

ARTICLE 9 ENVIRONMENTAL CONTROL REGULATIONS

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9.1. SEDIMENTATION AND EROSION CONTROL.

9.1.1. SECTION RESERVED

This section is reserved for future inclusion of local sedimentation and erosion control administration and enforcement. Until such time, the NC Department of Environment and Natural Resources (DENR) shall have jurisdiction in Harrisburg. State Standards, requirements, and procedures shall apply to all projects under the jurisdiction of this Unified Development Ordinance.

9.2. STORMWATER RUNOFF.

9.2.1. CAPACITY OF STORMWATER MANAGEMENT FACILITIES.

9.2.1.1. The Stormwater Quality Ordinance of the Town of Harrisburg, and any revisions thereto, is hereby adopted by reference and declared to be a part of this Section 9.2. Please refer to The Stormwater Quality Ordinance of the Town of Harrisburg for the regulations regarding stormwater management.

9.2.2. OBSTRUCTION OF DRAINAGE CHANNELS PROHIBITED.

No fences or structures shall be constructed across an open drainage channel that will reduce or restrict the flow of water. The Administrator may require any water course or stormwater management facility to be located within dedicated a drainage easement officially recorded by the Cabarrus County Recorder of Deeds as a “permanent detention easement” that provides sufficient width for maintenance.

9.2.3. LOT GRADING AND LANDSCAPING STANDARDS.

The following standards shall be followed in establishing the grading plan for a development.

9.2.3.1. POSITIVE DRAINAGE REQUIRED.

Developments shall be designed and constructed with a positive drainage flow away from buildings towards approved stormwater management facilities. Plans for drainage facilities shall be approved by the Engineer. All interim and permanent drainage facilities shall be designed and constructed in accordance with the standards established in the Stormwater Standards of this Ordinance.

9.2.3.2. DRAINAGE PLANS TO ACCOUNT FOR ALL DEVELOPMENT.

In the design of site grading plans, all impervious surfaces in the proposed development (including off street parking shall be considered.

9.2.3.3. PROTECTION FROM SEDIMENTATION.

Site grading and drainage facilities shall protect sinkholes, wetlands, ponds and lakes from increased sediment loading.

9.2.3.4. INCREASED RUNOFF PROHIBITED.

Site grading shall not increase the volume or velocity of runoff onto downstream properties unless specifically approved as part of a project’s drainage plan.

9.2.3.5. LANDSCAPING.

All disturbed areas within the dedicated right-of-way and easements of any subdivision street shall be restored with vegetation. Street trees shall be planted or, where permitted trees already exist, consistent with the Landscaping Standards of this Article, maintained and protected between the paved areas and sidewalks. Where no sidewalks are required, street trees shall be planted or existing trees shall be maintained or protected between the paved areas and the edge of the right-of-way.

9.2.3.6. DESIGNATION AS OPEN SPACE.

Stormwater facilities to be located in designated open space areas shall be regulated in accordance with § 6.5.3.6 of this Ordinance.

9.2.3.7. BMP BUFFERS

There must be fifty (50) feet of separation from normal pool to the property line and twenty (20) feet of separation from the one hundred (100) year level to the property line.

References: American Society of Civil Engineering Design and Construction of Urban Stormwater Management Systems (WEF Manual of Practice FD-20, 1992), at 496-97; Dewberry & Davis, Land Development Handbook: Planning, Engineering & Surveying (McGraw-Hill: 1996), at 629.

9.3. TREE PROTECTION STANDARDS.

9.3.1. INTENT

The Town Council finds that preserving existing healthy vegetation on a site during development enhances the visual character of the community by screening and softening the impact of buildings and balancing the scale of buildings in addition to preserving wildlife habitat, controlling surface water runoff, and moderating temperatures. It is the goal of the Town Council to preserve existing and significant vegetation to the extent practical and reasonable, while taking unique site conditions and features into consideration. Preservation of trees and existing vegetation ultimately conserves water because of factors such as increased absorption ability and reduced heat effects. The Town Council finds that preserving perimeter buffers and significant vegetation inside the buffers is a goal that warrants flexibility on the Town's part in administering these requirements.

9.3.2. TREE SURVEY

9.3.2.1. PURPOSE

The purpose of the tree survey is to identify those areas of vegetation, including heritage trees and significant vegetation, before site and/or subdivision plans are so far advanced that it is unreasonable and impractical to modify the plans to protect the vegetation identified to be saved on the tree survey. Preserving heritage trees or significant vegetation on a site should not prevent a particular site from being developed for reasonable uses, given existing zoning.

9.3.2.2. Town staff shall determine whether a tree survey is required as a part of the development review and approval process. When required, the tree survey must be prepared for the applicant by a duly qualified and registered arborist chosen by the Town of Harrisburg. The applicant has input in the selection of an approved consultant when a tree survey is required; however the final decision on selection is made by Town staff. The arborist shall not have had any involvement with the specific development within the 12 months prior to the tree survey.

9.3.2.3. REQUIREMENTS

A tree survey is a description of the existing

vegetation on a site. This is necessary to ensure protection of shade trees and significant vegetation within required protection areas. The applicant shall meet with the Administrator to determine the areas of the proposed site to be surveyed and the extent of the survey; however the survey shall, at a minimum, provide the following information:

- The number of heritage trees with their diameters and location
- A description of the forest stands on site that are outside of protected areas (i.e., buffers or open space areas), including information on the type of vegetation and size ranges

9.3.3. TREE PROTECTION DURING CONSTRUCTION

9.3.3.1. OWNER RESPONSIBILITY

During development of property, the owner shall be responsible for the erection of any and all barriers necessary to protect any existing or installed vegetation from damage both during and after construction. Any unauthorized disturbance within the boundaries of the tree protection areas shall result in fines as identified in Section 1.6 of this UDO, in addition to any other fines and replanting requirements for the removal or damage of vegetation within tree protection areas.

9.3.3.2. TREE PROTECTION FENCING

9.3.3.2.1. All existing trees and vegetation that is to be preserved, including buffers, shall be completely enclosed with a sturdy and visible fence before grading begins. Fencing shall be required around heritage trees and shall extend as far as the drip line of the tree, and in no case shall it be closer than six (6) feet to the trunk. Fencing of areas adjacent to existing and proposed roadways also is required. Fencing is required on all Town and Department of Transportation road projects that are adjacent to protected streetscapes or buffers. The applicant and staff should consider existing site conditions in determining the exact location of any tree protection fencing.

9.3.3.2.2. All fencing required by this section shall be four feet orange polyethylene laminar

fencing a minimum four feet high and of durable construction. Passive forms of tree protection may be utilized to delineate tree save areas that are remote from areas of land disturbance at the discretion of the Administrator.

9.3.3.2.3. Signs shall be installed on the tree protection fence visible on all sides of the fenced-in area (minimum one (1) on each side and/or every three hundred (300) linear feet). The size of each sign must be a minimum of two (2) feet by two (2) feet and shall contain the following language in English and Spanish: "TREE PROTECTION ZONE, KEEP OUT."

9.3.3.2.4. The tree protection fencing shall be clearly shown on the site and/or subdivision plan. No construction, grading, equipment or material storage, or any other activity shall be allowed within the fenced area. Fencing shall be maintained until the final site inspection prior to the Certificate of Occupancy is scheduled (including any required perimeter buffer for single-family home construction). The fencing shall be removed after the final site inspection for the Certificate of Occupancy.

9.3.3.3. ENCROACHMENTS

9.3.3.3.1. Encroachments within the critical root zones of heritage trees, or within designated tree protection zones, shall occur only in rare instances. If such an encroachment is anticipated, the following preventative measures shall be employed:

- Clearing Activities – The removal of trees adjacent to tree saved areas can cause inadvertent damage to the protected trees. Wherever possible, it is strongly recommended to cut minimum one and one-half (1 1/2)-foot trenches along the limits of land disturbance, so as to cut, rather than tear, roots. Trenching may be required for the protection of specimen trees.
- Soil Compaction - Where compaction might occur due to traffic or materials through the tree protection zone, the area must first be mulched with a minimum four (4)-inch layer of processed pine bark or wood chips or a six (6)-inch layer of pine straw. Equipment or materials storage shall not be allowed within tree protection areas.

9.3.4. PROTECTION OF HERITAGE TREES REQUIRED

9.3.4.1. The intent of this subsection is to protect healthy heritage trees on sites during the development process. With this in mind, flexibility in site design is provided for to offset area used to preserve heritage trees by deducting area from other required landscape/buffer areas. No heritage tree may be removed during development, unless the approval criteria of Section 9.3.5.1 are met and the tree is replaced pursuant to Section 9.3.5. In support of any application which requests removal of a heritage tree, the applicant must submit a report from a certified arborist or other such specialist. For the purposes of this section, the following definitions apply:

- “Heritage Tree” means any single tree that has been determined to be of value because of its species, size, age, or other professional criteria. An upper-story tree which is thirty (30) inches or greater in diameter at breast height is considered as a heritage tree. Size ranges for understory trees are smaller, and vary based upon species. A tree that meets the indicated size but is dead or diseased, or has an abnormal form that is not characteristic of its species (for example the habit is one (1)-sided, or the crown is significantly misshapen or missing) as determined by a certified arborist, shall not be considered to be a Heritage Tree.
- “Adversely impacted” means that twenty-five percent (25%) or more of the critical root zone of the heritage tree will be, or has been within the three (3) years prior to the date of application, impacted by the construction or installation of the listed improvement.
- “No practical alternative location” means the applicant has prepared multiple designs or scenarios demonstrating that there is no practical alternative location for the required development feature that preserves the heritage tree and seventy-five percent (75%) or more of its critical root zone.

9.3.4.2 The Administrator shall approve removal of a heritage tree if the tree is adversely impacted by one (1) of the following and no practical alternative location exists:

- Required road connections
- Required sanitary sewer or storm drain lines

- Public infrastructure improvements made by others
- Required stormwater treatment devices located in geographically and topographically appropriate areas
- Town design standards that limit the location of buildings and/or other features such as parking and requirements for the building to front on streets

9.3.5. REPLACEMENT OF HERITAGE TREES

9.3.5.1. When a heritage tree is removed during construction, or dies within one (1) year following construction, on a site located outside of the Town Center District, the applicant or developer shall replace such heritage tree with trees of similar type planted at least thirty (30) feet from any other tree such that the total caliper inches of trees planted is no less than the diameter of the tree removed. The size of such replacement trees at the time of installation shall be a minimum of two and one-half (2 ½) inches in caliper. The administrator may offer flexibility with the required spacing of the trees depending on the type of tree removed and the type of tree being used as a replacement.

9.3.5.2. When a heritage tree is removed during construction, or dies within one (1) year following construction, on a site located within the Town Center District, the applicant or developer shall comply with the requirements of section 9.3.6.1 except that the total caliper inches of trees planted may be less than the diameter of the tree removed if it is not practical to replant the required number and size of trees spaced at least thirty (30) feet from any other tree on the same site or any adjacent property under common ownership. The administrator may offer flexibility with the required spacing of the trees depending on the type of tree removed and the type of tree being used as a replacement.

9.3.5.3. In consultation with the Town staff, acceptable replacement trees shall be determined by a person qualified by training or experience to have expert knowledge of the subject. Alternatively, the valuation of trees removed may be established in accordance with standards established by the International Society of Arboriculture and replaced with landscaping of equal dollar value.

9.3.5.4. Replacement trees shall be maintained through an establishment period of at least three (3) years, except that detached dwellings on an individual lot shall have an establishment period of only one (1) year. The property owner and developer shall execute a landscape agreement guaranteeing the survival and health of all replacement trees during the establishment period and guaranteeing to replace any replacement tree(s) that does not survive the establishment period in good health as determined by a certified arborist.

9.3.5.5. ALTERNATIVE METHODS OF REPLACEMENT OF HERITAGE TREES

The following are alternative methods that developments may use in order to meet the Heritage Tree replacement requirements.

9.3.5.5.1. A development may meet the total inches required for mitigation by planting larger shade trees for the required buffers and/or landscaping. Any shade tree that is planted larger than the required minimum size may use the excess inches to count towards the Heritage Tree replacement requirements. This standard is only applicable for non-residential developments.

9.3.5.5.2. If the developer chooses to protect trees that could otherwise be removed, the inches protected may count towards the mitigation requirements for the removal of Heritage Trees. These areas that are to be protected are called “Tree Save Areas” and must be protected as outlined in 9.3.4.1.

9.3.5.5.3. The developer may choose to upgrade the size of the required side and rear buffer yards in Article 7 in the UDO in exchange for a reduction of the Heritage Tree replacement requirements. This standard is only applicable for non-residential developments.

9.3.5.5.3.1. Upgrading to a Type B buffer grants a reduction of 25% of total inches to be replaced.

9.3.5.5.3.2. Upgrading to a Type C buffer grants a reduction of 30% of total inches to be replaced.

9.3.5.5.3.3. Upgrading to a Type D buffer grants a reduction of 35% of total inches to be replaced.

9.3.5.6. EXEMPTION

Non-residential lots that are less than two (2.0) acres in size are exempt from the requirements set forth in Article 9.3.5.

9.3.6. WAIVERS IN EMERGENCIES

9.3.6.1. During emergencies, such as windstorms, ice storms, fire, or other disasters, the Administrator may waive the requirements of this section in order to avoid hampering private or public work to restore order in the Town. This section shall not be used, however, to otherwise circumvent the requirements of this Section.

9.3.7. CLEAR CUTTING OF TREES AND OTHER VEGETATION

9.3.7.1. The removal or clear cutting of trees and other existing vegetation on undeveloped or under-developed sites within the corporate limits or extra-territorial jurisdiction is prohibited except as otherwise permitted in this Ordinance

9.3.7.2. Any clear cutting or vegetation removal on vacant, undeveloped, or underdeveloped sites must be done in accordance with an approved site and/or subdivision plan.

9.3.7.3. Any property that has vegetation removed prior to a request for an approved site and/or subdivision plan shall be required to wait a minimum of three (3) years before submitting an application for annexation, rezoning, preliminary plat approval, site plan approval, or any other development approvals. This provision shall not apply to any property that is being managed in accordance with an approved Forestry Management Plan through the North Carolina Forestry Service, and any such plan shall be submitted as part of the development plan request.