on single family residential development sites, two large variety trees must be planted or two existing trees must be saved on each single family lot larger than 9000 square feet.

The proposed ordinance requires the installation of large variety trees to satisfy the requirements of the landscaping ordinance, except where overhead utilities are present small or medium variety trees will be required. Currently, the UDO requires 150 square feet of planting area for newly planted trees regardless of their species. While this may be adequate for small variety trees such as crepe myrtles, large variety trees such as oaks require significantly more room to become adequately established and grow to their mature potential. The proposed ordinance will

retain the 150 square foot planting area requirement for small and medium variety trees, but will require a minimum of 600 square feet for large variety trees. Adequate space is necessary for trees to be healthy and contribute to the creation of an urban tree canopy in Winston-Salem and Forsyth County. To compensate for this additional area, the spacing between larger variety trees in parking lots has been increased from 50 feet to 75 feet. Additionally, for each large variety tree planted to satisfy the Tree Save requirements and located completely within a parking lot, the minimum amount of required parking is reduced by four (4) spaces.

Maintenance and planting standards are included in this ordinance in accordance with the recommendations of the Tree Ordinance Committee report. The ordinance requires trees to be planted and maintained in accordance with American National Standards Institute (ANSI) A300 standards, which represent the best management practices for arboriculture. The ordinance specifically prohibits topping of trees, which was of particular importance to the Tree Ordinance Committee. The maintenance requirements of the ordinance will also apply to all trees planted after the adoption of the 1988 landscaping ordinance which satisfy the requirements of that ordinance.

Basing the proposed Tree Ordinance upon existing UDO standards will minimize the number of additional staff needed to enforce the ordinance, and no additional Inspections Division staff should be needed to administer the proposed ordinance. The proposed Tree Ordinance should achieve most of the substantive recommendations of the Tree Committee guidelines while being sensitive to the costs to the local development community and local government for administration.

## **RECOMMENDATION**

## **APPROVAL**

**UDO-122**  
**AN ORDINANCE AMENDING**  
**CHAPTERS A AND B OF THE *UNIFIED DEVELOPMENT ORDINANCES***  
**TO AMEND REGULATIONS CONCERNING LANDSCAPING STANDARDS AND**  
**TREE PRESERVATION**

Be it ordained by the \_\_\_\_\_, North Carolina, that the *Unified Development Ordinances* is hereby amended as follows:

**Section 1.** Chapter A, Article II of the UDO is amended as follows:

## **Chapter A - Definitions Ordinance**

### **Article II – Definitions**

**CRITICAL ROOT ZONE.** ~~The area under a tree which includes all land within the drip line of the tree. The drip line is measured by a vertical line extending from the outermost portion of a tree's canopy to the ground.~~ A circular region measured outward from a tree, representing the essential area of the roots that must be maintained in order for the tree to survive. The Critical Root Zone is one foot (1') of radial distance from the tree's trunk for every one inch (1") of tree diameter, measured at breast height (DBH).

**Section 2.** Chapter B, Article III of the UDO is amended as follows:

## **Chapter B - Zoning Ordinance**

### **Article III - Other Development Standards**

#### **3-3 PARKING, STACKING, AND LOADING AREAS**

##### **3-3.5 ALTERNATIVES AND INCENTIVES**

- (H) **Parking Reduction for Required Landscaping in Motor Vehicle Use Areas**  
~~For all uses, the property owner may reduce the number of required parking spaces for the installation of required interior planting areas up to a maximum of ten percent (10%). Up to an additional a five percent (5%) reduction of the total number of required parking spaces is permitted where an area which would otherwise be devoted to parking cannot be used in order to preserve an existing tree with a diameter of six (6) inches or greater. Additionally, for each large variety tree planted in accordance with the provisions of section B.3-4.3 and located completely within a motor vehicle use area the amount of required parking is reduced by four (4) spaces.~~

#### **3-4 LANDSCAPING AND TREE PRESERVATION STANDARDS**

##### **3-4.1 GENERAL REQUIREMENTS**

(A) **Purpose**

It is the intent of this section to enhance the appearance and environmental quality of development sites in Winston-Salem and Forsyth County by requiring the planting of

NOTE: Items to be deleted are indicated with a ~~strikeout~~; items to be added are indicated with an underscore.  
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~~new trees and the preservation and maintenance of high-quality existing trees modify and enhance the character of motor vehicle use areas, outdoor storage areas, utility service areas, and other public or institutional areas, through the introduction of natural vegetation and landscaping, without unduly burdening property owners, in order to:~~

- (1) **Appearance of Areas Near Rights-of-Way.** Improve the appearance of motor vehicle use areas within close proximity of vehicular rights-of-way;
- (2) **Appearance of Large Areas.** Break the visual blight created by large expanses of ~~motor vehicle use~~ unvegetated areas;
- (3) **Property Value and Investments.** Enhance property values and protect public and private investments by emphasizing the importance of trees and vegetation as visual and physical bufferyards to protect property values on adjacent properties;
- (4) **Water and Erosion Control.** Increase site stormwater infiltration capacity, improve groundwater recharge, and reduce erosion and urban runoff pollution hazards by preserving vegetated areas to slow and absorb stormwater runoff;
- (5) **Comfort.** Improve human comfort and moderate the climate during the use of ~~motor vehicle use areas~~ by providing shade, ~~reducing solar heat absorption,~~ and reducing noise levels;
- (6) **Environmental Sensitivity.** Encourage environmental sensitivity to natural features ~~during the~~ in design and construction of ~~motor vehicle use areas;~~
- (7) **Glare.** Filter and reduce reflected sunlight and headlight glare from parked vehicles onto street rights-of-way; and,
- (8) **Air.** Filter and reduce motor vehicle fumes and dust.
- (9) **Public Properties.** Improve the appearance of public properties ~~from vehicular rights-of-way and adjacent properties, as well as for users on the properties.~~

**(B) Applicability of Landscaping Standards**

~~This section shall apply to all land located in the zoning jurisdiction.~~ Unless otherwise provided in this section, an occupancy permit shall not be issued until all required planting and landscaping materials are installed. The following ~~motor vehicle use areas~~ are required to be landscaped:

- (1) Motor Vehicle Surface Areas;
- (2) Motor Vehicle Display Areas;
- (3) Outdoor Storage Areas;
- (4) Utility Service Areas;
- (5) Parking Buildings or Structures; and,
- (6) Public or Private Schools

**(C) Exclusions**

The following uses shall be exempt from the landscaping requirements of ~~this~~ section B.3-4.1(B):

- (1) A single family detached dwelling on its own lot;

- (2) An attached dwelling unit which possesses an individually separated driveway and/or garage; and,
- (3) Fire hydrants and other utility devices whose visibility is vital to public safety.

**(D) Applicability of Tree Preservation and Planting Standards of Section B.3-4**

- (1) The applicability of the tree preservation and planting standards is referenced in Section B.3-4.2.1

**3-4.2 APPLICATION PROCEDURES AND GENERAL REQUIREMENTS.**

**(A) Application**

When an application is made for a building permit or a land disturbing permit, whichever is necessary, on any land where the landscaping requirements of this section are applicable, such building or land disturbing permit application shall be accompanied by the information ~~listed~~ cited in Sections B.3-4.2(A)(1)-(4) and B.3-4.2.1. ~~Submittal of said information may occur up to ninety (90) days after the issuance of a building permit, provided, however, the developer or landowner submits with the building permit application a letter certified by a registered landscape architect, architect, surveyor, or engineer, stating sufficient land has been reserved for required plantings, and also files an improvement security as specified in Section B.3-4.2(B)(2).~~ Additional information to be submitted with the application for a building or land disturbing permit includes:

- (1) **Storage, Surface, and Service Areas.** A site plan indicating the location, dimensions, and square footages of motor vehicle surface areas, motor vehicle display areas, outdoor storage areas, private utility service areas, proposed parking space striping, and overhead utility lines;
- (2) **Landscaping.** A site plan indicating existing and proposed landscaping used to satisfy the requirements of this section, including the number, species, location, and heights of trees, shrubs, and groundcover; the location and dimensions of planting areas and streetyards; the location and size of earthen berms; and, the location, size, and construction material of fences, walls, and wall planters;
- (3) **Existing Trees to be Preserved.** The number, location, species, height, and diameter ~~at six (6) inches above ground level~~ at breast height (DBH) of existing trees to be preserved for credit as per Section B.3-4.2(H); and,
- (4) **Barriers.** ~~The location and description of any barriers to be erected to protect any existing vegetation from damage during construction~~ Refer to Section B.3-4.2.1(A)(6).

**(B) Delay of Landscaping**

If the required landscaping has not been installed at the time of a request for an occupancy permit, and the Director of Inspections determines that the unavailability of plant materials or adverse weather conditions prohibit the timely completion of planting, an occupancy permit may be issued prior to installation of required landscaping, subject to the following:

- (1) **Completion Schedule.** The applicant shall sign a contract specifying that the work shall be completed within the six (6) months immediately following the date of application for an occupancy permit; and,
- (2) **Security.** ~~If the Director of Inspections determines that the applicant has not shown good faith in the past in completing required improvements, an~~ An improvement security in the form of an escrow account or other instrument shall be required prior to issuance of an occupancy permit. The improvement security shall be in an amount deemed sufficient by the Director of Inspections to cover all costs of required landscaping or screening which has not been installed. Such security shall be valid until the work is completed in accordance with the permit. The security shall be forfeited upon violation of this section and shall be used toward completion of all planned improvements. Any moneys in excess of the cost of installing required landscaping shall be refunded to the applicant. The security shall be released when the Director of Inspections certifies that all requirements of this ~~section~~ Ordinance have been met.
- (C) **Compliance with Sight Easement Requirements**  
Landscaping required by this section shall comply with the minimum State or local sight easement requirements for street intersections and driveways.
- (D) **Obstruction of Pedestrian Routes**  
Required landscaping shall not obstruct or impede public pedestrian routes including sidewalks and greenway trails.
- (E) **Protection of Planting Areas**  
Whenever any planting areas required by this section are adjacent to motor vehicle surface areas, motor vehicle display areas, or outdoor storage areas, the planting areas shall be protected from motor vehicle intrusion ~~or~~ and damage from excessive motor vehicle lubricants or fuels.
- (F) **Stabilization of Soil Surface**  
The soil surface of all planting areas required by this section shall be stabilized to prevent erosion. In addition to required interior trees and shrubs, the soil surfaces of planting areas shall contain live groundcover, mulch, live shrubs, permeable pedestrian paver blocks, or a combination thereof.
- (G) ~~**Maintenance of Plantings**~~ **Planting and Maintenance**  
The Planting and Maintenance provisions of this ordinance shall apply to new trees and existing trees planted after June 5, 1988 which satisfy the requirements of this ordinance.
- (1) ~~**Planting and Maintenance Standards.**~~ The use of American National Standards Institute (ANSI) A300 standards shall be required for the planting and maintenance of all required landscaping.
- (2) ~~**Tree Topping.**~~ Topping of any tree required by this Ordinance as defined by the ANSI A300 standards shall be prohibited.
- (3) ~~**Maintenance of Plantings Required by Section B.3-4.1(B).**~~ The landowner is responsible for maintaining all required plant materials in good health. Any dead or missing plants must be replaced with new planting which meets the minimum installation dimension standards of this section. Plant replacement shall take

place within one month of written notification by the Director of Inspections. In the event that plant material is severely damaged due to an unusual weather occurrence or other act of nature, or if replacement plantings are unavailable within one month of written notification, the land owner will have six (6) months from the date of written notification to replace plantings. Requirements for the maintenance of existing or newly planted trees required by the Tree Preservation and Planting standards of this Ordinance, and located on individual lots within residential subdivisions, are in Section B.3-4.2.1(B).

**(H) Enforcement and Penalties.**

- (1) Enforcement.** The Director of Inspections shall conduct site inspections to ensure compliance with the provisions of this Ordinance prior to the issuance of a Certificate of Occupancy (CO), except where trees in areas off-limits to development are preserved in accordance with Section B.3-4.2.1(A)(3) compliance shall be ensured prior to plat approval for residential subdivisions and prior to permit approval for other uses.
- (2) Penalties.** Penalties in accordance with Section B.9-1 of this Ordinance may be undertaken by the Director of Inspections in order to enforce provisions of this Ordinance.

**(H) Use of Existing Trees for Credit**

Existing trees may be preserved and used for credit in satisfying the requirements of this section, according to the conditions that follow:

- (1) Maximum Credits for Tree Preservation.** Maximum credits for tree preservation shall be determined by Table B.3.12.

Table B.3.12  
Use of Existing Trees for Credit

<u>Diameter at Breast Height (DBH) of Existing Tree Six (6) Inches Above Ground Level</u>	<u>Number of Trees Credited</u>
<u>2 – 6 inches</u>	<u>1</u>
<u>7 – 12 inches</u>	<u>2</u>
<u>13 – 18 inches</u>	<u>3</u>
<u>19 – 24 inches</u>	<u>4</u>
<u>25 inches or greater</u>	<u>5</u>

- (2) Minimum Planting Area.** Each tree to be preserved for credit shall be provided with a minimum planting area which coincides with the tree's dripline ~~Critical Root Zone~~ as defined in Section A of the ordinance. The tree's dripline is defined as the area underneath a tree which would be encompassed by perpendicular lines dropped from the outermost edges of the crown of the tree.
- (3) Protection from Encroachment.** Tree preservation planting areas shall be cordoned off during construction and protected from encroachment. The minimum area to be cordoned off shall consist of the critical root zone of the tree or an area ten (10) feet from the tree's trunk in all directions, whichever is the

~~greater area. The protection measures shall be properly maintained during site development and shall not be removed prior to final landscaping. For the purposes of this section, encroachment is defined as the ground surface disturbance caused by grading; impervious surface cover; equipment, material, or earth storage; or by temporary or permanent construction vehicle access or circulation.~~

- ~~(4) — **Minimum Streetyard Requirement.** Tree preservation credits may be used to reduce the number of trees required in this section; however, in no instance shall a required streetyard contain less than one tree, nor shall any required streetyard contain no trees for seventy-five (75) continuous feet; nor shall any parking space be more than fifty (50) feet from the trunk of a tree, unless otherwise authorized in Section B.3-4.3(C)(8).~~
- ~~(5) — **Planting Area Used for Streetyard or Interior Plantings.** Planting areas required for tree preservation credit may be used to install streetyard or interior shrubs as required in this section.~~
- ~~(6) — **Loss of Tree Credits.** Removal or death of any preserved tree shall result in the loss of all associated tree credits for that particular tree. Replacement of trees shall be subject to the planting requirements of Section B.3-4. Developers and landowners are urged to seek professional expertise to preserve properly existing trees for credit.~~

**(I) Combining Planting Area and Bufferyard Requirements**

Where ~~motor vehicle use area~~ Motor Vehicle Surface Area plant materials and bufferyard plant materials are required on the same property, trees may be located in such a manner as to simultaneously satisfy both requirements. Required planting areas shall not be cumulative; however, the greater of the planting areas specified in Section B.3-5 or this section shall be the required planting area.

**(J) Overhead Utility Lines**

The location of overhead utility lines shall be considered during the placement of required trees. The maximum mature height of required trees shall be determined as follows: (Suggested plant materials are listed in Section B.3-4.10.)

- (1) Small varieties.** Small variety trees shall be used when located within twenty-five (25) feet, measured horizontally, from the nearest overhead utility lines(s).
- (2) Small or medium varieties.** Small or medium variety trees shall be used when located ~~within~~ twenty-five (25) to thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).
- (3) Small, medium, or large varieties.** Small, medium, or large variety trees may be used when located more than thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).

**(K) Safety and Security**

Safety and security concerns should receive prominent consideration during the selection and placement of landscape materials.

**(L) Fire Protection Equipment**

A minimum five (5) foot radius containing no plant materials or structural elements other than groundcover plants shall be maintained around all fire protection equipment, including fire hydrants, post indicator valves, and siamese connectors. Obvious sight lines to the fire protection equipment shall be maintained at all times.

**(M) Off-Street Parking Reduction**

A reduction in the amount of required off-street parking is permitted in accordance with the alternatives and incentives provisions of the parking requirements Section B.3-3.5(H) for the installation of landscaping required by the ~~motor vehicle surface area landscaping standards~~ landscaping standards of this Ordinance.

**3-4.2.1 TREE PRESERVATION AND PLANTING**

**(A) Tree Preservation and Planting Requirements.**

**(1) Tree Save Area Defined.** Tree Save Area(s) (TSA) shall be one or more areas where existing trees, along with their critical root zones (CRZ), shall be preserved and maintained. The purpose of the TSA is to encourage the preservation of trees that are three inches (3") or greater in diameter at breast height (DBH). Tree Save Area(s) may also include new trees which satisfy the requirements of Section B.3-4.2.1(4).

**(2) Calculation of Required Tree Save Area.** Calculations for Tree Save Areas (TSA) shall exclude the square footage areas for existing and proposed public street rights-of-way, existing utility easements, and existing water bodies and new water bodies required to satisfy the stormwater management requirements otherwise required by law or ordinance. The combined square footage of these areas shall be deleted from the total parcel area before the required percentage of TSA is calculated. Tree Save Area shall be calculated as follows:

**(a)** The Tree Save Area for an existing tree shall be defined as the Critical Root Zone for that individual tree or the sum of the Critical Root Zones of multiple individual trees. Each large variety tree 3"-12" in caliper shall equal 1000 square feet of TSA credit; each large variety tree 12.01"-24" in caliper shall equal 2000 square feet of TSA credit; each large variety tree 24.01"-36" in caliper shall equal 3000 square feet of TSA credit, and; each large variety tree greater than 36.01" in caliper shall equal 4000 square feet of TSA credit.

**(3) Required Tree Save Area in Areas Off-Limits to Development.**

**(a)** New Residential Subdivisions, Multifamily Development, and Non-Residential Development which requires a grading permit. The minimum Tree Save Area for new residential subdivisions, multifamily development, and non-residential development which requires a grading permit shall be ten (10) percent of the development site, except where less than ten (10) percent of the development site exists in trees all existing trees must be saved. Ten (10) percent of any existing developed area being redeveloped shall be saved for TSA credit. This Tree Save Area shall be in the form of areas off-limits to development.

(b) Development projects are only required to save existing trees for TSA credit in the following areas, which are considered off-limits to development by the governmental authority:

- (i) Floodplains
- (ii) Undisturbed Stream Buffers
- (iii) Wetlands

(c) Alternative compliance or removing existing trees for recreational purposes in floodplains. Development proposals for recreational purposes which remove existing trees in floodplains that would otherwise be required to be saved in accordance with Section B.3-4.2.1(A)(3)(b) may be approved where existing trees meeting the requirements of Section B.3-4.2.1(A) are preserved elsewhere on site. Alternatively, development proposals may be approved through Special Use District zoning, where the intent of the ordinance is met or exceeded through alternative mitigation measures which shall be determined on an individual basis.

(4) **Tree Planting Requirements for Multifamily and Non-Residential Development.** On multifamily and non-residential development sites where less than ten (10) percent of a development site contains trees preserved in accordance with Section B.3-4.2.1(A)(3), supplementary new large variety tree plantings in accordance with Section B.3-4.10(A) shall be required until the minimum Tree Save Area requirements of the development site have been met.

Each new large variety tree planted shall be equal to one thousand (1000) square feet of required Tree Save Area. Alternatively, trees existing outside of areas defined as off-limits to development in Section B.3-4.2.1(A)(3)(b) may be saved for credit in accordance with Section B.3-4.2.1(A)(2)(a).

(5) **Exemptions from Tree Preservation and Planting Requirements.** The following are exempt from the Tree Preservation and Planting requirements of this Ordinance.

- (a) Development sites located in Growth Management Areas (GMA) 1 and 5
- (b) Individual residential lots platted prior to the adoption of this Ordinance
- (c) Farm use activities and structures on Bona-Fide Farms
- (d) Minor subdivisions
- (e) Development or redevelopment of sites zoned PB, GB, MU-S, and C which demonstrate a pedestrian-oriented urban form. Where at least fifty (50) percent of required parking in development or redevelopment zoned PB, GB, MU-S, and C is provided in the form of structured parking, the requirements of Section B.3-4.2.1(A) shall not apply. Instead, such development shall include one large variety street tree per fifty (50) feet of street frontage. These trees shall be spaced forty (40) to sixty (60) feet apart and shall be located within the street right-of-way.

**(6) Tree Protection During Construction.** To receive credit for existing trees proposed for preservation, the TSA must be protected from direct and indirect root damage, and trunk and crown disturbance. The following standards shall apply:

- (a) The Tree Save Area (TSA) shall include all area located within the Critical Root Zone.
- (b) Construction site activities, such as parking, material storage, dirt stockpiling, concrete washout, and other similar activities, shall not be permitted within a Tree Save Area (TSA).
- (c) Protective barriers shall be installed around the Tree Save Area (TSA) as necessary prior to the issuance of a grading permit.

**(B) Tree Maintenance Requirements.**

**(1) Maintenance of Trees Satisfying the Tree Preservation Requirements.** The landowner is responsible for maintaining all new trees on individual lots within residential subdivisions which satisfy the requirements of Section B.3-4.2.1(A)(4) until a Certificate of Occupancy (CO) has been issued, and existing trees prior to plat approval for trees preserved in accordance with Section B.3-4.2.1(A)(3).

New and existing trees which meet the tree preservation requirements in multifamily developments, commonly owned areas in residential subdivisions, and nonresidential developments shall be maintained in accordance with the requirements of Section B.3-4.2(G). Additionally, standards for maintenance of existing or newly planted trees also used to satisfy the requirements of Section B.3-4.1(B) of this Ordinance are referenced in Section B.3-4.2(G).

**3-4.3 MOTOR VEHICLE SURFACE AREA LANDSCAPING STANDARDS**

**(A) General Requirements**

- (1) **Exemption.** This section shall not apply to single family residential buildings.
- (2) **Applicability.** This section shall apply to any motor vehicle surface area or portions thereof built after March 7, 1988.
- (3) **Expansion of Preexisting Motor Vehicle Surface Areas.** When preexisting motor vehicle surface areas are expanded:
  - (a) Required Interior Plantings. Required interior plantings may be dispersed throughout the entire motor vehicle surface area in accordance with Section B.3-4.3(C)(9).
  - (b) Streetyard Width. Streetyard width may be reduced to a minimum of fifty percent (50%) of the required width, provided the minimum required streetyard area and plant quantities for the expansion are installed; and provided such streetyard trees shall be provided a planting area with a minimum radius of seven (7) feet.

**(B) Streetyards**

A landscaped streetyard shall be required for all motor vehicle surface areas located within one hundred (100) feet of a street right-of-way or vehicular right-of-way, including controlled access highways, whether or not it may provide access to the site, unless separated by an intervening building.

- (1) Width.** Minimum streetyard width is ten (10) feet, and shall be measured perpendicular to the street right-of-way. The streetyard shall be positioned between the motor vehicle surface area and street right-of-way.
- (2) Impervious Surface Cover.** A maximum of fifteen percent (15%) of the required streetyard may be covered with impervious surface cover which may be used for walkways, fountains, walls, ~~or~~ wall planters, or utility meters and vaults, but may not be used for motor vehicle surface or display, outdoor storage, private utility service, or service areas.
- (3) Number and Spacing of Trees.** Each streetyard shall contain a minimum of two (2) deciduous or evergreen large variety trees per one hundred (100) linear feet, excluding points of motor vehicle ingress or egress. In no case shall any streetyard contain less than one tree. Required trees must be a minimum of eight (8) feet in height at installation and shall be at least two (2) inches in diameter measured six (6) inches above ground level. Where two (2) or more streetyard trees are required, all trees shall be planted with the center of the main trunks twenty (20) to seventy-five (75) feet apart. Existing deciduous trees located in the abutting street right-of-way may be used to satisfy the distribution requirements in this section. Small or medium variety trees may be used where overhead utility lines exist in accordance with Section B.3-4.2(J).
- (4) Other Streetyard Components.** In addition to required trees, the landowner or developer shall use one of the following to satisfy streetyard requirements: natural shrubs, closed fences, walls, wall planters, earthen berms, or a combination thereof, as follows:

  - (a) Natural Shrubs.** Streetyard shrubs must be a minimum of eighteen (18) inches in height at installation, with a minimum height of thirty-six (36) inches within three (3) years after installation. Shrubs must be a locally adapted species which retain foliage to within six (6) inches above ground level. Said shrubs shall be spaced no more than eighteen (18) inches, edge to edge. No more than thirty percent (30%) of streetyard shrubs shall be deciduous.
  - (b) Fences and Walls.** A streetyard fence or wall shall be a minimum of thirty-six (36) inches in height, opaque, and shall be constructed of masonry, stone, or wooden material, or of the same material as that of the principal building.
  - (c) Wall planters.** A streetyard wall planter shall be constructed of masonry, stone, or other permanent material. At installation, the minimum combined height of wall planters and shrubs shall be twenty-four (24) inches. Within three (3) years after installation, the combined height of wall planters and shrubs shall be no less than thirty-six (36) inches. The

effective planting width of a streetyard wall planter shall be no less than thirty-six (36) inches; however, where required streetyard trees are installed in wall planters, the effective planting width of the wall planters shall be no less than seven (7) feet. A minimum of one shrub shall be required for every five (5) square feet of wall planter area.

(d) Earthen berms. At installation, streetyard berms shall have a minimum height of eighteen (18) inches, a minimum crown width of two (2) feet, and a side slope with a width to height ratio of no greater than two (2) to one (2:1). The entire berm shall be planted and covered with live vegetation. Berm shrubs shall be a minimum of one foot in height at installation and shall be spaced no greater than eighteen (18) inches, edge to edge. Within three (3) years after installation, the combined height of berm and shrubs must be at least thirty-six (36) inches. Streetyard berms which are thirty-six (36) inches or greater in height at installation shall not be required to contain shrubs; however, streetyard trees shall still be required as specified in this section.

(5) **CB and CI Districts.** In the CB District, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section or a three (3) foot high masonry wall shall be provided. Unfinished concrete masonry unit (CMU) walls shall be prohibited. Split face CMU is permitted.

(6) **PB District.** In the PB District within GMA 1, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section shall be provided. Any required or provided trees within the streetyard shall be located within a minimum seven (7) foot wide, fifty (50) square foot planting area.

(C) **Interior Motor Vehicle Surface Area Plantings**

In addition to the required streetyard, all motor vehicle surface areas shall contain landscaped planting areas, as follows:

(1) **Location of Plantings.** Interior planting areas shall be located adjacent to motor vehicle surface area edges or within the interior as islands or medians, and may contain berms of the minimum dimensions specified in Section B.3-4.3(B)(4)(d).

(2) **Size.** Each planting area shall ~~contain~~ allocate a minimum of one hundred fifty (150) square feet per tree, with a minimum radius of seven (7) feet for small or medium variety trees. A minimum planting area of six hundred (600) square feet shall be required for each large variety tree. Each large variety tree planted shall provide a one thousand (1,000) square foot credit towards the Requirements of Section B.3-4.2.1(A).

(3) **Required Trees in Planting Area.** Each planting area shall contain at least one deciduous or evergreen large variety tree with a minimum height of eight (8) feet at the time of installation, and a minimum diameter of two (2) inches measured six (6) inches above ground level. Small or medium variety trees may be used where overhead utility lines exist in accordance with Section B.3-4.2(J).

(4) **Ratio.** One large variety tree shall be used for every five thousand (5,000) square feet of motor vehicle surface area. One small or medium variety deciduous or evergreen tree shall be required for every two thousand five

hundred (2,500) square feet of motor vehicle surface area where overhead utility lines exist in accordance with Section B.3-4.2(J).

- (5) **Distance of Parking Spaces to Trees.** No parking space shall be located more than ~~seventy-five (75)~~ fifty (50) feet from the trunk of a required large variety tree, except where overhead utility lines exist in accordance with Section B.3-4.2(J) no parking space shall be located more than fifty (50) feet from the trunk of a required small or medium variety tree, unless otherwise authorized in this ~~section~~ Ordinance.
- (6) **Loading/Maneuvering Areas.** For loading docks or other maneuvering areas where placement of trees in the interior of the site is impractical, the required number of trees may be clustered around the edge of such areas, with the approval of the Director of Inspections.
- (7) **Credit for Streetyard or Bufferyard Trees.** Deciduous or broadleaf evergreen trees used as streetyard or bufferyard plantings may be used as credit toward interior planting area requirements, provided that streetyard or bufferyard plantings meet the size requirements of Section B.3-5.3(B) and the distance requirements of Section B.3-4.3(C)(5)~~no parking space shall be located more than fifty (50) feet from the trunk of a required tree.~~
- (8) **Credit for Bufferyard Area.** The landscaped bufferyard area provided to meet the requirements of Section B.3-5 and located adjacent to a motor vehicle use area may be counted toward the interior planting requirement.
- (9) **Expansion of Preexisting Areas.** When preexisting motor vehicle surface areas are expanded, required interior plantings may be dispersed throughout the entire motor vehicle surface area if the landowner so desires, subject to the following conditions:
  - (a) The required plant material will be calculated with reference to the expansion area only;
  - (b) Such planting may be dispersed throughout the entire, combined, existing, and new motor vehicle surface area; and,
  - (c) The provisions of this section shall preempt the ~~fifty (50) foot~~ spacing requirement contained in ~~Section B.3-4.2(H)(4) and~~ Section B.3-4.3(C)(5).
- (10) **Alternative Compliance.** An applicant whose contiguous parking area exceeds five hundred (500) spaces may propose a landscaping plan which varies from the strict application of the provisions of this section in order to accommodate unique characteristics of the site or to utilize innovative design. Application for alternative compliance shall include a site plan following the requirements specified in Section B.7 and shall be approved by the Planning Board only upon a finding that the proposed landscaping plan fulfills the intent and purposes of this section as well as or better than would strict conformance with the requirements of this section.

### ~~3-4.8~~ **PUBLIC OR PRIVATE SCHOOLS RESERVED**

NOTE: Items to be deleted are indicated with a ~~strikeout~~; items to be added are indicated with an underscore.  
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**(A) — Applicability**

A landscape plan for the school campus shall be prepared and installed prior to occupancy for any new school or any improvement to an existing school which results in an increase in building area or footprint.

**(B) — Standards**

Landscaping plans shall meet the following standards:

- (1) — Number of Trees.** A minimum of one tree of either large or medium variety as described in Section B.3 4.10 shall be provided per thirty-five (35) linear feet of public road frontage. In any event, a minimum of fifteen (15) trees shall be planned for and provided on each campus.
- (2) — Existing Trees.** Existing trees to ~~meeting the requirements of Section B.3 4.2.1~~ be incorporated into the design of the school or currently on the campus may be preserved and used for credit in meeting the site plan requirements, per Section B.3 4.2(H)(1). Existing trees may be used in lieu of not more than eighty percent (80%) of the required new plantings; except that where property or site constraints prohibit the placement of additional trees, additional credit for existing trees up to 100% may be given.
- (3) — Height at Installation.** New plantings shall meet the requirements of Section B.3 5.3(B).
- (4) — Variety of Trees.** Notwithstanding Section B.3 4.8(B)(2), at least one-half (1/2) of the trees on the campus shall be large variety as described in Section B.3 4.10.
- (5) — Other Plant Material.** Other plant material described in Section B.3 4.10 may be installed and may be used for credit in meeting the requirements of Section B.3 4.8(B)(1) with approval of Planning Board staff.
- (6) — Location.** Trees and other plant material may be located in any required yards or in the interior of the campus, and may function as a bufferyard to screen or soften uses, structures, or activities which may be incompatible. Landscaping should be placed to enhance entryways into campuses and upgrade previously disturbed areas. ~~On existing campuses built prior to the landscaping requirements for motor vehicle surface areas, trees and other plant materials may also be located in parking areas or other motor vehicle surface areas.~~

### 3-4.10 SUGGESTED PLANT MATERIALS LIST

The suggested plant materials list includes common trees and shrubs suitable for use in the Forsyth County area. Due to individual site, soil, moisture, and microclimate conditions, professional expertise should be sought to determine the appropriate plant materials for any particular development project. Other appropriate plants not included in this list may also be used with the approval of the Director of Inspections or designee.

**(A) Large Variety Trees** (mature height: thirty-five (35) feet or greater):

European Black Alder *Alnus glutinosa (Pyramidalis)*

<del>Bald Cypress</del>	<u><i>Taxodium distichum</i> (Monarch of Illinois, Shawnee Brave)</u>
<del>Sugar Hackberry</del>	<u><i>Celtis laevigata</i></u>
<del>Chalkbark Maple</del>	<u><i>Acer Leucoderme</i></u>
<del>Freeman Maple</del>	<u><i>Acer x freemanii</i> (Armstrong, Autumn Blaze, Celebration, Scarlet Sentinel)</u>
<del>Green Mountain Sugar Maple</del>	<u><i>Acer saccharum</i> “Green Mountain”</u>
<del>Hedge Maple</del>	<u><i>Acer campestre</i></u>
<del>Southern Sugar Maple</del>	<u><i>Acer Barbatum</i></u>
<del>Trident Maple</del>	<u><i>Acer buergeranum</i></u>
<del>Bur Oak</del>	<u><i>Quercus macrocarpa</i></u>
<del>Sawtooth Oak</del>	<u><i>Quercus acutissima</i></u>
<del>Shingle Oak</del>	<u><i>Quercus imbricaria</i></u>
<del>Swamp White Oak</del>	<u><i>Quercus bicolor</i></u>
<del>Northern Red Oak</del>	<u><i>Quercus rubra</i></u>
<del>Nutall Oak</del>	<u><i>Quercus nutalli</i></u>
<del>Overcup Oak</del>	<u><i>Quercus lyrata</i></u>
<del>Green Ash</del>	<u><i>Fraxinus pennsylvanica</i> (Marshall Seedless, Newport, Patmore, Summit, Lakeview)</u>
<del>Kentucky Coffeetree</del>	<u><i>Gymnocladus dioicus</i></u>
<del>Japanese Pagodatree</del>	<u><i>Sophora japonica</i> (Princeton Upright, Regent)</u>
<del>Silver Linden</del>	<u><i>Tilia tomentosa</i> (Green Mountain, Sterling)</u>
<del>Hybrid Elm</del>	<u><i>Ulmus spp.</i> (Homestead, Pioneer, Urban)</u>
<del>Loblolly Pine</del>	<u><i>Pinus taeda</i></u>
<del>Willow Oak</del>	<u><i>Quercus phellos</i></u>
<del>Sugar Maple</del>	<u><i>Acer saccharum</i></u>
<del>Red Maple</del>	<u><i>Acer Rubrum</i> (Autumn Flame, Bowhall, Karpick, Northwood, October Glory, Red Skin, Red Sunset)</u>
<del>Scarlet Oak</del>	<u><i>Quercus coccinea</i></u>
<del>Southern Magnolia</del>	<u><i>Magnolia grandiflora</i></u>
<del>London Plane-tree</del>	<u><i>Platanus acerifolia</i> (Bloodgood, Colombia, Liberty)</u>
<del>River Birch</del>	<u><i>Betula nigra</i> (Heritage, DuraHeat)</u>
<del>Japanese Zelkova</del>	<u><i>Zelkova serrata</i> (Green Vase, Village Green)</u>
<del>Tulip Poplar</del>	<u><i>Liriodendron tulipifera</i></u>
<del>Pin Oak</del>	<u><i>Quercus palustris</i></u>
<del>Black Gum</del>	<u><i>Nyssa sylvatica</i></u>
<del>Littleleaf Linden</del>	<u><i>Tilia cordata</i> (Glenleven, Greenspire)</u>
<del>White Oak</del>	<u><i>Quercus alba</i></u>
<del>Japanese Scholartree</del>	<u><i>Sophora japonicum</i></u>
<del>Gingko</del>	<u><i>Ginkgo biloba</i> (Lakeview, Princeton Sentry)</u>
<del>English Oak</del>	<u><i>Quercus robur</i> (Fastigiata)</u>
<del>Japanese Katsuratree</del>	<u><i>Cercidiphyllum japonicum</i></u>
<del>Schumard Oak</del>	<u><i>Quercus schumardi</i></u>

NOTE: Items to be deleted are indicated with a ~~strikeout~~; items to be added are indicated with an underscore.  
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Chinese Elm *Ulmus parviflora* (Lacebark, Athena, Allee)

**(B) Medium Variety Trees** (mature height: twenty-five (25) to thirty-five (35) feet):

<del>Bradford Pear</del>	<i>Pyrus calleryana</i> " <u>Bradford</u> "
<del>Mountain Silverbell</del>	<i>Halesia monticola</i>
Sourwood	<i>Oxydendrum arboreum</i>
Thornless Honeylocust	<i>Gleditsia triacanthos</i> " <u>Inermis</u> "
Eastern Redbud	<i>Cercis canadensis</i>
<del>Mountain Ash</del>	<i>Sorbus americana</i>
Yoshino Cherry	<i>Prunus yedoensis</i>
Golden-Rain-Tree	<i>Koelreuteria paniculata</i>
Saucer Magnolia	<i>Magnolia soulangeana</i>
Weeping Cherry	<i>Prunus subhirtilla pendula</i>
Kwansan Cherry	<i>Prunus serrucata</i> " <u>Kwansan</u> "
Yellowwood	<i>Cladastris lutea</i>
Ironwood	<i>Carpinus carolineana</i>
<del>Pistachio</del> Pistache	<i>Pistachia chinensis</i>
Redmond Linden	<i>Tilia americana</i> " <u>Redmond</u> "
American Holly	<i>Ilex opaca</i> ( <u>East Palatka, Foster's #2, Nellie R. Stevens</u> )
<u>Eastern Red Cedar</u>	<i>Juniperus virginiana</i> ( <u>Emerald Sentinel, Princeton Sentry, Pendula</u> )
<u>Little Gem Magnolia</u>	<i>Magnolia</i> " <u>Little gem</u> "
<u>Fall Blooming Cherry</u>	<i>Prunus autumnalis</i>
<u>Fruitless Sweetgum</u>	<i>Liquidambar styraciflua</i>
	<u>"Rotundaloba"</u>
<u>European Hornbeam</u>	<i>Carpinus betulus</i> ( <u>Fastigiata</u> ).
<u>Hophornbeam</u>	<i>Ostrya virginiana</i>

**(C) Small Variety Trees** (mature height: less than twenty-five (25) feet):

Japanese Maple	<i>Acer palmatum</i>
Japanese Dogwood	<i>Cornus kousa</i>
Flowering Dogwood	<i>Cornus florida</i>
Smoketree	<i>Cotinus coggyria</i> ( <u>Daydream, Royal Purple</u> )
Crape Myrtle	<i>Lagerstroemia indica</i> ( <u>Dallas Red, Lipan, Natchez, Sioux, Tonto, Yuma</u> )
Crabapple (var.)	<i>Malus hybrida</i> (var.)
Amur Maple	<i>Acer ginnala</i>
<del>Russian Olive</del>	<i>Eleaegnus angustifolia</i>
Wax Myrtle	<i>Myrica Cerifer</i>
Star Magnolia	<i>Magnolia stellata</i>
<u>Japanese Tree Lilac</u>	<i>Syringa reticulata</i>
<u>Green Hawthorn</u>	<i>Crataegus viridis</i>
<u>Carolina Cherrylaurel</u>	<i>Prunus caroliniana</i>
<u>Choke Cherry</u>	<i>Prunus virginiana</i>
<u>Sargent Cherry</u>	<i>Prunus sargentii</i> ( <u>Columnaris, Hillier Spire</u> )

(D) **Streetyard and Interior Shrubs** (mature height: approximately thirty-six (36) inches):

(1) **Supplemental Evergreen Shrubs.**

Warty Barberry	<i>Berberis verruculosa</i>
Dwarf Burford Holly	<i>Ilex cornuta "Burfordii" nana</i>
Japanese Holly (var.)	<i>Ilex crenata (var.)</i>
Azalea (var.)	<i>Azalea sp.</i>
Mugo Pine	<i>Pinus mugo</i>
Juniper (var.)	<i>Juniperus sp.</i>
Euonymous (var.)	<i>Euonymous sp.</i>
Leatherleaf Viburnum	<i>Viburnum rhytidophyllum</i>

(2) **Deciduous.**

Forsythia	<i>Forsythia sp.</i>
Dwarf Burning Bush	<i>Euonymous alatus "Compacta"</i>
Thunberg Spirea	<i>Spirea thunbergi</i>
Viburnum (var.)	<i>Viburnum sp.</i>
Oakleaf Hydrangea	<i>Hydrangea quercifolia</i>
Japanese Flowering Quince	<i>Chaenomeles japonic</i>
Potentilla	<i>Potentilla fruticosa</i>
Ornamental Grass Varieties	
Oregonholly Grape	<i>Mahonia bealei</i>
Nandina	<i>Nandina domestica</i>
Dwarf Nandina	<i>Nandina domestica nana</i>

(E) **Primary Evergreen Shrubs and Outdoor Storage Area Screening Plants** (installation height: six (6) feet):

American Holly	<i>Ilex opaca</i>
Burforda Holly	<i>Ilex cornuta "Burfordii"</i>
Nellie Stevens Holly	<i>Ilex cornata "Nellie Stevens"</i>
<del>Red Tip Photinia</del>	<del><i>Photinia glabra</i></del>
Wax Myrtle	<i>Myrica cerifera</i>
Hetz Juniper	<i>Juniperus hetzi</i>
Arborvitae	<i>Thuja occidentalis</i>
Eastern Red Cedar	<i>Juniperus virginiana</i>
Japanese Black Pine	<i>Pinus thunbergiana</i>

(F) **Groundcovers** (planting areas, berms, wall planters):

Lily-Turf	<i>Liriope muscarii</i>
<del>Creeping Lilyturf</del>	<del><i>Liriope spicata</i></del>
Hybrid Daylily	<i>Hemerocallis hybrida</i>
<del>Periwinkle</del>	<del><i>Vinea minor</i></del>
<del>English Ivy</del>	<del><i>Hedera helix</i></del>
<del>Purpleleaf Winter creeper</del>	<del><i>Evonymous fortunei coloratus</i></del>
Aaronsbeard	<i>Hypericum calysinum</i>
Rockspray Cotoneaster	<i>Cotoneaster horizontalis</i>

**(G) The following trees shall not be credited toward the requirements of Section B.3-4.2.1:**

<u>Bradford Pear</u>	<u><i>Pyrus calleryana</i> “Bradford”</u>
<u>Silver Maple</u>	<u><i>Acer saccharinum</i></u>
<u>Hybrid Poplars</u>	<u><i>Populus spp.</i></u>
<u>Tree of Heaven</u>	<u><i>Ailanthus altissima</i></u>
<u>Mimosa</u>	<u><i>Albizia julibrissin</i></u>
<u>Royal Paulownia</u>	<u><i>Paulownia Tomentosa</i></u>
<u>Pine (var.)</u>	<u><i>Pinus sp.</i></u>

### **3-5 BUFFERYARD STANDARDS**

#### **3-5.3 BUFFERYARD LOCATION AND DESIGN REQUIREMENTS**

**(A) Location of Bufferyards**

- (1) Location.** Bufferyards shall be located on the outer perimeter of a lot or parcel, extending to the lot or parcel boundary line, with the following exceptions:
  - (a) On Adjacent Property. All or part of the bufferyard may be located on adjacent property within a permanent easement dedicated for such purpose with approval of the Director of Inspections.
  - (b) Portion of Site Proposed for Development. If only a portion of a site is proposed for development, the required bufferyard may be located at the limit of construction perimeter with approval of the Director of Inspections.
  - (c) Topographic Irregularities. Where topographic irregularities require a different location to meet the intent of this section, the location of the bufferyard may be varied with approval of the Director of Inspections.
  - (d) Slope Ratios. Required bufferyard plantings shall not be installed on cut or fill slopes with slope ratios greater than two (2) to one (2:1).
- (2) Cut Slope.** Where bufferyards include any part of a cut slope greater than ten (10) feet in height, grading for such cut slope shall not encroach closer than ten (10) feet to the property line.
- (3) Rights-of-way and Streets.** Bufferyards shall not be located on any portion of an existing, dedicated, or proposed right-of-way, or a private street.
- (4) Existing Easement Within Bufferyard.** Where an existing easement that prohibits bufferyard-type plantings is partially or wholly within a required bufferyard, the developer shall design the bufferyard to meet the planting limitation of the easement. Such design may necessitate choosing a bufferyard with more land area and fewer required plantings.

**(B) Design Requirements**

NOTE: Items to be deleted are indicated with a ~~strikeout~~; items to be added are indicated with an underscore.  
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**(1) Size of Plant Material.**

- (a) ~~Deciduous trees in bufferyards thirty (30) feet in width or less may be either medium or large varieties as described in Section B.3-4.10, provided, however, at least one half of the required trees shall be large variety.~~ Deciduous trees in bufferyards ~~of greater than thirty (30) feet in width~~ shall be large variety trees except where overhead utility lines exist in accordance with Section B.3-4.2(J). Suggested plant materials are listed in Section B.3-4.10.
- (b) All deciduous trees used for bufferyard screening must be a minimum of eight (8) feet in height at installation and shall be at least two (2) inches in diameter measured six (6) inches above ground level.
- (c) All primary evergreen plants shall be a minimum of six (6) feet in height at time of installation unless combined with an approved earthen berm, and shall ~~be not~~ be less than ten (10) feet in height at maturity.
- (d) All supplemental evergreen shrubs shall be a minimum of eighteen (18) inches in height at installation, and shall attain a minimum height of thirty-six (36) inches three (3) years after installation.

**(2) Spacing of Plant Material**

- (a) All deciduous trees shall be installed with tree trunks spaced a minimum distance of thirty (30) feet apart and a maximum distance of sixty (60) feet apart.
- (b) All primary evergreen plants shall be distributed evenly along the length of the bufferyard and shall be staggered where quantities permit. Primary evergreen plants shall be installed with tree trunks spaced a minimum of seven (7) feet apart and a maximum of fifteen (15) feet from other primary evergreen plants and from any required deciduous tree.
- (c) All supplemental evergreen shrubs shall be distributed evenly along the length of the bufferyard and shall be staggered where quantities permit.

**(3) Maintenance**

Any fence, earthen berm, or plant material used for screening shall be maintained in sound condition by the bufferyard provider. Maintenance includes replacement of any required bufferyard materials which are damaged and/or dying.

**(C) Application to Nonconforming Situations**

The bufferyard standards shall apply to the entire zoning lot in nonconforming situations per the requirements of Section B.5-4.3(C)(2).

**3-5.4 MULTIPLE USE OF BUFFERYARDS**

**(A) To Satisfy Other Requirements**

Areas set aside as required bufferyards may also be used to satisfy the following:

NOTE: Items to be deleted are indicated with a ~~strikeout~~; items to be added are indicated with an underscore.  
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- (1) Minimum setback requirements;
- (2) Minimum open space requirements; and,
- (3) Minimum landscaping requirements, including the Tree Preservation and Planting requirements of Section B.3-4.2.1(A).

**(B) For Other Purposes**

Required bufferyards may also be used for the following additional purposes:

- (1) Bufferyards may contain stormwater retention or detention areas, provided:
  - (a) The required bufferyard plantings shall be provided and the design and landscaping of the bufferyard do not interfere with the proper functioning of the drainage system; and,
  - (b) The designed water depth shall not harm the viability of the plantings.
- (2) Bufferyards may be used for passive recreation, such as pedestrian, bicycle, or equestrian trails, subject to the following limitations:
  - (a) No plant material shall be eliminated;
  - (b) The total width of the bufferyard shall be maintained; and,
  - (c) All other requirements of this Ordinance shall be met.
- (3) Bufferyards may be used for the installation of underground utilities, provided the location and use of the utility lines do not interfere with the required bufferyard plantings.

**(C) Reduction for Driveway to Rear Parking Areas**

A side or rear bufferyard may be reduced to five (5) feet if the Planning Board or Director of Inspections determines that such reduction is necessary, due to lot size, shape, or topographic features, to allow a driveway which accesses off-street parking to the rear of the property.

**(D) Prohibited Uses**

The following uses shall be prohibited in a required bufferyard: playfields, stables, swimming pools, tennis courts, or similar active recreation uses, and storage or parking facilities.

## **3-6 COMMON RECREATION AREAS**

### **3-6.1 APPLICABILITY**

All multifamily developments containing forty (40) or more units, and all manufactured home developments, shall provide on site common recreation area as required in this section. Elderly housing, life care communities, and other developments occupied exclusively by persons who are at least fifty-five (55) years old or disabled are exempt from the requirements of this section.

### **3-6.2 MINIMUM SIZE**

A minimum of one hundred (100) square feet per unit shall be devoted to common recreation areas.

### **3-6.3 COMBINING AREAS**

The total common recreation area may be divided into areas not less than four thousand (4,000) square feet each where the average length of the space does not exceed twice the average width.

### **3-6.4 ACCESS**

Common recreation areas shall be easily accessible by pedestrian walkways so they can be conveniently and safely reached and used.

### **3-6.5 FINISHED GRADE**

Common recreation areas shall be constructed on land where the average finished grade of the slope does not exceed five percent (5%), is well drained, and is otherwise capable of serving the purposes intended.

### **3-6.6 LANDSCAPING**

Common recreation areas shall be attractively landscaped and provided with sufficient natural or constructed screening to minimize any negative impacts upon adjacent residences within the development. Additionally, one large variety tree shall be required for every two thousand five hundred (2,500) square feet of common recreation area.

### **3-6.7 EXCLUSIONS**

Common recreation areas shall not include streets, access easements, rights-of-way, parking areas, required perimeter bufferyards or streetyards or required building setbacks; shall be closed to motor vehicle traffic except for maintenance and service vehicles; and, shall not be located over a septic system drainage field.

### **3-6.8 MAINTENANCE**

Common recreation areas shall be improved and maintained for the purposes intended.

## **3-13 STREET STANDARDS GOVERNING VEHICLE AND PEDESTRIAN CIRCULATION (W)**

### **(C) Streets**

#### **(3) Other Standards**

- (a) Street Names. Street names shall not duplicate nor closely approximate existing street names within the City of Winston-Salem or Forsyth County. Extensions of existing, named streets shall bear the existing street name. A complete list of previously used names shall be maintained by Planning staff. Street names shall be approved by the

Planning staff and shall be shown on the preliminary subdivision plat. To change the street names after preliminary or construction plan approval, a request must be submitted to the Planning staff. Application requirements include a fee established by the Planning Board.

- (b) Street Sign and Markers.
  - (i) Standard street name signs shall be installed at the corner of all streets intersections, including private streets. The size, design, materials, location, and installation of the signs shall be in accordance with City Public Works Department or NCDOT standards, as applicable.
  - (ii) Signs denoting the beginning and ending of public maintenance shall also be erected and maintained on private streets.
- (c) Street Lights. Street lighting, as required for traffic safety and property security, may be required to be installed in conformance with City Public Works Department or NCDOT policies, as applicable. The design, materials, location, and installation shall conform to all applicable City Public Works Department or NCDOT standards, and applicable public utility standards, including appropriate separation from street trees.
- (d) Street trees for new Residential Subdivisions approved under Section D.4. A minimum of one (1) deciduous, Large Variety Tree as specified under Section B.3-4.10 or as otherwise permitted or restricted by the City Director of Vegetation Management, shall be planted per lot prior to the issuance of a Certificate of Occupancy. A minimum of two (2) deciduous, Large Variety Trees shall be planted per lot prior to the issuance of a Certificate of Occupancy where new residential lots are nine thousand (9000) square feet or larger and the minimum ten (10) percent Tree Preservation and Planting requirements of Section B.3-4.2.1(A) have not been met. For cul-de-sac, local residential, and collector streets having sidewalks, trees may be planted between the curb edge and the sidewalk a minimum distance of four (4) feet away from the back of curb. In all instances required street trees shall be planted in a manner not to conflict with safety or functional operations of the street in accordance with Winston-Salem Infrastructure Development Standards. Required Street Trees shall be a minimum of ten (10) feet high at installation and shall have a caliper of at least two (2) inches measured six (6) inches above ground. This subsection shall not apply to developments approved prior to January 1, 2006, nor to streets approved exclusively by the North Carolina Department of Transportation.

**Section 3.** This ordinance shall be effective for plans submitted sixty days after adoption.