ARTICLE 3

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ARTICLE 3

HISTORIC PRESERVATION, LANDSCAPING, FENCING, AND SCREENING REQUIREMENTS

SECTION 3-100 PURPOSE

This Article provides standards for historic preservation, preservation of existing vegetation, planting of landscape material, fencing, and screening referred to in the City of Manassas Code of Ordinances Chapters 122 (Vegetation) and 130 (Zoning). The purpose of this Article is to promote and protect the public health, safety, and welfare by implementation of historic and archeological preservation and landscaping, fencing, and screening in of developments, cases new redevelopments, demolitions, or other significant changes to the use of land and/or buildings within the City limits as means for:

- A. Facilitating the creation of an attractive community through the preservation of existing vegetation and/or the installation of additional trees, shrubs, and other plants.
- B. Providing vegetative buffers, screens, and boundaries, as visual and physical separations between uses, to mitigate the impacts of those uses upon each other.
- C. Preserving existing tree canopy and encouraging additional tree canopy to provide shade, moderate the effect of urban heat islands, and improve air quality.
- D. Protecting and enhancing property values and aesthetic qualities.
- E. Preserving the character of lands, areas, and properties of historic significance.
- F. Protecting against erosion and sedimentation.
- G. Restoring soils and land denuded as a result of construction and/or grading.
- H. Reducing stormwater runoff and improving its quality and the costs associated therewith.

- Protecting residents and visitors from personal injury and property damage caused or threatened by the improper planting, maintenance, or removal of trees, shrubs, or other plants.
- J. Providing additional improvements to air quality.

SECTION 3-200 APPLICABILITY

The requirements of this Article shall apply to all situations where a site plan or subdivision plan is required, pursuant to Articles 1 and 2 of the City of Manassas Design and Construction Standards Manual (DCSM), or as otherwise required by this Article and/or the Zoning Ordinance. Historic preservation requirements are the review responsibility of the Manassas Museum System. Technical landscaping requirements are the review responsibility of the review responsibility of the City Arborist. Fencing and screening requirements and conformance with the Zoning Ordinance is the responsibility of the Department of Community Development.

SECTION 3-300 HISTORIC PRESERVATION

3-310 REVIEW PROCESS

The Manassas Museum System (the Museum System) will perform review of site plans as appropriate. The review will focus on the potential impact of proposed construction or demolition from the standpoint of historical, cultural, archaeological, or architectural aspects. The review will be subject to all applicable laws, ordinances, regulations, and guidelines pertaining to Local, State, and National Register Historic Districts.

3-320 SALVAGE ARCHAEOLOGY

When required, archaeological excavations will be performed on any site of construction or demolition within the City when there is a possibility of recovering artifacts or information relevant to local history and material culture. The need for such excavations will be determined by the Museum System and in consultation with the Manassas Historic Resources Board. The Museum System will supervise the excavations. In cases of private property, the Museum System will negotiate with the property owner(s) for permission to carry out the excavations and to secure donations of recovered artifacts to the Museum System. Any artifacts recovered on City property will automatically be eligible for inclusion in the Museum's artifact collections, according to The Manassas Museum System Collections Policy Manual.

3-330 SIGNIFICANT ARCHITECTURAL RESOURCES

With regard to preservation of significant architectural resources within the City, references are made to the Zoning Ordinance and City of Manassas Historic District Handbook.

SECTION 3-400 LANDSCAPING

3-410 GENERAL REQUIREMENTS

Landscaping and tree preservation/replacement shall be provided where required by the Zoning Ordinance or this Article. The following requirements and terminology shall apply to the installation and maintenance of all required screening, landscaping, and tree canopy cover:

- A. The planting and maintenance of all trees and shrubs shall be in accordance with all requirements of this Article.
- B. All required landscaping shall meet the following requirements:
 - Deciduous canopy trees shall be a minimum caliper of 2 to 2½ inches at the time of planting, as determined in the American Standard for Nursery Stock and shall be a minimum of eight (8) feet in height at the time of planting.
 - Understory trees shall have a minimum caliper of 1¹/₂ inches at time of planting, as determined in the American Standard for Nursery Stock and shall be a minimum of six (6) feet in height at the time of planting.
 - 3. Evergreen trees shall be a minimum of six (6) to seven (7) feet in height at the time of planting.
 - 4. Deciduous and evergreen shrubs shall be upright in nature and be a minimum of 24 inches in height at the time of planting.
 - 5. In cases where application of the requirements in this Section result in a fraction in the number of shrubs or trees to be provided, the minimum number to be provided shall be rounded upwards to the next highest whole number.
 - 6. Native, drought tolerant vegetation should be used and preferred to reduce dependency upon irrigation and sustain the region's natural environment.
 - 7. To curtail the spread of disease or insect infestation in a plant genus, new plantings shall comply with the following requirements:
 - i. When fewer than 20 trees are required to be planted on the site, at least three (3) different genuses shall be used, in roughly equal proportions.
 - ii. When more than 20 trees are required on a site, no more than 25 percent of any genus shall be used.

- iii. Nothing in this subsection shall be construed to prevent the utilization of a larger number of different genuses than specified above.
- C. Existing on-site vegetation suitable for the use and in compliance with the requirements of this Article should be retained in lieu of new plantings. When existing vegetation is substituted for screening or tree cover, it shall meet or exceed the minimum requirement for heights at planting, maturity, and minimum spacing as described in this Article. Existing brush and undergrowth may also be used for screening with the approval of the City Arborist.
- D. Plant warranty and replacement shall include:
 - 1. A guarantee that plants will be alive and in satisfactory growth for a period of one (1) year.
 - Replacement of dead or dying plants as soon as possible at no cost to the City.
 - Proper maintenance of all planting and planted areas during the progress of the work and a perpetual maintenance for all landscaped areas associated with private developments.
 - 4. Plants used for replacement shall be the same species and size as specified in plant list on the approved site plan or subdivision plan and shall be planted, mulched, and maintained, as specified.
- E. The requirements in this section shall be considered minimum requirements.
- F. All required landscaping on any land zoned I-A, Airport shall meet the following additional requirements:
 - 1. Landscaping shall not be located closer than 12 feet (based on mature plant growth size) to any airport perimeter fencing.
 - 2. Landscaping that attracts large birds or mammals shall be minimized.
 - 3. All landscaping plans shall utilize lower-growing trees to prevent obstructing navigable airspace.
 - Densely branched or densely foliated trees shall not be planted in order to avoid nesting. This includes, but is not limited to, Maples, Linden, and Cypress.

- Trees, shrubs, or any other landscaping that produce wildlife edible fruit and seeds or provide palatable forage for grazing animals shall be prohibited. Non-fruiting or male plants of a given species may be satisfactory in some instances.
- 6. Landscape elements shall not provide nesting or roosting habitat for wildlife. Additionally, ornamental water features are to be avoided (e.g., fountains, ponds, pools, etc.). If necessary, use of bird wire, porcupine wire, or other physical means to deter wildlife from landscape elements and features may be required.
- 7. A list of approved foliage is available in the Airport's Foliage Guide.

3-420 PLANTING AND MAINTENANCE

The owner or developer shall provide all plant materials and labor required to execute this work as indicated on the approved landscaping plans, as specified and as necessary to comply with this Article, including, but not limited to, soil treatment, planting of trees, topsoil in planting areas, protection, maintenance, warranty, and replacement of plants, related items of work as indicated on drawings, inspection, and maintenance. A list of recommended trees by size and non-acceptable trees is provided in Section 3-490.

A. Related DCSM Articles.

| Section 11-100 | Clearing and Grubbing |
|----------------|-----------------------|
| Article 4 | Erosion Control |
| Section 11-300 | Seeding and Sodding |

- B. Applicable References. Plant materials used in conjunction with the requirements of this Article shall conform to the standards of the most recent edition of:
 - 1. "American Standard for Nursery Stock" published by the American Association of Nurserymen.
 - 2. Virginia Soil and Water Conservation Commission Erosion and Sediment Control Handbook.

- 3. Erosion and Sediment Control Ordinance (Chapter 58 of the City of Manassas Code).
- 4. Virginia Cooperative Extension Publication, "Trees and Shrub Planting Guidelines," dated 1995.
- Vegetation/Tree Conservation Ordinance (Chapter 122 of the City of Manassas Code).

3-420.1 MATERIALS

Shrubs and trees shall be of a variety, size, quantity, and shall be planted as shown on the approved landscaping plans. Deviations from the landscaping plans can only be made with approval of the City Arborist. Plants shall be symmetrical, typical for variety and species, sound, vigorous, free from plant disease, insect pests or their eggs, and shall have healthy, normal root systems, well filling their containers, but not to the point of being root-bound. Plants not conforming to these requirements shall be considered defective, removed from the site immediately, and replaced with approved stock at the contractor's expense.

- A. Water: All plant material shall be watered immediately following installation. Water shall be provided by the contractor.
- B. Mulch: Shredded hardwood.
- C. Soil: Natural for the area, fertile, friable and within acceptable pH limits for the shrubs and trees.
- D. Fertilizer: Of the type and composition recommended by the "Virginia Cooperative Extension Tree & Shrub Planting Guidelines".
- E. Tree Stakes: Two (2) inch x two (2) inch x six (6) foot hardwood pointed on one end.
- F. Tree Grates: 180-degree square, flush, non-bolt, equal of Neenah Type R-8816. The Department of Public Works may modify this requirement and/or require larger grates to accommodate larger tree pits and minimum caliper sizes at time of planting.

3-420.2 EXECUTION

- A. Delivery, Storage, and Soil Testing: Contact the Prince William County Cooperative Extension Office for soil testing and deliver soils samples as necessary. Deliver plants to the site in a healthy condition and properly stored.
- B. Grading:
 - 1. Do not plant until finish grades are established and planting areas are properly prepared and graded.
 - 2. Do not work the soil when the moisture content is so great that excessive compaction will occur or when it is so dry that a dust will form in the air or that clods will not break readily. Apply water, if necessary, to provide ideal moisture for filling and for planting as herein specified.
 - 3. Preliminary grading shall be done in such a manner as to anticipate the finish grading. Remove excess soil or redistribute before application of fertilizer and mulch. Where soil is to be replaced by plants and mulch, make allowances so that, when finish grading has begun, there shall be no deficiency in the specified depth of mulched planting beds.
 - 4. When preliminary grading, including weeding and fertilizing, has been completed and the soil may be readily worked, grade all planting areas to a smooth, even and uniform plane with no abrupt change of surface. Slope soil areas adjacent to buildings away from the buildings and direct surface drainage as indicated on the drawings.
- C. Planting of Shrubs and/or Trees:
 - Trees planted too close together may require an unacceptably high level of maintenance and may be more susceptible to insect and disease problems. Spacing standards should reflect the mature size of the species and should be uniform throughout the community.
 - Generally, the planting of required trees should be in an irregular line and spaced at random, except where specific spacing requirements apply, such as with street trees.

- 3. Dig tree pits and plant in accordance with Standard Planting Details of this Article.
- 4. Plants shall bear the same relation to soil level when planted as they did when in container. Place each plant in center of plant pit.
- 5. Backfill each plant with acceptable soil. Do not incorporate organic matter such as peat moss into backfill for individual planting holes.
- D. Fertilizer and Backfill:
 - Incorporate slow-release granular fertilizers into backfill soil to provide nitrogen, or if a soil test indicates a need for phosphorus or potassium. Avoid using fast-release agronomic fertilizers that can dehydrate tree roots. Use no more than 1# actual nitrogen per 1,000 feet of planting hole surface. (Example - if using 18-6-12 with a five (5) foot diameter hole, incorporate 0.3 oz. per planting hole.)
 - 2. Backfill half the soil and then water thoroughly to settle out air pockets. Finish backfilling and cover any exposed root ball tops with mulch.
 - 3. Firmly tamp backfill material into plant pits around and under the root ball to force out all air pockets.
 - 4. Basin each plant with a berm four (4) inches in height above crown of root ball immediately after planting and thoroughly water to saturate the root ball and backfill.
 - 5. Stake all evergreen trees and flowering trees six (6) feet or greater in height with hardwood stakes driven two (2) feet into firm ground on windward side of tree. Secure tree to stake with #12 galvanized wire guys and rubber hose sections around tree trunk.
 - Guy all shade trees 12 feet in height or greater with #12 galvanized wire guys.
 Use rubber hose sections around tree trunks.
 - 7. Stake for a maximum of one year. Allow trees a slight amount of flex rather than holding them rigidly in place. Use guying or attaching material that will not damage the bark. To prevent trunk girdling, remove all guying material after one year. Chain lock can be used in place of wire and hose.

3-420.3 MAINTENANCE

The owners of any property developed with a site plan or subdivision plan shall be responsible for the continued proper maintenance, repair, and replacement of all landscaping materials.

- A. All areas developed in accordance with an approved landscape plan shall be kept in a proper, neat, and orderly appearance, free from refuse and debris at all times.
- B. All unhealthy and/or dead plant materials shall be replaced, as directed by the City Arborist.
- C. All landscaped areas should be provided with a readily available water supply.
- D. Maintenance should include weeding, cultivating, mulching, tightening, repairing of guys and stakes, removal of guys and stakes after one year, and resetting plants to proper grades or upright position, restoration of the planting saucer, fertilizing, pruning, and other necessary operations.
- E. Maintenance should begin immediately following the last operation of installation for each portion of lawn and for each plant.
- F. The City Arborist may periodically inspect the project and indicate whether the landscaping continues to meet the minimum requirements of this Article. Any violation will be noted and the property owners will have 30 days in which to correct all violations, except in those cases when plant material replacement should be delayed because of seasonal factors until the next planting season, which requires written approval by the City Arborist. Failure of the owner to provide maintenance as described above shall constitute a violation of the Zoning Ordinance.

3-430 LANDSCAPING PLAN PREPARATION AND SUBMITTAL

The following requirements shall apply to all development for which plans are required and shall apply to the preparation and submittal of all landscaping plans as required by this Article and the Zoning Ordinance.

A. Landscaping plans shall be included as part of any site plan or subdivision plan.

- B. Landscaping plans shall be drawn to scale and shall delineate all existing and proposed impervious areas, rights-of-way, existing and proposed utilities, and the location, size, and description of all landscaping/planting materials in accordance with the requirements of this Article. Aggregate Caliper Inch (ACI) buffer requirement calculations shall be shown on the landscaping plans.
- C. The landscaping/planting measures shown on landscaping plans shall be installed on the site, as per the approved or revised plans prior to the final release of the performance bond pertaining to a section or phase of the project.
- D. The landscape plans shall be prepared by a Landscape Architect, an individual with at least an Associate's Degree in Ornamental Horticulture with a specialty in Landscape Design, a certified Landscape Designer, or a certified Virginia Nurseryman. This requirement shall not apply to minor site plans.
- E. The name and signature of the person(s) responsible for the landscape plans shall be shown on the drawing.
- F. Existing tree cover within the limits of the proposed site plan or subdivision plan shall be retained to the greatest extent possible. Landscape plan details shall incorporate techniques described herein, or alternative methods approved by the City Arborist, for the protection of those trees to be preserved.
- G. Landscape plans shall provide a location of areas of existing tree cover on the property. This delineation of tree cover shall include groups of trees and individual trees standing apart from any woods on the site. All trees with a diameter at breast height (dbh) of 12 inches or greater shall be specifically identified, including but not limited to size, species, spread of the branches at the base, and a spot elevation on the landscape plan within 50 feet of any proposed disturbed area.
- H. Critical areas, such as 100-year flood plains, slopes steeper than 25 percent, and wetlands, should be left in their natural condition or only partially developed as open space.

- Designers should endeavor to locate roadways where they would cause the least damage to valuable stands of trees. The original contours should be followed, where feasible, to minimize cuts and fills.
- J. The limits of clearing and the boundaries of the land to be cleared of trees and other vegetation in conjunction with the proposed development (off-site as well as on-site) shall be shown on all landscaping plans.
- K. Where a tree or stand of trees is to be retained, the limits of clearing shall be equal to a vertical (drip) line extending from the outermost edge of the tree's canopy to the ground (Refer to Virginia Erosion & Sediment Control Handbook, Chapter 3). Other preservation methods approved by the City Arborist may be employed and noted on the landscaping plans. Such ungraded area shall not be included as required off-site parking areas.
- L. The location of all outstanding or monarch trees shall be accurately shown on the landscaping plans. These trees shall be preserved in accordance with the requirements of Section 3-440.
- M. The following note shall be included on all site plans or subdivision plans that include a landscaping or tree preservation/replacement plan: "The owner fee title to any property on which plant material has been established in accordance with approved landscape plans shall be responsible for the maintenance, repair, and replacement of the approved plant materials as required by the ordinance."

3-440 PRESERVATION OF VEGETATION

3-440.1 TREE PRESERVATION AND REPLACEMENT

The following tree preservation and replacement requirements shall apply to all development and shall apply to the installation and maintenance of all tree cover as required by this Article and the Zoning Ordinance:

A. Existing vegetation including singular trees with a minimum diameter at breast height (dbh) of 10 inches, which is suitable for use, shall be preserved to the extent possible for credit towards the amount of tree canopy cover required in accordance with the purpose and intent of the ordinance and requirements.

- B. In cases where quality wooded areas exist, as determined by the City Arborist, and are proposed as tree preservation areas, a minimum width of 35 feet of existing vegetation shall be preserved to reduce loss of existing plants due to grading or wind/sun exposure or as may be approved by the City Arborist.
- C. Natural vegetation and wooded areas intended for preservation shall be identified by a survey, which includes the predominant species and sizes.
- D. Where root pruning is proposed, it shall occur during the autumn or winter season unless the City Arborist approves off-season pruning.
- E. Trees to be preserved should be selected based on the following guidelines:
 - Trees with a diameter at breast height (dbh) of 12 to 18 inches should be preserved as part of the development as a matter of procedure. Trees over 18 inches dbh should be preserved unless specific hardship in writing is provided.
 - 2. Overall health and age.
 - 3. Small groves of young vigorously growing trees, which adapt more readily to a changing site, rather than single trees.
- F. Should an existing tree, intended and marked to be retained, be damaged seriously enough that survival and normal growth are not possible, the tree shall be removed. Replacement shall be required with a tree species that is appropriate for the location, as approved by the City Arborist, to provide the existing canopy of the damaged tree. Replacement trees shall be of equivalent or greater size than the existing tree that is removed; however, no tree shall be approved that is smaller than the minimum requirements of this article.
- G. When private development or private road improvements impact existing trees or landscaping within City street right-of-ways or medians the following options shall apply, subject to the approval of the Department of Public Works:
 - 1. Existing trees or landscaping shall be retained to the maximum extent possible.
 - 2. If existing trees or landscaping cannot be retained then:

- i. The development shall either install equivalent replacement trees or landscaping in an alternative City street right-of-way or median.
- ii. The development shall provide to the City a cash-in-lieu contribution calculated based on the total replacement cost of all existing trees or landscaping proposed to be removed. The cost to replace each existing trees shall be based on either the size of the existing tree, or a minimum caliper size of 4½ inches at planting for each new tree, whichever is greater.

3-440.2 GENERAL PRESERVATION REQUIREMENTS

Preservation of vegetation during clearing and grading operations shall include, but not be limited to, Standard Detail LR-3.1 and the following:

- A. Heavy equipment, vehicular traffic, or stockpiles of any construction materials, including topsoil, shall not be permitted within ten (10) feet of the drip line of any tree to be retained or within any tree preservation areas (whichever is greater).
- B. Trees being removed shall not be felled, pushed, or pulled into trees being retained.
- C. Equipment operators shall not clean any part of their equipment by striking the trunks of trees to be retained.
- D. Fires shall not be permitted within 100 feet from the drip line of any trees to be retained.
- E. Fires shall be limited to steel barrels to prevent adverse effects on shrubs and trees and kept under surveillance.
- F. No toxic materials shall be stored closer than 100 feet to the drip line of any trees to be retained.
- G. Paint, acid, nails, gypsum board, wire, chemicals, fuels, and lubricants shall not be disposed of in such a way as to injure vegetation.
- H. Any device may be used which will effectively protect the roots, trunk and tops of trees retained on the site. However, trees to be retained within 40 feet of a

proposed building or excavation shall be protected by fencing that clearly delineates areas of non-disturbance.

- I. Personnel shall be instructed to honor protective devices.
- J. Any tree(s) that are dead or obviously dying shall be removed during the initial construction phase. Any tree(s) that would be adversely affected by the construction activity so that it would die later may be considered for removal and replacement.
- K. In the design and construction of SWM ponds and public utilities, care shall be taken to minimize grading and vegetation removal by taking advantage of natural terrain. The usual undergrowth is a natural feature that is not necessarily undesirable, but some select removal may be approved by the City Arborist.

3-440.3 IMPACT OF ROOT ZONE

Trees establish their roots in areas that supply them with sufficient nutrients, water, and oxygen. These root masses maintain the balance between intake of water from the soil and the loss of water through transpiration from the leaves. Disturbing this relationship between the soil and the roots can damage or kill a tree. All conservation and landscape plans that indicate existing trees to be saved shall demonstrate that measures have been taken during the site design to ensure tree survival as approved by the City Arborist.

- A. Finish grade within an area 1.5 times the diameter of the drip line of any tree to be saved shall demonstrate that measures have been taken during the site design to ensure tree survival as approved by the City Arborist. Tree wells will be utilized as a "last resort" and will be evaluated on a case-by-case basis.
- B. No monarch tree which is to be saved shall have more than 25 percent of the area enclosed by a circle two (2) times the diameter of the drip line disturbed by trenching, excavating, or foundations 1^{1/2} times the diameter of the drip line for other trees to be saved. All areas which are "cut off" from the tree by this work shall be considered disturbed.

- C. Water shall not be impounded for longer than 48 hours within the drip line of any tree to be saved.
- D. Sediment laden run-off will be diverted from this area. However, preserved trees shall be watered and nutrients provided as determined necessary by the City Arborist.

3-440.4 FIELD PRACTICE

All fieldwork shall be done in accordance with the standards outlined in Chapter 3 of the Virginia Erosion and Sediment Control Handbook for Trees and in accordance with recommendations of the American Association of Nurserymen for the specific species being planted.

3-450 TREE CANOPY REQUIREMENTS

All development requiring submission and approval of a site plan or subdivision plan shall provide for the preservation, planting, or replacement of trees on the site to the extent that the minimum tree canopy cover will be provided at maturity of twenty years. Article VII of the Zoning Ordinance specifies the percentage of site coverage required for the various zoning districts.

- A. Tree canopy cover shall include all site landscaping, buffer, and screening areas and natural undisturbed open spaces that meet the height and spread requirements of this section for the 20-year maturity and will be counted towards meeting the required minimum tree canopy cover.
- B. Tree canopy cover requirement calculations shall be shown on the landscaping plans. The total site area shall be used for all calculations. Plant material selection and canopy cover computation shall be included.
- C. Tree canopy cover requirement calculations shall include the percentage of tree canopy cover required, the percentage provided by existing vegetation, and by landscape planting.
- D. Existing trees that are intended to provide all or part of the tree canopy cover requirements shall be generally shown on preliminary plans. On final plans,

provide protection at the dripline of trees to be preserved (See STD. 3.38 of the Virginia Erosion and Sediment Control Handbook and Standard Detail LR-3.1 of this Article). This area of protection may be required to be extended past the dripline of certain trees where required by the City Arborist.

- E. Proposed trees to provide all or part of the required tree canopy cover shall be shown on the landscape plans. Planting specifications shall be included on the plan sheet(s). Additional trees to be planted should be native species suited for site conditions. Non-native species can be substituted, provided they are suited for the site.
- F. The minimum planting area provided for each tree at 20 year maturity shall be as follows:
 - 1. 30 square feet for compact trees with < 100 square feet of crown cover.
 - 2. 50 square feet for small trees with 100-149 square feet of crown cover.
 - 3. 90 square feet for medium trees with 150-200 square feet of crown cover.
 - 4. 150 square feet for large trees with > 200 square feet of crown cover.
- G. These planting specifications do not apply to trees planted for screening and buffering purposes. However, trees planted for screening and buffering may be included in tree cover computations.
- H. Credit shall be provided at the rate of 1.25 times the area within existing driplines as surveyed in the field and indicated on the plans for existing trees to be preserved where such trees meet specifications and are worthy of preservation.

3-460 PARKING LOT LANDSCAPING

- A. Interior Landscaping Requirements
 - 1. Any site, except for single-family detached dwellings, requiring four (4) or more off-street parking spaces shall be provided with landscaped interior planting, strips, and islands comprising at least seven (7) percent of the total area of the parking lot and associated travelways. Such landscaping shall be in addition to any planting or landscaping area contiguous to the building and planting or landscaping required as a landscaping buffer. When a parking lot

perimeter landscaping strip is required by DCSM Section 3-460(B), a maximum four (4) foot wide portion of the parking lot perimeter landscape strip adjacent to the peripheral curb of the parking area may be credited toward the seven (7) percent requirement. This area shall be included in the minimum landscaping requirements for any plan.

- 2. The primary landscaping materials used in parking lots shall be grass, shrubs, trees, and similar live planting material. Each interior planting area shall provide for not less than one (1) canopy or understory tree per every 165 square feet, or portion thereof, of the total landscape island area. Such trees shall provide shade on the parking space at maturity.
- Off-street parking areas shall be constructed so that spaces are grouped into bays with interior landscaping islands separating the bays from each other. Any off-street parking bay shall not contain more than 25 parking spaces or be constructed to a length of more than 200 feet.
- 4. At a minimum, interior landscaping shall be provided at both ends of all bays and may be incorporated within a continuous landscaped median separating two rows of parking. Islands will have a minimum size of 165 square feet for single-loaded parking bays and a minimum size of 330 square feet for doubleloaded bays.
- 5. The interior width of any planting area shall be not less than nine (9) square feet and not narrower than three (3) feet across its center to protect the plants and allow for mature growth of the species. If the island is shared with another utility, then the island shall be no less than five (5) feet in width at the location of the tree.
- 6. Curbing, or other similar devices such as wheel stops or railroad ties not less than four (4) inches or more than eight (8) inches in height, shall be installed around the perimeter of all planting areas to prevent vehicle contact with the plant material.



- B. Parking Lot Perimeter Landscaping Requirements
 - Perimeter parking lot landscaping strips shall be provided and maintained wherever a parking lot abuts a street right-of-way, lot line, or any other development except:
 - a. Single-family detached dwellings;
 - b. Where interconnected or shared parking lots are provided;
 - c. Where the Zoning Ordinance already requires a perimeter buffer; or
 - d. Parking lots in the Historic Overlay District or zoned I-A, Airport.
 - Perimeter parking lot planting strips shall be a minimum of 10 feet wide and shall include at a minimum eight ACI of canopy trees and 15 shrubs per 100 linear feet of landscaping strip.
 - 3. Curbing, wheel stops, or other comparable protective method shall be used to protect the perimeter landscaping strips from vehicle damage.

3-470 FOUNDATION, PERIMETER LANDSCAPING, AND STREET TREES 3-470.1 FOUNDATION LANDSCAPING

- A. Purpose and Intent. The purpose for these standards for foundation plantings is to require landscaping plantings that soften the visual impacts of building walls.
- B. Applicability.
 - 1. The requirements in this section shall apply to new non-residential, multifamily, and mixed-use building walls that face a street right-of-way (other than an alley).
 - 2. These requirements shall also apply to additions or expansions of existing building walls meeting the criteria of subsection B(1).
- C. Exemptions. The following shall be exempted from these requirements:
 - 1. Building walls where all required off-street parking is provided to the side or rear of the building and a landscaped right-of-way buffer is provided.
 - 2. Building walls located within three (3) feet of a public sidewalk.
 - 3. Building walls located farther than 100 feet from an adjacent street.
 - 4. Buildings in the Historic Overlay District or zoned I-A, Airport.
- D. Foundation planting requirements.
 - Foundation plantings shall include, at a minimum, two (2) shrubs for every ten (10) feet of building wall that faces a street right-of-way. Shrubs shall be planted in a minimum three (3) foot wide planting strip along the full extent of the building wall.
 - In instances where an equipment or service area occupies a portion of a building wall facing a street right-of-way, the landscaping requirements in Section 3-600 shall apply.
 - 3. Required foundation landscaping may be planted up to 15 feet from the building facade wall when there is a sidewalk located between the planting area and the building wall.



3-470.1. FOUNDATION LANDSCAPING

3-470.2 PERIMETER LANDSCAPE BUFFERS

- A. Purpose and intent. Perimeter landscape buffers are intended to mitigate potential negative effects of contiguous uses in differing zoning districts.
- B. Applicability. All development shall provide a perimeter landscape buffer when required by the Zoning Ordinance or when shown on a Generalized Development Plan, proffered, or required as a condition of a Special Use Permit.
- C. Buffer Types. Table 3-470, Buffer Types, describes two (2) different buffering options in terms of their function, opacity, width, and planting requirements. Where a berm, fence, or wall is proposed within the buffer, it shall also comply with the requirements of Section 3-500 and Section 3-600. The term "Aggregate Caliper Inch" (ACI) means a measure of the total combined number of inches of existing trees to be preserved (existing trees shall meet all requirements of this Article) and proposed trees used to meet perimeter landscaping requirements. ACI buffer requirement calculations shall be shown on the landscaping plans.
- D. Berms. All berms shall comply with the following design requirements:
 - The slope of all berms shall not exceed a two-to-one (2:1) ratio (horizontal to vertical), shall have a top width at least one-half the berm height, and a maximum height of four (4) feet above the toe of the berm.

- 2. All berms, regardless of size, shall be stabilized with a ground cover or other suitable vegetation.
- Berms proposed to be placed along street right-of-way shall be designed and constructed to provide adequate sight distances at intersections and along the street.
- 4. Berms shall not damage the roots of existing healthy vegetation designated to be preserved.
- E. Location of Buffers. Perimeter landscape buffers required by this subsection shall be located along the outer perimeter of the parcel and such buffers shall begin at the applicable lot line and extend inward.
- F. Development within Required Buffers:
 - 1. Unless permitted in this subsection, no required landscape buffer shall contain any buildings, structures, improvements, or uses other than landscaping.
 - 2. Monument signs as permitted by the Zoning Ordinance may be placed in perimeter buffers.
 - 3. Sidewalks and trails may be placed in perimeter buffers if all required landscaping is otherwise provided. When sidewalks and trails are placed in a perimeter landscape buffer, pervious surfacing shall be used to the maximum extent practicable, and the location of the sidewalk and trail shall be situated to minimize damage and removal of existing vegetation.
 - 4. Overhead and underground utilities may cross a perimeter buffer, but shall not be configured to run parallel with and inside a perimeter buffer unless the landscaping located within the buffer will remain undisturbed. This requirement shall not apply to the ten (10) foot wide utility easement along the street right-of-way, when required.
 - 5. If required landscaping material is damaged or removed due to utility activity within a required buffer, the owner shall be responsible for re-establishing the required landscape buffer to meet the requirements of this section.



[3] Utility easements may be required within ROW buffer. See Section 3-480 for landscaping restrictions within easements.



[2] Opaque buffers shall be planted in an undulating pattern to maximize the aesthetic value of the plantings.

3-470.3 STREET TREES

- A. Street trees shall be required for all development in the City in accordance with the following requirements:
 - Street trees shall be provided as required by the Zoning Ordinance or when shown on a Generalized Development Plan, proffered, or required as a condition of a Special Use Permit.
 - 2. Trees shall be evenly spaced and aligned along the right-of-way frontage within 15 feet of the edge of the roadway pavement and placed between the edge of the roadway pavement and any sidewalk or trail, or within tree pits as required by Article 9 of this Manual. A minimum of one (1) street tree for every 35 feet of street right-of-way frontage shall be provided.
 - 3. Type. All trees shall be on the City's approved street tree list or be approved by the City Arborist. All trees shall have a minimum caliper of 4½ inches at the time of planting. Existing mature, healthy trees located within the streetscape buffer shall be preserved and maintained as part of the overall landscaping plan for the development.
 - 4. Configuration:
 - i. Single street trees shall be canopy trees except when beneath overhead utilities where understory trees may be used if approved by the agency having the right over such easement.
 - ii. No single genus shall constitute more than 20 percent of the number of trees to be planted.
- B. Deviations from the requirements may be approved in accordance with Section 3-700.

3-480 PLANTING PRACTICE WITHIN EASEMENTS

The following procedure shall be used for coordinating landscaping, buffers, utility easements, and underground pipelines as well as special approval for conflicts between easements and any requirements of this Article.

3-480.1 GENERAL REQUIREMENTS

- A. Ordinance required landscape/tree preservation easements may be allowed to overlap public utility easements subject to approval by the agency having the right over such easement.
- B. Ordinance required landscaping materials, excluding trees, are permitted in public utility easements, subject to approval by the appropriate owner of the easement.
- C. All landscaping within drainage swales and ditches is prohibited.
- D. Trees placed or naturally spread into public utility easements, with or without approval, will not be replaced by the City if damaged by the utility line or maintenance activities unless a private easement agreement explicitly states otherwise.

3-480.2 DESIGN CONSIDERATIONS FOR LANDSCAPING IN UTILITY EASEMENTS

When locating ordinance required landscaping in a public utility easement, the following shall be considered in the order shown below:

- A. Relocate proposed public utility lines (water, storm sewer, sanitary sewer) outside of the landscape area, if possible.
- B. Move trees outside of easements, if objectives of ordinance required screening are met.
- C. Design required landscaping for screening using specific trees and shrubs that will not conflict with the utilities within public easements.
- D. Install all utilities in a conduit bank with sufficient design for replacement lines.
- E. If any of the alternatives considered in the order listed above can resolve the conflict between tree locations and utility easements, then no modification is necessary.

3-490 TREE AND SHRUB LISTS

The following lists should be used to assist in the design of landscaping plans. Other species may be approved by the City Arborist as appropriate.

| SMALL/MEDIUM TREES | | | |
|----------------------|-------------------|----------------|--------------|
| Botanical Name | Common Name | Min. Height or | 20-year Tree |
| | | Caliper | Coverage |
| Acer palmatum | Japanese Maple | 6-7' | 115 |
| Amelanchier | Service berry | 6-7' | 150 |
| canadensis | | | |
| Carpinus caroliniana | American Hornbeam | 6-7' | 145 |
| Cercidiphyllum | Katsura Tree | 6-7' | 145 |
| japonicum | | | |
| Cercis canadensis | Redbud | 6-7' | 165 |
| Chionanthus | White Fringe Tree | 6-7' | 90 |
| virginicus | | | |
| Cornus florida | Flowering Dogwood | 6-7' | 115 |
| Cornus kousa | Chinese Dogwood | 6-7' | 125 |
| Cornus mas | Cornelian Cherry | 6-7' | 80 |
| Cotinus coggygria | Smoke Bush | 6-7' | 115 |
| Crataegus | Washington | 6-7' | 115 |
| phaenopyrum | Hawthorn | | |
| Koelreuteria | Golden- Rain Tree | 6-7' | 155 |
| paniculata | | | |
| Lagerstroemia ssp. | Crape Myrtle | 6-7' | 145 |
| Magnolia stellata | Star Magnolia | 6-7' | 75 |
| Magnolia x | Saucer Magnolia | 6-7' | 145 |
| soulangiana | | | |

3-490.1 RECOMMENDED TREE AND SHRUB LIST

| SMALL/MEDIUM TREES | | | |
|--------------------|---------------------------------------|---------|--------------|
| Botanical Name | Botanical Name Common Name | | 20-year Tree |
| | | Caliper | Coverage |
| Malus spp. | Flowering Crabapple | 6-7' | 130 |
| Oxydendrum | Sourwood | 6-7' | 105 |
| arboreum | | | |
| Prunus serrulata | Japanese Flowering | 6-7' | 150 |
| | Cherry | | |
| Prunus subhirtella | Weeping Higan | 6-7' | 130 |
| 'Pendula' | Cherry | | |
| Prunus x 'Okame' | Okame Cherry | 6-7' | 155 |
| Prunus x yedoensis | Yoshino Cherry 6-7' | | 150 |
| Quercus robur | Pyramidal English 2-2 ^{1/2"} | | 95 |
| 'Fastigiata' | Oak | | |
| Stewartia spp. | Stewardia | 6-7' | 90 |
| Styrax japonicus | Japanese Snowbell6-7'12 | | 125 |

| MEDIUM/LARGE TREES | | | |
|-------------------------------------|------------------|----------------------|--------------|
| Botanical Name | Common Name | Min. Height or | 20-year Tree |
| | | Caliper | Coverage |
| Acer campestre | Hedge Maple | 2-2 ^{1/2"} | 145 |
| Acer ginnala | Amur Maple | 2-2 ^{1/2"} | 145 |
| Betula nigra | River Birch | 2-2 ^{1/2"} | 225 |
| Betula platyphylla var. japonica | Whitespire Birch | 2-2 ^{1/2} " | 190 |
| Cedrus deodara | Deodar Cedar | 6-7' | 155 |
| Cedrus atlantica glauca | Blue Atlas Cedar | 6-7' | 90 |
| Cladrastis lutea | Yellow wood | 2-2 ^{1/2"} | 215 |
| Cryptomeria japonica | Japanese Cedar | 6-7' | 115 |

| MEDIUM/LARGE TREES | | | |
|----------------------------|----------------------------|----------------------|--------------|
| Botanical Name | Botanical Name Common Name | | 20-year Tree |
| | | Caliper | Coverage |
| X Cupressocyparis | Leyland Cypress | 6-7' | 175 |
| leylandii | | | |
| Gleditsia triacanthos var. | Thornless Honey | 2-2 ^{1/2} " | 225 |
| inermis | Locust | | |
| llex x Nellie R. Stevens | Nellie Stevens | 6-7' | 115 |
| | Holly | | |
| llex opaca | American Holly | 6-7' | 80 |
| Liquidambar styraciflua | Sweet Gum | 2-2 ^{1/2"} | 215 |
| Magnolia virginiana | Sweet Bay | 6-7' | 90 |
| | Magnolia | | |
| Phellodendron | Amur Corktree | 2-2 ^{1/2} " | 215 |
| amurense | | | |
| Picea omorika | Serbian Spruce | 6-7' | 90 |
| Picea pungens | Colorado Spruce | 6-7' | 135 |
| Pinus nigra | Austrian Pine | 6-7' | 145 |
| Pinus thunbergii | Japanese Black | 6-7' | 145 |
| | Pine | | |
| Pyrus calleryana | Callery Pear | 2-2 ^{1/2} " | 125 |
| | (cultivars only) | | |
| Quercus acutissima | Sawtooth Oak | 2-2 ^{1/2"} | 135 |
| Sophora japonica | Pagodatree | 2-2 ^{1/2} " | 215 |
| Tilia cordata | Little Leaf Linden | 2-2 ^{1/2"} | 155 |
| Thuja plicata 'Green | Green Giant | 6-7' | 115 |
| Giant' | Arborvitae | | |

| LARGE TREES | | | |
|-------------------------|---------------------------------|-----------------------------|--------------|
| Botanical Name | Common Name | Min. Height or | 20-year Tree |
| | | Caliper | Coverage |
| Acer rubrum | Red Maple | 2-2 ^{1/2} " | 250 |
| Acer saccharum | Sugar Maple | 2-2 ^{1/2} " | 250 |
| | (cultivars) | | |
| Celtis spp. | Hackberry | 2-2 ^{1/2} " | 300 |
| Fagus grandifolia | American Beech | 2-2 ^{1/2"} | 240 |
| Ginkgo biloba | Ginkgo (male only) | 2-2 ^{1/2} " | 175 |
| Liriodendron tulipifera | Tulip Poplar | 2-2 ^{1/2} " | 225 |
| Magnolia grandiflora | Southern Magnolia | 6-7' | 250 |
| Metasequoia | Dawn Redwood | 2-2 ^{1/2} " | 190 |
| glyptostroboides | | | |
| Nyssa sylvatica | Black Gum | 2-2 ^{1/2"} | 190 |
| Picea abies | Norway Spruce | 6-7' | 195 |
| Pinus strobus | White Pine | 6-7' | 215 |
| Pinus taeda | Loblolly Pine | 6-7' | 215 |
| Pinus virginiana | Virginia Pine | 6-7' | 215 |
| Platanus x acerifolia | London Plane | 2-2 ^{1/2} " | 325 |
| 'Bloodgood' | | | |
| Platanus occidentalis | Sycamore | 2-2 ^{1/2} " | 370 |
| Pseudotsuga menziesii | Douglas Fir | 6-7' | 135 |
| Quercus alba | White Oak | 2-2 ^{1/2} " | 225 |
| Quercus bicolor | Swamp White Oak | 2-2 ^{1/2} " | 225 |
| Quercus coccinea | Scarlet Oak 2-2 ^{1/2"} | | 225 |
| Quercus falcata | Southern Red Oak | 2-2 ^{1/2} " | 225 |
| Quercus macrocarpa | Bur Oak | 2-2 ^{1/2"} | 200 |
| Quercus nigra | Water Oak | 2-2 ^{1/2} " | 225 |
| Quercus palustris | Pin Oak | 2-2 ^{1/2"} | 235 |

| LARGE TREES | | | |
|-------------------|---------------------------------|---------------------|--------------|
| Botanical Name | Common Name | Min. Height or | 20-year Tree |
| | | Caliper | Coverage |
| Quercus phellos | Willow Oak | 2-2 ^{1/2"} | 275 |
| Quercus rubra | Red Oak | 2-2 ^{1/2"} | 225 |
| Taxodium distchum | Bald Cypress | 2-2 ^{1/2"} | 240 |
| Tilia americana | Basswood | 2-2 ^{1/2"} | 315 |
| Ulmus parvifolia | Chinese elm | 2-2 ^{1/2"} | 225 |
| Zelkova serrata | Japanese Zelkova (cultivars) | 2-2 ^{1/2"} | 225 |

| SHRUBS | |
|----------------------|-------------|
| Name | Min. Height |
| Abelia | 24" |
| Azalea | 24" |
| Berberis (Barberry) | 24" |
| Boxwood | 24" |
| Crape Myrtle | 24" |
| Deutzia | 24" |
| Fothergilla | 24" |
| Heather | 24" |
| Hydrangea | 24" |
| Hypericum | 24" |
| llex crenata, glabra | 24" |
| Juniper | 24" |
| Mahonia | 24" |
| Nandina | 24" |
| Pieris | 24" |
| Pinus mugo | 24" |

| SHRUBS | |
|--------------------|-------------|
| Name | Min. Height |
| Potentilla | 24" |
| Roses (shrub type) | 24" |
| Spirea | 24" |
| Taxus baccata | 24" |
| Weigela | 24" |

3-490.2 TREE AND SHRUB SPECIES FOUND UNDESIRABLE IN AN URBAN ENVIRONMENT

The following list of trees and shrubs has exhibited qualities that are undesirable when planted in an urban environment and shall not be used unless approved by the City Arborist. These trees or shrubs may have values in a natural environment such as providing food and shelter for wildlife or serving to stabilize stream banks. In some instances, these species may be considered for enhancing portions of sites abutting floodplain conservation areas and large natural open space areas, wetlands, or open bodies of water. However, care should be given when considering using these species for use near sidewalks. A short list of problems normally associated with these tree species is also provided.

| TREES | | |
|---------------------|----------------|--|
| Botanical Name | Common Name | Common Problems |
| Acer negundo | Box Elder | Weak wood, short lived, attracts box elder bugs |
| Acer saccharinum | Silver Maple | Weak wood, shallow roots, prolific seeding |
| Ailanthus altissima | Tree of Heaven | Offensive odor, invasive, poor landscape qualities |
| Albizia julibrissin | Mimosa | Short lived, prone to diseases & insects |

| TREES | | | |
|---------------------------|----------------------|--|--|
| Botanical Name | Common Name | Common Problems | |
| Betula papyrifera | Paper Birch | Borers | |
| Ginkgo biloba (female) | Ginkgo | Objectionable fruit | |
| Morus spp. | Mulberry | Female plant produces offensive smelling fruit | |
| Paulownia tomentosa | Princess Tree | Invasive, Weak Wood, messy | |
| Pinus sylvestris | Scotch Pine | Stress (heat, poor drainage, insects) | |
| Populus species | Poplars | Short lived, extensive root system | |
| Prunus serotina | Wild Black Cherry | Objectionable fruit, insects | |
| Salix species | Willows | Canker disease, extensive root system | |
| Ulmus pumila | Siberian Elm | Short lived, brittle wood, insects | |
| Ulmus Americana | American Elm | Dutch Elm Disease | |
| Acer platanoides | Norway Maple | Short lived, good for more northern climates | |
| Fraxinus Species | Ash | Emerald Ash Borer | |

| SHRUBS |
|--------------------|
| Bamboo |
| Burning Bush |
| Butterfly Bush |
| Cotoneaster |
| Honeysuckle |
| Multiflora rose |
| Ornamental grasses |

| SHRUBS |
|-------------|
| Privet |
| Scotchbroom |

SECTION 3-500 FENCES AND WALLS

A. Purpose and Intent:

The purpose and intent of this section is to regulate the location, height, and appearance of fences and walls to maintain visual harmony within residential, business, industrial, and planned districts, protect adjacent properties from the indiscriminate placement and unsightliness of fences and walls, and ensure the safety, security, and privacy of properties.

- B. Applicability:
 - General. Unless exempted below, the requirements of this section shall apply to the construction, reconstruction, or replacement of fences or walls in the City. In the event of any conflict between the requirements of this section and any screening standard in Section 3-600, the latter shall govern.
 - 2. Exemptions. The following are exempted from the requirements of this section:
 - i. The replacement of existing fences with original or equivalent materials.
 - ii. Recreational fencing provided as a part of a permitted tennis court, athletic field, or other recreational facility.
 - iii. Temporary fencing established around construction sites, demolitions, or other site conditions unsafe for pedestrians or vehicles, provided it is consistent with the building code and this Manual.
 - Time of compliance with the requirements of this section shall occur as part of the approval of a site plan, building permit, or zoning certification, whichever occurs first.
- C. General Requirements for Fences and Walls.
 - Location. Fences are permitted anywhere on a lot outside of sight distance triangles or easements, except as approved by the Department of Public Works or Department of Utilities, and may be located directly over a property line between two (2) or more parcels of land held in private ownership. Fences or walls shall not obstruct access to fire hydrants and shall maintain a

minimum clearance of four (4) feet in accordance with the requirements of the fire prevention code.

- Blocking Natural Drainage Flow. No fence shall be installed that blocks or diverts a natural drainage flow. Nothing in this section shall be construed to prevent the installation of temporary construction fencing to protect existing trees, limit sedimentation, or control erosion.
- 3. Fences and Walls within Buffers. Fences and walls shall be installed so as not to disturb or damage existing vegetation or installed plant material.
- 4. Building Permit. Refer to the Virginia Construction Code for building permit requirements pertaining to fences and walls.
- Historic Overlay District. Fences and walls in a Historic Overlay District shall comply with the Historic District Design Guidelines and, when required, shall be approved by the Architectural Review Board.
- 6. Retaining Wall. Retaining walls shall be of a uniform style that complies with the design requirements of this section.
- D. Height Requirements for Fences and Walls. All fences and walls shall conform to the following requirements and shall not exceed the maximum height limits of the Zoning Ordinance.
 - 1. Heights are measured from finished grade on the highest side of the fence or wall.
 - Fence or walls that incorporate safety or security features approved under a security plan (Section 3-500 F) shall not exceed eight (8) feet.
- E. Appearance.
 - Customary Materials. Fences and walls shall be constructed of any combination of treated wood posts and vertically oriented planks, rot-resistant wood, wrought iron, decorative metal materials, brick, stone, masonry materials, or products designed to resemble these materials. Where wood, masonry, or other opaque materials are specified for particular types of screening or buffering fences or walls, all other fence materials are prohibited.



Figure 3-500.1. Examples of Fence and Wall Design

- 2. Finished Side to Outside. Wherever a fence or wall is installed, if one side of the fence or wall appears more "finished" than the other (e.g., one side has visible support framing and the other does not), then the more "finished" side of the fence shall face the perimeter of the lot rather than the interior of the lot.
- Compatibility of Materials Along a Single Lot Side. All fencing or wall segments located along a single lot side shall be composed of a uniform style and colors compatible with other parts of the fence and with the associated buildings.
- 4. Chain link fencing shall be allowed, subject to the following requirements:
 - i. Residential Districts: Chain link fencing is permitted on lots within "R" zoning districts, provided it does not include opaque slats and does not exceed the maximum allowable height in Section 3-500(D).
 - ii. Industrial Districts: Chain link fencing shall be allowed on lots within "I" zoning districts, provided it is coated with black or dark green vinyl and does not exceed the maximum allowable height in Section 3-500(D).

Where opaque fencing is required, the chain link fencing may include black or dark green opaque slats.

- iii. Business/Planned Districts: Chain link fencing shall only be allowed on lots within "B" or "P" zoning districts where the chain link fencing is not visible from any street right-of-way. The chain link fencing shall be coated with black or dark green vinyl and not exceed the maximum allowable height in Section 3-500(D). Where opaque fencing is required, the chain link fencing may include black or dark green opaque slats.
- Barbed or razor wire is permitted only in accordance with an approved security plan or as part of airport perimeter fencing (Sections 3-500(G) and 500(H)).
- 6. Prohibited Materials. Fences or walls made of debris, junk, rolled plastic, sheet metal, plywood, or waste materials are prohibited in all zoning districts unless such materials have been recycled and reprocessed to resemble new building materials (e.g., picket fencing made from recycled plastic).
- F. Vacant Property.
 - 1. Vacant property may be fenced if:
 - i. The fence does not exceed the zoning district height requirements.
 - ii. The fencing maintains a minimum transparency of 50 percent.
 - iii. The purpose of the fencing is only to discourage unauthorized dumping or unauthorized parking on the property.
 - 2. Fencing of the vacant property shall not be construed to allow use of land for an outdoor storage yard.
- G. Exemption for Security Plan. A property owner, tenant or representative of a public agency responsible for a government facility, public safety use, or other use in need of heightened security, may submit to the City a site security plan proposing fences or walls taller than those permitted by this section or proposing the use of barbed or concertina wire atop a fence or wall for security reasons. The City may approve or approve with conditions the site security plan and its

proposed exemption of fences or walls from the requirements of this section upon finding:

- 1. Taller Fence or Wall Needed for Safety or Security Reasons. The condition, location, use of the property, or the history of activity in the area, indicates that the land or any materials stored or used on it are in significantly greater danger of theft or damage than surrounding land or represent a significant hazard to public safety without a taller fence or the use of barbed or concertina wire atop a fence or wall.
- No Adverse Effect. The proposed taller fences, walls, or use of barbed or concertina wire will not have a significant adverse effect on the security, functioning, appearance, or value of adjacent properties or the surrounding area as a whole.
- H. Airport Perimeter Fencing. Perimeter fencing shall match existing tie-in and the following requirements:
 - Fencing shall be constructed of chain link fabric with corner and end posts measuring three (3) inches in diameter with line posts measuring 2^{1/2} inches in diameter.



Figure 3-500.2. Airport Perimeter Security Fence with Wildlife Deterrent

- Fencing and posts shall be black in color with a height of eight (8) feet with an additional one (1) foot of three (3) strands of barbed razor wire placed at a 45-degree angle away from the airport operations area.
- Gaps between fencing and the ground below shall be no greater than three
 (3) inches.
- 4. All poles shall be set in concrete a minimum of 3½ feet below grade.
- 5. Fencing should include wildlife deterrent measures.
- "AIRPORT PROPERTY NO TRESSPASSING" signage shall be provided every 250 feet with at least one (1) sign on each straight section of fence (if a section is less than 250 feet) and (1) sign at all gates.
- 7. Any proposed vehicle access gate shall have the ability to tie-in with the airport's existing access control system.
- 8. Vehicle access gates should be constructed of aluminum tie-metal and be a cantilever slide gate. Gates shall be gray in color.



Figure 3-500.3. Airport Perimeter Access Gate Detail

SECTION 3-600 SCREENING REQUIREMENTS

Screening shall be provided where required by the Zoning Ordinance or this Article. Screening shall include provisions of a natural, physical, visual, or aural division between conflicting uses. Such screening shall consist primarily of trees and shrubs or a combination of trees, shrubs, and artificially constructed barriers in accordance with the requirements of Section 3-500 or Section 3-600.

A. General Requirements. In addition to the required foundation plantings, parking lot landscaping, and perimeter landscape buffer requirements, screening shall be required to conceal specific areas of high visual or auditory impact and hazardous areas from both on-site and off-site views (see Figure 3-600.1, Screening Methods). Such areas shall be screened at all times, unless otherwise specified, regardless of adjacent uses, districts, or other proximate landscaping material.



Figure 3-600.1. Screening Methods

- B. Historic Overlay District. All screening in the Historic Overlay District shall comply with the Historic District Design Guidelines and, when required, shall be approved by the Architectural Review Board.
- C. Items to be Screened. The following areas shall be screened from off-site views in accordance with this section:
 - 1. Trash dumpsters, trash compactors, or refuse collection areas (including recycling containers).
 - 2. Loading and service areas.
 - 3. Outdoor or exterior storage areas.
 - 4. Ground-level mechanical units and utility meters.
 - 5. Rooftop mechanical equipment.
- D. Screening Methods. The following items are permitted for use as screening materials. Alternative screening materials, including opaque fencing (Section 3-500), that are not listed may be used if it is determined they are comparable to these screening materials.
 - 1. Vegetative materials that meet the minimum vegetative screening requirements for a Type B buffer (see Table 3-470) and planted and maintained in accordance with Section 3-400.
 - 2. An earthen berm that is at least two (2) feet in height, covered with grass, and planted with other landscaping materials consistent with the function of and requirements for a Type B buffer (see Table 3-470); however, a berm shall not be used within the Historic Overlay District or remove existing trees.
 - A masonry wall that is the minimum height necessary to fully screen the object being screened, and is constructed of brick, concrete masonry units (textured only), or stucco block.
 - Use of chain link fencing shall meet the requirements of Section 3-500; however, the use chain link fencing shall be prohibited for screening trash dumpsters, trash compactors, or refuse collection areas.

- 5. All plans or permits for rooftop mechanical equipment shall provide screening through one of the three options provided below.
 - i. The equipment shall be located below the parapet of the building.
 - ii. The rooftop mechanical equipment shall be screened by an opaque architectural screening element similar in design and color to the underlying building.
 - iii. Screening of rooftop mechanical equipment shall not be required if the applicant submits line-of-sight diagrams demonstrating the proposed equipment will not be visible from any lot line or from within 150 feet of any street right-of-way.
- D. Configuration of Vegetative Materials.

In cases where vegetative materials are used for screening in accordance with this subsection, the vegetative materials shall:

- 1. Be planted around the perimeter of the site feature to be screened in a manner that screens the site feature from all off-site views.
- 2. Be configured in staggered rows or other arrangements that provide maximum screening.
- 3. Be upright, contain large evergreen shrubs, and capable of reaching at least six (6) feet in height within three (3) years of planting.
- 4. Be spaced no farther than three (3) feet on center.
- E. Trash Dumpsters, Trash Compactors, or Refuse Collection Areas. Except for facilities serving individual single-family detached residential, duplex, singlefamily attached dwellings, and un-manned uses that do not generate any waste, all trash dumpsters, trash compactors, or refuse collection areas shall be subject to the following requirements:
 - Depicted on generalized development plans (GDP) and/or site plans. All GDP and site plans shall address the location of on-site trash storage facilities.

- i. The location and configuration of screening for external trash dumpsters, trash compactors, or refuse collection areas shall be depicted on all GDP and site plans.
- ii. Internal trash storage and internal trash compactors, including buildings designated as Downtown on the Comprehensive Plan Character Area Map, shall be provided wherever feasible or when required by the Department of Public Works.
- iii. If trash dumpsters, trash compactors, or refuse collection areas are proposed internal to a building, a note shall be included on all plans stating: "Internal trash storage only. No external trash dumpsters, trash compactors, or refuse collection areas are permitted."
- Screening Configuration. In cases where access to trash dumpsters, trash compactors, or refuse collection areas face a street right-of-way, the accessway shall be screened with an opaque gate. Chain link fencing shall not be used for gates.
- Setbacks. Trash dumpsters, trash compactors, or refuse collection areas, and the fences or walls screening them, shall maintain setbacks applicable for accessory structures in the district where located, and shall not be located within front or corner side yards.
- Surfacing Requirements. Areas intended for large waste dumpsters and refuse collection shall be surfaced with concrete that meets or exceeds minimum City requirements.
- 5. Drainage. Restaurants and other uses that produce significant amounts of liquid waste shall configure areas intended for large waste dumpsters and refuse collection to drain to the sanitary sewer system through grease traps or similar devices as required by the City.

Figure 3-600.2. Example Trash Dumpster Screening

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SECTION 3-700 MODIFICATIONS

Landscaping, fencing, and screening requirements established by this Section may be modified in certain circumstances. The City may consider only those modifications that will assure that the results of the modification comply with the intent of this section.

- A. Any expansion of a nonconforming use or structure, as allowed by the Zoning Ordinance, shall not be permitted within the area where screening and buffering would otherwise be required.
- B. Where conditions do not allow the screening to be achieved within the buffer zone, then the City may require alternative screening to meet the intent of this Section.
- C. Screening and landscaping shall not be provided in easements unless specifically approved by the agency having the right over such easement. No electric, sanitary, water, or storm drainage easements, other than those necessary to cross a buffer area, shall be allowed within buffer areas.

SECTION 3-800 ADDITONAL LANDSCAPING REQUIREMENT DETAILS

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