



CITY OF DUNWOODY

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MEMORANDUM

To: Mayor and City Council

From: Jennifer Peterson, Community Development Director

Date: April 13, 2009

Subject: **Development & Environmental Code – Article 2**

This item is a second reading of proposed amendments Article 2 and a public hearing.

The Development and Environmental Code was adopted by Council on December 18th. Since that time city staff has reviewed the text in detail and found various inconsistencies, mistitling, and unclear language. Staff's proposal clarifies the intent and procedures of the code adopted in December without proposing policy changes. Staff's recommendations for code "clean up" are in red.

The staff recommendations in blue are required changes stated by the State Environmental Protection Division (EPD). As a part of becoming a Local Issuing Authority (LIA) in the land disturbance permit process EPD must approve of our adopted regulations. We must make these changes to become an LIA.

Also, at the request of the Mayor and members of Council, staff has modified the language associated with the ability to request variances to the stream buffer. DeKalb County codes required a 75-foot buffer with the ability to request variances to within 25-feet of the stream bank. In December the Council adopted the code with changes to limit the ability to request variances to within 50-feet of the stream bank, but no closer. Since the adoption of that language staff has had a number of meetings with property owners that seek to do work within 75-feet of the bank, and they do not have the right to make a request for relief due to hardships. Staff recommends Council modify the language to return to the original County language. This would allow requests for relief to be heard by the Zoning Board of Appeals. This recommendation is in red on page 6 of the attached code.

**AN ORDINANCE AMENDING CHAPTER 14 OF THE CITY OF DUNWOODY CODE
OF ORDINANCES BY MAKING IT CONSISTENT WITH LATEST STATE
REQUIREMENTS**

WHEREAS, the City of Dunwoody has heretofore adopted an ordinance for Land Development and Environmental Protection, as set forth in Chapter 14 of the Code of the City of Dunwoody (the "Code"); and

WHEREAS, some of the provisions of Article 2 of Chapter 14 are currently inconsistent with the latest mandated requirements of the Environmental Protection Division of the State of Georgia as well as internally inconsistent; and

WHEREAS, A Public Hearing has been held on April 13, 2009 pursuant to State Law to allow for comments to the proposed changes to Article 2 of Chapter 14; and

WHEREAS, the Mayor and City Council have determined that it may be appropriate to amend Article 2 of Chapter 14 to provide for internal consistency and to make it consistent with the latest requirements of the State of Georgia EPD.

THEREFORE, Mayor and City Council of the City of Dunwoody hereby ordain as follows:

Section 1: Article 2 of the Land Development and Environmental Protection ordinance, Chapter 14 of the City of Dunwoody Code of Ordinances, is hereby amended with the changes presented as attached hereto and incorporated herein.

Section 2: This Amendment shall become effective immediately upon its adoption by the City Council, and incorporated into the Code of the City of Dunwoody, Georgia. This Amendment hereby repeals any and all conflicting ordinances and amendments.

SO ORDAINED, this ___ day of _____, 2009.

Approved:

Ken Wright, Mayor

ATTEST:

Approved as to Form and Content:

Sharon Lowery, City Clerk
(Seal)

Brian Anderson, City Attorney

Chapter 14: Land Development and Environmental Protection

Article 2: Environmental Control

Section 1: Preamble

- (a) This Article establishes public policies for the protection of the natural environment and specifies standards for land development to ensure achievement of these public policies.
- (b) By declaration of public policies for environmental protection, the City Council expresses its intent to protect the public interest by seeking to assure, where appropriate, maintenance of the natural environment, prevention of its degradation and assuring high quality land development. The Council further declares its intent that these policies shall constitute the public policy framework within which a comprehensive program for protection of the natural environment and implementation of a comprehensive drainage improvement program shall be accomplished.
- (c) The development process, as established by this Chapter 14, is guided by the policies and provisions contained in the comprehensive plan of the City of Dunwoody or, until such time as the City of Dunwoody adopts a final Comprehensive Plan, the Interim Comprehensive Plan of the City of Dunwoody as adopted from the Dekalb County 2025 Comprehensive Plan.

Section 2: Purposes

- (a) It is the purpose of this Article to establish public policies for the protection of the natural environment and to establish requirements, standards and procedures for land development. The public policy objective of protecting the natural environment is to be achieved by:
 - (1) Regulating the alteration of land and topography.
 - (2) Regulating the removal and requiring the replacement of certain vegetation.
 - (3) Requiring erosion control and sedimentation control.
 - (4) Protecting City streams and floodplains from substantial alteration of their natural functions and from sediment and debris accumulation.
 - (5) Specifying standards for drainage system design.
 - (6) Assuring the continuous and efficient operation of the drainage system.
 - (7) Protecting the water quality within intermittent and perennial streams throughout the City of Dunwoody.

- (b) It is the City Council's intent that land development be accomplished in conformity with the public policy statements. To that end, the plans required under applicable provisions of this Article shall be reviewed by the City to enable a full exchange of information between the City and the applicant as to the City's public policies for land development.
- (c) The Council further declares its intent that these public policies be evaluated periodically so as to reflect the community's interests in protection of the natural environment and to give direction to City actions in matters affecting the natural environment and land development.

Section 3: Scope and Applicability

- (a) The provisions of this Article shall apply to all development activity within the City.
- (b) Before filing a land development application on a project for review and approval, the applicant shall meet with the Department to discuss the procedure for approval of a land development permit and the requirements as to the general layout of streets, parking, open space/lot coverage, street improvements, drainage, sewage, fire protection and similar matters, as well as the availability of existing services, including schools. The Department and the applicant shall review the applicant's stormwater management plans, inspection and maintenance requirements and water quality control requirements. The Department may advise the applicant, when appropriate, to discuss the proposed project with those officials who must eventually approve those aspects of the project coming within their jurisdiction. This meeting will also allow City officials to discuss with the applicant the necessary regulations that will properly accomplish the project.
- (c) For purposes of this section, a valid and complete application for a land disturbance permit shall consist of the following:
 - (1) Three (3) paper copies and one (1) DVD containing electronic images of complete civil plans, which shall include a site plan, a grading and drainage plan, a utility plan, a soil erosion and sedimentation control plan, a landscape plan, and a tree survey;
 - (2) One (1) hydrology report and completed stormwater quality site development review tool documentation;
 - (3) An application signed by the owner of the property, or a completed indemnification agreement signed by the owner of the property; and
 - (4) Payment of the appropriate development review application fee.
- (d) For purposes of this section, a valid and complete application for a sketch plat approval shall consist of the following:

- (1) ~~Eighteen~~^{Four} (184) copies of the preliminary plat site plan that is in conformance with the zoning of the property in effect at the time of the application, and, a tree survey;
- (2) An application signed by the owner of the property, or if the application is not signed by the owner, a completed indemnification agreement signed by the owner of the property; and
- (3) Payment of the appropriate development review application fee.

Section 4: Amendment Procedure

This Article may be amended by the City Council after giving public notice and holding a public hearing thereon in accordance with all applicable procedural requirements.

Section 5: Administration and Enforcement Generally

The City shall administer and enforce the provisions of this Article as follows:

- (a) The Director is designated to administer and enforce the grading, vegetation, erosion control, sedimentation control, drainage and water quality provisions of this Article for all development and construction projects with the following duties and responsibilities:
 - (1) Review all development permits to assure that the permit requirements of this Article have been satisfied;
 - (2) Advise permittee when additional Federal or State permits may be required, and if specific federal or state permits are known to be required, that copies of such permits be provided and maintained on file with the development permit; and
 - (3) Notify adjacent communities and the State Department of Natural Resources prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (b) The Director shall administer and enforce those provisions of this Article that apply to developed and occupied areas and to property in an undeveloped state affecting City responsibility for maintenance of the storm drainage system. The Director shall assure that maintenance is provided within any altered or relocated portion of any watercourse so that the flood-carrying capacity is not diminished.

Section 6: Inspection; right of entry

- (a) Upon presentation of City identification to the applicant, contractor, owner, owner's agent, operator or occupants, City employees may enter during all reasonable hours any property under proposed or existing development or construction. These employees may make inspections of the facilities for the purpose of determining plan requirements or compliance with all ordinance provisions.
- (b) All new developments and redevelopments shall execute an inspection and maintenance agreement unless an on-site stormwater management facility or practice is dedicated to and accepted by the City. The applicant shall execute an easement and an inspection and maintenance agreement that will bind all subsequent owners of land served by an on-site stormwater management facility or practice.
- (c) City employees may inspect any drainage system within or outside of an existing drainage easement. All stormwater management facilities located on private property, whether dedicated to the City or not, shall be accessible at all times for City inspection. Where stormwater management facilities are accepted by the City for maintenance, public access easements shall be provided. Reasonable access shall be provided to all drainage easements for inspection and maintenance functions.
- (d) The Department, in addition to other procedures provided, may obtain an inspection warrant under the conditions specified in this section. The warrant shall authorize the director to conduct a search or inspection of property without the consent of the person whose property is to be searched or inspected, under the conditions set out in this section.
 - (1) Inspection warrants may be issued by Municipal Court when all of the following conditions are met:
 - (A) The person seeking the warrant must establish under oath or affirmation that the property to be inspected is to be inspected as a part of a legally authorized program of inspection which includes that property or that there is probable cause for believing that there is a condition, object, activity, or circumstance which legally justifies such an inspection of that property; and
 - (B) The issuing judge determines that the issuance of the warrant is authorized by law.
 - (2) The inspection warrant shall be validly issued only if it meets all of the following requirements:
 - (A) The warrant is attached to the affidavit required to be made in order to obtain the warrant;
 - (B) The warrant describes, either directly or by reference to the affidavit, the property upon which the inspection is to occur and is sufficiently accurate that the executor of the warrant and the owner or possessor of the property

can reasonably determine from it the property for which the warrant authorizes an inspection;

- (C) The warrant indicates the conditions, objects, activities, or circumstances which the inspection is intended to check or reveal; and
- (D) The warrant refers, in general terms, to the ordinance provisions sought to be enforced.

Section 7: Emergency Maintenance Operations

- (a) The Director may conduct emergency maintenance operations on private land and on drainage systems where emergency conditions exist. Emergency maintenance shall constitute the removal of trees and other debris, which in the judgment of the Director of Community Development or Direction of Public Works create a condition potentially injurious to life, property and the public road system.
- (b) The provisions of Section 12 of this Article shall not apply in the case of tree trimming, removal or cutting necessitated by emergencies such as floods, windstorms, ice storms or other disasters.
- (c) Emergency maintenance conducted on any drainage system shall not be construed as constituting a continuing maintenance obligation on the part of the City.

Section 8: Issuance of notice of violation; variances; specification of time period for correction; appeals

- (a) Notice of violation. Whenever the Director determines that development activity or inactivity on a property does not comply with the approved development and construction plans, that approved and required erosion and sedimentation control facilities or devices have been altered, damaged or destroyed, or that any other activities violate the provisions of this Article, the Director shall issue a notice of violation. Whenever the Director determines that the drainage system has been unlawfully altered, causing inadequate drainage, the Director shall issue a notice of violation. The provisions of this section shall be in addition to any other penalty provisions applicable to this Article. The notice of violation of the provisions of this Article or of any rule or regulation adopted pursuant hereto shall be addressed to the owner of the property or the owner's agent and to the person, tenant, firm, corporation, property owner or property owner's agent found to be violating the provisions of this Article and shall:
 - (1) Be in writing;
 - (2) Include a description of the property sufficient for identification of where the violation has occurred;
 - (3) List the specific provisions of this Article which have been violated;

- (4) State that, if these repairs, construction or alterations are not completed within a reasonable time period specified by the inspector, summons shall be issued for the person, firm, corporation, owner, or owner's agent to appear in Municipal Court. However, in the judgment of the Director, where the violation is willful, in wanton disregard of the provisions of this Article or constitutes a public health and safety hazard or endangers the ecosystem, the Director may issue a court summons in lieu of a notice of violation.
- (b) Penalty. It shall be unlawful for any person, firm or corporation to do anything prohibited or fail to do anything required by the provisions of this Article, as they now exist or as they may hereafter be amended. Any person, firm or corporation that shall do anything prohibited or fail to do anything required by the provisions of this Article, as they now exist or as they may hereafter be amended, upon conviction of a violation in Municipal Court shall be subject to a fine and/or imprisonment in accordance with Chapter 1 of this Code. Where any offense or violation continues from day-to-day, each day's continuance thereof shall be deemed a separate offense. The owner of any buildings or premises or parts thereof, where anything in violation of this Article exists, and any architect, builder, engineer, contractor, or any other agent of the owner, or any tenant, who commits, or assists in the commission of any violation, shall be guilty of a separate offense.
- (c) Variances.
- (1) Except as further limited herein, an applicant may request a variance from the terms of the requirements of Sections 10, 11, 13, and 14 of this Article. The Board of Zoning Appeals shall be authorized to hear variance requests. The Zoning Board of Appeals shall have no power to consider or to grant variances which are the responsibility of the Director of the Environmental Protection Division pursuant to O.C.G.A. § 12-2-8 and other relevant State statutes and regulations. The Board of Zoning Appeals is authorized to consider applications for variances pursuant to this section within the seventy-five-foot stream buffer required at Section 14(i)(2) of this Article, but not within the twenty-five-foot state buffer zone adjacent to waters of the state set forth in Section 11(b)(4) of this Article, ~~nor within fifty feet of the stream bank.~~ Where variances involving the same project are requested from both the Director of the Environmental Protection Division and the Director of Community Development, the Director of Community Development shall take no action on any such request for variance until the Director of the Environmental Protection Division grants the variance or otherwise approves the request pending before the Environmental Protection Division. Receiving a variance from the Director of the Environmental Protection Division does not obligate the Board of Zoning Appeals to permit the project to proceed if the project does not also meet all the other requirements of this Article. No variance from the provisions of Chapter 14 shall be authorized except as specifically authorized in this section or specifically authorized in another section of Chapter 14.

- (2) Applications for variances authorized in subsection (1) above shall be made in writing to the Community Development Director and shall contain all of those materials and documents necessary to demonstrate that said request meets the criteria for granting variances. The Community Development Director shall review the variance request and make a recommendation of approval or denial to the Board of Zoning Appeals.
- (3) In considering a request for a variance to the terms of this Article authorized in subsection (1) above, the Board of Zoning Appeals shall use all of the following criteria:
- (A) The request, while not strictly meeting the requirements of Chapter 14, will in the judgment of the Board of Zoning Appeals be at least as protective of natural resources and the environment as would a plan which met the strict application of these requirements. In making such a judgment, the Board of Zoning Appeals shall examine whether the request will be at least as protective of the natural resources and the environment with regard to the following factors:
- (i) Stream bank or soil stabilization;
 - (ii) Trapping of sediment in surface runoff;
 - (iii) Removal of nutrients, heavy metals, pesticides and other pollutants from surface runoff;
 - (iv) Terrestrial habitat, food chain, and migration corridor;
 - (v) Buffering of flood flows;
 - (vi) Infiltration of surface runoff;
 - (vii) Noise and visual buffers;
 - (viii) Downstream water quality; and
 - (ix) Impact on threatened and endangered species, as those species are designated by law or federal or state regulation.
- (B) By reason of exceptional topographic or other relevant physical conditions of the subject property that were not created by the owner or applicant, there is no opportunity for any development under any design configuration unless a variance is granted.

- (C) The request does not go beyond the minimum necessary to afford relief and does not constitute a grant of special privileges inconsistent with the limitations upon other properties that are similarly situated.
 - (D) The grant of the variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the area in which the property is located.
 - (E) The literal interpretation and strict application of the applicable provisions or requirements of Chapter 14 would cause an extreme hardship, provided the hardship was not created by the owner.
- (d) All appeals of final decisions of the Board of Zoning Appeals under the provisions of this Article shall be as follows:
- (1) Any person aggrieved by a final decision of the Board of Zoning Appeals, or any officer, department, board or agency affected by such decision, may seek review of such decision by petitioning the Superior Court of DeKalb County for a writ of certiorari, setting forth plainly the alleged errors. Such petition shall be filed within thirty (30) days after the final decision of the Board of Zoning Appeals is rendered.
 - (2) In any such petition filed, the Board of Zoning Appeals shall be designated the respondent in certiorari and the City of Dunwoody shall be designated the defendant in certiorari. The Chairman, Vice-Chairman or Secretary of the Board of Zoning Appeals shall be authorized to acknowledge service of a copy of the petition and writ for the Board of Zoning Appeals as respondent. Service upon the City as defendant shall be as otherwise provided by law. Within the time prescribed by law, the Board of Zoning Appeals shall cause to be filed with the clerk of DeKalb County Superior Court a duly certified record of the proceedings had before the Board, including a transcript of the evidence heard before it, if any, and the written decision of the Board.
- (f) This Article is not intended to abrogate, annul or otherwise interfere with any easement, covenant or other private agreement or legal relationship provided that when the regulations of this Article are more restrictive or impose higher standards or requirements than such easements, covenants, or other private agreements or legal relationships, the regulations of this Article shall govern. Further, where there is a conflict between any standard or requirement within Chapter 14, or between the Chapter 14 standards and any other provision of the Code, the more restrictive standard or requirement shall apply.

Section 9: Plan submission requirements

- (a) All site plans submitted in accordance with applicable provisions of this Article shall meet the requirements for their preparation and shall also provide information to enable a

determination to be made by the Director as to plan conformance with the public policy statements of this Article.

- (b) All persons proposing developments, redevelopments or construction shall submit site plans to the Director illustrating the means by which conformance with policy provisions may be achieved and illustrating compliance with applicable development standards before issuance of a development or building permit.
- (c) Electric, telephone and gas utilities shall submit plans and obtain a development permit only for major transmission installations located within rights-of-way or easements devoted exclusively to installations of utility facilities. Individual single-family lots within approved subdivisions shall be exempt from these requirements for new residential construction with the exception that individual single-family lots where site plans for each are required by special designation on the recorded plat or such lots are located within the intermediate regional floodplain shall be submitted for review and approval in accordance with this Article and other applicable provisions of the Code. Owners and developers of individual single-family lots shall be required to use best management practices to prevent sedimentation from leaving the site.
- (d) Grading, erosion control, sedimentation control, water quality control and drainage plans shall be prepared under the supervision of a currently state-registered professional engineer, architect or landscape architect, or combination as may be appropriate for project planning and design. Tree protection plans may be prepared by and implemented under the supervision of a currently state-registered professional architect, forester, landscape architect or engineer as may be appropriate for project planning and design. When the hydrologic engineering analysis includes applications of the principles for flood routing, super critical flow, high energy dissipation or conversion, backwater curves, floodplain studies or other advanced hydrologic engineering techniques, the analysis shall be made by a currently state-registered professional engineer proficient in hydrology.
- (e) Site plans and supporting documentation to show conformance with this Article shall be submitted in accordance with the applicable provisions of Dunwoody Zoning Ordinance and all conditions of zoning and shall include the following:
 - (1) Evidence of conformance with the requirements of this Article for grading, vegetation alteration, erosion control, sedimentation control, water quality control and drainage system alteration or development. Grading plans shall illustrate existing and proposed contours to the two-foot interval at a minimum; golf courses and other open space areas shall be exempt from this requirement but general grading plans for golf courses and other open space areas shall be submitted. Water quality plans shall include the identification of existing wetland areas within the development site and shall demonstrate use of the stormwater quality site development review tool. Related plans shall show locations of structures, roads, surface drainage, existing and proposed drainage conduits,

buffer areas, stream buffers, state buffer zones, and proposed alterations to the existing site;

- (2) A hydrologic engineering analysis of stormwater runoff under pre-developed and post-developed site conditions and a detailed evaluation of the projected effects on upstream and downstream properties within the affected drainage basin. In determining downstream effects from stormwater management structures, BMPs, and the development, hydrologic-hydraulic engineering studies shall extend downstream to a point where the proposed development represents less than ten (10) percent of the total watershed. This analysis shall include a determination of the culvert, floodplain and channel cross-section area required to carry the affected runoff at the intermediate regional flood stage level.
- (3) Delineation of the boundaries of the intermediate regional floodplain for streams draining in excess of one hundred (100) acres. The actual building site in relation to the intermediate regional floodplain boundaries shall be shown; the same information shall be indicated by the seller to the purchaser of each property so affected. The elevation contours representing the intermediate regional flood conditions shall be shown when they are located outside established ditch banks. A benchmark suitable for determining intermediate regional flood elevations shall be established;
- (4) The projected sequence of work represented by the grading, vegetation, erosion control, sedimentation control, water quality control and drainage plans as related to other major items of construction;
- (5) Upon development project completion, location, size and invert elevations of piped segments of the storm drainage system, of control weirs, BMPs and water surface elevations and volumes in detention ponds shall be shown on the final plat for a subdivision, and on a final plan for other developments which shall be submitted to the Director prior to approval. The currently state-registered professional engineer, architect or landscape architect reviewing the construction shall provide a certificate that the development is in substantial compliance with approved plans. As-built elevation certifications prepared by currently state-registered land surveyors or currently state-registered professional engineers for all developments, including fill, allowed within a flood-prone area, shall be submitted to the Director; and
- (6) A separate tree protection plan in conformance with the requirements of Section 12 of this Article.

Section 10: Grading

- (a) Policies. It is hereby declared to be public policy to:

- (1) Encourage the design of residential grading plans to provide natural appearance of land contours and to provide ease of use in public areas.
- (2) Minimize the adverse effects of land clearance and grading upon existing vegetation.
- (3) Minimize the adverse effects of land clearance and grading upon the drainage system by strict erosion control and sedimentation control measures.
- (4) Minimize erosion and shear failure potential by encouraging limited cutting and filling.

(b) Standards.

- (1) All grading operations shall be conducted in compliance with the approved site plans.
- (2) Before beginning construction activity, the intermediate regional floodplain elevation contours shall be identified on the property by staking or other identifying mechanisms no less than every one hundred (100) feet, and shall be identifiable throughout project development.
- (3) Finish grade slopes on residential projects and lots shall not be steeper than three-to-one (3:1), unless absolutely impractical due to vegetation, topography, or soil conditions. Three-to-one (3:1) finish grade slopes shall transition to two-to-one (2:1) slopes at all perpendicular stream crossings.
- (4) Large-scale general grading shall include installation of approved soil and erosion control measures and be limited to phases approved by the Director and completed prior to commencing building construction.
- (5) Prohibit grading and filling in floodplains, except as provided for in Article IV, Floodplain Management.
- (6) The burying, piling, or concealing in any way of construction waste is prohibited, except where permitted within an M-2 (Industrial) District, as defined in the Dunwoody Zoning Ordinance, and by a permit issued by the Georgia Department of Natural Resources, Environmental Protection Division. No certificate of occupancy shall be issued by the City under Chapter 78 of this Code until the applicant provides a written certification to the Director of Community Development or designee, accompanied by a landfill receipt, that proves that all construction waste has been removed from the property.

Section 11: Soil Erosion and Sedimentation Control

- (a) Policies. It is hereby declared to be public policy to:

- (1) Minimize the removal of vegetation;
- (2) Minimize the exposure of bare earth to precipitation by encouraging the scheduling of land development in increments of workable size which can be completed within a single construction season or within a time period compatible with the type and size of the project;
- (3) Provide for the reestablishment of vegetation within a reasonable period following completion of final grading and utility installation;
- (4) Give priority to the paving of streets, parking lots and other areas within a reasonable time following completion of final grading; and
- (5) Encourage the use of erosion control and sedimentation techniques found in the Manual for Erosion and Sedimentation Control in Georgia, as published by the State Soil and Water Conservation Commission.

(b) Standards.

- (1) Any land disturbing activity permitted under this Chapter 14 shall be carried out in accordance with the Georgia Erosion and Sedimentation Act of 1975, as amended, this Chapter, and the permit conditions specified by the Director.
- (2) Nothing contained ~~in State law or~~ this Chapter shall prevent the issuing authority from adopting rules and regulations, ordinances, or resolutions which contain stream buffer requirements that exceed the minimum buffer requirements contained in this section ~~or in State law.~~
- (3) Exemptions. This Section 11 shall apply to any land-disturbing activity undertaken by any person on any land except for the following:
 - (A) Surface mining, as the same is defined in O.C.G.A. § 12-4-72, "Mineral Resources and Caves Act";
 - (B) Granite quarrying and land clearing for such quarrying;
 - (C) Such minor land-disturbing activities as home gardens and individual home landscaping, repairs, maintenance work, fences, and other related activities which result in minor soil erosion;
 - (D) The construction of single-family residences, when such construction disturbs less than one (1) acre and is not a part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one (1) acre and not otherwise exempted under this paragraph; provided, however, that construction of any such residence shall conform to the

minimum requirements as set forth in Section 11(b)(4) and this paragraph. For single-family residence construction covered by the provisions of this paragraph, there shall be a buffer zone between the residence and any state waters classified as trout streams pursuant to Article 2 of Chapter 5 of the Georgia Water Quality Control Act. In any such buffer zone, no land-disturbing activity shall be constructed between the residence and the point where vegetation has been wrested by normal stream flow or wave action from the banks of the trout waters. For primary trout waters, the buffer zone shall be at least fifty (50) horizontal feet and no variance to a smaller buffer shall be granted. For secondary trout waters, the buffer zone shall be at least fifty (50) horizontal feet, but the Director may grant variances to no less than twenty-five (25) feet. Regardless of whether a trout stream is primary or secondary, for first order trout waters, which are streams into which no other streams flow except for springs, the buffer shall be at least twenty-five (25) horizontal feet, and no variance to a smaller buffer shall be granted. The minimum requirements of Section 11(b)(4) and the buffer zones provided by this section shall be enforced by the [Local Issuing Authority development department](#);

- (E) Agricultural operations as defined in O.C.G.A. § 1-3-3, "definitions", to include raising, harvesting or storing of products of the field or orchard; feeding, breeding or managing livestock or poultry; producing or storing feed for use in the production of livestock, including but not limited to cattle, calves, swine, hogs, goats, sheep, and rabbits or for use in the production of poultry, including but not limited to chickens, hens and turkeys; producing plants, trees, fowl, or animals; the production of aqua culture, horticultural, dairy, livestock, poultry, eggs and apiarian products; farm buildings and farm ponds;
- (F) Forestry land management practices, including harvesting; providing, however, that when such exempt forestry practices cause or result in land-disturbing or other activities otherwise prohibited in a buffer, as established in paragraphs [\(xv\) and \(xvi\) 15 and 16](#) of subsection (b)(4)(C) of this section, no other land-disturbing activities, except for normal forest management practices, shall be allowed on the entire property upon which the forestry practices were conducted for a period of [three five \(5\)](#) years after completion of such forestry practices;
- (G) Any project carried out under the technical supervision of the Natural Resources Conservation Service of the United States Department of Agriculture;
- (H) Any project involving less than one (1) acre of disturbed area; provided, however, that this exemption shall not apply to any land-disturbing activity within a larger common plan of development or sale with a planned disturbance of equal to or greater than one (1) acre or within two

hundred (200) feet of the bank of any state waters, and for purposes of this paragraph, "state waters" excludes channels and drainageways which have water in them only during and immediately after rainfall events and intermittent streams which do not have water in them year-round; provided, however, that any person responsible for a project which involves less than one (1) acre, which involves land-disturbing activity, and which is within two hundred (200) feet of any such excluded channel or drainageway, must prevent sediment from moving beyond the boundaries of the property on which such project is located and provided, further, that nothing contained herein shall prevent the City of Dunwoody from regulating any such project which is not specifically exempted by paragraphs (b)(3)(A), (B), (C), (D), (E), (F), (G), (I), or (J). of this section;

- (I) Construction or maintenance projects, or both, undertaken or financed in whole or in part, or both, by the Georgia Department of Transportation, the Georgia Highway Authority, or the state tollway authority; or any road construction or maintenance project, or both, undertaken by any county or municipality; provided, however, that construction or maintenance projects of Department of Transportation or state tollway authority which disturb one (1) or more contiguous acres of land shall be subject to provisions of O.C.G.A. § ~~12-7-7.1~~ ~~12-7-7.2~~; except where the Department of Transportation, the Georgia Highway Authority, or the state road and tollway authority is a secondary permittee for a project located within a larger common plan of development or sale under the state general permit, in which case a copy of a notice of intent under the state general permit shall be submitted to the local issuing authority, the local issuing authority shall enforce compliance with the minimum requirements set forth in O.C.G.A. § 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders;
- (J) Any land-disturbing activities conducted by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in O.C.G.A. § 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power; except where an electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the Public Service Commission, any utility under the regulatory jurisdiction of the Federal Energy Regulatory Commission, any cable television system as defined in O.C.G.A. § 36-18-1, or any agency or instrumentality of the United States engaged in the generation, transmission, or distribution of power is a secondary permittee for a project located within a larger common plan of development or sale under the State general permit, in which case the local issuing authority shall enforce compliance with the minimum

requirements set forth in section O.C.G.A. § 12-7-6 as if a permit had been issued, and violations shall be subject to the same penalties as violations by permit holders; and

- (K) Any public water system reservoir.
- (4) Minimum requirement for soil erosion and control and sedimentation control using best management practices.
- (A) General provisions. Excessive soil erosion and resulting sedimentation can take place during land-disturbing activities. Therefore, plans for those land-disturbing activities that are not exempted by this Chapter shall contain provisions for application of soil erosion and sedimentation control measures and practices. The provisions shall be incorporated into the erosions and sedimentation control plans. Soil erosion and sedimentation control measures and practices shall conform to the minimum requirements of subsection (b)(4)(B) and (C) of this section and any other applicable provision of this Section 11. The application of measures and practices shall apply to all features of the site, including street and utility installations, stormwater management facilities, drainage facilities and other temporary and permanent improvements. Measures shall be installed to prevent or control erosion and sedimentation pollution during all stages of any land-disturbing activity. The Director may require that land disturbance activity be phased. Soil erosion and sedimentation control plans shall address appropriate measures to effectively control soil erosion during successive phases of construction.
 - (B) Minimum requirements.
 - (i) Best management practices as set forth in subsections (b)(4)(B) and (C) of this section shall be required for all land-disturbing activities. Proper design by phases, installation and maintenance of best management practices shall constitute a complete defense to any action by the Director of the Environmental Protection Division (EPD) or to any other allegation of noncompliance with paragraph ~~(ii)~~ of this subsection or any substantially similar terms contained in a permit for the discharge of stormwater issued pursuant to O.C.G.A. § 12-5-30(f), the "Georgia Water Quality Control Act". As used in this subsection, the terms "proper design" and "properly designed" mean designed in accordance with the hydraulic design specifications contained in the "Manual for Erosion and Sediment Control in Georgia" specified in O.C.G.A. § 12-7-6(b).
 - (ii) A discharge of stormwater runoff from disturbed areas where best management practices have not been properly designed, installed,

and maintained shall constitute a separate violation of any land-disturbing permit issued by a local issuing authority or of any state general permit issued by the ~~EPD division~~ pursuant to O.C.G.A. § 12-5-30(f), the "Georgia Water Quality Control Act", for each day on which such discharge results in the turbidity of receiving waters being increased by more than twenty-five (25) nephelometric turbidity units for waters supporting warm water fisheries or by more than ten (10) nephelometric turbidity units for waters classified as trout waters. The turbidity of the receiving waters shall be measured in accordance with guidelines to be issued by the Director of the Environmental Protection Division. This paragraph shall not apply to any land disturbance associated with the construction of single-family homes which are not part of a larger common plan of development or sale unless the planned disturbance for such construction is equal to or greater than five (5) acres.

- (iii) Failure to properly design, install, or maintain best management practices shall constitute a violation of any land-disturbing permit issued by a local issuing authority or of any state general permit issued by the Division pursuant to O.C.G.A. § 12-5-30(f), the "Georgia Water Quality Control Act", for each day on which such failure occurs.
 - (iv) The Director of the Environmental Protection Division may require, in accordance with regulations adopted by the BNR, reasonable and prudent monitoring of the turbidity level of receiving waters into which discharges from land disturbing activities occur.
- (C) The rules and regulations, ordinances, or resolutions adopted pursuant to this Chapter for the purpose of governing land-disturbing activities shall require, at a minimum, protections at least as stringent as the state general permit; and best management practices, including conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the Manual for Erosion and Sediment Control in Georgia published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, as well as the following:
- (i) Stripping of vegetation, regrading and other development activities shall be conducted in a manner so as to minimize erosion;
 - (ii) Cut-fill operations shall be kept to a minimum;

- (iii) Development plans shall conform to topography and soil type so as to create the lowest practical erosion potential;
- (iv) Whenever feasible, natural vegetation shall be retained, protected and supplemented as provided in Sections 12 and 14 of this Article;
- (v) The disturbed area and the duration of exposure to erosive elements shall be kept to a practicable minimum;
- (vi) Disturbed soil shall be stabilized as quickly as practicable;
- (vii) Temporary vegetation or mulching shall be employed to protect exposed critical areas during development;
- (viii) Permanent vegetation and structural erosion control practices shall be installed as soon as practicable;
- (ix) To the extent necessary, sediment in run-off water must be trapped by the use of debris basins, sediment basins, silt traps, or similar measures until the disturbed area is stabilized. As used in this paragraph, a disturbed area is stabilized when it is brought to a condition of continuous compliance with the requirements of O.C.G.A. § 12-7-1 et seq.;
- (x) Adequate provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping of fills;
- (xi) Cuts and fills shall not endanger adjoining property;
- (xii) Fills shall not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners;
- (xiii) Grading equipment shall cross flowing streams by means of bridges or culverts except when such methods are not feasible, provided, in any case, that such crossings are kept to a minimum;
- (xiv) Land-disturbing activity plans for erosion and sedimentation control shall include provisions for treatment or control of any source of sediments and adequate sedimentation control facilities to retain sediment on-site or preclude sedimentation of adjacent waters beyond the levels specified in subsection (b)(4)(B)(ii) of this section;

(xv) Except as provided in paragraph (xvi) of this subsection, there is established a twenty-five-foot state buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except where the Director of the Environmental Protection Division determines to allow a variance that is at least as protective of natural resources and the environment, where otherwise allowed by the Director of the Environmental Protection Division pursuant to O.C.G.A. § 12-2-8, or where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications, and are implemented; provided, however, the buffers of at least twenty-five (25) feet established pursuant to part 6 of Article 5, Chapter 5 of Title 12, the "Georgia Water Quality Control Act", shall remain in force unless a variance is granted by the Director of the Environmental Protection Division as provided in this paragraph. The following requirements shall apply to any such buffer:

1. No land disturbing activities shall be conducted within a buffer and a buffer shall remain in its natural undisturbed state of vegetation until all land-disturbing activities on the construction site are completed. Once the final stabilization of the site is achieved, a buffer may be thinned or trimmed of vegetation as long as a protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; provided, however, that any person constructing a single-family residence, when such residence is constructed by or under contract with the owner for his or her own occupancy, may thin or trim vegetation in a buffer at any time as long as protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; and
2. The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within twenty-five (25) degrees of perpendicular to the stream; cause a width of disturbance of not more than fifty (50) feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented: (i) Stream crossings for water lines; or (ii) Stream crossings for sewer lines;

(xvi) There is established a fifty-foot buffer as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as "trout streams" pursuant to Article 2 of Chapter 5 of Title 12, the "Georgia Water Quality Control Act", except where a roadway drainage structure must be constructed; provided, however, that small springs and streams classified as trout streams which discharge an average annual flow of twenty-five (25) gallons per minute or less shall have a twenty-five-foot buffer or they may be piped, at the discretion of the landowner, pursuant to the terms of a rule providing for a general variance promulgated by the BNR, so long as any such pipe stops short of the downstream landowner's property and the landowner complies with the buffer requirement for any adjacent trout streams. The Director of the Environmental Protection Division may grant a variance from such buffer to allow land-disturbing activity, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented. The following requirements shall apply to such buffer:

1. No land-disturbing activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed, state of vegetation until all land-disturbing activities on the construction site are completed. Once the final stabilization of the site is achieved, a buffer may be thinned or trimmed of vegetation as long as a protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed: provided, however, that any person constructing a single-family residence, when such residence is constructed by or under contract with the owner for his or her own occupancy, may thin or trim vegetation in a buffer at any time as long as protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed; and
2. The buffer shall not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within twenty-five (25) degrees of perpendicular to the stream; cause a width of disturbance of not more than fifty (50) feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented: (i) Stream crossings for water lines; or (ii) Stream crossings for sewer lines.

- (D) The fact that land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this section or the terms of the permit.
- (5) Application/permit process.
- (A) *General.* The property owner, developer and designated planners and engineers shall review the general development plans and detailed plans of the local issuing authority that affect the tract to be developed and the area surrounding it. They shall review the zoning ordinance, stormwater management ordinance, subdivision ordinance, flood damage prevention ordinance, this Chapter, and other ordinances which regulate the development of land within the jurisdictional boundaries of the local issuing authority. However, the operator is the only party who may obtain a permit.
- (B) *Application requirements.*
- (i) No person shall conduct any land-disturbing activity within the jurisdictional boundaries of the City of Dunwoody without first obtaining a permit from the Director to perform such activity.
- (ii) The application for a permit shall be submitted to the Director and must include the applicant's erosion and sedimentation control plan with supporting data, as necessary. Said plans shall include, at a minimum, the data specified in subsection (b)(5)(C) of this section. [Soil erosion and sedimentation control plans shall conform to the provisions of subsection \(b\)\(4\) \(B\) and \(C\) of this section.](#) Applications for a permit will not be accepted unless accompanied by eight (8) copies of the applicant's soil erosions and sedimentation control plans. All applications shall contain a certification stating that the plan preparer or the designee thereof visited the site prior to creation of the plan or that such a visit was not required in accordance with rules and regulations established by the BNR.
- (iii) A permitting fee, as determined by the City Council shall be charged for each acre or fraction thereof in the project area.
- (iv) In addition to the local permitting fees, fees will also be assessed pursuant to paragraph (5) subsection (a) of O.C.G.A. § 12-5-23, provided that such fees shall not exceed eighty dollars (\$80.00) per acre of land-disturbing activity, and these fees shall be calculated and paid by the primary permittee as defined in the state general

permit for each acre of land-disturbing activity included in the planned development or each phase of development. All applicable fees shall be paid prior to issuance of the land disturbance permit. In a jurisdiction that is certified pursuant to O.C.G.A. § 12-7-8(a) half of such fees levied shall be submitted to the ~~EPD-Division~~; except that any and all fees due from an entity which is required to give notice pursuant to paragraph (9) or (10) of O.C.G.A. § 12-7-17 shall be submitted in full to the ~~EPD-Division~~, regardless of the existence of a local issuing authority in the jurisdiction.

- (v) Immediately upon receipt of an application and plan for a permit, the local issuing authority shall ~~review~~ refer the application and plan to the District for its review and approval concerning the plan for the adequacy of the erosion and sedimentation control plan. The ~~Director-District~~ shall approve or disapprove a plan within thirty-five (35) days of receipt. Failure of the ~~Director-District~~ to act within thirty-five (35) days shall be considered an approval of the pending plan. The results of the District review shall be forwarded to the Local Issuing Authority. No permit will be issued unless the plan has been approved by the ~~Director-District~~, and any variances required by subsection (b)(4)(C)(xv) and (xvi) and bonding if required by subsection (b)(5)(B)(vii) have been obtained. Such a review will not be required if the Local Issuing Authority and the District have entered into an agreement which allows the Local Issuing Authority to conduct such review and approval of the plan without referring the application and plan to the District.
- (vi) If a permit applicant has had two (2) or more violations of previous permits, this Chapter, or the Erosion and Sedimentation Act, as amended, within three (3) years prior to the date of filing of the application under consideration, the Director may deny the permit application.
- (vii) The Director may require the permit applicant to post a bond in the form of government security, cash, irrevocable letter of credit, or any combination thereof up to, but not exceeding, three thousand dollars (\$3,000.00) per acre or fraction thereof of the proposed land-disturbing activity, prior to issuing the permit. If the applicant does not comply with this section or with the conditions of the permit after issuance, the Director may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance.

(C) *Plan requirements.*

- (i) Plans must be prepared to meet the minimum requirements as contained in subsection (b)(4)(B) and (C) of this section. Conformance with the minimum requirements may be attained through the use of design criteria in the current issue of the Manual for Erosion and Sediment Control in Georgia, published by the State Soil and Water Conservation Commission as a guide; or through the use of more stringent alternate design criteria which conform to conservation and engineering practices including, but not limited to, design criteria published by DeKalb County in its approved stormwater management manual or City of Dunwoody's approved stormwater management policy. The Manual for Erosion and Sediment Control in Georgia is hereby incorporated by reference into this Chapter as if fully set forth herein. The plan for the land-disturbing activity shall consider the interrelationship of the soil types, geological and hydrological characteristics, topography, watershed, vegetation, proposed permanent structures including roadways, constructed waterways, sediment control and storm water management facilities, local ordinances and State laws.
- (ii) The following minimum data shall be required for each site plan:
1. Narrative or notes, and other information: Notes or narrative are to be located on the site plan in general notes or in erosion and sediment control notes;
 2. A description of existing land use at project site and description of proposed project;
 3. Name, address, and phone number of the property owner;
 4. Name and phone number of twenty-four (24) hour local contact who is responsible for erosion and sedimentation controls;
 5. Size of project, or phase under construction, in acres;
 6. Activity schedule showing anticipated starting and completion dates for the project. The following statement: "the installation of erosion and sedimentation control measures and practices shall occur prior to or concurrent with land-disturbing activities" must be on the site plan in bold letters;

7. Stormwater and sedimentation management systems-storage capacity, hydrologic study, and calculations, including off-site drainage areas;
 8. Vegetative plan for all temporary and permanent vegetative measures, including species, planting dates, and seeding, fertilizer, lime, and mulching rates. The vegetative plan should show options for year-round seeding;
 9. Detailed drawings for all structural practices. Specifications may follow guidelines set forth in the Manual for Erosion and Sediment Control in Georgia, but must be site specific;
 10. Maintenance statement -- "Erosion and sedimentation control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion and sediment control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."; and
 11. Other information pertinent to requirements of this Chapter as required by the Director.
- (iii) Maps, drawing, and supportive computations shall bear the signature/seal of a registered or certified professional in engineering, architecture, landscape architecture, land surveying, or erosion and sedimentation control. After December 31, 2006, all persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity shall meet the education and training certification requirements as developed by the Commission pursuant to O.C.G.A. § 12-7-20. The certified plans shall contain:
1. Graphic scale and north point or arrow indicating magnetic north.
 2. Vicinity maps showing location of project and existing streets.
 3. Boundary line survey.
 4. Delineation of disturbed areas within project boundary.
 5. Existing and planned contours, with an interval in accordance with the following:

TABLE INSET:

Map Scale	Ground Slope	Contour interval (ft.)
1 inch = 100 ft. Or larger scale	Flat 0 – 2% Rolling 2 – 8% Step 8% +	0.5 or 1 1 or 2 2, 5, or 10

6. Adjacent areas and feature areas such as streams, lakes, residential areas, etc. which might be affected should be indicated on the plan.
7. The names of property owners and current zoning of all abutting property.
8. Proposed structures or additions to existing structures and paved areas.
9. Delineate the stream buffers as required by Section 14 of this Article, adjacent to state waters identified by the City of Dunwoody.
10. Delineate the specified horizontal buffer along designated trout streams, where applicable.
11. Location of erosion and sedimentation control measures and practices using coding symbols from the Manual for Erosion and Sediment Control in Georgia, Chapter 6.

(iv) Maintenance of all soil erosion and sedimentation control practices, whether temporary or permanent, shall be at all times the responsibility of the property owner.

(D) *Permits.*

- (i) Permits shall be issued or denied as soon as practicable but in any event not later than forty-five (45) days after receipt by the Director of a completed application, provided variances and bonding are obtained, where necessary.
- (ii) No permit shall be issued by the Director unless the erosion and sedimentation control plan has been approved and the Director has affirmatively determined that the plan is in compliance with this Chapter, any variances required by subsection (b)(4)(C)(xv) and (xvi) are obtained, bonding requirements, if necessary, as per subsection (b)(5)(B)(vii) are met and all ordinances and rules and regulations in effect within the jurisdictional boundaries of the City

of Dunwoody are met. If the permit is denied, the reason for denial shall be furnished to the applicant.

- (iii) If the tract is to be developed in phases, then a separate permit shall be required for each phase.
- (iv) The permit may be suspended, revoked, or modified by the City of Dunwoody, as to all or any portion of the land affected by the plan, upon finding that the holder or his successor in the title is not in compliance with the approved erosion and sedimentation control plan or that the holder or his successor in title is in violation of this Chapter. A holder of a permit shall notify any successor in title to him as to all or any portion of the land affected by the approved plan of the conditions contained in the permit.
- (v) No permit shall be issued until the applicant files documents with the Director demonstrating compliance with all applicable local, State and Federal requirements.

(6) Inspection and enforcement.

- (A) The ~~Director~~ Community Development Department will periodically inspect the sites of land-disturbing activities for which permits have been issued to determine if the activities are being conducted in accordance with the plan and if the measures required in the plan are effective in controlling erosion and sedimentation. Also, the City of Dunwoody shall regulate both primary and secondary permittees as such terms are defined in the state general permit. Primary permittees shall be responsible for installation and maintenance of best management practices where the primary permittee is conducting land-disturbing activities. Secondary permittees shall be responsible for installation and maintenance of best management practices where the secondary permittee is conducting land-disturbing activities. If, through inspection, it is deemed that a person engaged in land-disturbing activities as defined herein has failed to comply with the approved plan, with permit conditions, or with the provisions of this section, a written notice to comply shall be served upon that person by the Director. The notice shall set forth the measures necessary to achieve compliance and shall state the time within which such measures must be completed. If the person engaged in the land disturbing activity fails to comply within the time specified, he shall be deemed in violation of this section.
- (B) The Director shall have the power to conduct such investigations as may reasonably be necessary to carry out duties as prescribed in this section, and for this purpose to enter at reasonable times upon any property, public

or private, for the purpose of investigation and inspecting the sites of land-disturbing activities.

- (C) No person shall refuse entry or access to any authorized representative or agent of the City of Dunwoody, the Commission, or the Division who requests entry for the purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties.
- (D) The Districts or the Commission or both shall periodically review the actions of the City. The Districts or the Commission or both may provide technical assistance to the City of Dunwoody for the purpose of improving the effectiveness of the City's erosion and sedimentation control program. The Districts or the Commission shall notify the EPD Division and request investigation by the EPD Division if the City's program is found to be deficient or ineffective.
- (E) The BNR shall promulgate rules and regulations setting forth the requirements and standards for certification and the procedures for decertification of a local issuing authority. The EPD Division may periodically review the actions of the City of Dunwoody which has been certified as a local issuing authority pursuant to O.C.G.A. § 12-7-8(a). Such review may include, but shall not be limited to, review of the administration and enforcement of the City of Dunwoody's ordinances. If such review indicates that DeKalb County-The City of Dunwoody has not administered or enforced its ordinances or has not conducted the program in accordance with any agreement entered into pursuant to O.C.G.A. § 12-7-7(e), the EPD Division shall notify the City of Dunwoody governing authority in writing. Upon receipt of the notification, the governing authority shall have thirty (30) days within which to take the necessary corrective action to retain certification as a local issuing authority. If the City of Dunwoody does not take necessary action within thirty (30) days after notification by the EPD Division, the EPD Division may revoke the certification of the City of Dunwoody as a local issuing authority.

(7) Penalties and incentives.

- (A) *Failure to obtain a permit for land-disturbing activity.* If any person commences any land-disturbing activity requiring a land-disturbing permit as prescribed in this Chapter without first obtaining said permit, the person shall be subject to revocation of his business license, work permit or other authorization for the conduct of a business and associated work activities within the City of Dunwoody.
- (B) *Stop work orders.* Upon notice from the Director or other City authorized representative, work on any project that is being done contrary to the

provisions of this Chapter 14 or in a dangerous or unsafe manner, shall be immediately stopped. Such notice shall be in writing and shall be given to the owner of the property, his/her authorized agent or the person or persons in charge of the activity on the property, and shall state the conditions under which work may be resumed. Where an emergency exists, no written notice shall be required.

- (i) For the first and second violations of the provisions of this section on a site, the Director shall issue a written notice of violation. The violator shall have five (5) days to correct the violation. If the violation is not corrected within five (5) days, the ~~Director-EPD or~~ the Local Issuing Authority shall issue a stop work order requiring that land-disturbing activities be stopped until necessary corrective action or mitigation has occurred; provided that if the violation presents an imminent threat to public health or waters of the State or if land-disturbing activities are conducted without obtaining the necessary permit, the ~~Director-EPD or the Local issuing Authority~~ shall issue an immediate stop work order in lieu of a warning.
 - (ii) For a third and each subsequent violation on a site, the ~~Director~~ EPD or the Local Issuing Authority shall issue an immediate stop-work order, and;
 - (iii) All stop-work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred.
 - (iv) When a violation in the form of land disturbance without a permit, failure to maintain a stream buffer, or significant amounts of sediment, as determined by the ~~Director~~Local Issuing Authority or by EPD Director or his or her designee, have been or are being discharged into state waters and where best management practices have not been properly designed, installed, and maintained, a stop work order shall be issued by the ~~Director~~Local Issuing Authority or by EPD Director or his or her designee. All such stop work orders shall be effective immediately upon issuance and shall be in effect until the necessary corrective action or mitigation has occurred. Such stop work orders shall apply to all land-disturbing activity on the site with the exception of the installation and maintenance of temporary or permanent erosion and sediment controls.
- (C) *Bond forfeiture.* If, through inspection, it is determined that a person engaged in land-disturbing activities has failed to comply with the approved plan, a written notice to comply shall be served by the Director upon that person. The notice shall set forth the measures necessary to

achieve compliance with the plan and shall state the time within which such measures must be completed. If the person engaged in the land-disturbing activity fails to comply within the time specified, he shall be deemed in violation of this Chapter and, in addition to other penalties, shall be deemed to have forfeited his performance bond, if required to post one under the provisions of subsection (b)(5)(B)(vii). The Director may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance.

- (D) *Monetary penalties.* Any person who violates any provisions of this section, or any permit condition or limitation established pursuant to this section, or who negligently or intentionally fails or refuses to comply with any final or emergency order of the development director issued as provided in this section, shall be liable for a civil penalty not to exceed two thousand five hundred dollars (\$2,500.00) per day. Notwithstanding any limitation of law as to penalties which can be assessed for violations of City ordinances, the Municipal Court or any other court of competent jurisdiction trying cases brought under City ordinances approved under this section shall be authorized to impose penalties for such violations not to exceed two thousand five hundred dollars (\$2,500.00) for each violation; however the maximum assessment shall not exceed the amount authorized by Chapter 1 of this Code. Each day during which violation or failure or refusal to comply continues shall be a separate violation.
- (8) Education and certification. All persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity shall meet the education and training certification requirements, dependent on their level of involvement with the process, as developed by the Commission in consultation with the Division and the stakeholder advisory board created pursuant to O.C.G.A. § 12-7-20.
- (9) Administrative appeal, judicial review.
- (A) *Administrative remedies.* The suspension, revocation, modification or grant with condition of a permit by the City of Dunwoody upon finding that the holder is not in compliance with the approved erosion and sediment control plan; or that the holder is in violation of permit conditions; shall entitle the person submitting the plan or holding the permit to an appeal before the Board of Zoning Appeals pursuant to the procedures and standards set forth in Section 8(c) of this Article.
- (B) *Judicial review.* Any person aggrieved by administrative appeals from a decision or order of the Board of Zoning Appeals authorized by Article II, Section 8 subsection (c)(b)(8)(A) of this section shall be as provided for in Section 14 Article II, Section 8 (d) of this Articlechapter.

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(10) Validity and liability.

- (A) *Validity.* If any section, paragraph, clause, phrase, or provision of this section shall be adjudged invalid or held unconstitutional, such decisions shall not affect the remaining portions of this section.
- (B) *Liability*
 - (i) Neither the approval of a plan under the provisions of this section, nor the compliance with provisions of this section shall relieve any person from the responsibility for damage to any person or property otherwise imposed by law nor impose any liability upon the City of Dunwoody, its officers or employees for damage to any person or property.
 - (ii) The fact that a land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this section or the terms of the permit.
 - (iii) No provision of this section shall permit any persons to violate the Georgia Erosion and Sedimentation Act of 1975, the Georgia Water Quality Control Act or the rules and regulations promulgated and approved thereunder or pollute any waters of the State as defined thereby.

Section 12: Tree Protection

(a) Intent and Purpose

- (1) INTENT: To provide minimum landscape standards for developments in the city so as to enhance architectural features, strengthen vistas and provide shade.
- (2) PURPOSE:
 - (A) To preserve landscaping in its natural state to the greatest extent possible.
 - (B) To promote architectural harmony between buildings, landscaping and the local environs.
 - (C) To enhance economic opportunities over the long term by maintaining Dunwoody as an attractive and progressive community for residents, businesses and developers.
 - (D) To minimize the adverse impacts of new development on existing land

uses.

- (E) To promote xeriscaping, or water-saving techniques where practical.
- (F) To provide environmental benefits such as pollution abatement, erosion and run-off control, energy conservation, minimization of flood hazards and continued maintenance of ecology systems

(b) Definitions

All words used in this ordinance carry their customary dictionary meanings, except where specifically defined herein or in the Dunwoody Zoning Ordinance as amended.

_____ *Buildable area*: The portion of a lot which is not located within any minimum required yard, landscape area, or buffer, i.e., that portion of a lot wherein a building may be located.

_____ *Caliper*: An American Association of Nurseryman standard for trunk measurement of nursery stock. Caliper of the trunk shall be taken six (6) inches above the ground for up to and including four-(4) inch caliper size, and twelve (12) inches above the ground for larger sizes.

_____ *Certificate of occupancy*: A permit issued by the Building Inspector indicating that the use of the building or land in question is in conformity with all relevant City of Dunwoody ordinances, or that there has been a legal variance there from as provided by one of the ordinances.

_____ *Certified Arborist*: An individual who has been certified as an arborist by the International Society of Arboriculture and maintains said certification in good standing.

_____ *City Arborist*: The Community Development Director or designee of the City of Dunwoody having primary enforcement responsibilities under this ordinance, and charged with the responsibility for approval of all landscape plans for land development in the City of Dunwoody required pursuant to this ordinance.

_____ *Diameter at breast height (DBH)*: A standard measure of tree size. The tree trunk diameter is measured in inches at a height of 4 1/2 feet above the ground. If a tree splits into multiple trunks below 4 1/2 feet, then the trunk is measured at its most narrow point beneath the split.

_____ *Ground cover*: A category of plants usually ranging from a few inches to a foot or more in height. Some ground covers are excellent for preventing soil erosion; others are helpful in carrying out design patterns.

_____ *In perpetuity*: The state or condition of lasting forever, continuing forever, or occurring continually.

_____ *Development permit*: A permit issued by the City of Dunwoody that authorizes the

commencement of development on a given tract of land.

_____ *Landscape plan*: A plan that identifies areas of tree preservation and methods of tree protection within the protected zone, as well as all areas or replanting. Within replanting areas, the common and botanical names of the proposed species, the number of plants of each species, the size of all plants, the proposed location of all plants, and any unique features of the plant shall be indicated.

_____ *Ornamental Trees*: Small growing trees, attaining a mature height of less than forty (40) feet, grown primarily for aesthetic purposes, i.e.. flowers, fruit, etc. Common ornamental trees in this area include: Dogwood and Bradford Pear trees. A list of trees generally acceptable to this area is included in the Appendix of the Tree Preservation Ordinance.

_____ *Protected zone*: All lands that fall outside of the buildable area of a parcel, all areas of the parcel required to remain in open space, and all areas required as landscaping strips according to provisions of the City of Dunwoody zoning regulations, or conditions of the zoning approval.

_____ *Revegetation*: The replacement of trees and landscape plant materials into the minimum required landscape areas, as determined by the Zoning Ordinance, conditions of zoning approval, or the Tree Preservation Ordinance.

_____ *Specimen tree*: Any tree which has been determined by the City Arborist to be of high value because of its type, size, age, and/or of historical significance, or other professional criteria, and has been so designated in administrative standards established by the city. This is usually a plant with desirable form, foliage, fruit, or flower that can be emphasized although isolated.

_____ *Structure*: Anything constructed, assembled, or erected, the use of which requires location on the ground or attachment to something having location on or in the ground.

_____ *Substantial Building Permit*: A nonresidential building permit issued by the City of Dunwoody with a total value in excess of 50% of the Dekalb County Tax Assessor's 100% assessed value of the existing improvements only. The aggregate value of all building permits issued to the property over the previous 12 months shall be included in this calculation (see Appendix I-D of the Tree Preservation Ordinance).

_____ *Tree*: Any self supporting wood perennial plant which at maturity attains a trunk diameter of four (4) inches or more measured at a point four and one half (4 1/2) feet above the ground level and which normally attains a height of at least twenty five (25) feet at maturity, usually with one main stem or trunk and many branches.

_____ *Tree density factor*: A unit of measure used to prescribe and calculate required tree coverage on a site. Unit measurements are based upon tree size. (Appendix I-A of Tree Preservation Ordinance).

_____ *Tree Topping*: The removal of tree limbs, branches, or stems by cutting at the internodes

and resulting in the failure of the tree to assume apical dominance.

Zoning regulations: The Dunwoody Zoning Ordinance as amended or such other regulations subsequently adopted by the council, inclusive of conditions of zoning approval established pursuant thereto.

(c) Applicability: The terms and provisions of this Ordinance shall apply to any activity on real property which requires the issuance of a Development Permit or a Substantial Building Permit within the City of Dunwoody, but excluding the construction of individual single family detached and duplex dwellings. No Development Permit or Substantial Building Permit shall be issued by the city without it being determined that the proposed development is in conformance with the provisions of these regulations. An application for a development permit shall include a separate Landscape Plan that has been prepared and sealed by a Registered Landscape Architect, Certified Arborist, or Registered Forester.

(d) Landscape Strips.

(1) Minimum landscape strip dimensions for each lot are expressed in linear feet in the following chart: When a protected zone equivalent to the following landscape dimensions has not been left on a site in a non-single family residential district, or when grading has occurred outside the buildable area on a lot, then landscape strips must be provided as follows:

<u>YARD FRONT</u>	15
<u>SIDE</u>	
CORNER	15
INTERIOR	5
<u>REAR</u>	5

(2) Within a single family or duplex subdivision where street access to lots with frontage on more than one street is restricted, a ten foot no access strip shall be required along the frontage of the street(s) with the higher classification. These no access strips shall be planted in accordance with the requirements for landscape strips above.

(3) No permanent structures are permitted within landscape strips. This includes pavement, retaining walls, curbing, dumpsters, drainage structures, detention facilities, etc.

(A) The only exceptions to this rule are sidewalks and footpaths, when the width of the right-of-way is insufficient.

(4) Curb stops must be used when parking perpendicular to five (5) foot landscape

strips.

- (5) Signs within landscape strips may only be located in areas of turf or ground cover and must not conflict with the growth potential of trees and shrubs. Signs are not permitted within required undisturbed buffers.
- (6) The deposition of storm water runoff into, or drainage swales through landscape strips is generally not permitted.
 - (A) Exceptions will be considered only if this standard will create an undue hardship to the property owner. Under no circumstance may the length of a drainage easement through a landscape strip exceed the width of the strip.
- (7) *Design standards:* All required landscape strips shall be planted with a combination of trees, shrubs, perennials, groundcovers, and grass, as approved by the City Arborist. The landscape strips shall be designed with a minimum 60% coverage in trees and large shrubs (4' x 4' or larger). Small shrubs, perennials, ornamental grasses, groundcover, and grass may constitute no more than 40% coverage of the landscape strip. All landscape strips along the public right-of-way shall be planted in a manner to achieve a 2-3' tall evergreen screening buffer. Landscape strip coverage will be calculated as follows:
 - (A) Calculate the total spatial area of the landscape strip.
 - (B) Calculate the total coverage of landscape materials, ensuring that the coverage of trees and large shrubs is greater than or equal to 60% of the total area of the strip. The following sizes shall be used when calculating coverage of the landscape materials:
 - Trees greater than 6" caliper: 100 square feet
 - Trees less than 6" caliper: 50 square feet
 - Large shrubs: (4' height x 4' spread or larger): 16 square feet
 - Ornamental grasses: 12 square feet
 - Small shrubs: 9 square feet
 - Perennials: 6 square feet
 - (C) Any exposed ground should be planted with a ground cover or an appropriate mulching material. Mulching materials shall not exceed four (4) inches in height.
- (8) Trees within required landscape strips shall be provided as follows:
 - (A) Landscape strips shall have a minimum of one tree for every thirty (30) linear feet of a landscape strip to the nearest whole number.

- (B) Clumping is permitted provided that adequate spacing is allowed for future growth.
- (9) Where desirable, the landscape strip need not be a strip per se or may be reduced to a width of ten (10) feet with the approval of the City Arborist. The minimum area (square feet) to be landscaped must be calculated by multiplying the width of the lot (measured at the building setback line) by the linear foot requirements provided in.A.I. of this section.

(e) Parking Areas

- (1) Parking lots designed for eight (8) or more spaces shall be designed as follows:
 - (A) The planter islands may be sized according to two different options:
 - (B) Each planter island shall be a minimum of 400 square feet. Planter islands shall be located at the terminus of each parking row and no further apart than every ten (10) parking spaces.
 - (C) Each planter island shall be a minimum of 300 square feet. Planter islands shall be located at the terminus of each parking row and no further apart than every twenty (20) parking spaces. Planting strips with a minimum width of five (5) feet shall run continuously between all planter islands. These strips shall be planted with one (1) overstory tree for every thirty (30) linear feet of the strip.
- (2) All planter islands must be designed with at least 60% coverage in trees in shrubs and no more than 40% coverage in ground cover and landscaping materials.. Planter islands abutting double rows of parking shall include two (2) overstory trees. Planter islands abutting single rows of parking shall include one (1) overstory tree. No plant materials, with the exception of trees, shall exceed three (3) feet in height. Turfgrass, however, shall not be planted in the required islands.
- (3) All planter islands and landscape strips must be curbed to prevent vehicular encroachment.
- (4) Planter islands and strips shall be designed to prevent compaction. This may be accomplished by planting a dense shrub cover or by elevating the planting area a minimum of one (1) foot above the curb.

(f) Street Trees

- (1) Street trees are required in all residential districts. Street tree requirements are as follows:

- (A) A Street Tree Planting Plan shall be submitted to and approved by the City Arborist prior to issuance of a development permit. The plan shall be prepared and sealed by a Registered Landscape Architect, Certified Arborist, or Registered Forester. All proposed trees shall be individually located on the plan with an included species list.
- (B) Street trees shall be planted in the right-of-way, in accordance with the details provided in the Appendix. Street trees shall be planted no further than fifty (50) feet apart and no closer than 25 feet from street intersections. It is not mandatory to plant street trees on each individual lot, where spacing distances are inadequate. Street trees are required on both sides of the street. The City Arborist may approve alternate spacing when the fifty foot spacing requirement cannot be met due to driveways and other improvements.
- (C) Street tree species shall be selected in accordance with Appendix XX-A and shall be subject to the approval of the City Arborist. No more than 35% of any one species shall be used throughout the development.
- (D) Street trees shall have a minimum caliper of three (3) inches. They shall be single-stemmed with a single, straight leader.
- (E) The builder shall install on each lot the street tree(s) specified on the Street Tree Planting Plan prior to the issuance of the certificate of occupancy. However, street tree plantings shall be delayed from May 1 through October 1. In this case, the builder shall enter into a performance surety agreement with the City guaranteeing tree planting by October 15. The performance surety agreement must be executed before the issuance of the certificate of occupancy for lots in this case.
- (G) Impermeable rigid tree root barriers shall be installed in a linear method in all tree strips. The barriers shall be a minimum of 24" deep and include ribs to direct root growth downward. The root barriers shall be installed in accordance with the details provided in the Appendix.
- (H) Expandable plastic tree trunk protectors shall be installed on each tree.
- (I) Street trees may count towards the minimum individual lot tree density requirements, as set forth in Tree Preservation Ordinance.
- (J) Street trees shall be maintained by the property owner who owns the lot associated with the tree(s) and/or by the homeowners' association. Maintenance shall include, but is not limited to, watering, pruning, tree replacement and removal of leaves and litter from the sidewalks and street, as necessary. All maintenance shall be in compliance with ANSI A300

standards for tree care. A maintenance responsibility statement shall be provided on the final plat.

(g) Minimum Standards for Landscape Materials

- (1) All landscape materials shall meet the minimum guidelines as outlined in the American Standard for Nursery Stock and Tree Preservation Ordinance, and subsequent Appendix
- (2) All deciduous trees shall be a minimum two-inch (2") caliper at the time of planting.
- (3) All evergreen trees shall be 6 feet tall or larger.
- (4) All shrubs and ornamental grasses shall be 3-gallon size or larger.
- (5) All perennials shall be 1-gallon size or larger.
- (6) Sod, rather than seed, shall be used in all landscape strips and no access strips that abut public right-of-way and shall extend to the curb of the public roadway.
- (7) Sod, rather than seed, shall be used on all single-family residential lots and shall be installed in all areas designated for grass from the back of the curb to the front corner of all houses, at a minimum.
- (8) All species must be ecologically compatible with the intended growing site.
- (9) No more than 35% of any one tree or shrub species may be used.
- (10) Evergreen trees may only be used in the interior and/or rear landscape strips.
- (11) All plant materials are subject to the approval of the City Arborist.

(h) Installation and Maintenance

- (1) Installation. All landscaping shall be installed in a sound workmanlike manner and according to accepted good planting procedures. The City Arborist shall inspect all landscaping and no certificate of occupancy or similar authorization will be issued unless the landscaping meets the requirements provided in this ordinance.
- (2) Staking and Guying. Newly planted trees shall not be staked or guyed unless they are unable to stand upright without support. Materials used shall be flat woven polypropylene photodegradable 3/4" wide with 900 lb. break strength. Any staking and guying materials used shall be removed within one (1) year of installation.

- (3) Irrigation. An irrigation system shall be installed in all landscape strips, planter islands, enhanced buffers, and no access strips. The system shall meet the following minimum standards:
- (A) Preserved trees, shrubs, and native plant communities shall not be required to be irrigated, unless directed by the City Arborist.
 - (B) Drip irrigation systems shall be installed in areas planted with trees, shrubs, perennials, and groundcovers. The City Arborist may approve an alternate comparable system if it provides irrigation at the ground level rather than an upright spray.
 - (C) Turfgrass areas shall be irrigated on a different zone than trees, shrubs, perennials, and groundcovers.
 - (D) Moisture sensor and/or rain gauge equipment shall be required on automatic irrigation systems to avoid irrigation during periods of sufficient rainfall.
 - (E) No significant irrigation overthrow shall be permitted onto impervious surfaces.
- (4) A watering schedule shall be submitted as part of the landscape plan. The schedule shall indicate the different irrigation zones and the frequency and amount of irrigation. The watering schedule shall be in accordance with Dekalb County's regulations concerning water usage. Minimum Space Requirements. All trees planted shall be provided with adequate space to grow unobstructed to maturity, to avoid sight obstructions, and to provide clearance. The following include the minimum requirements that must be met.

TABLE INSET:

Location	Overstory Trees	Understory Trees
Distance to other trees	30 feet	20 feet
Distance to overhead power lines	20 feet	0 feet
Distance to light poles	20 feet	15 feet
Distance to fire hydrants, electrical transmission boxes, water meters, or other infrastructure	15 feet	15 feet

- (5) Maintenance. The owner, occupant, tenant and respective agent of each, if any, shall be jointly and severally responsible for the maintenance and protection of all required landscaping in perpetuity, in accordance with the following standards:

- (A) Keep landscaping reasonably free of visible signs of insects and disease and appropriately irrigated to enable landscaping to exist in a healthy growing condition.
- (B) Mow or trim landscaping in a manner and at a frequency appropriate to the use made of the material and species on the site so as not to detract from the appearance of the general area. Growth of plant material at maturity shall be considered where future conflicts such as view, signage, street lighting, utilities and circulation might arise;
- (C) Maintain all landscaping to minimize property damage and public safety hazards, including removal of dead or decaying plant material, and removal of low hanging branches next to sidewalks and walkways obstructing street lighting; and
- (D) All pruning shall be done in accordance with *ANSI A300 (Part 1) Standards for Tree Care Operations – Pruning*. Tree topping is not allowed. Crown reduction pruning shall be used instead to reduce the height of a tree when necessary. Topped trees shall not be counted toward tree density requirements.

(i) Agreement and Bonding

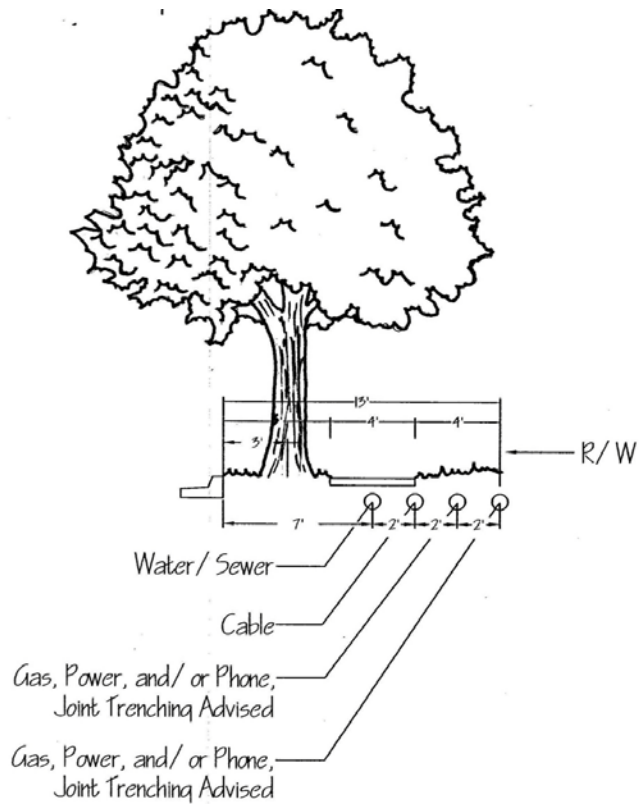
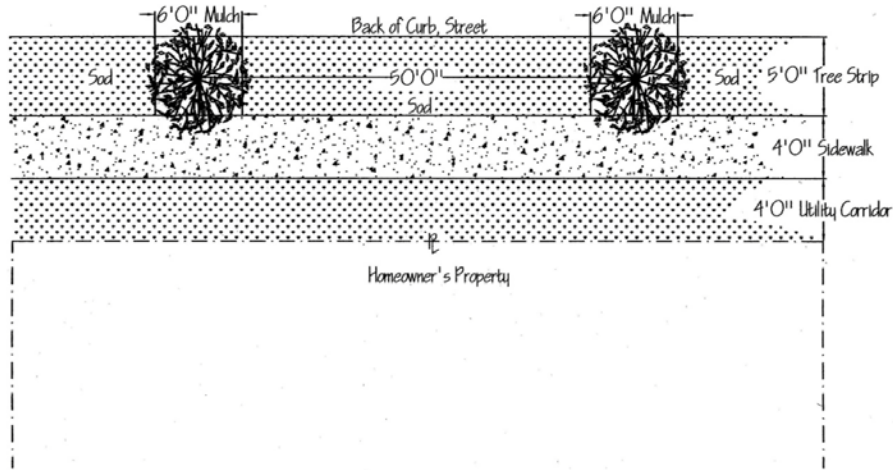
- (1) The developer or owner shall post a ~~maintenance performance~~ bond or cash escrow guaranteeing all landscaping materials and work for a period of two (2) years after the approval or acceptance thereof by the City. The bond or cash escrow will be required for commercial developments prior to the issuance of a certificate of occupancy. The bond or cash escrow will be required for residential developments within one year of the date of recording the final plat or before the final certificate of occupancy is issued for the development, whichever case occurs first. In the case of residential developments with multiple builders, each builder will be responsible for providing the bond or cash escrow for the lots for which he/she has received a building permit.
- (2) The bond will be in the amount of 115% of the estimated cost of replacing all of the required landscaping.
- (3) An itemized estimate should be provided by the owner and based on the opinion of a landscape contractor and found to be reasonable by the City Arborist.
- (4) The City Arborist shall make an inspection and notify the owner or developer and the Bond Company of any corrections to be made within this two (2) year period.

(j) Effective Date: This ordinance shall become effective upon approval by the Mayor and Council of the City of Dunwoody.

- (k) Enforcement. It shall be the duty of the City Arborist to enforce this Ordinance. The City Arborist shall have the authority to revoke, suspend, or void any Development Permit and shall have the authority to suspend all work on a site or any portion thereof, and to issue citations. The City Arborist shall have the authority to approve alternate methods of compliance with the provisions of this article when he/she determines the overall intent of the article and/or specific guidelines can be met.
- (l) Violation and Penalty. Any person, firm or corporation violating any of the provisions of this ordinance shall be deemed guilty of an ordinance violation . Each day's continuance of a violation shall be considered a separate offense. The owner of any property wherein a violation exist, and any builder, contractor, agent who may have assisted in the commission of any such violation, shall be guilty of a separate offense. The Dunwoody Municipal Court shall have jurisdiction to try offenses to these regulations.
- (m) Appeal. Any person aggrieved or affected by any decision of the City Arborist relating to the application of these regulations may appeal to the Zoning Board of Appeals for relief or reconsideration within thirty (30) days from the date of the adverse decision of the City Arborist.
- (n) VALIDITY Should any section or provision of this Ordinance be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the Ordinance in whole or any part thereof other than the part so declared invalid.
- (o) Conflicting Ordinance Repealed. The provisions of any Ordinance or parts of Ordinances in conflict herewith are repealed.

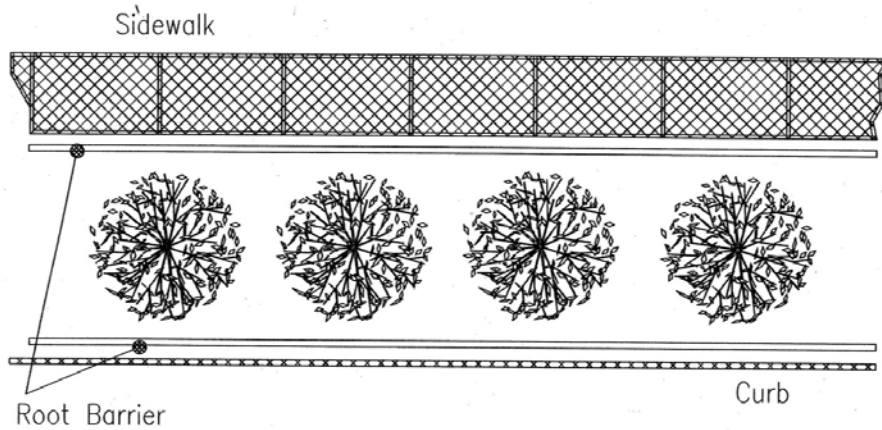
APPENDIX XX-A: STREET TREES

XX-A(1): Details for the location of street trees, sidewalks, utility corridor, etc.



APPENDIX XX-A: STREET TREES

XX-A(2): Detail for the locations of the root barriers



XX-A(3): Approved Street Tree Species

Botanical Name	Common Name	Notes
<i>Acer buergerianum</i> 'Trident Maple'	Trident Maple	single-stem only
<i>Acer rubrum</i> 'Autumn Flame'	Autumn Flame Red Maple	
<i>Acer rubrum</i> 'October Glory'	October Glory Red Maple	
<i>Acer rubrum</i> 'Red Sunset'	Red Sunset® Red Maple	
<i>Acer rubrum</i> 'Summer Red'	Summer Red® Red Maple	
<i>Acer saccharum</i> 'Green Mountain'	Green Mountain Sugar Maple	
<i>Acer saccharum</i> 'Legacy'	Legacy Sugar Maple	
<i>Betula nigra</i> 'BNMTF'	Dura-Heat® River Birch	single-stem only
<i>Ginkgo biloba</i> 'Princeton Sentry'	Princeton Sentry Ginkgo	
<i>Ostrya virginiana</i>	American Hophornbeam/Ironwood	
<i>Parrotia persica</i>	Persian Ironwood	single-stem only
<i>Pistacia chinensis</i>	Chinese Pistache	
<i>Quercus hemisphaerica</i> 'Darlington'	Darlington Oak	
<i>Quercus lyrata</i>	Overcup Oak	
<i>Quercus nuttalli</i>	Nuttall Oak	
<i>Quercus phellos</i>	Willow Oak	
<i>Quercus shumardii</i>	Shumard Oak	
<i>Ulmus parvifolia</i> 'Emer I'	Athena® Elm	
<i>Ulmus parvifolia</i> 'Emer II'	Allée® Elm	
<i>Ulmus parvifolia</i> 'UPMTF'	Bosque™ Elm	
<i>Zelkova serrata</i> 'Green Vase'	Green Vase Japanese Zelkova	
<i>Zelkova serrata</i> 'Village Green'	Village Green Japanese Zelkova	

(p) Tree Preservation

(1) Intent and Purpose.

(A) Intent: The intent of this ordinance is to provide standards for the preservation of trees as part of the land development and building construction process for the purpose of making the City of Dunwoody a more attractive place to live, provide a healthy living environment, and to better maintain control of flooding, noise, glare, and soil erosion.

(B) Purpose:

(i) The purpose of this ordinance is to facilitate the preservation and/or replacement of trees as part of the land development, building construction process within the City of Dunwoody.

(ii) Benefits derived from tree protection and replanting include:

- a. Improved control of soil erosion;
- b. Moderation of storm water runoff, and improved water quality;
- c. Interception of airborne particulate matter, and the reduction of some air pollutants.
- d. Enhanced habitat for desirable wildlife;
- e. Reduction of noise and glare;
- f. Climate moderation and the reduction of the heat island effect;
- g. Aesthetics, scenic amenity;
- h. Increased property value; and
- i. Assistance in traffic calming.

(C) Definitions

All words used in this ordinance carry their customary dictionary meanings, except where specifically defined herein or in the Dunwoody Zoning Ordinance as amended.

Accessory structure: A structure, the use of which is customarily incidental and subordinate to that of the main building of the same lot, such as a guest house, toolshed,

woodshed and the like.

Accessory use: A use customarily incidental and subordinate to the primary use of the main building or to the primary use of the premises.

Buildable area: The portion of a lot which is not located within any minimum required yard, landscape area, or buffer, i.e., that portion of a lot wherein a building may be located.

Caliper: An American Association of Nurseryman standard for trunk measurement of nursery stock. Caliper of the trunk shall be taken six (6) inches above the ground for up to and including four- (4) inch caliper size, and twelve (12) inches above the ground for larger sizes.

Certified Arborist: An individual who has been certified as an arborist by the International Society of Arboriculture and maintains said certification in good standing.

City Arborist: The Community Development Director or designee of the City of Dunwoody having primary enforcement responsibilities under this ordinance, and charged with the responsibility for approval of all landscape plans for land development in the City of Dunwoody required pursuant to this ordinance.

Critical Root Zone (CRZ): A circular region measured outward from a tree trunk representing the essential area of roots that must be maintained or protected for the tree's survival. The CRZ is one foot of radial distance for every inch of the tree's DBH, with a minimum of eight feet.

Crown Reduction Pruning: Method of pruning to reduce the height or spread of a tree by performing appropriate pruning cuts.

Diameter at breast height (DBH): A standard measure of tree size. The tree trunk diameter is measured in inches at a height of 4 1/2 feet above the ground. If a tree splits into multiple trunks below 4 1/2 feet, then the trunk is measured at its most narrow point beneath the split.

Detached: Shall be defined as being separated from a principle structure by a minimum of three (3) feet.

Hardwood Tree: A tree that does not bear either needles or cones. The term hardwood is based on the colloquialism and does not reflect any true qualities of the tree.

Development permit: A permit issued by the City of Dunwoody that authorizes the commencement of development on a given tract of land.

Landscape plan: A plan that identifies areas of tree preservation and methods of tree protection within the protected zone, as well as all areas or replanting. Within replanting areas, the common and botanical names of the proposed species, the number of plants of each species, the size of all plants, the proposed location of all plants, and any unique features of the plants

shall be indicated.

Overstory Tree: Those trees that compose the top layer or canopy of vegetation and will generally reach a mature height of greater than forty feet (40').

Protected zone: All lands that fall outside of the buildable area of a parcel, all areas of the parcel required to remain in open space, and all areas required as landscaping strips according provisions of the City of Dunwoody zoning regulations, or conditions of the zoning approval.

Revegetation: The replacement of trees and landscape plant materials into the minimum required landscape areas, as determined by the Zoning Ordinance, conditions of zoning approval, or the Tree Preservation Ordinance.

Softwood Tree: Any coniferous (cone-bearing) tree. The term softwood is based on the colloquialism and does not reflect any true qualities of the tree.

Special tree: Any tree, which qualifies for special consideration for preservation due to its size, type, and condition as defined in this article.

Specimen tree: Any tree, which qualifies for special consideration for preservation due to its size, type, condition, location or historical significance as defined in this article.

Structure: Anything constructed, assembled, or erected, the use of which requires location on the ground or attachment to something having location on or in the ground.

Substantial Building Permit: A nonresidential building permit issued by the City of Dunwoody with a total value in excess of 50% of the Dekalb County Tax Assessor's 100% assessed value of the existing improvements only. The aggregate value of all building permits issued to the property over the previous 12 months shall be included in this calculation (see Appendix).

Tree: Any self supporting wood perennial plant which at maturity attains a trunk diameter of four (4) inches or more measured at a point four and one half (4 1/2) feet above the ground level and which normally attains a height of at least twenty five (25) feet at maturity, usually with one main stem or trunk and many branches.

Tree density factor: A unit of measure used to prescribe and calculate required tree coverage on a site. Unit measurements are based upon tree size. (Appendix).

Tree Topping: The removal of tree limbs, branches, or stems by cutting at the internodes and resulting in the failure of the tree to assume apical dominance.

Understory Tree: Those trees that grow beneath the Overstory trees, and will generally reach a mature height of less than forty feet (40').

Zoning regulations: The Dunwoody Zoning Ordinance as amended or such other

regulations subsequently adopted by the council, inclusive of conditions of zoning approval established pursuant thereto.

(2) Applicability The terms and provisions of this Ordinance shall apply to any activity on real property, which requires the issuance of a Development Permit or Substantial Building Permit within the City of Dunwoody. No Development Permit or Substantial Building Permit shall be issued by the city without it being determined that the proposed development is in conformance with the provisions of these regulations.

(3) Permit Procedure

(A) All applications for a Development Permit or a Substantial Building Permit shall include the following:

(i) **Tree Protection Plan:** A tree protection plan shall be submitted with other permit drawings. This plan shall be a separate drawing, shall be prepared and sealed by a Registered Landscape Architect, Certified Arborist, or Registered Forester, and shall include the following information:

a. **Tree Survey:** The Tree Survey shall be a to-scale map or site plan that has been prepared and sealed by a Registered Landscape Architect, Certified Arborist, Registered Forester, Registered Surveyor, or Registered Engineer. The Tree Survey shall include the following minimum requirements:

1. All specimen trees are to be located and labeled with their size and species. Their Critical Root Zone (CRZ) shall be delineated and the spot elevation at the base of their trunk shall be indicated. They shall also be labeled in a way to determine if they are intended for removal or preservation.
2. All trees with a dbh measurement of twelve inches (12") or larger shall be located and their size and species shall be indicated.
3. Sampling methods may be used to determine tree density calculations for forested areas over five (5) acres.

b. **Definition of Spatial Limits.**

1. Limits of land disturbance, clearing, grading, and trenching;
 2. Tree protection zones;
 3. Areas of revegetation;
 4. Indication of staging areas for parking, material storage, concrete washout, debris burn, and other areas where tree protection may be affected.
 5. Locations of existing and proposed structures, paving, driveways, cut and fill areas, detention areas, utilities, etc.
- c. Detail drawings of tree protection measures (where applicable.)
1. Protective tree fencing;
 2. Erosion control fencing;
 3. tree protection signs;
 4. ransplanting specifications;
 5. Tree wells, and aeration systems;
 6. Staking specifications; and
 7. other applicable drawings.
- d. Tree Density Calculations
- e. Procedures and schedules of the implementation, installation, and maintenance of tree protection measures.
- (ii) An on-site inspection will be made by the City Arborist prior to the commencement of any development activity.
- (iii) All landscape plans, tree protection plans, and related documentation shall be reviewed by the City Arborist for conformance to the provisions of these regulations and either approved, returned for revisions, or denied within thirty (30) days of receipt. If denied, the reasons for denial shall be annotated on the landscape plan or otherwise stated in writing.

- (iv) Issuance of the Development Permit or a Substantial Building Permit is contingent upon approval of the required Tree Protection Plan and Landscape Plan and an on-site inspection by the City Arborist for Tree Protection measures.

(q) Removal of Trees

- (1) Trees are not to be removed in any protected zone. When preserving trees in a protected zone will result in a documented economic hardship, an exception may be made. The documentation proving the hardship shall be submitted as part of the Tree Protection Plan. Nothing in these regulations shall be construed to allow the removal of vegetation in a natural, undisturbed buffer required by zoning regulations.
- (2) The removal of dead, diseased, insect-infested, or hazard trees is exempt from the provisions of this article provided the property owner can provide documentation of the condition of said trees. Documentation includes, but is not limited to, photographs or a report by a Certified Arborist and shall be submitted prior to removal.
- (3) When no trees are present in the protected zone or when it is proposed that any portion of the protected zone be disturbed, it shall be the responsibility of the owner/developer to landscape said areas (where improvements are not constructed), with trees or other plant materials subject to zoning regulations.
- (4) Trees shall not be removed from a floodplain except as follows:
 - (A) Those trees found to be dead, diseased, or insect infested by the City Arborist, the County Extension Service, the Georgia Forestry Commission, or a registered forester.
 - (B) As necessary for construction, repair, or maintenance of public roads, utilities, or drainage structures.

(r) Tree Replacement-Revegetation

- (1) The replacement of trees in the minimum required landscape areas, as determined by this ordinance, must occur under the following conditions.
 - (A) To establish the minimum tree density requirements for the site.
 - (B) Where grading occurs outside the buildable area of the lot.
 - (C) If the buildable area of the lot leaves no protected zone.

- (D) If no trees are present within an existing protected zone.
 - (E) Where specimen trees or specimen stands of trees within the buildable portion of the lot are to be removed.
 - (F) Where specimen trees or specimen stands of trees, and trees within otherwise designated tree protective zones have been irreparably damaged or removed through development or construction activities.
- (2) The quantity of replacements trees into a site must be sufficient so as to produce a total site tree density factor of no less than 20 units per acre (Note: the terms unit and tree are NOT interchangeable). Procedures for determining the site density requirements and the subsequent tree replacement requirements are provided in Appendix and incorporated by reference herein. A required buffer or trees located in the floodplain shall not be counted towards tree density.
 - (3) The spacing of replacement trees must be compatible with spatial limitations, and within responsible considerations towards potential species size.
 - (4) The following number of trees shall be maintained and/or planted on all single-family residential lots developed in the City.

Lot Size	Number of Required Trees
≤ 8,000 square feet	1 tree
8,001 to 15,000 square feet	2 trees
15,001 to 20,000 square feet	3 trees
20,001 to 25,000 square feet	4 trees
25,001 to 30,000 square feet	5 trees
≥30,001 square feet	1 tree per 5,000 square feet of lot size

- (A) Understory trees may constitute no more than 25% of the required trees; lots less than 8,000 square feet are exempt from this requirement.
 - (B) Notwithstanding the foregoing, it is required that all reasonable efforts be made to save Specimen Trees. (Reasonable effort shall include, but not be limited to, alternate building design, building location, parking area layout, parking area location, water retention location and the like.)
 - (C) Tree Save Areas are encouraged and will be given credit of up to 50% individual lot requirements when the number of trees in the tree save areas is equal to or greater than the total number of trees required on the total number of lots within the subdivision.
- (5) Occasionally, this intent cannot be met because a project site will not bear the

required density of trees. In this case, the City Arborist may approve a contribution to the City of Dunwoody Tree Replacement Fund. The following standards have been established for administering these contributions.

- (A) The City Arborist must review and approve all requests for alternative compliance. In no instance shall one hundred percent (100%) of the required site density be met through alternative compliance. As many trees as can reasonably be expected to survive must be planted on the site in question.
- (B) No permit shall be issued until the required contribution has been made to the Tree Replacement Fund.
- (C) The amount of the contribution shall be determined from the Fee Schedule for the Community Development Department.
- (D) The City of Dunwoody Tree Replacement Fund shall be used for planting trees on public property. Funds may be used for the purchase of trees, installation of trees and irrigation, and the purchase of mulch and soil amendments for the planted areas.

(6) Species selected for replacement must be quality specimens, and must be ecologically compatible with the specifically intended growing site. No more than 35% of any one species may be used. Evergreens may constitute no more than 25% of the trees in non-buffer areas. Standards for transplanting, and selecting quality replacement stock shall be in accordance with standards of the International Society of Arboriculture, National Association of Arborists, American Standard for Nursery Stock, and Appendix . Appendix offers a list of trees generally acceptable for credit in the Tree Density Calculation.

(7) Understory replacement trees may account for no greater than 25% of the required tree density units. The City Arborist shall have the discretion to approve the additional use of understory trees for meeting density requirements on single family lots if the size and/or layout of the lot does not allow for large overstory trees.

(8) Species selection and replacement densities are subject to approval by the City Arborist.

(s) Specimen and Special Trees

(1) Some trees on a site warrant special consideration and encouragement for preservation. These trees are referred to as specimen or special trees. The following criteria are used by the City Arborist to identify specimen and special trees. Both the size and condition must be met for a tree to qualify.

Criteria	Special Trees	Specimen Trees
Minimum size for hardwoods	14" to 23" DBH	24" DBH
Minimum size for softwoods	20" to 29" DBH	30" DBH
Minimum size for understory trees	4" to 5" DBH	6" DBH
Minimum Life Expectancy	25 years	15 years

Condition Criteria

Relatively sound and solid trunk with no extensive decay.

No more than one major and several minor dead limbs

No major insect or pathological problems.

No major pruning deficiencies, i.e. topping

At least 75% of the Critical Root Zone in a natural, undisturbed state

- (2) In order to encourage the preservation of specimen and special trees and the incorporation of these trees into the design of projects, additional density credit will be given for specimen and special trees which are successfully saved and maintained. Credit for any specimen or special tree thus saved would be one and a half (1.5) times the assigned unit value shown in the Appendix. Should the property owner retain the services of a Certified Arborist to improve the quality of said trees (services include, but are not limited to, installation of cabling & bracing, installation of lightning protection, corrective pruning, removal of deadwood, supplemental irrigation, introduction of mycorrhizae, etc.), the density credit shall be increased to two (2) times the assigned value designated in the Appendix. The property owner must supply a letter of commitment from the Certified Arborist and/or provide documentation of services provided in order to receive the increased density credit.

The City Arborist may identify and require the preservation of a tree stand if it contains one or more specimen or special trees and the trees are interlocked with other members of the stand in such a manner as to imperil the individual tree if other members of the stand were to be removed.

- (3) No specimen tree may be removed without the prior written approval of the City Arborist.

- (A) Specimen trees that are approved for removal must be replaced by species with potential for comparable size and quality. All specimen trees must be replaced with 3" caliper or larger trees at a density of one and a half (1.5) times the unit value of the tree removed, i.e. a 30"DBH specimen tree (4.9 density units) must be replaced with 7.35 units. Specimen tree replacement density is in addition to the minimum required density for the site.
- (B) Any specimen tree, which is fatally damaged during construction, as determined by the City Arborist, or removed without the appropriate review and approval of the City Arborist, must be replaced with 4" caliper or larger trees with a total density equal to three (3) times the unit value of the tree removed. Size alone will determine whether a tree was of specimen quality if the tree is removed without approval. Additionally, the area that encompassed the Critical Root Zone of the specimen tree shall remain undisturbed to allow for the planting of replacement trees.

(t) Tree Protection

- (1) The following minimum tree protection measures must be in place for all tree save areas:
 - (A) Trees identified for preservation shall have protection fencing that is a minimum of four (4) feet high installed at the edge of the critical root zones. The City Arborist shall have the discretion to require the installation of four (4) foot high minimum chain link fencing in those areas where the likelihood of possible encroachment occurs. All tree protection zones shall be designated as such with signage posted visibly on all sides of the fenced area. Signs requesting workers' cooperation and compliance with tree protection standards are recommended at the site entrance(s).
 - (B) All tree protection zones shall be designed to prevent the sedimentation of erosion material. Silt fences must be placed along the outer uphill edges of tree protection zones at the development interface.
 - (C) No person shall encroach into the tree protection zones. Construction activities, including but not limited to, parking, vehicle and foot traffic, material storage, concrete washout, debris burning, and other activities shall be arranged so as to prevent disturbance within the protected areas.
 - (D) Reasonable efforts shall be made to locate utility lines along corridors between tree protection zones. If utility lines must encroach into the protection zones, they shall be installed by tunneling rather than trenching.

- (E) All tree protection devices shall remain in fully functioning condition until the Certificate of Occupancy is issued.
 - (i) Any tree, designated for preservation, which is negligently damaged during construction or removed without the appropriate review and approval, as determined by the City Arborist, shall be treated according to the National Arborists Association Standards. If fatally damaged, the tree(s) shall be replaced with four (4) inch caliper trees equal to the unit value of the tree removed. Any specimen tree damaged as described above shall be replaced with trees equal to three (3) times the unit value of the tree removed.
 - (ii) All tree protection zones shall be mulched with at least four (4) inches and not more than eight (8) inches of organic mulch, such as pine straw, wood chips, tree leaves, or compost.
 - (iii) There shall be no construction activity inside the tree save areas, including but not limited to, grading, paving, and construction of buildings and other structures.
 - (iv) The site shall be designed and maintained in a manner to ensure proper drainage in tree save areas during and after construction.
- (F) The developer shall designate a Tree Protection Supervisor. This person shall demonstrate knowledge in the area of tree protection practices during construction and shall be on site to ensure tree protection measures are enforced. The Tree Protection Supervisor shall participate in a Pre-Construction Conference with the City prior to the commencement of any development. The Tree Protection Supervisor must notify the City Arborist immediately should any tree damage occur on the site.
- (G) Tree Protection inspections shall be performed by a Certified Arborist or Registered Forester during construction. The inspections shall be conducted prior to the commencement of development, immediately following the clearing and grubbing phase, immediately following the grading phase, and at the end of the project before a Certificate of Occupancy (commercial developments) is issued or the Final Plat approved (residential developments). The site shall be inspected to ensure all tree protection regulations are being met and to identify any existing or developing tree-related problems that require treatment. An inspection report shall be prepared and certified by the inspector and submitted to the City Arborist. Any damage noted shall be treated according to the recommendation of the inspector prior to the issuance of a Certificate of Occupancy or approval of the Final Plat. The City Arborist shall have the authority to require additional reports should he/she determine significant construction damage has occurred, the Tree Protection Supervisor has

failed to enforce minimum protection standards, or if other development processes, including but not limited to utility placement and building construction, may impact the tree save areas.

- (2) **MAINTENANCE** All maintenance activities performed on preserved or planted trees to be included in the tree density requirements shall be performed according to the most current professional standards, including, but not limited to, the standards described below. It shall be the responsibility of the property owner to ensure such work is in compliance. Should maintenance activities on said trees not be in compliance with such professional standards, the property owner will be responsible for replacing the damaged trees with new trees of an equivalent density value, based on the DBH at the time damage occurs.
- (A) **Nursery Stock:** All nursery stock shall meet standards defined in the *American Standard for Nursery Stock ANSI Z60.1*.
 - (B) **Pruning:** All pruning shall be done in accordance with *ANSI A300 (Part 1) Standards for Tree Care Operations – Pruning*. Tree topping is not allowed. Crown reduction pruning shall be used instead to reduce the height of a tree when necessary. Topped trees shall not be counted toward tree density requirements.
 - (C) **Fertilization:** All tree fertilization shall be performed in accordance with *ANSI A 300 (Part 2) Standards for Tree Care Operations – Fertilization*.
 - (D) **Cabling and Bracing:** All cabling and bracing installation and maintenance shall be performed in accordance with *ANSI A300 (Part 3) Standards for Tree Care Operations – Cabling and Bracing*.
 - (E) **Lightning Protection:** All lightning protection installation and maintenance shall be performed in accordance with *ANSI A300 (Part 4) Standards for Tree Care Operations – Lightning Protection*.
 - (F) **Safety:** All tree-related work shall be performed in accordance with *ANSI Z133.1 Standards for Tree Care Operations – Safe Work Practices*.
- (3) **ENFORCEMENT** It shall be the duty of the City Arborist to enforce this Ordinance. The City Arborist shall have the authority to revoke, suspend, or void any Development Permit and shall have the authority to suspend all work on a site or any portion thereof. The City Arborist shall have the authority to approve alternate methods of compliance with the provisions of this article when he/she determines the overall intent of the article and/or specific guidelines can be met.
- (4) **VIOLATION AND PENALTY** Any person, firm, or corporation violating any of the provisions of this Ordinance shall be deemed guilty of an ordinance violation. Each day's continuance of a violation shall be considered a separate offense. The

owner of any property wherein a violation exist, and any builder, contractor, agent who may have assisted in the commission of any such violation, shall be guilty of a separate offense. The Dunwoody Municipal Court shall have jurisdiction to try offenses to these regulations.

- (5) APPEAL Any person aggrieved or affected by any decision of the City Arborist relating to the application of this ordinance may appeal to the Zoning Board of Appeals for relief or reconsideration within thirty (30) days from the date of the adverse determination by the City Arborist.
- (6) EFFECTIVE DATE This ordinance shall become effective upon approval by the Dunwoody City Council.
- (7) Should any section or provision of this ordinance be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the ordinance in whole or any part thereof other than the part so declared invalid.
- (8) CONFLICTING RESOLUTIONS REPEALED the provisions of any ordinance or parts of ordinance in conflict herewith are repealed.

APPENDIX X PROCEDURE FOR CALCULATING THE REQUIRED TREE REPLACEMENT DENSITY FACTOR.

The following abbreviations are used below:

- TDF-Tree Density Factor
- RTF-Remaining Tree Factor
- RRD-Required Replacement Density

Step 1. Calculate the tree density factor (TDF) for the site multiplying the number of site acres by 20.

EXAMPLE: A 2.2 acre site has a TDF OF $2.2 \times 20 = 44$.

Step 2. Calculate the existing trees, which will remain, or the Remaining Tree Factor (RTF). These will remain on site and be protected during construction. The RTF is determined by converting the DBH of individual existing trees to density factor units, using Table 1. These units are then totaled to determine the RTF for the site.

EXAMPLE: A total of 15 trees will remain on the 2.2 acres site in Step 1. These trees include:

- 7 - 12" pines
- 3 - 14" pines
- 3 - 18" oaks
- 1 - 20" hickory
- 1 30" oak

When converted to density factor units using Step 1, we arrive at the following values:

<u>DBH</u>	<u>UNITS</u>	<u>QUANTITY</u>	<u># TREES</u>
12"	.8 x	7	= 5.6
14"	1.1 x	3	= 3.3
18"	1.8 x	3	= 5.4
20"	2.2 x	1	= 2.2
30"	4.9 x	1	= 4.9
		RTF	= 21.4

The sum total of units, 21.4, is the RTF.

Step 3. Calculate the required replacement density (RRD) by subtracting the RTF (Step 2) from the TDF (Step 1).

$$RRD = TDF - RTF$$

EXAMPLE: $RRD = 44 - 21.4$
 $RRD = 22.6$

Step 4. The RRD can be converted back to caliper inches using Table 3. Any number or combination of transplantable size trees can be used so long as their total density factor units will equal or exceed the RRD.

EXAMPLE: On the 2.2-acre site the following number and size of trees will be planted:

<u>Number</u>	<u>Size</u>	<u>Species</u>	<u>Density Factor</u>
15	6'	Pines	$(12 \times .4) = 6.0$
20	2"	Red Maples	$(20 \times .5) = 10.0$
7	6"	Oaks	$(7 \times 1.0) = \underline{7.0}$
			23.0

23.0 is greater than the RRD of 22.6 thus the minimum requirements have been met.

TABLE 1. SAMPLE TREE DENSITY CALCULATION

Required TDF
 $2.2 \text{ acres} \times 20 \text{ units/acre} = 44 \text{ units required}$

RTF (Remaining Tree Factor)

<u>SIZE</u>	<u>UNITS</u>	<u>NUMBER</u>	<u>TOTAL UNITS</u>
24"	3.1	2	6.2
18"	1.8	10	18.0
10"	0.6	8	<u>4.8</u>
		TOTAL RTF	29.0

RRD (Required Replacement Density)

<u>SIZE</u>	<u>UNITS</u>	<u>NUMBER</u>	<u>TOTAL UNITS</u>
2"-3"	.5	10	5.0
1"	.4	100	<u>40.0</u>
		TOTAL RRD	45.0

$RTF + RRD > \text{ or } = TDF$
 $29 + 45.0 = 74.0 > \text{ or } = 44$, therefore Tree DENSITY SATISFIED

TABLE 2. EXISTING TREES TO REMAIN. Conversion from DBH to density factor units for RTF, or Remaining Tree Factor.

DBH	UNITS	DBH	UNITS	DBH	UNITS
1-4	0.1	22	2.6	37	7.5
5-7	0.3	23	2.9	38	7.9
8-9	0.5	24	3.1	39	8.3
10	0.6	25	3.4	40	8.7
11	0.7	26	3.7	41	9.2
12	0.8	27	4	42	9.6
13	0.9	28	4.3	43	10.1
14	1.1	29	4.6	44	10.6
15	1.2	30	4.9	45	11
16	1.4	31	5.2	46	11.5
17	1.6	32	5.6	47	12
18	1.8	33	5.9	48	12.6
19	2	34	6.3	49	13.1
20	2.2	35	6.7	50	13.6
21	2.4	36	7.1		

TABLE 3. REPLACEMENT TREES. Conversion from caliper to density factor units for replacement trees. (1,2)

Caliper: Single-Stem Deciduous Trees	Density Units
2"	0.5
3"	0.6
4"	0.7
5"	0.9
6"	1.0

Height: Multi-Stem Deciduous Trees	Density Units
12' to 14'	0.5
14' to 16'	0.6
16' to 18'	0.7
18' to 20'	0.9

Height: Evergreen Trees	Density Units
6' to 8'	0.4
8' to 10'	0.5
10' to 12'	0.6
12' or greater	0.7

2. Tree relocation: Replacement units will be granted to trees relocated on site. Tree relocation is subject to City Arborist and/or Zoning Enforcement officer approval.

APPENDIX X STANDARDS FOR SELECTING QUALITY REPLACEMENT STOCK

1. Trees selected for planting must meet minimum requirements as provided below and in the American Standard of Nursery Stock.

- (a). Trees selected for planting must be free from injury, pests, disease, or nutritional disorders.
- (b). Trees selected for planting must be of good vigor. The determination of vigor is a subjective evaluation, and dependent upon species variability. The following criteria is generally used for the determination of vigor:
 - (1) Foliage should have a green or dark green color. Vigorous trees will have large leaves and dense foliage when compared to trees with poor vigor.
 - (2) Shoot growth for most vigorous trees will be at least 1 foot per year. At least 1/2 of the branches should arise from the top 1/3 and 1/2 from the center 1/3.
 - (3) Bark texture can denote vigor. Smooth or shiny bark on the trunk and branches of a young tree usually signifies good vigor, conversely, rough and full bark could indicate poor vigor.
 - (4) Trunk taper. The trunks of vigorous trees will generally have an increase in diameter with a decrease in height. Trees with reverse tapers or no taper should be avoided.
 - (5) Root color. Young roots of most trees will be light in color.
 - (6) Trees selected for planting must be free of root defects. Two types of root defects generally occur:
 - (a) Kinked roots, in which taproots, major branch roots, or both are

bent more than 90 degrees with less than 20 percent of the root system originating above the kink. A tree with such roots will probably bend at the soil line when released from a supporting stake.

- (b) Circling or girdling roots which circle 80 percent or more of the root system by 360 degrees or more. A tree with such roots would ultimately have less than 20 percent of its system available for support.

APPENDIX X TRANSPLANTING STANDARDS

1. The transplanting of new trees can result in major injury to their root system. If proper transplanting techniques are employed, conditions will be more favorable for tree recovery, and the rate of attrition for newly planted trees will be reduced.

2. Transplanting procedures shall follow standards established by the International Society of Arboriculture in the "Trees and Shrub Transplanting Manual", and the booklet by the Georgia Extension Service entitled "Plant Trees Right!" The following is a summary several of the more important considerations provided in the manual and booklet.

(a) Preplanting considerations.

(1) Only healthy trees with a well-developed root system and a well-formed top, characteristic of the species should be planted.

(2) Trees selected for planting must be compatible with the specific site conditions.

(3) The ability of a species to regenerate a new root system and to become reestablished should be considered. Generally, deciduous trees should be planted in the fall after leaf drop, or in early spring before bud break. There are indications that bare root trees will re-establish more readily if planted in early spring just prior to bud break.

(b) Planting procedures

- (1) Planting holes should be at least three times the diameter of the root ball.
- (2) Trees should not be planted deeper than they were in their former location or container.
- (3) Spade compacted bottom and sides of the planting hole should be roughed or scarified to allow the penetration of developing roots.
- (4) Good water drainage from the bottom of the planting hole is essential for root regeneration.
- (5) Once the transplanted tree is set, the hole should be backfilled with soil of good texture and structure. Traditionally, backfill material is comprised of a mix of native soil, organic matter such as peat, and inorganic material such as perlite or vermiculite in a 1:1:1 ration. There are indications that a backfill with native soil alone may be adequate.
- (6) The addition of fertilizer to backfill soil can cause root injury, and is therefore not recommended. If fertilizer must be added, a low rate should be used. Approximately 1.5 pounds of nitrogen per cubic yard of backfill is recommended for bare root plants, and 2.5 pounds of nitrogen per cubic yard of backfill for balled and burlapped trees.

(7) The backfill should be gently tamped (but not compacted), and soaked for settling.

(8) The soil should be slightly mounded to allow for settling; a ridge or dike around the perimeter of the hole can facilitate watering.

APPENDIX X SUBSTANTIAL BUILDING PERMIT

A. Example one

1. The 100 percent assessed value of the improvements of a 10,000 square foot shopping center is assessed by Dekalb County at \$250,000.

2. In January the owner is issued a permit in the amount of \$25,000 to replace heating and air conditioning equipment. Three months later he is issued a permit in the amount of \$50,000 to replace the roof covering and add a false mansard roof.

3. Does this equate to a Substantial Building Permit?
 $\$25,000 + \$50,000 = \$75,000$ (building permits 12 months)
 $\$75,000 / \$250,000 = 30.00\% < 50.00\%$
This case is not a substantial building permit.

B. Example two

1. The 100 percent assessed value of the improvements of a 10,000 square feet shopping center is assessed by Dekalb County at \$250,000.

2. The owner decides to build phase two of the shopping center, which includes an additional 6,000 square feet of space. The low bid on the job is \$200,000.

3. Does this equate to a Substantial Building Permit?
 $\$200,000 / \$250,000 = 80.00\% > 50.00\%$
Yes, this is a substantial building permit.

C. Example three

1. A site is cleared and graded for a gas station but not developed therefore the counties assessed value of the improvements is \$0.

2. Two years later the owner applies for a building permit in the amount of \$500,000 for the construction of a gas station.

3. Does this equate to a Substantial Building Permit?

Yes, because the permit exceeds half of the value of the improvements. In this case the formula used in examples one and two are not appropriate because zero can not be used as a denominator but obviously the value of the permit exceeds half of the improvement value.

APPENDIX X PLANTING STANDARD

A. The best way to plant (see diagram attached).

1. After selecting a suitable location, mark out a planting area that is five times the diameter of the planting ball. Use a rototiller or shovel to loosen and mix the soil in this entire area to a depth of about 12 inches.

2. In the center of the prepared area, dig a shallow hole to set the tree or shrub. The hold should allow the root ball to sit on solid ground rather than loose soil. Once the ball is set the hole, its upper surface should be level with the existing soil.

3. After the tree is properly situated, cut and remove the rope or wires holding the burlap in place and securing any part of the tree.

4. Backfill around the root area, and gently firm the soil to prevent major air pockets. Do not pack the soil. Water can be used to help the soil settle and prevent overpacking. Rake the soil even over the entire area, and cover it with two to four inches of mulch. Maintaining the mulch layer carefully will improve tree growth substantially.

5. Water berms or dikes are not recommended as they encourage abnormal root growth.

6. It is best not to stake the tree, but if wind is a problem or the tree starts to lean, support it with a flexible stake so the trunk will sway in the wind. The movement is necessary for building the trunk's strength. Remove the stake and wire after one growing season since leaving wire or string around the tree can cause death.

7. Do not wrap the trunk with "protective" tape. It will slow the tree's ability to adapt to the site and provide a home for insects. Tree barks needs air and sunlight in order to build a healthy protective sheath.

Section 13: Stormwater Management

(a) The governing authority believes the City's stream systems are a valuable natural resource that requires joint and cooperative action by the City and the development

industry to resolve existing stormwater management and flooding problems, prevention of their worsening or recurrence while utilizing this resource for the good of the entire City.

The development industry and the City shall cooperate to control water quality and maintain the City's drainage and stream systems from stormwater runoff resulting from development activities.

(b) Standards.

- (1) The City of Dunwoody shall require all land development to comply with the criteria, technical specifications, and standards of the Georgia Stormwater Management Manual, as may be hereafter amended. The rainfall intensities used in hydrologic and hydraulic computations shall be those published in the Georgia Stormwater Management Manual.
- (2) Applicability. A combination of storage and controlled release of stormwater runoff shall be required for all development and construction for the entire site which meets one (1) or more of the following criteria:
 - (A) Increases the peak rate of runoff from the site by more than one (1) cubic foot per second for a ten-year frequency storm;
 - (B) Involves the creation of five thousand (5,000) square feet or more of impervious cover, or that involves other land development activities of one (1) acre or more;
 - (C) Includes the creation, addition or replacement in redevelopment of five thousand (5,000) square feet or more of impervious cover, or that involves other land development activity of one (1) acre or more;
 - (D) Any new development or redevelopment, regardless of size, that meets the definition of a stormwater hotspot; or
 - (E) Land development activities that are smaller than the minimum applicability criteria set forth in items (A) and (B) above if such activities are part of a larger common plan of development, even though multiple, separate and distinct land development activities may take place at different times on different schedules.
- (3) Exemptions. The provisions of this section shall not apply to the following criteria:
 - (A) Individual single-family or duplex residential lots that are not part of a subdivision or phased development project unless they meet one (1) of the criteria listed above in (b)(2);

- (B) Additions or modifications to existing single-family or duplex residential structures unless it meets one (1) of the criteria listed above in (b)(2);
 - (C) Agricultural or silvicultural land management activities within areas zoned for these activities; and,
 - (D) Repairs to any stormwater management facility or practice deemed necessary by the Director.
 - (E) The Director may exempt the owner from those provisions of this section where complete compliance with those specific provisions is physically impossible.
 - (F) If the installation of a stormwater management facility would reduce downstream flood peaks by less than one (1) percent.
 - (G) The requirements, or portions thereof, of subsections (2) and (3) above shall not be waived if the Director determines that such waiver would increase known flooding problems, or exceed the capacity of the downstream drainage system.
 - (H) A waiver of these minimum runoff quantity control requirements may be granted only after a written request is submitted by the applicant containing descriptions, drawings, and any other information that is necessary to evaluate the proposed land disturbing activity. A separate written waiver request shall be required if there are subsequent additions, extensions, or modifications, to the development which would alter the approved stormwater runoff characteristics of a land disturbing activity receiving a waiver.
 - (I) Appeals from said waiver decisions may be taken to the Board of Zoning Appeals pursuant to the provisions of Section 8(c) of this Article.
- (4) If forty (40) percent of a site is to be redeveloped, all stormwater requirements must be met for the redeveloped area only and the non-disturbed area will be treated as predeveloped prior to the redevelopment. But if more than forty (40) percent of the site is to be redeveloped, then the entire site must meet all stormwater requirements.
 - (5) A downstream peak flow analysis will include the assumptions, results and supporting calculations to show safe passage of post-development design flows downstream. The analysis of downstream conditions in the report shall address each and every point or area along the project site's boundaries at which runoff will exit the property. The analysis shall focus on the portion of the drainage channel or watercourse immediately downstream from the project. This area shall

extend downstream from the project to a point in the drainage basin where the project area is ten (10) percent of the total basin area. In calculating runoff volumes and discharge rates, consideration may need to be given to any planned future upstream land use changes. The analysis shall be in accordance with the Georgia Stormwater Management Manual.

- (6) Detention designs may be rejected by the Director if they incorporate structures and facilities that will demand considerable maintenance or will be difficult to maintain or will utilize numerous small structures if other alternatives are physically possible.
- (7) Discharge velocities from detention facilities shall be reduced to provide a non-erosive velocity flow from a structure, channel, or other control measure as set forth in the approved Georgia Stormwater Management Manual.
- (8) Stormwater management and flood control facilities may include both structural and nonstructural components. Natural or planted vegetation as well as other natural runoff conduits are examples of these non-structural components and shall be retained where practicable. In addition, these components must provide for or enhance stormwater quantity and/or quality control or other stormwater benefits.
- (9) The drainage system being developed shall have adequate capacity to accommodate the flow from all upstream areas for a one hundred-year storm event.
- (10) The drainage system from a proposed development must discharge into an outfall that has adequate capacity to accommodate the runoff from the development. If the connecting downstream system is not able to accommodate the allowable design flows from the site, then the design engineer must design drainage facilities with the capacity to over-detain flows so they can be accommodated by the existing downstream conveyance structures whereby allowing the existing downstream system to operate correctly. If downstream easements are needed to extend the drainage system to an adequate outfall, the developer shall obtain these easements.
- (11) A landscaping plan shall be submitted for all detention and other storage facilities as part of the overall drainage plan.
- (12) Land uses within the intermediate regional floodplain shall not diminish or restrict the capacity of the channels or floodplains of the stream, its tributaries, drainage ditches or any other stormwater management facilities or systems and shall not increase the IRF elevation or velocity or concentration of flow in downstream areas. The development permit shall be denied if the required hydrologic studies reveal that a request for filling or grading within the intermediate regional floodplain would overload the capacity of the channel downstream or increase flood stages upstream, unless equivalent flow and storage capacity is replaced and

maintained by the owner within the intermediate regional floodplain. Altered sections of the intermediate regional floodplain shall have a positive slope so as to provide positive drainage back to the stream flow line and this section must be maintained by the owners in perpetuity so as to prevent or remove silt buildup.

- (13) Excavation within floodplain areas shall not be permitted unless the excavation can be accomplished in such a manner that the existing low level drainage pattern through the floodplain shall be maintained. The area of compensation within the floodplain shall be considered as ineffective flow area for the purpose of calculating floodplain elevations to meet no-rise certification requirements. The amount of compensation shall be limited to one hundred fifty (150) cubic yards per acre of floodplain area.
- (14) The live detention storage to be provided shall be calculated on the basis of the one hundred-year frequency rainfall as published in the Georgia Stormwater Management Manual. The detention system required shall be necessary to handle the runoff of a one hundred-year rainfall, for any and all durations from the post-development, with a release rate that does not exceed the pre-development release rate during the same duration storm. Detention control structures and other drainage improvements shall be located and designed to prevent erosion damage to adjacent property owners.
- (15) When the applicant requests and the Director determines that development and construction projects are too small, or that engineering and economic factors make combined detention or other stormwater management facilities more practical, the City may authorize the joint construction of these facilities to serve two (2) or more properties by two (2) or more applicants. This authorization shall be granted by the Board of Zoning Appeals upon application for approval being submitted through the Director. Where joint detention facilities serving two (2) or more properties are approved for construction, no use of land or occupancy of buildings within the properties served by these facilities shall be permitted until completion of the detention facility, except upon approval of the Board of Zoning Appeals.
- (16) The following requirements shall apply to the installation, development and maintenance of all stormwater and sedimentation control facilities designed for temporary storage of stormwater runoff:
 - (A) Permanent fencing at least four (4) feet in height shall be required around all facilities having a temporary water storage depth of greater than four (4) feet or those designated by the board of health as constituting a public health hazard.
 - (B) This fencing shall be designed, installed and maintained to allow the free flow of runoff and sediment into the facility. Fencing shall be established on the outside edge of a facility. The fence shall include a gate of

sufficient size to permit entrance of equipment necessary to allow periodic maintenance activities. The gate shall be placed in a manner such that the gate does not obstruct reasonable access or become obstructive. The Director may waive fencing in nonresidential areas where a pond is more than five hundred (500) feet from a residential district and in residential districts when detention is provided in natural areas such as stream channels and fencing in the opinion of the Director would damage the environment or affect stream flow.

- (C) The access easement to the facility shall not have a profile slope steeper than thirty-three (33) percent and a cross slope of no more than ten (10) percent. The elevation of the maintenance easement around the facility shall be established at the top of the dam or wall elevation and be constructed with a cross slope of no more than ten (10) percent to the drainage facility. Fencing that complies with the requirement of subsection (b)(16)(B) of this section shall be constructed on the outside edge of the maintenance easement. Gates that comply with the requirements of subsection (b)(16)(B) of this section shall be constructed on each maintenance easement.
- (D) Detention and sedimentation control facilities shall not be placed in any of the following:
 - (i) Transitional buffer zones as defined by the City of Dunwoody Zoning Ordinance.
 - (ii) Floodplains.
 - (iii) Wetlands.
 - (iv) Stream buffer zones.
 - (v) State buffer zones.
- (E) Perforated standpipes or a French drain, in accordance with published design standards available from the Director, or other methods which will achieve equal performance to prevent standing water and inadequate drainage, shall be installed within all the detention and sedimentation control facilities.
- (F) Except as otherwise provided in this section, the commercial and/or multifamily residential property owner shall be responsible for the maintenance of the stormwater management facilities during grading, construction, and following final approval of the completed project. This maintenance and certification obligation shall be binding on all future owners, successors and assigns of the property.

- (G) In the case of single-family residential subdivisions approved after the date of adoption of this provision, and in accordance with the requirements of Article III of this Chapter, the City may assume maintenance responsibility one (1) year after the release of the performance bond for subdivision streets. A special drainage district as authorized by the Georgia Constitution, Article IX, Section II, Paragraph VI, may be established for property in a single-family residential subdivision at the time the plat is finally recorded, and will be so noted on the plat. Upon completion of developer maintenance, all detention ponds shall have a positive slope to the outlet in order to facilitate complete drainage.
- (H) Stormwater management facilities in single-family residential subdivisions constructed under permits issued prior to the adoption of the City ordinance assigning maintenance responsibility will not be accepted for City maintenance unless individually approved by and at the discretion of the Board of Zoning Appeals and suitable access easements are provided. At the time the Director accepts a detention facility for City maintenance, a special drainage district may be established that includes all properties for which the detention facility is designed to compensate for increased peak runoff rates due to development.
- (17) In residential districts, not less than seventy (70) percent of the minimum lot area, as established by applicable zoning district development standards, shall be above the intermediate regional flood elevation contours with the exception that lots in the R-150 district shall conform to requirements of the R-100 district.
- (18) All buildings located adjacent to the intermediate regional floodplain shall be constructed so that all portions of the structure, including the basement floor or crawl areas, shall be not less than three (3) feet above the intermediate regional flood elevations; however, structural support units may be located within the intermediate regional floodplain, provided they do not conflict with the hydrologic design characteristics of the approved plans and do not conflict with other requirements of this Article. Any structure or manufactured home so erected must be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure, and be constructed with flood-resistant materials and utility equipment resistant to flood damage. Electrical, heating, ventilation, plumbing, air-conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. Floodproofing of residential construction will be in accordance with subsection (b)(10) of this section. When floodproofing is utilized for a nonresidential structure, the owner of the property shall obtain written certification from a registered professional engineer or architect and shall provide such certification to the Director before the Director approves such activity.

- (19) The profile elevation of the centerline of all public streets shall be constructed a minimum of one (1) foot above the intermediate regional flood elevation contours. The Director may grant exceptions to this provision in cases where construction of the street elevation is below the intermediate regional flood elevation and elevation contours would improve drainage or reduce the effects of flooding.
- (20) Special drainage system maintenance requirements are as follows:
- (A) Pursuant to all applicable City and County law, trash, garbage, construction materials, construction by-products or other debris shall not be deposited in any part of the drainage system.
 - (B) No restriction or barriers, including fences, may be placed in the drainage system or intermediate regional floodplain without first obtaining a development permit. When on-site or off-site debris has accumulated within an intermediate regional floodplain in such a manner as to interfere with the free flow of water so as to increase the risk of hazardous inundation of upstream properties adjacent to the intermediate regional floodplain, the Director shall require the owner of the property where this debris was generated, if its source can be identified, to clear and remove the debris so as to permit the free flow of water.
 - (C) No impoundment of water which retains in excess of five-tenths (0.5) acre-ft of runoff shall be removed without first obtaining a development permit, which shall only be issued after competent engineering studies provided by the applicant show that this removal will not adversely affect downstream properties.
 - (D) No permanent structures or additions shall be constructed within the intermediate regional floodplain other than those non-building facilities required or authorized by the Director which will not conflict with the hydrologic design characteristics of the approved development and construction plans. Land within the intermediate regional floodplain may be used to meet setback, yard, open space and buffer requirements in accordance with applicable provisions of the City of Dunwoody Zoning Ordinance and the buffer requirements of this Chapter.
- (21) Any proposal for development in a regulatory floodway as identified on the flood boundary-floodway map must be accompanied by engineering certifications assuring that no increase in the flood levels of the base flood would be caused by the proposed development. Such proposals include culverts and bridges.
- (22) New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundations and other exterior walls below the base flood elevation shall be designed to preclude finished living space and

designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls, as follows:

- (A) Designs for complying with this requirement must either be certified by a currently state-registered professional engineer or currently state-registered professional architect and meet the following minimum criteria:
 - (i) Provide a minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding.
 - (ii) The bottom of all openings shall be no higher than one (1) foot above grade.
 - (iii) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
- (B) Electrical, plumbing and other utility connections are prohibited below the base flood elevation.
- (C) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).
- (D) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

Section 14: Water Quality Control

The following provisions are included in the land development regulations in order to control the water quality of storm runoff from all development and construction activities and all developed sites:

- (a) Standards.
 - (1) New development and redevelopments in the City of Dunwoody must use the stormwater quality site development review tool to facilitate the evaluation of the project in accordance with recommendations of this ordinance and the Georgia Stormwater Management Manual.
 - (2) At a minimum, new projects shall include stormwater quality provisions and the BMPs necessary to accomplish each of the following.

- (A) Water quality BMPs must be installed on all developments to improve the water quality of the storm runoff from the development site. Stormwater management systems (which can include both structural stormwater controls and better site design practices) must be designed to remove eighty (80) percent of the average annual post-development total suspended solids load. As a minimum, the runoff from the first one and two-tenths (1.2) inches of rainfall must be treated. Acceptable BMPs for treating stormwater runoff are set forth in the Georgia Stormwater Management Manual.
 - (B) BMPs shall be used to control discharges into the local drainage system of any organic or inorganic matter that cause or tend to cause pollution of such waters.
 - (i) Minimization of impervious areas within developments and minimization of impervious areas directly connected to the local drainage system is encouraged as a non-structural BMP for water quality and quantity control.
 - (ii) A plan shall be provided to protect all existing wetland/floodplain areas within the development site.
- (b) Drainage plans. The following performance criteria shall be used by the City in evaluating all drainage plans, unless otherwise provided for in this section:
- (1) Water quality. All stormwater runoff generated from a site shall be adequately treated before discharge. It will be presumed that a stormwater management system complies with this requirement if:
 - (A) It is sized to treat the prescribed water quality treatment volume from the site, as defined in the Georgia Stormwater Management Manual;
 - (B) Appropriate structural stormwater controls or nonstructural practices are selected, designed, constructed or preserved, and maintained according to the specific criteria in the Georgia Stormwater Management Manual; and,
 - (C) Runoff from a stormwater hotspot and activities identified by the City of Dunwoody are adequately treated and addressed through the use of appropriate structural stormwater controls, nonstructural practices and pollution prevention practices.
- (c) Stream channel protection. Protection of stream channels from bank and bed erosion and degradation shall be provided by using all of the following three (3) approaches:
- (1) Preservation, restoration and/or reforestation (with native vegetation) of the applicable stream buffer;

- (2) Twenty-four-hour extended detention storage of the one-year, twenty-four-hour return frequency storm event;
- (3) Erosion prevention measures such as energy dissipation and velocity control.
- (d) Overbank flooding protection. Downstream overbank flood and property protection shall be provided by controlling (attenuating) the post-development peak discharge rate to the pre-development rate for the twenty-five-year, twenty-four-hour return frequency storm event. If control of the one-year, twenty-four-hour storm is exempted, then peak discharge rate attenuation of the two-year through the twenty-five-year return frequency storm event must be provided.
- (e) Extreme flooding protection. Extreme flood and public safety protection shall be provided by controlling and safely conveying the one hundred-year, twenty-four-hour return frequency storm event such that flooding is not exacerbated.
- (f) Structural stormwater controls. All structural stormwater management facilities shall be selected and designed using the appropriate criteria from the Georgia Stormwater Management Manual. All structural stormwater controls must be designed appropriately to meet their intended function. For other structural stormwater controls not included in the Georgia Stormwater Management Manual, or for which pollutant removal rates have not been provided, the effectiveness and pollutant removal of the structural control must be documented through prior studies, literature reviews, or other means and receive approval from the Director before being included in the design of a stormwater management system.
- (g) Stormwater credits for nonstructural measures. The use of one (1) or more site design measures by the applicant may allow for a reduction in the water quality treatment volume required. The applicant may, if approved by the Director, take credit for the use of stormwater better site design practices and reduce the water quality volume requirement. For each potential credit, there is a minimum set of criteria and requirements that identify the conditions or circumstances under which the credit may be applied. The site design practices that qualify for this credit and the criteria and procedures for applying and calculating the credits are included in the Georgia Stormwater Management Manual.
- (h) Drainage system guidelines. Stormwater conveyance facilities, which may include but are not limited to culverts, stormwater drainage pipes, catch basins, drop inlets, junction boxes, headwalls, gutter, swales, channels, ditches, and energy dissipaters shall be provided when necessary for the protection of public right-of-way and private properties adjoining project sites and/or public right-of-ways. Stormwater conveyance facilities that are designed to carry runoff from more than one (1) parcel, existing or proposed, shall meet the following requirements:

- (1) Methods to calculate stormwater flows shall be in accordance with the Georgia Stormwater Management Manual;
- (2) All culverts, pipe systems and open channel flow systems shall be sized in accordance with the stormwater management plan using the methods included in the Georgia Stormwater Management Manual; and
- (3) Design and construction of stormwater conveyance facilities shall be in accordance with the criteria and specifications found in the Georgia Stormwater Management Manual.
 - (A) Stream buffers shall be established along all streams throughout the City.
 - (i) Stream buffers shall consist of an undisturbed stream buffer a minimum of seventy-five (75) feet from each stream bank and shall preserve any existing mature riparian forest that can provide shade, leaf litter, woody debris and erosion protection to the stream. Land use in the stream buffer is limited to stormwater channels, footpaths, and utility or roadway crossings, except as otherwise provided below.
 - (ii) Within the stream buffer, the Director may approve specific encroachments of multi-use trails that are part of a Master Plan for Multi-Use Trails in the City of Dunwoody approved by the City Council. Such encroachments shall be limited to specific locations not less than twenty-five (25) feet from the banks of state waters when, after study of alternative trail alignments, the Director determines that there is no feasible alternative to the proposed encroachment. Such encroachments shall be designed to minimize impervious surfaces and shall incorporate BMPs and other mitigation practices that minimize the impact of encroachments on water quality.
 - (iii) The stormwater discharge crossing a stream buffer or state buffer zone shall be designed to ensure that sheet flow is established through the stream buffer and prevent channelized flow through the stream buffer.
 - (iv) Piping of streams shall not be allowed in a stream buffer except where a variance is granted as provided in Article II Section 8(b)(3). However, perpendicular crossings of roads and utility crossings such as sewer pipes and water pipes may be allowed, but should be kept to an absolute minimum. Within transitional buffer zones, a property owner may remove unwanted ground cover (e.g. poison ivy) using hand tools, and in conformance with section 11(b)(4)(C)(xv).

Section 15: Groundwater recharge area

Development within groundwater recharge areas, as delineated by the Georgia Department of Natural Resources' (DNR) Significant Recharge Areas, Hydrological Atlas 18 (1989 Edition) and the DNR's Pollution Susceptibility Map, shall meet the criteria for the protection of groundwater recharge areas established in Chapter 391-3-16-.02 of the DNR's Rules for Environmental Planning Criteria.