Community Development
Dunwoody
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Zoning and Land Development Regulations Rewrite

Chapter 16 | Land Development Regulations

Public Hearing Draft
October 3, 2013

“Clean” Version

This version of the draft ordinance does not include annotations describing proposed revisions. See the “track changes” version for an explanation of proposed changes to existing regulations.

Contents

PART I: INTRODUCTORY PROVISIONS

Article 1 Legal Framework

16-1.10 Title

The official title of this chapter (chapter 16) is the *Land Development Regulations of the City of Dunwoody, Georgia*. For convenience, it is referred to throughout this chapter 16 as the "land development regulations."

16-1.20 Purpose and Intent

This chapter is enacted by the city council in order to promote the public health, safety, morals and general welfare of the residents of the city and to help implement relevant provisions of the comprehensive plan and other adopted plans and policies.

16-1.30 Minimum Requirements

In their interpretation and application, these land development regulations must be held to be the minimum requirements for the promotion of the public health, safety and general welfare. The regulations must be liberally construed in favor of the city.

16-1.40 Compliance with Other Laws

In addition to the requirements of this chapter, all development must comply with all other applicable state and federal regulations.

16-1.50 Conflicting Provisions

16-1.50-A. State or Federal Regulations

If the provisions of these land development regulations are inconsistent with those of the state or federal government, the more restrictive provision governs, to the extent allowed by law. The more restrictive provision is the one that imposes more stringent controls.

16-1.50-B. Other City Regulations

If the provisions of these land development regulations are inconsistent with one another, or if they conflict with provisions found in other adopted ordinances or regulations of the city, the more restrictive provision governs unless otherwise expressly stated. If the regulations of these land development regulations conflict with the city's standards and specifications, the standards and specifications govern.

16-1.50-C. Private Agreements and Covenants

1. These land development regulations are not intended to interfere with, abrogate or annul any easement, covenant, deed restriction or other agreement between private parties. If the provisions of these land development regulations impose a greater restriction than imposed by a private agreement or covenant, the provisions of these land development regulations control.
2. Private restrictive covenants to which the city is not a party are not regulated by or enforced by the city.

16-1.60 Severability

The several provisions of these land development regulations are separable in accordance with the following rules:

16-1.60-A. Should any court of competent jurisdiction adjudge any section or provision of these land development regulations to be invalid, such judgment does not affect the validity or continued application of the land development regulations as a whole or any section or provision other than the sections or provisions specifically adjudged to be invalid.

16-1.60-B. If any court of competent jurisdiction adjudges as invalid the application of any section or provision of these land development regulations to a particular property, building or structure, such judgment does not affect the application of the section or provision to any other property, building or structure.

Article 2 Required Public Improvements

16-2.10 Purpose

The purpose of this article is to:

16-2.10-A. Establish the city's authority to require an applicant for a building permit or development permit to make reasonable public street improvements and/or obtain approval to defer such improvements through an agreement process and/or pay a fee in lieu of such improvements;

16-2.10-B. Establish procedures to determine when applicants for building permits or development permits are required to provide public improvements;

16-2.10-C. Establish criteria to be used in determining the nature, extent and location of required public improvements; and

16-2.10-D. Promote development of the city's transportation infrastructure in conformance with the city's comprehensive plan and transportation plan.

16-2.20 Applicability

Applicants for any building permit or development permit must construct or otherwise provide for public right-of-way improvements as set forth in Sec. 16-2.30 if issuance of the permit would result in any of the following:

16-2.20-A. Creation of a new access point to a public street;

16-2.20-B. Addition of 8 or more motor vehicle parking stalls on the subject lot;

16-2.20-C. Structural improvements to existing buildings that exceed 25% of the county tax assessor's 100% assessed value of the existing improvements on the subject property, based on the value of all structural improvements over the previous 12-month period;

16-2.20-D. New buildings or building additions that result in an increase in existing building floor area on the subject property by more than 10%, based on the total floor area added over the previous 12-month period; or

16-2.20-E. A change in use or method of operation that results in a 20% or greater increase in traffic generation potential, based on average daily and peak-hour traffic generation data published by the Institute of Transportation Engineers (ITE).

16-2.30 Requirements

The community development director is authorized to determine, in consultation with other affected city departments and service providers, whether one or more of the following public right-of-way improvements abutting the subject property are deficient and must be brought up to current standards to mitigate the impacts of a permitted action set forth in Sec. 16-2.20. Construction or provision of those improvements in the manner specified by the community development director must be a condition of granting the applicable permit:

16-2.30-A. Dedication of public right-of-way on the same side of the street as the subject property;

16-2.30-B. Paved roadway , including bike lanes, on the same side of the street as the subject property;

16-2.30-C. Sidewalks on the same side of the street as the subject property;

16-2.30-D. Concrete curbs and gutters on the same side of the street as the subject property;

16-2.30-E. Storm drainage systems;

16-2.30-F. Street landscaping and streetscape appurtenances on the same side of the street as the subject property; and

16-2.30-G. Traffic control and other safety devices including, but not limited to, provisions for channelization, pavement markings, signage, pedestrian safety and traffic calming;

16-2.40 Construction

Unless a deferral and/or fee in lieu of improvements is granted in accordance with Sec. 16-2.50, applicants for a building permits or development permits must construct required improvements in conformance with all applicable city requirements.

16-2.50 Deferral and Fee in Lieu of Improvements

16-2.50-A. The community development director may grant a deferral and/or allow payment of a fee in lieu of improvements for some or all of the improvements required pursuant to this article, provided that dedication of necessary right-of-way may not be deferred or satisfied through payment of a fee in lieu. The community development director's decision regarding deferral or payment of a fee in lieu must take into account the best interest of the city and, among other considerations, the following criteria:

1. Proximity to similar improvements or lack thereof, within the roadway corridor;

2. Continuity of infrastructure improvements within the public right-of-way;

3. Pending projects programmed within the corridor that may impact the street frontage of the subject property;

4. Safety considerations;

5. Traffic volumes and travel patterns;

6. Storm drainage needs;

7. Any input received from city departments and service providers.

16-2.50-B. For those improvements either deferred or for which a fee in lieu is paid, the city must require that the applicant do one or more of the following:

1. Execute and record an agreement to defer completion of the required improvements by the applicant until such time as the city determines the improvements are needed; or

2. Pay a fee in lieu of improvements based on the city's estimated costs to complete the required improvements.; or

3. Execute a combination of a deferral and payment of a fee in lieu of improvements, provided that the applicant's combined obligation does not exceed the extent of the total requirements for such improvements.

16-2.50-C. For those improvements that are deferred, the design and construction standards in effect at the time of improvements will apply.

16-2.60 Appeals

Decisions by the community development director made pursuant to this article may be appealed to the city council by filing a request with the community development director within 30 days of the community development director's decision. If no appeal is made within the 30-day period, the decision of the community development director is final. If an appeal is made to the city council, the city council must set a hearing date for the appeal within 30 days of the appeal being requested and the decision of the city council is final. The city council decision may be appealed only by a petition for writ of certiorari to the county superior court in accordance with state law.

PART II: ENVIRONMENT AND NATURAL RESOURCES

Article 3 General Provisions

16-3.10 Intent

16-3.10-A. The environment and natural resource regulations of this Part II establish public policies for the protection of the natural environment and specify standards for land development to ensure achievement of these public policies.

16-3.10-B. By declaration of public policies for protection of the environment and natural resources, the city council expresses its intent to protect the public interest by seeking to ensure, where appropriate, maintenance of natural resources and the environment and prevention of its degradation, and assuring high-quality land development. The city council further declares its intent that these policies constitute the public policy framework within which a comprehensive program for protection of the natural environment and implementation of a comprehensive drainage and stormwater management program will be accomplished.

16-3.20 Purpose

16-3.20-A. The environment and natural resource regulations of this Part II are adopted for the purpose of:

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 stormwater management system design;

6. Ensuring the continuous and efficient operation of the stormwater management system; and

7. Protecting water quality within intermittent and perennial streams throughout the city.

16-3.20-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 chapter must 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.

16-3.20-C. The city 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.

16-3.30 Applicability

The environment and natural resource regulations of this Part II apply to all development activity within the city.

16-3.40 Development Permits

16-3.40-A. Pre-application Meeting

Before filing a land development application on a project for review and approval, the applicant must 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, stormwater management, sewage, fire protection and similar matters, as well as the availability of existing services, including schools. The department and the applicant must 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.

16-3.40-B. Complete Applications

1. In order to be deemed valid and complete, an application for a land disturbance permit must include at least the following:

a. Three copies and one electronic/digital copy of complete civil plans, which must include a site plan, a grading and stormwater management plan, a utility plan, a soil erosion, sedimentation and pollution control plan, a landscape plan, and a tree survey;

b. One hydrology report and completed stormwater quality site development review tool documentation;

c. An application signed by the owner of the property or a completed indemnification agreement signed by the owner of the property; and

d. Payment of the appropriate development review application fee.

2. A valid and complete application for a sketch plat approval must include at least the following:

a. Three copies of the preliminary plat site plan (and one electronic/digital copy) that is in conformance with the zoning of the property in effect at the time of the application, and a tree survey;

b. 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

c. Payment of the appropriate development review application fee.

16-3.50 Site Plans

16-3.50-A. All site plans submitted in accordance with applicable provisions of this chapter must meet the requirements for their preparation and must also provide information to enable a determination to be made by the community development director as to plan conformance with the public policy statements of this chapter.

16-3.50-B. All persons proposing developments, redevelopments or construction must submit site plans to the community development 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.

16-3.50-C. Electric, telephone and gas utilities must 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 are 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 where such lots are located within special flood hazard areas must be submitted for review and approval in accordance with this article and other applicable provisions of this chapter. Owners and developers of individual single-family lots are required to use best management practices to prevent sedimentation from leaving the site.

16-3.50-D. Grading, erosion control, sedimentation control, water quality control and stormwater management plans must be prepared by or under the supervision of a state-registered and authorized professional, 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 must be made by a currently state-registered professional with demonstrated proficiency in hydrology.

16-3.50-E. Site plans and supporting documentation to show conformance with this chapter must be submitted in accordance with the applicable provisions of the city zoning ordinance and all conditions of zoning and must include the following:

1. Evidence of conformance with the requirements of this chapter for grading, vegetation alteration, erosion control, sedimentation control, water quality control and drainage system alteration or development. Grading plans must illustrate existing and proposed contours to the 2-foot interval at a minimum. Water quality plans must include the identification of existing wetland areas within the development site and must demonstrate use of the stormwater quality site development review tool. Related plans must 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 must extend downstream to a point where the proposed development represents less than 10% of the total watershed. This analysis must include a determination of the culvert, floodplain and channel cross-section area required to carry the affected runoff.

3. Delineation of the boundaries of the special flood hazard areas for streams draining in excess of 100 acres. The actual building site in relation to the special flood hazard areas boundaries must be shown; the same information must be indicated by the seller to the purchaser of each property so affected.

4. The projected sequence of work represented by the grading, vegetation, erosion control, sedimentation control, water quality control and stormwater management plans as related to other major items of construction.

5. Upon development project completion, location, size and invert elevations of piped segments of the stormwater management system, of control weirs, BMPs and water surface elevations and volumes in detention ponds must be shown on the final plat for a subdivision, and on as-built drawings for other developments, which must be submitted to the community development director prior to approval. The authorized, state-registered professional reviewing the construction must 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, must be submitted to the community development director.

6. A separate tree protection plan in conformance with the requirements §16-8.20-A.

16-3.60 Administration

16-3.60-A. The community development director is responsible for administering and enforcing the environment and natural resources regulations of Article 4, Article 5, Article 6 and Article 7, including the following specific duties and responsibilities:

1. Review all development permits to ensure that the permit requirements of this chapter 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 are to be provided and maintained on file with the development permit; and

3. Notify adjacent communities and the Georgia 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.

16-3.60-B. The community development director is responsible for administering and enforcing those provisions Article 4, Article 5, Article 6 and Article 7 that apply to developed and occupied areas and to property in an undeveloped state affecting city responsibility for maintenance of the stormwater management system. The community development director must ensure that maintenance is provided within any altered or relocated portion of any watercourse so that the flood-carrying capacity is not diminished.

16-3.70 Variances

16-3.70-A. Authorized Variances

Except as further limited herein, an applicant may request a variance from the grading regulations of Article 4, the soil erosion, sedimentation and pollution control regulations of Article 5, the stream buffer regulations of Article 6 and the stormwater management regulations of Article 7. See Sec. 16-10.60 for information about variances to flood damage prevention regulations.

16-3.70-B. Authority to Hear and Consider

The zoning board of appeals is authorized to hear variance requests. The zoning board of appeals may not consider or grant variances that 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.

16-3.70-C. Stream Buffer Variances

The zoning board of appeals is authorized to consider applications for variances to the stream buffer requirements of Sec. 16-6.30 but not within the 25-foot state buffer zone adjacent to waters of the state as set forth in Sec. 16-5.40-C.15. Where variances involving the same project are requested from both the state director of the environmental protection division and the community development director, the community development director may not take action on any such request for variance until the state acts on the subject application. Receiving a variance from the director of the environmental protection division does not obligate the zoning board of appeals to permit the project to proceed if the project does not also meet all the other requirements of this chapter. No variance from the provisions of this chapter may be authorized except as expressly authorized in this section or another section of this chapter.

16-3.70-D. Applications

Applications for variances authorized in Sec. 16-3.70-A must be made in writing to the community development director and must contain all of materials and documents necessary to demonstrate that the request meets the criteria for granting variances. The community development director must review the variance request and make a recommendation of approval or denial to the zoning board of appeals.

16-3.70-E. Decision-making Criteria

In considering a request for a variance authorized in Sec. 16-3.70-A, the zoning board of appeals must make all of the following findings:

1. The request, while not strictly meeting the requirements of this chapter, will be, in the judgment of the zoning board of appeals, 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 zoning board of appeals must examine whether the request will be at least as protective of the natural resources and the environment with regard to the following factors:

a. Stream bank or soil stabilization;

b. Trapping of sediment in surface runoff;

c. Removal of nutrients, heavy metals, pesticides and other pollutants from surface runoff;

d. Terrestrial habitat, food chain, and migration corridor;

e. Buffering of flood flows;

f. Infiltration of surface runoff;

g. Noise and visual buffers;

h. Downstream water quality; and

i. Impact on threatened and endangered species, as those species are designated by law or federal or state regulation.

2. 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.

3. 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.

4. 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.

5. The literal interpretation and strict application of the applicable provisions or requirements of this chapter would cause an extreme hardship, provided the hardship was not created by the owner.

16-3.80 Appeals of Administrative Decisions

16-3.80-A. Applicability

The procedures of this article apply to appeals of administrative decisions authorized under these land development regulations.

16-3.80-B. Authority to File

A person aggrieved by any final order, requirement or decision of an administrative official may file an appeal of that administrative decision.

16-3.80-C. Application Filing

Unless otherwise expressly stated, appeals must be filed with the community development director within 30 days of the date of the order, requirement or decision being appealed. Failure to act is not an order, requirement or decision within the meaning of this section. The appeal must be scheduled to be heard at the next regularly scheduled zoning board of appeals meeting for which required hearing notice can be provided, unless the applicant agrees to a later hearing date.

16-3.80-D. Effect of Appeal

The filing of a complete notice of appeal stays all proceedings in furtherance of the action appealed, unless the official whose decision is being appealed certifies to the zoning board of appeals, after the appeal is filed, that, because of facts stated in the certification, a stay would cause imminent peril to life or property. In such a case, proceedings may be stayed only by a restraining order granted by the superior court on notice to the official whose decision is being appealed and on due cause shown.

16-3.80-E. Record of Decision

Upon receipt of a complete application of appeal, the community development director or other administrative official whose decision is being appealed must transmit to the zoning board of appeals all papers constituting the record upon which the action appealed is taken.

16-3.80-F. Hearing Notice

Mailed notice of the zoning board of appeals hearing must be provided to the appellant at least 10 days before the date of the zoning board of appeals hearing.

16-3.80-G. Hearing and Decision

1. The zoning board of appeals must hold a hearing to consider all appeals of administrative decisions.
2. Following the close of the hearing and consideration of all testimony, documentary evidence and matters of record, the zoning board of appeals must make a decision. The decision must be made within a reasonable period of time but in no event more than 60 days from the date of the close of the hearing. Final action on an appeal requires a simple majority vote of the board of appeals members present and voting.
3. In exercising its powers, the zoning board of appeal may reverse or affirm, wholly or partly, or may modify the order, requirement, decision or determination appealed from. To that end, the board has all the powers of the administrative official from whom the appeal was taken and may issue or direct the issuance of a permit provided all requirements imposed by all other applicable laws are met.

16-3.80-H. Review and Approval Criteria

An appeal shall be sustained only upon a finding by the zoning board of appeals that the administrative official's action was based on an erroneous finding of a material fact or that the administrative official acted in an arbitrary manner.

16-3.90 Appeals of Zoning Board of Appeals' Decisions

16-3.90-A. Any person aggrieved by a final decision of the zoning board of appeals, including any officer, department, board or agency affected by such decision, may seek review of such decision by petitioning the superior court for a writ of certiorari, setting forth the alleged errors. The petition must be filed within 30 days of the date that the zoning board of appeals renders its final decision.

16-3.90-B. When a petition is for a writ of certiorari is filed, the zoning board of appeals must be designated the respondent in certiorari and the city the defendant in certiorari. The secretary of the zoning board of appeals is authorized to acknowledge service of a copy of the petition and writ on behalf of the zoning board of appeals, as respondent. Service upon the city as defendant must be as provided by law.

16-3.100 Enforcement

16-3.100-A. Notice of Violation

Whenever the community development 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, sedimentation and pollution control facilities or devices have been altered, damaged or destroyed, or that any other activities violate the provisions of this chapter, the community development director must issue a notice of violation. Whenever the community development director determines that the drainage system has been unlawfully altered, causing inadequate drainage, the community development director must issue a notice of violation. The provisions of this section apply in addition to any other penalty provisions applicable to this chapter. The notice of violation of the provisions of this chapter or of any rule or regulation adopted pursuant hereto must be addressed to the owner of the property or the owner's agent and to the person found to be violating the provisions of this chapter and must:

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 chapter that 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 must be issued for the person to appear in municipal court. However, in the judgment of the community development director, where the violation is willful, in wanton disregard of the provisions of this chapter or constitutes a public health and safety hazard or endangers the ecosystem, the community development director may issue a court summons in lieu of a notice of violation.

16-3.100-B. Penalty

It is unlawful for any person to do anything prohibited or fail to do anything required by the provisions of this chapter, as they now exist or as they may hereafter be amended. Any person that does anything prohibited or fails to do anything required by the provisions of this chapter, as they now exist or as they may hereafter be amended, upon conviction of a violation in municipal court is subject to a fine and/or imprisonment in accordance with section 1-6 of the municipal code. Where any offense or violation continues from day to day, each day's continuance thereof is deemed a separate offense. The owner of any buildings or premises or parts thereof where anything in violation of this chapter 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, is guilty of a separate offense.

16-3.100-C. Inspections

1. 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.

2. All new developments and redevelopments must 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 must 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.

3. City employees may inspect any drainage or stormwater management system within or outside of an existing easement. All stormwater management facilities located on private property, whether dedicated to the city or not, must be accessible at all times for city inspection. Where stormwater management facilities are accepted by the city for maintenance, public access easements must be provided. Reasonable access must be provided to all easements for inspection and maintenance functions.

4. The department, in addition to other procedures provided, may obtain an inspection warrant under the conditions specified in this section. The warrant must authorize the community development 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.

a. Inspection warrants may be issued by municipal court when all of the following conditions are met:

(1) 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

(2) The issuing judge determines that the issuance of the warrant is authorized by law.

b. The inspection warrant must meet all of the following requirements:

(1) The warrant is attached to the affidavit required to be made in order to obtain the warrant;

(2) 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;

(3) The warrant indicates the conditions, objects, activities, or circumstances which the inspection is intended to check or reveal; and

(4) The warrant refers, in general terms, to the ordinance provisions sought to be enforced.

16-3.110 Emergency Maintenance

16-3.110-A. The city may conduct emergency maintenance operations on private land and on drainage and stormwater management systems where emergency conditions exist. Emergency maintenance may constitute the removal of trees and other debris, which in the judgment of the community development director or public works director create a condition potentially injurious to life, property and the public road system.

16-3.110-B. The provisions of Article 8 do not apply in the case of tree trimming, removal or cutting necessitated by emergencies such as floods, windstorms, ice storms or other disasters.

16-3.110-C. Emergency maintenance conducted on any stormwater management system does not constitute a continuing maintenance obligation on the part of the city.

Article 4 Grading

16-4.10 Purpose

The grading regulations of this article are intended to help:

16-4.10-A. encourage the design of grading plans to provide the natural appearance of land contours and to provide ease of use in public areas;

16-4.10-B. minimize the adverse effects of land clearance and grading on existing vegetation;

16-4.10-C. minimize the adverse effects of land clearance and grading on the drainage system by strict erosion control and sedimentation control measures; and

16-4.10-D. minimize erosion and shear failure by encouraging limited cutting and filling.

16-4.20 Regulations

16-4.20-A. All grading operations must be conducted in compliance with an approved site plan.

16-4.20-B. Before beginning construction activity, the floodplain must be identified throughout the entire development by staking or other identifying mechanisms no less than every 100 feet.

16-4.20-C. Grading must be performed to avoid the restriction of drainage through drainage-ways and drainage easements. Grading must be performed to provide positive drainage to storm drainage inlets, swales, channels, ditches or gutters.

16-4.20-D. Finish grade slopes on residential projects and lots may not be steeper than 3:1, unless absolutely impractical due to vegetation, topography, or soil conditions. Three-to-one finish grade slopes must transition to 2:1 slopes at all perpendicular stream crossings.

16-4.20-E. Large-scale general grading must include installation of approved soil and erosion control measures and be limited to phases approved by the community development director and completed prior to commencing building construction.

16-4.20-F. Grading and filling in floodplains is prohibited, except as expressly allowed by Article 10.

16-4.20-G. The burying, piling, or concealing in any way of construction waste is prohibited. No certificate of occupancy may be issued until the applicant provides written certification to the community development director, accompanied by a landfill receipt, indicating that all construction waste has been removed from the property.

16-4.20-H. Fills must be placed in uniform layers not to exceed a compacted thickness of 6 inches per layer. In all areas where structures, parking lots and drives, streets, dams and utilities are to be placed fill must be compacted to a density of at least 95% of the maximum laboratory dry weight per cubic foot, as determined by ASTM D 698. All other fills must be compacted to a least 85%, except for the upper one foot of roadways, which must be compacted to 98%.

Article 5 Soil Erosion, Sedimentation and Pollution Control

16-5.10 Purpose

The soil erosion, sedimentation and pollution control regulations of this article are primarily intended to:

16-5.10-A. Minimize the removal of vegetation;

16-5.10-B. 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;

16-5.10-C. Provide for the reestablishment of vegetation within a reasonable period following completion of final grading and utility installation;

16-5.10-D. Give priority to the installation of streets, parking lots and other areas within a reasonable time following completion of final grading; and

16-5.10-E. 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.

16-5.20 Compliance with State Law

Any land-disturbing activity permitted under this article must be carried out in accordance with the *Georgia Erosion and Sedimentation Act* of 1975, O.C.G.A., §12-7-1 et seq., all applicable city regulations and any conditions attached to the land disturbance permit issued under Sec. 16-5.50.

16-5.30 Applicability and Exemptions

The soil erosion, sedimentation and pollution control regulations of this article apply to any land-disturbing activity undertaken by any person on any land except for the following:

16-5.30-A. Surface mining, as defined in O.C.G.A. §12-4-72, Georgia Surface Mining Act of 1968;

16-5.30-B. Granite quarrying and land clearing for granite quarrying;

16-5.30-C. Minor land-disturbing activities such as home gardens and individual home landscaping, repairs, maintenance work, fences, and other related activities which result in only minor soil erosion;

16-5.30-D. The construction of a single-family residence when that construction disturbs less than one 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 acre and not otherwise exempted under this section, provided however, that construction of a single-family residence must comply with the minimum requirements of Sec. 16-5.40.

16-5.30-E. Agricultural operations, as defined in O.C.G.A. §1-3-3, 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;

16-5.30-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 Sec. 16-5.40-C.15 and Sec. 16-5.40-C.16, no other land-disturbing activities except for normal forest management practices are allowed on the entire property upon which the forestry practices were conducted for a period of 3 years after completion of such forestry practices;

16-5.30-G. Any project carried out under the technical supervision of the Natural Resources Conservation Service of the U.S. Department of Agriculture;

16-5.30-H. Any project involving less than one acre of disturbed area, provided however, that this exemption does not apply to any land-disturbing activity within a larger common plan of development or sale with a planned disturbance of one acre or more or within 200 feet of the bank of any state waters, excluding channels and drainageways that have water in them only during and immediately after rainfall events and intermittent streams that do not have water in them year-round, provided however, that any person responsible for a project that involves less than one acre that involves land-disturbing activity and that is within 200 feet of any such excluded channel or drainageway must prevent sediment from moving beyond the boundaries of the property on which the project is located and provided further, that these provisions do not preclude the city from regulating any project that is not expressly exempted by Sec. 16-5.30-A through 16-5.30-G or by Sec. 16-5.30-I or Sec. 16-5.30-J;

16-5.30-I. Construction or maintenance projects undertaken or financed in whole or in part by the state department of transportation, the state highway authority, or the state tollway authority; or any road construction or maintenance project undertaken by any county or municipality, provided however, that construction or maintenance projects of department of transportation or state tollway authority that disturb one or more contiguous acres of land are subject to the provisions of O.C.G.A. §12-7-7.1, except where the department of transportation, the state 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 must be submitted to the local issuing authority, and the local issuing authority must 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 are subject to the same penalties as violations by permit holders;

16-5.30-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 must 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 are subject to the same penalties as violations by permit holders; and

16-5.30-K. Any public water system reservoir.

16-5.40 Regulations

16-5.40-A. Erosion, Sedimentation and Pollution Control Measures and Practices

Excessive soil erosion and resulting sedimentation can take place during land-disturbing activities. Therefore, plans for those land-disturbing activities that are not expressly exempted by this article must contain provisions for soil erosion, sedimentation and pollution control measures and practices. These provisions must be incorporated into the erosion, sedimentation and pollution control plans. Erosion, sedimentation and pollution control measures and practices must be applied to all features of the site, including street and utility installations, stormwater management facilities, drainage facilities and other temporary and permanent improvements. Measures must be installed to prevent or control erosion, sedimentation and pollution during all stages of any land-disturbing activity. The community development director may require that land-disturbing activities be phased. Soil erosion, sedimentation and pollution control plans must address appropriate measures to effectively control soil erosion during successive phases of construction.

16-5.40-B. Best Management Practices

1. The best management practices set forth of this section (Sec. 16-5.40-B) and the minimum protections established in Sec. 16-5.40-C are required for all land-disturbing activities. Proper design by phases, installation and maintenance of best management practices constitutes a complete defense to any action by the director of the environmental protection division or to any other allegation of noncompliance with Sec. 16-5.40-B.2 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 section, 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).

2. A discharge of stormwater runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained constitutes a separate violation of any land-disturbing permit issued by a local

issuing authority or of any state general permit issued by the environmental protection division of the Georgia Department of Natural Resources 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 25 nephelometric turbidity units for waters supporting warm water fisheries or by more than 10 nephelometric turbidity units for waters classified as trout waters. The turbidity of the receiving waters must be measured in accordance with guidelines to be issued by the director of the environmental protection division. This section does not apply to any land disturbance associated with the construction of single-family homes that 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 5 acres.

3. Failure to properly design, install, or maintain best management practices constitutes a violation of any land-disturbing permit issued by a local issuing authority or of any state general permit issued by the environmental protection 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.

4. The director of the environmental protection division may require, in accordance with regulations adopted by the Georgia Board of Natural Resources, reasonable and prudent monitoring of the turbidity level of receiving waters into which discharges from land-disturbing activities occur.

16-5.40-C. Protections

The rules and regulations, ordinances, or resolutions adopted pursuant to this chapter for the purpose of governing land-disturbing activities 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 state 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:

1. Stripping of vegetation, grading and other development activities must be conducted in a manner so as to minimize erosion.

2. Cut-fill operations must be kept to a minimum.

3. Development plans must conform to topography and soil type so as to create the lowest practical erosion potential.

4. Whenever feasible, natural vegetation must be retained, protected and supplemented as provided Article 8.

5. The disturbed area and the duration of exposure to erosive elements must be kept to a practicable minimum.

6. Disturbed soil must be stabilized as quickly as practicable.

7. Temporary vegetation or mulching must be employed to protect exposed critical areas during development.

8. Permanent vegetation and structural erosion control practices must be installed as soon as practicable.

9. To the extent necessary, sediment in runoff 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 section, 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.

10. Adequate provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping of fills.

11. Cuts and fills may not endanger adjoining property.

12. Fills may not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners.

13. Grading equipment must 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.

14. Land-disturbing activity plans for erosion, sedimentation and pollution control must 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 Sec. 16-5.40-B.2.

15. Except as provided in Sec. 16-5.40-C.16, there is established a 25-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 approves 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; or along any ephemeral stream. As used in this section, the term "ephemeral stream" means a stream that, under normal circumstances, has water flowing only during and for a short duration after precipitation events; that has the channel located above the groundwater table year-round; for which ground water is not a source of water; and for which runoff from precipitation is the primary source of water flow. Unless exempted as along an ephemeral stream, the buffers of at least 25 feet established pursuant to O.C.G.A. §12-5-440 et seq., of the *Georgia Water Quality Control Act*, must remain in force unless a variance is granted by the director of the environmental protection division, as provided in this section. The following requirements apply to any such buffer:

a. No land-disturbing activities may be conducted within a buffer and a buffer must 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 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

b. The buffer does not apply to the following land-disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented at:

(1) Stream crossings for water lines; or

(2) Stream crossings for sewer lines;

16. There is established a 50-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 O.C.G.A. §12-5-20 et seq., 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 25 gallons per minute or less must have a 25-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 Georgia Board of Natural Resources, 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 apply to such buffer:

a. No land-disturbing activities may be conducted within a buffer and a buffer must 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 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

b. The buffer does not apply to stream crossings for water lines or stream crossings for sewer lines, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented at stream crossings for the sewer or water lines.

16-5.40-D. Injury to Other Property

The fact that land-disturbing activity for which a permit has been issued results in injury to the property of another does not constitute proof of nor create a presumption of a violation of the standards provided for in this section or the terms of the permit.

16-5.50 Land Disturbance Permits

16-5.50-A. Required

No person may conduct any land-disturbing activity within the city without first obtaining a land disturbance permit from the community development director to perform such activity and providing a copy of the notice of intent to the environmental protection division, if applicable.

16-5.50-B. Review of Plans and Ordinances

The property owner, developer and designated planners and engineers must 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 must 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 owner is the only party who may obtain a permit.

16-5.50-C. Applications

1. The application for a permit must be submitted to the community development director and must include the applicant's erosion, sedimentation and pollution control plan with supporting data, as necessary. The plans must include, at a minimum, the data specified in Sec. 16-5.50-D. Soil erosion, sedimentation and pollution control plans must conform to the provisions of Sec. 16-5.40-B and Sec. 16-5.40-C. Applications for a permit will not be accepted unless accompanied by 8 copies of the applicant's soil erosion, sedimentation and pollution control plans. All applications must 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 Georgia Board of Natural Resources.

2. A permitting fee, as determined by the city council must be charged for each acre or fraction thereof in the project area.

3. In addition to the local permitting fees, fees will also be assessed pursuant to O.C.G.A. §12-5-23(a)(5), provided that such fees may not exceed $80.00 per acre of land-disturbing activity, and these fees must 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 must 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 must be submitted to the EPD; except that any and all fees due from an entity which is required to give notice pursuant to O.C.G.A. §12-7-17(9) or (10) must be submitted in full to the EPD, regardless of the existence of a local issuing authority in the jurisdiction.

4. Immediately upon receipt of an application and plan for a permit, the local issuing authority must refer the application and plan to the soil and water conservation district for its review and approval concerning the adequacy of the erosion, sedimentation and pollution control plan. The soil and water conservation district must approve or disapprove a plan within 35 days of receipt. Failure of the soil and water conservation district to act within 35 days will be construed as an approval of the pending plan. The results of the soil and water conservation district review must be forwarded to the local issuing authority. No permit may be issued unless the plan has been approved by the soil and water conservation district, all required fees have been paid and any variances required by Sec. 16-5.40-C.15 and Sec. 16-5.40-C.16 and any financial guarantees required in accordance with Sec. 16-5.50-C.6 have been obtained. Such a review will not be required if the local issuing authority and the soil and water conservation 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 soil and water conservation district. The local issuing authority must approve or disapprove a revised plan submittal within 35 days of receipt of a complete application. Failure of the local issuing authority to take action within this required 35-day period means that the revised plan has been deemed approved by the issuing authority.

5. If a permit applicant has had 2 or more violations of previous permits, this chapter, or the *Erosion and Sedimentation Act*, as amended, within 3 years prior to the date of filing of the application under consideration, the community development director may deny the permit application.

6. The community development 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, $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 community development 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.

16-5.50-D. Plans

1. Applications and plans must be prepared to meet the minimum requirements of Sec. 16-5.50-C and Sec. 16-5.50-D. 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 the city or the city's approved stormwater management policy. The *Manual for Erosion and Sediment Control in Georgia* is incorporated by reference into this chapter as if fully set forth herein. The plan for the land-disturbing activity must consider the interrelationship of the soil types, geological and hydrological characteristics, topography, watershed, vegetation, proposed permanent structures including roadways, constructed waterways, sediment control and stormwater management facilities, local ordinances and state laws.

2. Site plans must be submitted, which include all of the information required by the applicable, current erosion, sedimentation and pollution control plan review checklist established by the soil and water conservation commission. The site plan must also include the following minimum data:

a. 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;

b. A description of existing land use at project site and description of proposed project;

c. Name, address, and phone number of the property owner;

d. Name and phone number of 24-hour local contact who is responsible for erosion, sedimentation and pollution controls;

e. Size of project, or phase under construction, in acres;

f. Activity schedule showing anticipated starting and completion dates for the project. The following statement must be on the site plan in bold letters: "The installation of erosion, sedimentation and pollution control measures and practices must occur prior to or concurrent with land-disturbing activities";

g. Stormwater and sedimentation management systems-storage capacity, hydrologic study, and calculations, including off-site drainage areas;

h. 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;

i. 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;

j. Maintenance statement: "Erosion, sedimentation and pollution 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 must be implemented to control or treat the sediment source."; and

k. Other information pertinent to requirements of this chapter as required by the community development director.

3. Maps, drawing, and supportive computations must bear the signature/seal of a registered or certified professional in engineering, architecture, landscape architecture, land surveying, or erosion, sedimentation and pollution control. After December 31, 2006, all persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity must meet the education and training certification requirements as developed by the soil and water conservation commission pursuant to O.C.G.A. §12-7-20. The certified plans must contain:

a. Graphic scale and north point or arrow indicating magnetic north;

b. Vicinity maps showing location of project and existing streets;

c. Boundary line survey;

d. Delineation of disturbed areas within project boundary;

e. Existing and planned contours, with an interval in accordance with the following:

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

f. Adjacent areas and feature areas such as streams, lakes, residential areas, etc., which might be affected should be indicated on the plan;

g. The names of property owners and current zoning of all abutting property;

h. Proposed structures or additions to existing structures and paved areas;

i. The delineated stream buffers as required by Article 6, adjacent to state waters identified by the city;

j. The location of erosion, sedimentation and pollution control measures and practices using coding symbols from the *Manual for Erosion and Sediment Control in Georgia*, "Chapter 6."

4. Maintenance of all soil erosion, sedimentation and pollution control practices, whether temporary or permanent, are at all times the responsibility of the property owner.

16-5.50-E. Permits

1. Permits must be issued or denied as soon as practicable but in any event not later than 45 days after receipt by the community development director and

soil and water conservation district of a completed application, provided variances and bonding are obtained, where necessary.

2. No permit may be issued by the community development director unless the erosion, sedimentation and pollution control plan has been approved and the community development director has affirmatively determined that the plan is in compliance with this chapter, any variances required by Sec. 16-5.40-C.15 and Sec. 16-5.40-C.16 are obtained, any financial guarantees required in accordance with Sec. 16-5.50-C.6 are provided and all ordinances and rules and regulations in effect within the jurisdictional boundaries of the city are met. If the permit is denied, the reason for denial must be furnished to the applicant.

3. Any land disturbing activities by a local issuing authority are subject to the requirements of this article and to any other regulations relating to land development, as are applied to private persons and the soil and water conservation district will enforce such requirements upon the local issuing authority.

4. If the tract is to be developed in phases, then a separate permit is required for each phase.

5. The permit may be suspended, revoked, or modified by the city, 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, sedimentation and pollution control plan or that the holder or his successor in title is in violation of this chapter. A holder of a permit must notify any successor in title of all conditions contained in the permit.

6. No permit may be issued until the applicant files documents with the community development director demonstrating compliance with all applicable local, state and federal requirements.

16-5.60 Appeals

The suspension, revocation, modification or grant with condition of a permit by the city 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 entitles the person submitting the plan or holding the permit to appeal the decision to the zoning board of appeals in accordance with Sec. 16-3.80.

16-5.70 Enforcement and Penalties

16-5.70-A. Enforcement

1. The 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, sedimentation and pollution.

2. The city must regulate both primary and secondary permittees as such terms are defined in the state general permit. Primary permittees are responsible for installation and maintenance of best management practices where the primary permittee is conducting land-disturbing activities. Secondary and tertiary permittees are responsible for installation and maintenance of best management

practices where the permittees are 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 article, a written notice to comply must be served upon that person by the community development director. The notice must set forth the measures necessary to achieve compliance and must 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, that person will be deemed in violation of this article.

3. The community development director has the power to conduct any investigations necessary to carry out duties as prescribed in this article, 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.

4. No person may refuse entry or access to any authorized representative or agent of the city, the soil and water conservation commission, or the soil and water conservation district who requests entry for the purposes of inspection, and who presents appropriate credentials, nor may any person obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties.

5. The soil and water conservation district or the soil and water conservation commission or both may periodically review the actions of the city. The soil and water conservation district or the soil and water conservation commission or both may provide technical assistance to the city for the purpose of improving the effectiveness of the city's erosion, sedimentation and pollution control program. The soil and water conservation district or the soil and water conservation commission must notify the EPD and request investigation by the EPD if the city's program is found to be deficient or ineffective.

6. The Georgia Board of Natural Resources may promulgate rules and regulations setting forth the requirements and standards for certification and the procedures for decertification of a local issuing authority. The EPD may periodically review the actions of the city which has been certified as a local issuing authority pursuant to O.C.G.A. §12-7-8(a). Such review may include review of the administration and enforcement of the city's ordinances. If such review indicates that the city 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 must notify the city governing authority in writing. Upon receipt of the notification, the governing authority has 30 days to take the necessary corrective action to retain certification as a local issuing authority. If the city does not take necessary action within 30 days after notification by the EPD, the EPD may revoke the certification of the city as a local issuing authority.

16-5.70-B. Penalties

1. 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 the per-

mit, the person is subject to revocation of their business license, work permit or other authorization for the conduct of a business and associated work activities within the city.

2. Stop Work Orders

Upon notice from the community development director or other city authorized representative, work on any project that is being done contrary to the provisions of this chapter or in a dangerous or unsafe manner, must be immediately stopped. Such notice must be in writing and must be given to the owner of the property, his authorized agent or the person in charge of the activity on the property, and must state the conditions under which work may be resumed. Where an emergency exists, no written notice is required.

a. For the first and second violations of the provisions of this article on a site, the community development director must issue a written notice of violation. The violator has 5 days to correct the violation. If the violation is not corrected within 5 days, the EPD or the local issuing authority must 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 EPD or the local issuing authority must issue an immediate stop work order in lieu of a warning.

b. For a third and each subsequent violation on a site, the EPD or the local issuing authority must issue an immediate stop work order. All stop work orders are effective immediately upon issuance and remain in effect until the necessary corrective action or mitigation has occurred.

c. 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 local issuing authority or by the EPD director or his 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 must be issued by the local issuing authority or by the EPD director or his designee. All such stop work orders are effective immediately upon issuance and remain in effect until the necessary corrective action or mitigation has occurred. Stop work orders 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.

3. 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 must be served by the community development director upon that person. The notice must set forth the measures necessary to achieve compliance with the plan and must 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, they will be deemed in violation of this chap-

ter and, in addition to other penalties, will be deemed to have forfeited his performance bond, if required to post one under the provisions of Sec. 16-5.50-C.6. The community development 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.

4. Monetary Penalties

Any person who violates any provisions of this article, or any permit condition or limitation established pursuant to this article, or who negligently or intentionally fails or refuses to comply with any final or emergency order of the community development director issued as provided in this article, is liable for a civil penalty not to exceed $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 article is authorized to impose penalties for such violations, not to exceed $2,500.00 for each violation. Each day during which violation or failure or refusal to comply continues constitutes a separate violation.

16-5.80 Liability

16-5.80-A. The approval of a plan under the provisions of this article or the compliance with provisions of this article does not relieve any person from the responsibility for damage to any person or property otherwise imposed by law nor impose any liability upon the city, its officers or employees for damage to any person or property.

16-5.80-B. The fact that a land-disturbing activity for which a permit has been issued results in injury to the property of another does not constitute proof of nor create a presumption of a violation of the standards provided for in this article or the terms of the permit.

16-5.80-C. No provision of this article permits 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 under the *Act* or pollute any waters of the state.

16-5.90 Education and Certification

All persons involved in land development design, review, permitting, construction, monitoring, or inspection or any land-disturbing activity must meet the education and training certification requirements, dependent on their level of involvement with the process, as developed by the state soil and water conservation commission in consultation with the environmental protection division and the stakeholder advisory board created pursuant to O.C.G.A. §12-7-20.

Article 6 Stream Buffers

16-6.10 Applicability

The stream buffer regulations of this article apply along all perennial and intermittent streams throughout the city except as expressly exempted or permitted in accordance with Sec. 16-6.40.

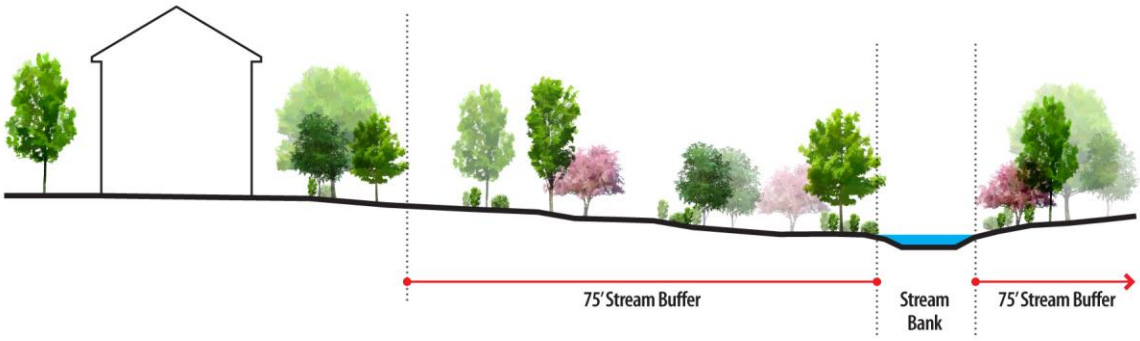
16-6.20 Purpose

The purpose of the city's stream buffer regulations is to preserve existing mature riparian vegetation that can provide shade, leaf litter, woody debris and erosion protection for streams.

16-6.30 Minimum Stream Buffer Requirements

16-6.30-A. Stream buffers are established along all perennial and intermittent streams in the city. These required stream buffers begin at the stream bank and extend 75 feet away from the stream. The buffers must remain undisturbed except as otherwise provided in Sec. **16-6.40**.

Figure 6-1: Minimum Stream Buffer Requirement



16-6.30-B. Any new stormwater discharge crossing a stream buffer or state buffer zone must be designed to ensure that sheet flow is established through the stream buffer and to prevent channelized flow through the stream buffer.

16-6.30-C. Piping of streams is not allowed in required stream buffers unless a variance is granted in accordance with Sec. 16-3.70.

16-6.40 Exemptions and Special Administrative Permits

16-6.40-A. Exemptions

The stream buffer regulations of this article do not apply to any of the following activities, provided that any activity within a state-mandated stream buffer (See Sec. 16-5.40) must meet state requirements.

1. Work consisting of the usual and customary repair or maintenance of any lawful use of land that is zoned and approved for such use on or before the effective date of this section. Such usual and customary repair and maintenance activities cannot create any land disturbance, and must occur within the pre-existing disturbed area.

2. Construction of decks, porches or other additions to existing structures, provided that such construction does not require land disturbance and does not further encroach on the stream buffer.

3. Existing development and on-going land disturbance activities including existing agriculture, silviculture, landscaping, gardening and lawn maintenance, except that new development or land disturbance activities on such properties is subject to all applicable buffer requirements.

4. Public sewer line installation in easements running parallel with the stream where necessary, except that all easements (permanent and construction) and land disturbance within a state waters' buffer must meet state requirements. This includes such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures. This exemption may not be construed as allowing the construction of roads, bike paths or other transportation routes in such easements, regardless of paving material, except for access for the uses expressly identified in this paragraph.

5. Removal of unwanted ground cover (e.g., poison ivy) using hand tools 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.

6. Land development activities within a dedicated transportation right-of-way existing at the time this section takes effect or approved under the terms of this section.

7. Within an easement of any utility existing at the time this section takes effect or approved under the terms of this section, land disturbance activities and such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures.

8. Emergency work necessary to preserve life or property. However, when emergency work is performed, the person performing it must report such work to the community development department on the next business day after commencement of the work. Within 10 business days thereafter, the person must apply for a permit and perform such work within such time period as may be determined by the community development department to be reasonably necessary to correct any impairment such emergency work may have caused to the water conveyance capacity, stability or water quality of the protection area.

9. Forestry and silviculture activities on land that is zoned for forestry, silvicultural or agricultural uses and are not incidental to other land development activity. If such activity results in land disturbance in the buffer that would otherwise be prohibited, then no other land disturbing activity other than normal forest management practices will be allowed on the entire property for 3 years after the end of the activities that intruded on the buffer.

10. Exemption of these activities does not constitute an exemption for any other activity proposed on a property.

16-6.40-B. Special Administrative Permits

The following activities may be approved within the stream buffers required by Sec. 16-6.30 by special administrative permit:

1. Stream crossings by utility lines, roads, driveways or similar transportation routes, including trails for nonmotorized transportation;
2. Public water supply intake or public wastewater outfall structures;
3. Land development necessary to provide access to a property;
4. Public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the stream, fishing platforms and overlooks;
5. Activities to restore or enhance stream bank stability, riparian vegetation, water quality or aquatic habitat, so long as native vegetation and bioengineering techniques are used;
6. Repair and reconstruction of existing structures located more than 50 feet from the stream, provided that the repair or reconstruction does not result in additional impervious cover and that riparian vegetation is restored or replaced in any areas of resulting land disturbance.
7. Stormwater outfalls to the stream, by pipe or channel, necessary to protect the buffer from erosion caused by high-flow velocities due to steep slopes;
8. The removal of dead, diseased, insect-infested, or hazardous trees (without any associated land disturbance), provided the property owner provides sufficient documentation of the condition of the trees before removal, including photographs and a report by a certified arborist;
9. Minor land disturbance activities totaling no more than 200 square feet in area, and as required for the installation and removal of stormwater management structures related to projects occurring outside an adjacent stream buffer; and
10. Multi-use trails and related improvements that are part of a city council-approved plan. Unless otherwise approved by the state, such encroachments must be located at least 25 feet from the banks of state waters when, after study of alternative trail alignments, the community development director determines that the alignment is the most desirable alternative and that they are designed to minimize impervious surfaces and incorporate BMPs and other mitigation practices that minimize the impact of encroachments on water quality. Trail improvements that are part of a city council-approved plan are not counted as part of a site's impervious surface area for purposes of site development-related calculations and regulations.

16-6.50 State-Mandated Stream Buffers

See Sec. 16-5.40.

Article 7 Stormwater Management

16-7.10 General

16-7.10-A. Purpose

The regulations of this article are adopted to protect, maintain and enhance the public health, safety, environment and general welfare by establishing minimum requirements and procedures to control the adverse effects of increased post-development stormwater runoff and nonpoint source pollution associated with new development and redevelopment. It has been determined that proper management of post-development stormwater runoff will minimize damage to public and private property and infrastructure, safeguard the public health, safety, environment and general welfare of the public, and protect water and aquatic resources. These regulations seek to meet that purpose through the following objectives:

1. Establish decision-making processes surrounding land development activities that protect the integrity of the watershed and preserve the health of water resources;

2. Require that new development and redevelopment maintain the pre-development hydrologic response in their post-development state as nearly as practicable in order to reduce flooding, streambank erosion, nonpoint source pollution and increases in stream temperature, and maintain the integrity of stream channels and aquatic habitats;

3. Establish minimum post-development stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;

4. Establish design and application criteria for the construction and use of structural stormwater control facilities that can be used to meet the minimum post-development stormwater management standards;

5. Encourage the use of nonstructural stormwater management and stormwater better site design practices, such as the preservation of greenspace and other conservation areas, to the maximum extent practicable;

6. Establish provisions for the long-term responsibility for and maintenance of structural stormwater control facilities and nonstructural stormwater management practices to ensure that they continue to function as designed, are maintained, and pose no threat to public safety; and

7. Establish administrative procedures for the submission, review, approval and disapproval of stormwater management plans, and for the inspection of approved active projects, and long-term follow up.

16-7.10-B. Stormwater Manual

All land development in the city must 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 must be those published in the *Georgia Stormwater Management Manual*.

16-7.10-C. Applicability

The stormwater management regulations of this article apply to all land development activities that meet one or more of the following criteria:

1. Involves the creation, addition or replacement of 5,000 square feet or more of impervious cover or that involves other land development activities of one acre or more;

2. Any new development or redevelopment, regardless of size, that meets the definition of a stormwater hotspot, as determined by the community development director; or

3. Land development activities that are smaller than the minimum applicability criteria of paragraphs 1 or 2 , 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.

16-7.10-D. Exemptions and Waivers

1. The following activities are exempt from the stormwater management requirements of this article:

a. Individual single-family or duplex residential lots that are not part of a subdivision or phased development project;

b. Additions or modifications to existing single-family or duplex residential structures;

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 community development director.

2. If 50% or less of a site is to be redeveloped, stormwater requirements must be met for the redeveloped area only and the non-disturbed area will be treated as pre-developed prior to the redevelopment. But if more than 50% of the site is to be redeveloped, then the entire site must meet all stormwater requirements.

16-7.10-E. Information Required with Land Development Permit Applications

Except as otherwise expressly exempted, land development permit applications must be accompanied by the following information:

1. Stormwater management plan in accordance with Sec. 16-7.20;

2. Performance bond, if applicable; and,

3. Applicable permit application and plan review fees.

16-7.20 Stormwater Management Plans

16-7.20-A. General

Stormwater management plans must identify how post-development stormwater runoff will be controlled or managed and how the proposed project will meet all

applicable requirements of this article. Plans must be submitted with the stamp and signature of a professional engineer (PE) licensed in the State of Georgia, who must verify that the design of all stormwater management facilities and practices meet the submittal requirements outlined in the stormwater design manual.

16-7.20-B. Information Required

The stormwater management plan must ensure compliance with the requirements and criteria in this article and that opportunities are being taken to minimize adverse post-development stormwater runoff impacts from the development. The plan must consist of maps, narrative, and supporting design calculations (hydrologic and hydraulic) for the proposed stormwater management system. The plan must include all information required by the stormwater management site plan checklist of the stormwater design manual, including all of the following:

1. Common address and legal description of site;
2. Vicinity map;
3. Existing conditions hydrologic analysis (See Sec. 16-7.20-C)
4. Post-development hydrologic analysis (See Sec. 16-7.20-D)
5. Stormwater management system design (See Sec. 16-7.20-E)
6. Post-development downstream analysis (See Sec. 16-7.20-F)
7. Construction-phase erosion and sedimentation control plan (See Sec. 16-7.20-G)
8. Landscaping and open space plan (See Sec. 16-7.20-H)
9. Operations and maintenance plan (See Sec. 16-7.20-I)
10. Maintenance access easements (See Sec. 16-7.20-J)
11. Inspection and maintenance agreements (See Sec. 16-7.20-K).
12. Evidence of acquisition of applicable local and non-local permits (See Sec. 16-7.20-L)
13. Any proposed off-site facilities (See Sec. 16-7.20-M)

16-7.20-C. Existing Conditions Hydrologic Analysis

1. The existing conditions hydrologic analysis for stormwater runoff rates, volumes, and velocities must include all of the following:
   a. A topographic map of existing site conditions with the drainage basin boundaries indicated;
   b. Acreage, soil types and land cover of areas for each subbasin affected by the project;
   c. All perennial and intermittent streams and other surface water features;
   d. All existing stormwater conveyances and structural control facilities;
   e. Direction of flow and exits from the site;

f. Analysis of runoff provided by off-site areas upstream of the project site; and

g. Methodologies, assumptions, site parameters and supporting design calculations used in analyzing the existing conditions site hydrology.

2. For redevelopment sites, predevelopment conditions must be modeled using the established guidelines for the portion of the site undergoing land development activities.

16-7.20-D. Post-Development Hydrologic Analysis

The post-development hydrologic analysis for stormwater runoff rates, volumes, and velocities must include all of the following:

1. A topographic map of developed site conditions with the post-development drainage basin boundaries indicated;

2. Total area of post-development impervious surfaces and other land cover areas for each subbasin affected by the project;

3. Calculations for determining the runoff volumes that need to be addressed for each subbasin for the development project to meet the post-development stormwater management performance criteria in Sec. 16-7.40;

4. Location and boundaries of proposed natural feature protection and conservation areas;

5. Documentation and calculations for any applicable site design credits that are being utilized;

6. Methodologies, assumptions, site parameters and supporting design calculations used in analyzing the existing conditions site hydrology.

16-7.20-E. Stormwater Management System

The description, scaled drawings and design calculations for the proposed post-development stormwater management system must include all of the following:

1. A map and/or drawing or sketch of the stormwater management facilities, including the location of nonstructural site design features and the placement of existing and proposed structural stormwater controls, including design water surface elevations, storage volumes available from zero to maximum head, location of inlet and outlets, location of bypass and discharge systems, and all orifice/restrictor sizes;

2. A narrative describing how the selected structural stormwater controls will be appropriate and effective;

3. Cross-section and profile drawings and design details for each of the structural stormwater controls in the system, including supporting calculations to show that the facility is designed according to the applicable design criteria;

4. A hydrologic and hydraulic analysis of the stormwater management system for all applicable design storms (including stage-storage or outlet rating curves, and inflow and outflow hydrographs);

5. Documentation and supporting calculations to show that the stormwater management system adequately meets the post-development stormwater management performance criteria in Sec. 16-7.40;

6. Drawings, design calculations, elevations and hydraulic grade lines for all existing and proposed stormwater conveyance elements including stormwater drains, pipes, culverts, catch basins, channels, swales and areas of overland flow; and

7. Where applicable, a narrative describing how the stormwater management system corresponds with any watershed protection plans and/or local greenspace protection plan.

16-7.20-F. Post-Development Downstream Analysis

A downstream peak flow analysis must 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 must address each and every point or area along the project site's boundaries at which runoff will exit the property. The analysis must focus on the portion of the drainage channel or watercourse immediately downstream from the project. This area must extend downstream from the project to a point in the drainage basin where the project area is 10% 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 must be in accordance with the *Georgia Stormwater Management Manual*. The capacity of the drainage systems must be analyzed to the 10% point.

16-7.20-G. Construction-Phase Erosion and Sedimentation Control Plan

An erosion and sedimentation control plan in accordance with the *Georgia Erosion and Sedimentation Control Act* or NPDES permit for construction activities. The plan must also include information on the sequence/phasing of construction and temporary stabilization measures and temporary structures that will be converted into permanent stormwater controls.

16-7.20-H. Landscaping and Open Space Plan

A detailed landscaping and vegetation plan describing the woody and herbaceous vegetation that will be used within and adjacent to stormwater management facilities and practices. The landscaping plan must also include:

1. The arrangement of planted areas, natural and greenspace areas and other landscaped features on the site plan;

2. Information necessary to construct the landscaping elements shown on the plan drawings;

3. Descriptions and standards for the methods, materials and vegetation that are to be used in the construction;

4. Density of plantings;

5. Descriptions of the stabilization and management techniques used to establish vegetation; and

6. A description of who will be responsible for ongoing maintenance of vegetation for the stormwater management facility and what practices will be employed to ensure that adequate vegetative cover is preserved.

16-7.20-I. Operations and Maintenance Plan

This plan must include a detailed description of ongoing operations and maintenance procedures for stormwater management facilities and practices to ensure their continued function as designed and constructed or preserved. They must identify the parts or components of a stormwater management facility or practice that need to be regularly or periodically inspected and maintained, and the equipment and skills or training necessary. The plan must include an inspection and maintenance schedule, maintenance tasks, responsible parties for maintenance, funding, access and safety issues. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures must be included in the plan.

16-7.20-J. Maintenance Access Easements

1. The applicant must ensure access from public right-of-way to stormwater management facilities and practices requiring regular maintenance at the site for the purpose of inspection and repair by securing all the maintenance access easements needed on a permanent basis. Such access must be sufficient for all necessary equipment for maintenance activities. Upon final inspection and approval, a plat or document indicating that such easements exist must be recorded and must remain in effect even with the transfer of title of the property.

2. The access easement to the facility may not have a profile slope steeper than 33% and a cross slope of no more than 10%. The elevation of the maintenance easement around the facility must be established at the top of the dam or wall elevation and be constructed with a cross slope of no more than 10% to the drainage facility. Fencing that complies with the requirement §16-7.30-G.2 must be constructed on the outside edge of the maintenance easement. Gates that comply with the requirements of §16-7.30-G.2 must be constructed on each maintenance easement.

16-7.20-K. Inspection and Maintenance Agreements

1. Unless an on-site stormwater management facility or practice is dedicated to and accepted by the city, the applicant must execute an inspection and maintenance agreement, and/or a conservation easement, if applicable, that is be binding on all subsequent owners of the site. The inspection and maintenance agreement, if applicable, must be approved by the city prior to plan approval, and recorded in the deed records upon final plat approval.

2. The inspection and maintenance agreement must identify by name or official title the persons responsible for carrying out the inspection and maintenance. Responsibility for the operation and maintenance of the stormwater management facility or practice, unless assumed by a governmental agency, will remain with the property owner and will pass to any successor owner. If portions of the land are sold or otherwise transferred, legally binding arrangements must be made to pass the inspection and maintenance responsibility to the ap-

propriate successors in title. These arrangements must designate for each portion of the site, the person to be permanently responsible for its inspection and maintenance.

3. As part of the inspection and maintenance agreement, a schedule must be developed for when and how often routine inspection and maintenance will occur to ensure proper function of the stormwater management facility or practice. The agreement must also include plans for annual inspections to ensure proper performance of the facility between scheduled maintenance and include remedies for the default thereof.

4. The city, in lieu of an inspection and maintenance agreement, may accept dedication of any existing or future stormwater management facility for maintenance, provided such facility meets all the requirements of this article and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

16-7.20-L. Evidence of Acquisition of Applicable Local and Non-local Permits

The applicant must certify and provide documentation to the (local permitting authority) that all other applicable environmental permits have been acquired for the site prior to approval of the stormwater management plan.

16-7.20-M. Off-Site Facilities

1. The stormwater management plan for each land development project must provide for stormwater management measures located on the site of the project, unless provisions are made to manage stormwater by an off-site or regional facility. The off-site or regional facility must be located on property legally dedicated for the purpose, must be designed and adequately sized to provide a level of stormwater quantity and quality control that is equal to or greater than that which would be afforded by on-site practices and there must be a legally-obligated entity responsible for long-term operation and maintenance of the off-site or regional stormwater facility. In addition, on-site measures must be implemented, where necessary, to protect upstream and downstream properties and drainage channels from the site to the off-site facility.

2. A stormwater management plan showing the adequacy of the off-site or regional facility must be submitted to the community development director.

3. To be eligible for a modification, the applicant must demonstrate to the satisfaction of the city that the use of an off-site or regional facility will not result in any of the following impacts to upstream or downstream areas:

a. Increased threat of flood damage to public health, life, and property;

b. Deterioration of existing culverts, bridges, dams, and other structures;

c. Accelerated streambank or streambed erosion or siltation;

d. Degradation of in-stream biological functions or habitat; or

e. Water quality impairment in violation of state water quality standards, and/or violation of any state or federal regulations.

16-7.30 Design

16-7.30-A. Detention Designs

Detention designs may be rejected 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.

16-7.30-B. Discharge Velocities

Discharge velocities from detention facilities must 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*.

16-7.30-C. Design Storm

The drainage system being developed must have adequate capacity to accommodate the flow from all upstream areas for a 100-year storm event.

16-7.30-D. Drainage Outfalls

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 flow from the site, then the design engineer must design on-site drainage facilities that result in no exacerbation of existing downstream conditions.

16-7.30-E. Detention Storage

1. The live detention storage to be provided must be calculated on the basis of the 100-year frequency rainfall as published in the *Georgia Stormwater Management Manual*. The detention system must be adequate for the runoff of a 100-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 must be located and designed to prevent erosion damage to adjacent property owners.

2. Detention and sedimentation control facilities may not be placed in any of the following:

- **a.** Transitional buffer zones as defined by the city zoning ordinance.
- **b.** Floodplains.
- **c.** Wetlands.
- **d.** Stream buffer zones.
- **e.** State buffer zones.

3. Perforated standpipes or a French drain, in accordance with published design standards available from the community development director, or other methods which will achieve equal performance to prevent standing water and inadequate drainage, must be installed within all the detention and sedimentation control facilities.

16-7.30-F. Combined Detention

When the applicant requests and the community development 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 2 or more properties by 2 or more applicants.

16-7.30-G. Fencing

1. Permanent fencing at least 4 feet in height is required around all stormwater and sedimentation control facilities designed for temporary storage of stormwater if they have a water storage depth of greater than 4 feet or they are designated by the city or board of health as a public health hazard.

2. Required fencing must be designed, installed and maintained to allow the free flow of runoff and sediment into the facility. Fencing must be established on the outside edge of a facility. The fence must include a gate of sufficient size to permit entrance of equipment necessary to allow periodic maintenance activities. The gate must be placed in a manner such that the gate does not obstruct reasonable access or become obstructive. The community development director may waive fencing in nonresidential areas where a pond is more than 500 feet from a residential zoning district and in residential zoning districts when detention is provided in natural areas such as stream channels and fencing in the opinion of the community development director would damage the environment or affect stream flow.

16-7.30-H. Special Flood Hazard Area Elevation Contours

In residential districts, not less than 70% of the minimum lot area, as established by applicable zoning district development standards, must be above the special flood hazard area elevation contours with the exception that lots in the R-150 district must conform to requirements of the R-100 district.

16-7.30-I. Street Centerline Elevations

The profile elevation of the centerline of all public streets must be constructed a minimum of one foot above special flood hazard area elevation contours. The community development director may grant exceptions to this provision in cases where construction of the street elevation is within a special flood hazard area and elevation contours would improve drainage or reduce the effects of flooding.

16-7.40 Performance Criteria

The performance criteria of this section apply to all stormwater management plans, unless otherwise expressly stated.

16-7.40-A. Water Quality

All stormwater runoff generated from a site must be adequately treated before discharge. It will be presumed that a stormwater management system complies with this requirement if:

1. It is sized to treat the prescribed water quality treatment volume from the site, as defined in the *Georgia Stormwater Management Manual*;

2. 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,

3. Runoff from hotspot land uses and activities identified by the community development department are adequately treated and addressed through the use of appropriate structural stormwater controls, nonstructural practices and pollution prevention practices.

16-7.40-B. Stream Channel Protection

1. Protection of stream channels from bank and bed erosion and degradation must be provided by using all of the following 3 approaches:

a. Preservation, restoration and/or reforestation (with native vegetation) of the applicable stream buffer;

b. 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event; and

c. Erosion prevention measures such as energy dissipation and velocity control.

2. The community development director is authorized to waive the detention storage requirements of 16-7.40-B.1.b for sites that discharge directly into piped stormwater drainage systems, larger streams, rivers, wetlands, lakes, estuaries, tidal water or other situations where flows will not have a negative impact on stream bank stability or channel integrity.

16-7.40-C. Overbank Flooding Protection

Downstream overbank flood and property protection must be provided by controlling (attenuating) the post-development peak discharge rate to the pre-development rate for the 25-year, 24-hour return frequency storm event. If control of the 1-year, 24-hour storm is exempted, then peak discharge rate attenuation of the 2-year through the 25-year return frequency storm event must be provided.

16-7.40-D. Extreme Flooding Protection

Extreme flood and public safety protection must be provided by controlling and safely conveying the 100-year, 24-hour return frequency storm event such that flooding is not exacerbated.

16-7.40-E. Structural Stormwater Controls

All structural stormwater management facilities must 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 community development director before being included in the design of a stormwater management system. In addition, if hydrologic or topographic conditions, or land use activities warrant greater control than that pro-

vided by the minimum control requirements, the community development director may impose additional requirements deemed necessary to protect upstream and downstream properties and aquatic resources from damage due to increased volume, frequency, and rate of stormwater runoff or increased nonpoint source pollution loads created on the site in question. Applicants must consult the *Georgia Stormwater Management Manual* for guidance on the factors that determine site design feasibility when selecting and locating a structural stormwater control.

16-7.40-F. Stormwater Credits for Nonstructural Measures

The use of one or more site design measures by the applicant may allow for a reduction in the water quality treatment volume required under Sec. 16-7.40-A. The applicant may, if approved by the community development 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 which 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 identified in the *Georgia Stormwater Management Manual*.

16-7.40-G. Drainage System Guidelines

Stormwater conveyance facilities, which may include culverts, stormwater drainage pipes, catch basins, drop inlets, junction boxes, headwalls, gutter, swales, channels, ditches, and energy dissipaters must 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 parcel, existing or proposed, must meet the following requirements:

1. Methods to calculate stormwater flows must be in accordance with the stormwater design manual;

2. All culverts, pipe systems and open channel flow systems must be sized in accordance with the stormwater management plan using the methods included in the stormwater design manual; and,

3. Design and construction of stormwater conveyance facilities must be in accordance with the criteria and specifications found in the stormwater design manual.

16-7.40-H. Dam Design Guidelines

Any land disturbing activity that involves a site that proposes a dam must comply with the *Georgia Safe Dams Act* and *Rules for Dam Safety,* as applicable.

16-7.50 Inspections and Maintenance

16-7.50-A. Inspections during Construction

1. Periodic inspections of the stormwater management system construction must be conducted by the community development department or conducted and certified by a professional engineer approved by the community development director. Construction inspections must utilize the approved stormwater man-

agement plan for establishing compliance. All inspections must be documented with written reports that contain the following information:

a. The date and location of the inspection;

b. Whether construction is in compliance with the approved stormwater management plan;

c. Variations from the approved construction specifications; and,

d. Any other variations or violations of the conditions of the approved stormwater management plan.

2. If any violations are found, the applicant must be notified in writing of the nature of the violation and the required corrective actions.

16-7.50-B. Final Inspections and As-built Plans

Upon completion of a project, and before a certificate of occupancy may be granted, the applicant is responsible for certifying that the completed project is in accordance with the approved stormwater management plan. All applicants are required to submit actual "as-built" plans for any stormwater management facilities or practices after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and practices and must be certified by a professional engineer. A final inspection by the city is required before the release of any performance bonds or financial guarantees.

16-7.50-C. Long-Term Maintenance and Inspections

1. Stormwater management facilities and practices included in a stormwater management plan which are subject to an inspection and maintenance agreement must undergo ongoing inspections to document maintenance and repair needs and ensure compliance with the requirements of the agreement, the plan and this article.

2. A stormwater management facility or practice must be inspected on a periodic basis by the responsible person in accordance with the approved inspection and maintenance agreement. In the event that the stormwater management facility has not been maintained and/or becomes a danger to public safety or public health, the public works director must notify the person responsible for carrying out the maintenance plan by registered or certified mail to the person specified in the inspection and maintenance agreement. The notice must specify the measures needed to comply with the agreement and the plan and must specify the time within which such measures must be completed. If the responsible person fails or refuses to meet the requirements of the inspection and maintenance agreement, the city may pursue all available enforcement actions and penalties.

3. Inspection programs by the city may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or

water in stormwater management facilities; and evaluating the condition of stormwater management facilities and practices.

16-7.50-D. Right-of-Entry for Inspection

The terms of the inspection and maintenance agreement must provide authority for authorized city or city contracted officials to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the city has a reasonable basis to believe that a violation is occurring or has occurred and to enter when necessary for abatement of a public nuisance or correction of a violation.

16-7.50-E. Maintenance Responsibilities

1. Except as otherwise provided in this section, commercial and/or multifamily residential property owner is 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 is binding on all future owners, successors and assigns of the property.

2. 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 zoning board of appeals and suitable access easements are provided.

16-7.50-F. Records

Parties responsible for the operation and maintenance of a stormwater management facility must provide records of all maintenance and repairs to the public works director.

16-7.50-G. Failure to Maintain

If a responsible person fails or refuses to meet the requirements of the inspection and maintenance agreement, the public works director, after 30 days written notice (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24-hour notice is deemed sufficient), may correct a violation of the design standards or maintenance requirements by performing the necessary work to place the facility or practice in proper working condition. The city may assess the owners of the facility for the cost of repair work, which will be a lien on the property, and may be placed on the ad valorem tax bill for such property and collected in the ordinary manner for such taxes.

16-7.50-H. Special Drainage System Maintenance Requirements

1. Pursuant to all applicable city and county law, trash, garbage, construction materials, construction by-products or other debris may not be deposited in any part of the drainage system.

2. No restriction or barriers, including fences, may be placed in the drainage system or special flood hazard areas without first obtaining a development permit. When on-site or off-site debris has accumulated within a special flood hazard area 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

special flood hazard areas, the community development director must 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.

3. No impoundment of water which retains in excess of 0.5 acre-foot of runoff may be removed without first obtaining a development permit, which may only be issued after competent engineering studies provided by the applicant show that this removal will not adversely affect downstream properties.

Article 8 Tree Preservation

16-8.10 General

16-8.10-A. Intent

The intent of this section 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.

16-8.10-B. Purpose

The purpose of this section is to facilitate the preservation and/or replacement of trees as part of the land development and construction process.

16-8.10-C. Benefits

Benefits derived from tree protection and replanting include:

1. Improved control of soil erosion;
2. Moderation of stormwater runoff, and improved water quality;
3. Interception of airborne particulate matter, and the reduction of some air pollutants.
4. Enhanced habitat for desirable wildlife;
5. Reduction of noise and glare;
6. Climate moderation and the reduction of the heat island effect;
7. Aesthetics, scenic amenity;
8. Increased property value; and
9. Assistance in traffic calming.

16-8.10-D. Applicability

The terms and provisions of this section 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 may be issued by the city without it being determined that the proposed development is in conformance with the provisions of these regulations.

16-8.20 Permit Procedure

16-8.20-A. Submittal of Tree Protection Plan

All applications for a development permit or a substantial building permit must be accompanied by a tree protection plan prepared and sealed by a registered landscape architect, certified arborist, or registered forester. The tree protection plan must include the following information:

1. **Tree Survey**

   The tree survey must be a to-scale map or site plan that has been prepared and sealed by a registered landscape architect, certified arborist, registered forest-

er, registered surveyor, or registered engineer. The tree survey must include the following minimum requirements:

a. All specimen trees are to be located and labeled with their size and species. Their critical root zone must be delineated and the spot elevation at the base of their trunk must be indicated. They must also be labeled in a way to determine if they are intended for removal or preservation.

b. All trees with a DBH measurement of 12 inches or larger must be located and their size and species must be indicated.

c. Sampling methods may be used to determine tree density calculations for forested areas over 5 acres.

2. Definition of Spatial Limits

a. Limits of land disturbance, clearing, grading, and trenching.

b. Tree protection zones.

c. Areas of revegetation.

d. Indication of staging areas for parking, material storage, concrete washout, debris burn, and other areas where tree protection may be affected.

e. Locations of existing and proposed structures, paving, driveways, cut and fill areas, detention areas, utilities, etc.

3. Detail Drawings of Tree Protection Measures (Where Applicable)

a. Protective tree fencing;

b. Erosion control fencing;

c. Tree protection signs;

d. Transplanting specifications;

e. Tree wells and aeration systems;

f. Staking specifications; and

g. Other applicable drawings.

4. Tree Density Calculations
See Appendix A.

5. Installation and Maintenance Measures
Procedures and schedules for the implementation, installation, and maintenance of tree protection measures.

16-8.20-B. Site Inspection
An on-site inspection will be made by the city arborist prior to the commencement of any development activity.

16-8.20-C. Review
All landscape plans, tree protection plans, and related documentation must be reviewed by the city arborist for conformance to the provisions of these regulations and either approved, returned for revisions, or denied within 30 days of receipt. If

denied, the reasons for denial must be annotated on the landscape plan or otherwise stated in writing.

16-8.20-D. Permit Issuance
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.

16-8.30 Tree Removal

16-8.30-A. Nothing in these regulations may be construed as allowing the removal of vegetation in a natural, undisturbed buffer required by zoning or land development regulations.

16-8.30-B. Trees may not be removed from 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 must be submitted as part of the tree protection plan.

16-8.30-C. When no trees are present in a protected zone or when it is proposed that any portion of a protected zone be disturbed, it is the responsibility of the owner/developer to landscape the areas (where improvements are not constructed) with trees or other plant materials.

16-8.30-D. The city arborist is authorized to permit the removal of dead, diseased, insect-infested or trees that pose a hazard to life or property, if the property owner provides evidence of the condition of the trees prior to their removal. Documentation may include photographs or a report by a certified arborist.

16-8.30-E. Trees may not be removed from a floodplain except as follows:

1. Those trees found to be hazardous, dead, diseased, or insect-infested by the city arborist, the county extension service, the Georgia Forestry Commission, or a registered forester.
2. As necessary for construction, repair, or maintenance of public roads, utilities, or drainage structures.

16-8.40 Tree Replacement and Revegetation

16-8.40-A. Applicability
Replacement of trees in the minimum required landscape areas, as determined by this section, must occur under the following conditions:

1. To establish the minimum tree density requirements for the site.
2. Where grading occurs outside the buildable area of the lot.
3. If the buildable area of the lot leaves no protected zone.
4. If no trees are present within an existing protected zone.
5. Where specimen trees or specimen stands of trees within the buildable portion of the lot are to be removed.

6. 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.

16-8.40-B. Replacement Quantity

1. Except as specified for single-family residential lots in §16-8.40-B.2, the quantity of replacement trees on a site must be sufficient 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 A. A required buffer or trees located in the floodplain may not be counted towards tree density. Understory trees may constitute no more than 25% of the required replacement trees, but lots smaller than 8,000 square feet in area are exempt from this limit.

2. The following number of trees must be planted or preserved 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

16-8.40-C. Spacing

The spacing of replacement trees must be compatible with spatial limitations, and within responsible considerations towards potential species size.

16-8.40-D. Specimen Trees

All reasonable efforts be made to save specimen trees. ("Reasonable effort" includes alternate building design, building location, parking area layout, parking area location, water retention location and equivalent or similar measures).

16-8.40-E. Tree Save Areas

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.

16-8.40-F. Tree Replacement Fund

Occasionally, the tree replacement requirements of this section cannot be met because a project site will not accommodate the required density of trees. In this case, the city arborist is authorized to approve a contribution to the City of Dunwoody Tree Replacement Fund. The following standards have been established for administering these contributions:

1. The city arborist must review and approve all requests for alternative compliance. In no instance may 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.

2. No permit may be issued until the required contribution has been made to the tree replacement fund.

3. The amount of the contribution must be determined from the fee schedule for the community development department.

4. The City of Dunwoody Tree Replacement Fund must 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.

5. Species selected for replacement must be quality specimens and must be ecologically compatible with the specifically intended growing site. No single tree species may be used for more than 35% of replacement trees. Evergreens may not be used for more than 25% of the trees in non-buffer areas. Standards for transplanting and selecting quality replacement stock must be in accordance with standards of the International Society of Arboriculture, National Association of Arborists, American Standard for Nursery Stock and Appendix B.

6. Understory replacement trees may account for no greater than 25% of the required tree density units. The city arborist is authorized 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.

7. Species selection and replacement densities are subject to approval by the city arborist.

16-8.50 Specimen and Special Trees

16-8.50-A. Criteria

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.

1. Tree Size

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

2. Tree Condition

a. Relatively sound and solid trunk with no extensive decay.

b. No more than one major and several minor dead limbs.

c. No major insect or pathological problems.

d. No major pruning deficiencies, i.e. topping.

e. At least 75% of the critical root zone in a natural, undisturbed state.

16-8.50-B. Tree Density Credit

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 1½ times the assigned unit value shown in Appendix A. Should the property owner retain the services of a certified arborist to improve the quality of the trees (services include, but are not limited to, installation of cabling and bracing, installation of lighting protection, corrective pruning, removal of deadwood, supplemental irrigation, introduction of mycorrhizae, etc.), the density credit will be increased to 2 times the assigned value designated in Appendix A. 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.

16-8.50-C. Preservation of Tree Stands

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.

16-8.50-D. Removal of Specimen Trees

No specimen tree may be removed without the prior written approval of the city arborist.

1. 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-inch caliper or larger trees at a density of 1½ times the unit value of the tree removed, i.e. a 30-inch 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.

2. 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-inch caliper or larger trees with a total density equal to 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 must remain undisturbed to allow for the planting of replacement trees.

16-8.60 Tree Protection Measures

The following minimum tree protection measures must be in place for all tree save areas:

16-8.60-A. Tree Protection Fencing

Trees identified for preservation must have protection fencing that is a minimum of 4 feet high installed at the edge of the critical root zones. The city arborist is authorized to require the installation of 4-foot high minimum chain link fencing in those areas where the likelihood of possible encroachment occurs. All tree protection zones must 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).

16-8.60-B. Silt Fences

All tree protection zones must 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.

16-8.60-C. Encroachment

No person may 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 must be arranged so as to prevent disturbance within the protected areas.

16-8.60-D. Utilities

Reasonable efforts must be made to locate utility lines along corridors between tree protection zones. If utility lines must encroach into the protection zones, they must be installed by tunneling rather than trenching.

16-8.60-E. Maintenance of Tree Protection

All tree protection devices must remain in fully functioning condition until the certificate of occupancy is issued.

1. 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, must be treated in accordance with the National Arborists Association Standards. If fatally damaged, the tree(s) must be replaced with 4-inch caliper trees equal to the unit value of the tree removed. Any specimen tree damaged as described above must be replaced with trees equal to 3 times the unit value of the tree removed.
2. All tree protection zones must be mulched with at least 4 inches and not more than 8 inches of organic mulch, such as pine straw, wood chips, tree leaves, or compost.
3. Construction activity is prohibited inside the tree save areas, including but not limited to, grading, paving, and construction of buildings and other structures.
4. The site must be designed and maintained in a manner to ensure proper drainage in tree save areas during and after construction.

16-8.60-F. Tree Protection Supervisors

The developer must designate a tree protection supervisor. This person must demonstrate knowledge in the area of tree protection practices during construction and must be on-site to ensure tree protection measures are enforced. The tree protection supervisor must 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.

16-8.60-G. Inspections

Tree protection inspections must be performed by a certified arborist or registered forester during construction. The inspections must be conducted prior to the com-

mencement 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 must 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 must be prepared and certified by the inspector and submitted to the city arborist. Any damage noted must be treated in accordance with the recommendation of the inspector prior to the issuance of a certificate of occupancy or approval of the final plat. The city arborist is authorized 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.

16-8.70 Maintenance

All maintenance activities performed on preserved or planted trees to be included in the tree density requirements must be performed in accordance with the most current professional standards, including, but not limited to, the standards described below. It is the responsibility of the property owner to ensure such work is in compliance. Should maintenance activities on the 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.

16-8.70-A. Nursery stock

All nursery stock must meet standards defined in the American Standard for Nursery Stock ANSI Z60.1.

16-8.70-B. Pruning

All pruning must be done in accordance with ANSI A300 (Part 1) Standards for Tree Care Operations–Pruning. Tree topping is not allowed. Crown reduction pruning must be used instead to reduce the height of a tree when necessary. Topped trees may not be counted toward tree density requirements.

16-8.70-C. Fertilization

All tree fertilization must be performed in accordance with ANSI A 300 (Part 2) Standards for Tree Care Operations–Fertilization.

16-8.70-D. Cabling and Bracing

All cabling and bracing installation and maintenance must be performed in accordance with ANSI A300 (Part 3) Standards for Tree Care Operations–Cabling and Bracing.

16-8.70-E. Lightning Protection

All lightning protection installation and maintenance must be performed in accordance with ANSI A300 (Part 4) Standards for Tree Care Operations–Lightning Protection.

16-8.70-F. Safety

All tree-related work must be performed in accordance with ANSI Z133.1 Standards for Tree Care Operations–Safe Work Practices.

16-8.80 Alternative Compliance

The city arborist is authorized 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.

16-8.90 Enforcement and Penalties

16-8.90-A. Enforcement

It is city arborist's duty to enforce this section. The city arborist has the authority to revoke, suspend, or void any development permit and the authority to suspend all work on a site or any portion thereof.

16-8.90-B. Violation and Penalties

Any person, firm, or corporation violating any of the provisions of this section may be deemed guilty of an ordinance violation. Each day's continuance of a violation is a separate offense. The owner of any property upon which a violation exists, and any builder, contractor, agent who may have assisted in the commission of any violation, is guilty of a separate offense. The Dunwoody Municipal Court has jurisdiction to try offenses to these regulations.

16-8.90-C. Appeal

Any person aggrieved or affected by any decision of the city arborist relating to the application of this section may appeal to the zoning board of appeals for relief or reconsideration within 30 days from the date of the adverse determination by the city arborist.

16-8.100 Additional Information

The following rules and regulations are established by the council from time to time and are kept and maintained by the clerk:

16-8.100-A. Lists of approved street trees, their locations, and the locations of the root barriers;

16-8.100-B. Standards for substantial building permits; and

16-8.100-C. Tree replacement and planting rules and regulations.

Article 9 Groundwater Recharge Areas

16-9.10 Environmental Planning Criteria

Development within groundwater recharge areas, as delineated by the Georgia Department of Natural Resources' Significant Recharge Areas, Hydrological Atlas 18 and DNR's Pollution Susceptibility Map, must comply with the criteria for the protection of groundwater recharge areas established in chapter 391-3-16-.02 of DNR's *Rules for Environmental Planning Criteria* (Ga. Comp. Rules and Regs. 391-3-16-.02).

Article 10 Flood Damage Prevention

16-10.10 General

16-10.10-A. Findings of Fact

1. The flood hazard areas of the city are subject to periodic inundation which results in loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. These flood losses are caused by uses that are inadequately elevated, flood-proofed, or protected from flood damage. The cumulative effects of obstructions in special flood hazard areas which increase flood heights and velocities also contribute to flood damage and loss.

16-10.10-B. Purposes

It is the purpose of the flood damage prevention regulations of this article to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

1. Protect human life and health;
2. Minimize expenditure of public money for costly flood control projects;
3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. Minimize prolonged business interruptions;
5. Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in special flood hazard areas;
6. Help maintain a stable tax base by providing for the sound use and development of special flood hazard areas so as to minimize future blighted areas caused by flood damage;
7. Ensure that potential buyers are notified that property is in a special flood hazard area; and
8. Ensure that those who occupy the special flood hazard areas assume responsibility for their actions.

16-10.10-C. Methods of Reducing Flood Losses

In order to accomplish its purposes, this article includes methods and provisions to:

1. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

3. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;

4. Control filling, grading, dredging, and other development which may increase flood damage; and

5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

16-10.10-D. Applicability

The flood damage prevention regulations of this article apply to all special flood hazard areas within the City of Dunwoody.

16-10.10-E. Compliance

All structures and land may hereafter be constructed, located, extended, converted, or altered only in full compliance with the terms of this article and other applicable regulations.

16-10.10-F. Violations

Violation of the requirements (including violations of conditions and safeguards established in connection with conditions) constitutes a violation of this chapter. Any person who violates the flood damage prevention regulations of this article or who fails to comply with any of its requirements will, upon conviction, be subject to a fine and/or imprisonment in accordance with section 1-6 of the municipal code. Each day such violation continues is a separate offense. The city council may take any other lawful action necessary to prevent or remedy any violation. See also the general enforcement provisions of Sec. 16-3.100.

16-10.10-G. Basis for Establishing Special Flood Hazard Areas

1. The special flood hazard areas identified by the Federal Insurance Administration of the Federal Emergency Management Agency in the flood insurance study dated June 15, 1994, and the accompanying flood insurance rate maps and flood boundary and floodway maps dated June 15, 1994, and all subsequent amendments and/or revisions, are adopted by reference and declared to be a part of this article.

2. The flood insurance study and accompanying flood insurance rate maps and flood boundary and floodway maps depict the minimum area of applicability of this article and may be supplemented by studies for other areas that allow implementation of this article and that are recommended to the city council by the floodplain coordinator.

3. Examples of other studies that may be relied upon for the establishment of the base flood elevation or delineation of the 100-year floodplain and flood-prone areas include:

a. Any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey or any other local, state or federal agency; or

b. Any base flood study authored by a registered professional engineer in the State of Georgia that has been prepared by FEMA-approved methodology and approved by the community development director.

4. Examples of other studies that may be relied upon for the establishment of the future-conditions flood elevation or delineation of the future-conditions floodplain and flood-prone areas include:

a. Any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey, or any other local, state or federal agency; or

b. Any future-conditions flood study authored by a registered professional engineer in the State of Georgia that has been prepared by FEMA-approved methodology approved by the community development director.

16-10.10-H. Repetitive Loss Structure and Cumulative Substantial Damage

A building must be brought into compliance with requirements for new construction if it has incurred flood-related damages on 2 or more occasions during a 10-year period in which the cost of repairing the flood damage, on average, was 25% or more of the market value of the building at the time of each such flood event, or if damage of any origin is sustained and the cost of restoring the building to its pre-damage condition is 50% or more of the market value of the building before the damage occurred.

16-10.10-I. Warning and Disclaimer of Liability

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This article does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This article does not create liability on the part of the city council, any officer or employee thereof, the state, or the Federal Insurance Administration, Federal Emergency Management Agency, for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.

16-10.20 Definitions

See Article 18.

16-10.30 Administration

16-10.30-A. Floodplain Coordinator

1. Appointment

The community development director is appointed as the floodplain coordinator to administer and enforce this article, in accordance with its provisions.

2. Powers and Duties

a. Permit review

The floodplain coordinator is responsible for reviewing all development permits to determine that:

(1) Permit requirements of this article have been satisfied;

(2) All other required state and federal permits have been obtained; and

(3) The site is reasonably safe from flooding.

b. Review, Use and Development of other Base Flood Data

When base flood elevation data has not been provided, the community development director is authorized to require the applicant to obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal or state agency, or other source, in order to administer the regulations of this article.

c. Notification of other Agencies

Before the alteration or relocation of a watercourse, the community development director must:

(1) Notify adjacent communities and the state department of natural resources; and

(2) Submit evidence of such notification to the Federal Emergency Management Agency.

3. Documentation of Floodplain Development

The community development director is responsible for reviewing and maintaining for public inspection all elevations and certifications required under Sec. 16-10.30-B.

4. Map Determinations

The community development director is authorized to make interpretations where needed to determine the location of the boundaries of special flood hazard areas. Where there appears to be a conflict between a mapped boundary and actual field conditions, grade and base flood elevations must be used to determine the boundaries of the special flood hazard area. The person contesting the location of the boundary must be given a reasonable opportunity to appeal the interpretation.

5. Remedial Actions

The community development director is responsible for enforcing and taking actions to remedy violations of this article.

16-10.30-B. Development Permits

A development permit must be obtained before any construction or other development begins within any special flood hazard area. Application for a development permit must be made on forms furnished by the floodplain coordinator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature,

location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing.

1. Application Stage

An application for a development project with any special flood hazard area located on the subject site must include a floodplain management/flood damage prevention plan, which must include all of the following information:

a. Site plan, including, but not limited to:

(1) Existing and proposed elevations of the area in question and the nature, location and dimensions of existing and/or proposed structures, earthen fill placement, amount and location of excavation material, and storage of materials or equipment;

(2) Spot ground elevations for all proposed structures, at building corners and 20-foot or smaller intervals along the foundation footprints, or one foot contour elevations throughout the building site;

(3) Proposed locations of water supply, sanitary sewer, and utilities;

(4) Proposed locations of drainage and stormwater management facilities;

(5) Proposed grading plan;

(6) Base flood elevations and future-conditions flood elevations;

(7) Boundaries of the base flood floodplain and future-conditions floodplain;

(8) If applicable, the location of the floodway; and

(9) Certification of the above by a registered professional engineer or surveyor.

b. Building and foundation design detail, including, but not limited to:

(1) Proposed elevation in relation to mean sea level, of the lowest floor (including basement) of all structures;

(2) Elevation in relation to mean sea level to which any nonresidential structure will be floodproofed;

(3) Certification that any proposed nonresidential floodproofed structure meets the criteria in Sec. 16-10.50-B.2;

(4) For enclosures below the base flood elevation, location and total net area of foundation openings as required in Sec. 16-10.50-A.5.

(5) Design plans certified by a registered professional engineer or architect for all proposed structures.

c. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

d. Hard copies and digital files of computer models, if any, copies of work maps, comparison of pre-and post-development conditions base flood elevations, future-conditions flood elevations, flood protection elevations, Special flood hazard areas and floodway widths, flood profiles and all other computations and other information similar to that presented in the FIS;

e. Copies of all applicable state and federal permits necessary for proposed development; and

f. All certifications required under this article. The approved floodplain management/flood damage prevention plan must include certification by the applicant that all development activities will be carried out in accordance with the plan or previously approved revisions. Development permits and use and occupancy certificates and permits may be revoked at any time if the construction and development activities are not in strict compliance with approved plans.

2. Construction Stage

a. For all new construction and substantial improvements on sites with a floodplain management/flood damage prevention plan, the permit holder must provide to the administrator an as-built elevation certificate or floodproofing certificate for nonresidential construction including the lowest floor elevation or floodproofing level immediately after the lowest floor or floodproofing is completed. A final elevation certificate must be provided after completion of construction, including final grading of the site. Any lowest floor certification made relative to mean sea level must be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for nonresidential structures, the certification must be prepared by or under the direct supervision of a professional engineer or architect and certified by same.

b. Any work undertaken prior to submission of these certifications is at the permit holder's risk. The administrator must review the referenced certification data submitted. Deficiencies detected by such review must be corrected by the permit holder immediately and prior to further progressive work being allowed to proceed. Failure to submit certification or failure to make the required correction is cause to issue a stop-work order for the project.

16-10.30-C. Record Maintenance

All records pertaining to the provisions of this article must be maintained in the department of community development and must be open for public inspection.

16-10.30-D. Appeals

The zoning board of appeals is authorized to hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the floodplain coordinator in the enforcement or administration of this article.

16-10.40 Standards for Development

16-10.40-A. Floodplain Boundaries

1. Studied "A" zones, as identified in the FIS, must be used to establish base flood elevations whenever available.

2. For all streams with a drainage area of 100 acres or greater, the future-conditions flood elevations must be provided by the community development director. If future-conditions elevation data is not available from the city, then it must be determined by a registered professional engineer using a method approved by FEMA and the community development director.

16-10.40-B. Floodway Boundaries

The width of a floodway must be determined from the FIS or FEMA approved flood study. For all streams with a drainage area of 100 acres or greater, the floodway must be provided by the community development director. If floodway data is not available from the city, then it must be determined by a registered professional engineer using a method approved by FEMA and the community development director.

16-10.40-C. General Standards

1. No development is allowed within the future-conditions floodplain that could result in any of the following:

a. Raising the base flood elevation or future-conditions flood elevation by 0.01 foot or more;

b. Reducing the base flood or future-conditions flood storage capacity;

c. Changing the flow characteristics as to the depth and velocity of the waters of the base flood or future-conditions flood as they pass both the upstream and the downstream boundaries of the development area; or,

d. Creating hazardous or erosion-producing velocities, or resulting in excessive sedimentation.

2. Any development that is allowed within the future-conditions floodplain pursuant to the preceding paragraph 1 must also comply with the following conditions:

a. Compensation for storage capacity must occur between the average ground water table elevation and the base flood elevation for the base flood, and between the average ground water table elevation and the future-condition flood elevation for the future-conditions flood, and lie either within the boundaries of ownership of the property being developed and must be within the immediate vicinity of the location of the encroachment. Acceptable means of providing required compensation include lowering of natural ground elevations within the floodplain, or lowering of adjoining land areas to create additional floodplain storage. In no case may any required compensation be provided via bottom storage or by excavating below the elevation of the top of the natural (pre-

development) stream channel unless such excavation results from the widening or relocation of the stream channel;

b. Cut areas must be stabilized and graded to a slope of no less than 2.0%;

c. Effective transitions must be provided such that flow velocities occurring on both upstream and downstream properties are not increased or decreased;

d. Verification of no-rise conditions (0.01 foot or less), flood storage volumes, and flow characteristics must be provided via a step-backwater analysis meeting the requirements of Sec. 16-10.40-D;

e. Public utilities and facilities, such as water, sanitary sewer, gas, and electrical systems, must be located and constructed to minimize or eliminate infiltration or contamination from flood waters; and

f. Any significant physical changes to the base flood floodplain must be submitted as a Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Amendment (CLOMA), whichever is applicable. The CLOMR submittal is subject to approval by the community development director using the Community Consent forms before forwarding the submittal package to FEMA for final approval. The applicant is responsible for forwarding the CLOMR to FEMA and for obtaining the CLOMR approval. Within 6 months of the completion of construction, the applicant must submit as-built surveys for a final Letter of Map Revision (LOMR).

16-10.40-D. Engineering Study Requirements for Floodplain Encroachments

An engineering study is required, as appropriate to the proposed development activities on the site, whenever a development proposes to disturb any land within the future-conditions floodplain, except for a residential single-lot development on streams without established base flood elevations and/or floodways for which the provisions of Sec. 16-10.50-D apply. This study must be prepared by a registered Professional Engineer and made a part of the application for a permit. This information must be submitted to and approved by the community development director before the approval of any permit that would authorize the disturbance of land located within the future-conditions floodplain. The study must include:

1. Description of the extent to which any watercourse or floodplain will be altered or relocated as a result of the proposed development;

2. Step-backwater analysis, using a FEMA-approved methodology approved by the community development director. Cross-sections (which may be supplemented by the applicant) and flow information must be obtained whenever available. Computations must be shown duplicating FIS results and must then be rerun with the proposed modifications to determine the new base flood profiles, and future-conditions flood profiles;

3. Floodplain storage calculations based on cross-sections (at least one every 100 feet) showing existing and proposed floodplain conditions to show that base flood floodplain and future-conditions floodplain storage capacity would not be diminished by the development;

4. The study must include a preliminary plat, grading plan, or site plan, as appropriate, which clearly defines all future-conditions floodplain encroachments.

16-10.40-E. Floodway Encroachments

Located within special flood hazard areas are areas designated as floodway. A floodway may be an extremely hazardous area due to velocity flood waters, debris or erosion potential. In addition, floodways must remain free of encroachment in order to allow for the discharge of the base flood without increasing flood heights. Therefore the following provisions apply within floodways:

1. Encroachments are prohibited, including earthen fill, new construction, substantial improvements or other development within the floodway, except for activities expressly allowed in the following paragraph 2.

2. Encroachments for bridges, culverts, roadways and utilities within the floodway may be permitted provided it is demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the encroachment will not result in any increase to the pre-project base flood elevations, floodway elevations, or floodway widths during the base flood discharge. A registered professional engineer must provide the required supporting technical data and certification of the findings.

3. If the applicant proposes to revise the floodway boundaries, no permit authorizing the encroachment into or an alteration of the floodway may be issued by the city until an affirmative Conditional Letter of Map Revision (CLOMR) is issued by FEMA and no-rise certification is approved by the community development director.

16-10.40-F. Maintenance Requirements

The property owner is responsible for continuing maintenance as may be needed within an altered or relocated portion of a floodplain on the subject property so that the flood-carrying or flood storage capacity is not diminished. The community development director is authorized to direct the property owner (at no cost to the city) to restore the flood-carrying or flood storage capacity of the floodplain if the owner has not performed maintenance as required by the approved floodplain management plan on file with the community development director.

16-10.50 Flood Hazard Reduction

16-10.50-A. General Regulations

The following regulations apply in all special flood hazard areas:

1. New construction of principal buildings (residential or nonresidential), including manufactured homes, are not allowed within the limits of the future-conditions floodplain, unless all requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E are met;

2. New construction or substantial improvements of existing structures must be anchored to prevent flotation, collapse or lateral movement of the structure;

3. New construction or substantial improvements of existing structures must be constructed with materials and utility equipment resistant to flood damage;

4. New construction or substantial improvements of existing structures must be constructed by methods and practices that minimize flood damage;

5. All new construction and substantial improvements of existing structures that include any fully enclosed area located below the lowest floor formed by foundation and other exterior walls must be designed to be an unfinished and flood resistant enclosure. The enclosure must be designed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.

a. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

(1) Provide at least 2 openings having a total net area of at least one square inch for every square foot of enclosed area subject to flooding;

(2) The bottom of all openings must be no higher than one foot above grade; and,

(3) Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic flow of floodwater in both directions.

b. So as not to violate the "lowest floor" criteria of these regulations, the unfinished and flood-resistant enclosure may only be used for parking of vehicles, limited storage of maintenance equipment used in connection with the premises, or entry to the elevated area; and,

c. The interior portion of such enclosed area may not be partitioned or finished into separate rooms.

6. All heating and air conditioning equipment and components (including ductwork), all electrical, ventilation, plumbing, and other service facilities must be designed and/or located at least 3 feet above the base flood elevation or at least one foot above the future-conditions flood elevation, whichever is higher, so as to prevent water from entering or accumulating within the components during conditions of flooding;

7. Manufactured homes must be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard is in addition to and consistent with applicable state requirements for resisting wind forces;

8. New and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system;

9. New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

10. On-site waste disposal systems must be located and constructed to avoid impairment to them, or contamination from them, during flooding; and,

11. Any alteration, repair, reconstruction or improvement to structures that do not comply with the provisions of these regulations, may be undertaken only if the nonconformity is not furthered, extended or replaced.

12. If the proposed development is located in multiple flood zones or multiple base flood elevation cross the proposed site, the higher or more restrictive base flood elevation or future condition elevation and development standards govern.

16-10.50-B. Within Future-Conditions Floodplain

In addition to the general regulations of Sec. 16-10.50-A, the following additional regulations apply within the future-conditions floodplain:

1. Residential Buildings

a. New Construction

New construction of principal buildings, including manufactured homes is not allowed within the limits of the future-conditions floodplain unless all requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E have been met. If all of the requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E have been met, all new construction must have the lowest floor, including basement, elevated at least 3 feet above the base flood elevation or at least one foot above the future-conditions flood elevation, whichever is higher. If solid foundation perimeter walls are used to elevate the structure, openings sufficient to equalize the hydrologic flood forces on exterior walls and to facilitate the unimpeded movements of floodwaters must be provided in accordance with Sec. 16-10.50-A.5.

b. Substantial Improvements

Substantial improvement of any principal structure or manufactured home must have the lowest floor, including basement, elevated at least 3 feet above the base flood elevation or at least one foot above the future-conditions flood elevation, whichever is higher. If solid foundation perimeter walls are used to elevate a structure, openings sufficient to equalize the hydrologic flood forces on exterior walls and to facilitate the unimpeded movements of flood waters must be provided in accordance with Sec. 16-10.50-A.5.

2. Nonresidential Buildings

a. New Construction

New construction of principal buildings, including manufactured homes is not allowed within the limits of the future-conditions floodplain unless all requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E have been met. New construction that has met all of the requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E may be floodproofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be watertight to one foot

above the base flood elevation, or at least as high as the future-conditions flood elevation, whichever is higher, with walls substantially impermeable to the passage of water and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered Professional Engineer or architect must certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above, and must provide such certification to the community development director.

b. Substantial Improvements

Substantial improvement of any principal nonresidential structure located in A1- 30, AE, or AH zones, may be authorized by the community development director to be flood-proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to one foot above the base flood elevation, or at least as high as the future-conditions flood elevation, whichever is higher, with walls substantially impermeable to the passage of water, and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect must certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above, and must provide such certification to the community development director.

3. Accessory Structures and Facilities

Accessory structures and facilities (e.g., barns, sheds, gazebos, detached garages, parking lots, recreational facilities and other similar non-habitable structures and facilities) that are permitted to be located within the limits of the floodplain must be constructed of flood-resistant materials and designed to pass all floodwater in accordance with Sec. 16-10.50-A.5 and be anchored to prevent flotation, collapse or lateral movement of the structure.

4. Recreational Vehicles

All recreational vehicles placed on sites must either:

a. Be on the site for fewer than 180 consecutive days and be fully licensed and ready for highway use, (a recreational vehicle is ready for highway use if it is licensed, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached structures or additions); or

b. The recreational vehicle must meet all the requirements for substantial improvement of residential buildings in accordance with Sec. 16-10.50-B.1.b, including the anchoring and elevation requirements.

5. Manufactured Homes

a. New manufactured homes are not allowed to be placed within the limits of the future-conditions floodplain unless all requirements of Sec. 16-10.40-C, Sec. 16-10.40-D and Sec. 16-10.40-E have been met.

b. Manufactured homes placed and/or substantially improved in an existing manufactured home park or subdivision must be elevated so that either:

(1) The lowest floor of the manufactured home is elevated at least 3 feet above the level of the base flood elevation, or at least one foot above the future-conditions flood elevation, whichever is higher; or

(2) The manufactured home chassis is elevated and supported by reinforced piers (or other foundation elements of at least an equivalent strength) of no less than 36 inches in height above grade.

c. All manufactured homes must be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement in accordance with Sec. 16-10.50-A.7.

16-10.50-C. Adjacent to the Future-Conditions Floodplain

1. Residential Buildings
For new construction or substantial improvement of any principal residential building or manufactured home, the elevation of the lowest floor, including basement and access to the building, must be at least three feet above the base flood elevation or at least one foot above the future-conditions flood elevation, whichever is higher.

2. Nonresidential Buildings
For new construction or substantial improvement of any principal nonresidential building, the elevation of the lowest floor, including basement and access to the building, must be at least one foot above the level of the base flood elevation or at least as high as the future-conditions flood elevation, whichever is higher.

16-10.50-D. Streams without Established Base Flood Elevations and/or Floodway (A-Zones)

1. For a residential single-lot development not part of a subdivision within a special flood hazard area, where streams exist but no base flood data have been provided (A-Zones), the community development director must review and reasonably utilize any available scientific or historic flood elevation data, base flood elevation and floodway data, or future-conditions flood elevation data available from a federal, state, local or other source, in order to administer the provisions of this article.

2. If data are not available from any of these sources, the following provisions apply:

a. No encroachments, including structures or fill material, may be located within an area equal to twice the width of the stream or 50 feet from the top of the bank of the stream, whichever is greater.

b. In special flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures must have the lowest floor of the lowest enclosed area (including basement) elevated at least 3 feet above the highest adjacent grade at the building site. Openings sufficient to facilitate the unimpeded

movements of floodwaters must be provided in accordance with Sec. 16-10.50-A.5.

16-10.50-E. Areas of Shallow Flooding (AO-Zones)

Special flood hazard areas may include designated "AO" shallow flooding areas. These areas have base flood depths of one to 3 feet above ground, with no clearly defined channel. In these areas the following provisions apply:

1. All substantial improvements of residential and nonresidential structures must have the lowest floor, including basement, elevated at least one foot above the flood depth number in feet specified on the Flood Insurance Rate Map (FIRM), above the highest adjacent grade. If no flood depth number is specified, the lowest floor, including basement, must be elevated at least 3 feet above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of flood waters must be provided in accordance with Sec. 16-10.50-A.5.

2. Substantial improvement of a nonresidential structure may be flood-proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to the specified FIRM flood level plus one foot above the highest adjacent grade, with walls substantially impermeable to the passage of water, and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect must certify that the design and methods of construction are in accordance with accepted standards of practice.

3. Drainage paths must be provided to guide floodwater around and away from any proposed structure.

16-10.50-F. Subdivisions

1. All subdivision proposals must identify the special flood hazard area and provide base flood elevation data and future-conditions flood elevation data;

2. All residential lots in a subdivision proposal must have sufficient buildable area outside of the future-conditions floodplain so that encroachments into the future-conditions floodplain for residential structures will not be required;

3. All subdivision plans must provide the elevations of proposed structures in accordance with Sec. 16-10.30-B.

4. All subdivision proposals must be consistent with the need to minimize flood damage;

5. All subdivision proposals must have public utilities and facilities such as water, sanitary sewer, gas, and electrical systems located and constructed to minimize or eliminate infiltration of flood waters, and discharges from the systems into flood waters; and,

6. All subdivision proposals must include adequate drainage and stormwater management facilities per the requirements of (jurisdiction) to reduce potential exposure to flood hazards.

16-10.60 Variances

16-10.60-A. Nature of Variance

1. The variance criteria set forth in this section are based on the general principle that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this article would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristics must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

2. It is the duty of the city to help protect citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below flood level are so serious that variances from the flood elevation or from other requirements in the flood ordinance are quite rare. The long-term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance procedures provided in this article are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

16-10.60-B. Factors for Consideration

1. In passing upon requests for variances, the zoning board of appeals must consider all technical evaluations, all relevant factors, standards specified in other sections of this article, and the:

a. Danger that materials may be swept onto other lands to the injury of others;

b. Danger of life and property due to flooding or erosion damage;

c. Susceptibility of the proposed facility and its contents to flood damage and the effects of such damage on the existing individual owner and future owners of the property;

d. Importance of the services provided by the proposed facility to the community;

e. Necessity to the facility of a waterfront location, where applicable;

f. Availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

g. Compatibility of the proposed use with existing and anticipated development;

h. Relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

i. Safety of access to the property in time of flood for ordinary and emergency vehicles;

j. Expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site; and

k. Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

2. Any applicant to whom a variance is granted must be given written notice over the signature of the community development director that:

a. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance, and

b. Such construction below the base flood level increases risks to life and property. A copy of the notice must be recorded by the floodplain coordinator in the office of the clerk of county superior court in a manner so that it appears in the chain of title of the affected parcel of land.

3. The floodplain coordinator will maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to the Federal Insurance Administration, Federal Emergency Management Agency.

16-10.60-C. Conditions for Variances

1. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

2. Variances may not be issued within any mapped floodway if any increase in flood levels during the base flood discharge would result.

3. Variances may only be issued upon a determination that the variance is the minimum necessary considering the flood hazard, to afford relief. The term "minimum necessary" means to afford relief with a minimum of deviation from the requirements of this article. For example, in the case of variances to an elevation requirement, this means the zoning board of appeals need not grant permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which the zoning board of appeals believes will both provide relief and preserve the integrity of the local ordinance. Variances may only be issued upon:

a. A showing of good and sufficient cause;

b. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and

c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create a nuisance, or conflict with existing local laws or ordinances.

4. Variances may be issued for new construction, substantial improvement, and other proposed new development necessary for the conduct of a functionally dependent use provided that the provisions of this section (§16-10.60-C) are satisfied and that the structure or other development is protected by methods that minimize flood damages during the base flood and does not result in additional threats to public safety and does not create a public nuisance.

5. Variances may not be issued "after the fact."

6. Upon consideration of the factors in §16-10.60-B and the purposes of this article, the zoning board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.

16-10.60-D. Appeals of Zoning Board of Appeals' Decisions

Any person aggrieved by a flood damage prevention variance or appeal decision of the zoning board of appeals may appeal the decision to the county superior court by petition for a writ of certiorari pursuant to state law.

PART III: SUBDIVISIONS

Article 11 General Provisions

16-11.10 Policies and Purposes

16-11.10-A. Policies

1. It is declared to be the policy of the city to consider the subdivision of land and the subsequent development of the subdivided land as subject to the control of the city pursuant to the city's official comprehensive plan in order to promote the orderly, planned, efficient and economical development of the city.

2. Land to be subdivided must be of such character that it can be used safely for building purposes without danger to health or peril from fire, flood, or other menace.

3. The existing and proposed public improvements must conform to and be properly related to the proposals shown in the comprehensive plan, official map, the capital improvement budget and other adopted city plans, and it is intended that these regulations supplement and facilitate the enforcement of the provisions and standards contained in building and housing codes, zoning ordinances, the comprehensive plan, official map and land use plan, and the capital improvement budget and other plans of the city.

16-11.10-B. Purposes

The city's subdivision regulations (Article 11 through Article 16) are adopted for the following purposes:

1. To protect and provide for the public health, safety, and general welfare of the citizens of the city;

2. To guide the future growth and development of the city in accordance with the comprehensive plan;

3. To protect and conserve the value of land and the economic stability of all communities in the city and to encourage the orderly and beneficial development of the city through appropriate growth management techniques, including consideration of the timing and sequencing of development, consideration of infill development in existing neighborhoods and nonresidential areas with adequate public facilities;

4. To guide public policy and both public and private actions in order to provide adequate and efficient transportation, water, sewerage, schools, parks, playgrounds, recreation, and public services and support facilities;

5. To provide for the safe and efficient circulation of motorized and nonmotorized traffic throughout the city;

6. To ensure the adequate provision of safe and convenient traffic access and circulation, both motorized and nonmotorized, in new land developments;

7. To establish reasonable standards of design and procedures for subdivisions and re-subdivisions to further the orderly layout and use of land, and to ensure proper legal descriptions and monumenting of subdivided land;

8. To ensure to the extent legally possible that public facilities and services are available concurrent with development and will have a sufficient capacity to serve the proposed subdivision;

9. To protect and restore the highest quality of the city's air and water resources, to ensure the adequacy of drainage facilities, to safeguard the water table, and to encourage the wise use and management of natural resources throughout the city in order to preserve the integrity, stability, and beauty of the city and the value of the land;

10. To preserve the natural beauty, environment, and topography of the city and to ensure appropriate development with regard to these natural features.

16-11.20 Applicability

No person may record any subdivision plat until it has been approved and accepted by the community development director, as the city's designee, nor may any lot be sold by reference to any subdivision plat whether recorded or not, if the plat is made after the effective date of the ordinance from which this chapter is derived, unless it has been approved and accepted by the community development director. The recording of a plat must be based on an approved plat and may not be recorded solely on the basis of a metes and bounds description.

16-11.30 Exemptions

16-11.30-A. The subdivision regulations of Article 11, Article 12, Article 13, Article 14, Article 15 and Article 16 do not apply to a lot or parcel of land established by deed or plat recorded among the land records of the county prior to the date that DeKalb County subdivision regulations first became effective or to the division or sale of land by judicial decree.

16-11.30-B. For purposes of this article, the division of land into no more than 2 lots is considered a subdivision but exempt from the plat review procedures, provided that:

1. Each proposed lot complies with the requirements of the city zoning ordinance and all conditions of zoning;

2. Each proposed lot fronts an existing paved private or public street, which contains the necessary right-of-way width required by this chapter;

3. All such plats are drawn to final plat standards in this chapter; and

4. The lot being divided is not a lot which resulted from a subdivision of property that was exempt from these regulations in the immediately preceding 24 months.

16-11.40 Administration and Enforcement

16-11.40-A. Administration

It is the duty of the community development director to enforce this chapter.

16-11.40-B. Violations and Penalties

Any person violating any of the provisions of these regulations is deemed guilty of an offense and upon conviction in municipal court may be punished as is provided in section 1-6 of the municipal code. Each violation of these regulations is a separate

offense. The owner of any structure, buildings, lots or parcels or parts thereof, where anything in violation of these regulations exists, and any architect, builder, contractor or any other agent of the owner, or any tenant, who commits or assists in the commission of any violation, is guilty of a separate offense.

16-11.40-C. Enforcement

Appropriate actions and proceedings, including the issuance of stop work orders and actions in a court of law, may be taken by the city in law or in equity to prevent any violation of these regulations, to prevent unlawful construction, to recover damages, to restrain, correct, or abate a violation and to prevent illegal occupancy of a building structure or premises. These remedies are in addition to the penalties described in Sec. 16-11.40-B.

16-11.40-D. Development Permits, Building Permits and Certificates of Occupancy

No development permit, building permit, or certificate of occupancy may be issued for a lot or plat subdivided or sold in violation of the provisions of these regulations, nor does the city have any obligation to extend services to any parcel created in violation of these regulations.

Article 12 Minor Subdivision Procedure

16-12.10 Applicability

Proposed subdivisions are eligible to be reviewed under the minor subdivision procedures of this article only when all of the criteria are met:

16-12.10-A. The subdivision will result in the creation of no more than 3 lots;

16-12.10-B. The subdivision does not require the extension of utilities (other than individual service lines) or other municipal facilities;

16-12.10-C. No right-of-way dedication is required; and

16-12.10-D. No new streets or street improvements are required.

16-12.20 One-Step Procedure

Subdivisions eligible for processing as minor subdivisions require only review, approval and recording of a final plat in accordance with Sec. 16-13.20.

16-12.30 Public Notice

16-12.30-A. The applicant must place a public notification sign on the site of the proposed minor subdivision. The sign must remain in place for at least 10 days before the date of approval of the minor subdivision plat. The community development director must verify that the sign has been posted. If applicant fails to properly post the required sign, the minor subdivision plat may not be approved until the applicant has properly posted the required notification sign.

16-12.30-B. Once the application has been submitted, the applicant and members of the public may submit written comments to the community development director in support of or in opposition to the minor subdivision plat.

16-12.40 Compliance with Subdivision Design and Improvement Standards

Subdivisions eligible for processing as minor subdivisions are subject to compliance with all applicable land development regulations, including the design and improvement standards contained in Article 14 and Article 15.

16-12.50 Successive Applications

A lot created through the minor subdivision procedures may not subsequently be re-subdivided pursuant to the minor subdivision procedures for a period of 2 years, measured from the date of recordation of the final plat. Any re-subdivision before the end of such 2-year period requires review and approval pursuant to the major subdivision procedures of Article 13.

Article 13 Major Subdivision Procedure

16-13.10 Sketch Plat/Preliminary Plat

16-13.10-A. Preapplication Conference

Before filing the sketch plat for a subdivision for review and approval, the applicant must meet with the community development director or his designee to discuss the procedure for approval of a subdivision plat and the requirements as to general lay-out of streets, reservations of open space, street improvements, drainage, sewerage, fire protection, and similar matters, as well as the availability of existing infrastructure and services. The community development director may advise the applicant, when appropriate, to discuss the proposed subdivision with those officials who must eventually approve those aspects of the subdivision plat coming within their jurisdiction. This conference will allow early evaluation of the applicant's intentions and coordination with the comprehensive plan and the zoning ordinance. This conference will also allow city officials to discuss with the applicant the necessary regulations that will properly accomplish the project.

16-13.10-B. Application and Sketch Plat Required

The owner of the land where the proposed development is to occur, or his authorized agent, must file a sketch plat with the department of community development along with an application for approval. The application must:

1. Be made on forms prepared by the department of community development;
2. Be accompanied by 3 copies of the sketch plat, plus one electronic/digital copy, which must be prepared by a registered civil engineer, surveyor, architect, or landscape architect, as described in these regulations and complying in all respects with these regulations;
3. Be accompanied by an application fee in the amount set by the city council; and
4. Include the name, address and telephone number of an agent who is authorized to receive all notices required by these regulations.

16-13.10-C. Plat Information

The following information must be shown on the sketch plat:

1. **Boundary Lines**
   Perimeter boundary of the overall tract, bearings and distances, referencing the legal point of beginning;
2. **Streets on or Adjacent to Tract**
   Name, right-of-way width, and location of streets on and adjacent to the tract, and any existing railroad, sidewalk, trail, or bike lane;
3. **Contour Data**
   Topographic contour data at no more than 2-foot elevation intervals. The source of this data must be written on the plat. Existing contour data from the city geographic information system department may be used where available;

4. **Tree Survey**
   A tree survey, in compliance with Article 8, or tree sample calculations where allowed by the city arborist which may be submitted as a separate plan;

5. **Historic Resources**
   Any building, structure, site or district identified as historic by the county historic preservation commission, the county historic resources survey, the city historic preservation commission, if one is established, the comprehensive plan, by listing on the Georgia or National Register of Historic Places, or by listing as a National Historic Landmark;

6. **Natural Features on Tract**
   Other conditions on the tract such as stream buffers, state waters, cemeteries, wetlands, existing structures, special flood hazard areas (where available), rock outcroppings, and archeological resources;

7. **Soils**
   Location of soils as shown on Soil Survey of DeKalb County, Georgia, by the United States Department of Agriculture;

8. **Geographical Data**
   Numerical and graphic scales, north arrow, land lot and district numbers and lines, city and county names and limit lines;

9. **Prior Subdivisions**
   Name and reference of any formerly recorded subdivision crossing any of the land shown on the plat;

10. **Zoning District**
    Show zoning district, case number and conditions of zoning;

11. **Permits**
    Show any special administrative permit number, special land use permit number, or zoning board of appeals case number and conditions;

12. **Variances**
    Show any administrative variance approvals;

13. **Septic Tanks**
    Show existing septic tank and drain field location or note absence;

14. **Sewers**
    Show size and location of sanitary sewer mains available;

15. **Sewer Easements**
    Show a sanitary sewer easement with a minimum width of 15 feet for lines not within public rights-of-way, unless otherwise required by the county water and sewer department;

16. **Water Mains**
    Show size and location of water mains and fire hydrants;

17. **Water Main Easements**
Show a water main easement with a minimum width of 15 feet for county maintained lines not within right-of-way, unless otherwise required by the county water and sewer department;

18. **Fire Hydrants**
Show new fire hydrants and 8-inch fire lines;

19. **Wetlands**
Provide wetlands determination from U.S. Army Corps of Engineers;

20. **Receiving Waters**
Provide distance to and name of receiving waters;

21. **Certificate of Conformity**
Certification by the applicant that no lots platted are non-conforming or will result in any non-conforming lots;

22. **Bury Pits**
Show location of any existing inert waste bury pits;

23. **Seal**
All sheets of plats must be sealed by a professional engineer, architect, surveyor, or landscape architect currently registered in the state.

24. **Title**
The title under which the proposed subdivision is to be recorded, if known, with the name of the property owners and designers and the date of the plat;

25. **Street Names**
The names of all proposed streets;

26. **Rights-of-way**
Street rights-of-way and widths indicated, including any necessary right-of-way required for improvements as shown on the comprehensive transportation plan;

27. **Sidewalks**
All proposed sidewalk and bike lane locations;

28. **Lots**
Lot lines, lot numbers, block letters, and the total number of proposed lots within the development;

29. **Dedications**
Sites, if any, to be dedicated or reserved for common areas, public parks, open space, schools, playgrounds, multi-use trails, or other public uses, together with the purpose and the conditions or limitations of these dedications, if any;

30. **Yards**
Minimum building setback lines as required under the yard requirements of the zoning ordinance;

31. Zoning conditions
All conditions of zoning and proposed deed restrictions must be recited on the sketch plat;

32. Corner lots
Show that corner lots must have an extra width of not less than 15 feet more than required for interior lots for the zoning district within which they are located;

33. Transitional buffers
Show transitional buffers, if any, and any required screening fencing;

34. BMPs
Show conceptual location of stormwater management and water quality BMP facilities on sketch plat;

35. Covenants
Indicate whether the proposed subdivision will be subject to private covenants and whether a homeowner's association will be established;

36. Fencing
Show any required fencing around detention ponds, if required; and

37. Electrical Service
Show the location of electrical service.

16-13.10-D. Additional Information
The following additional information must be submitted with the sketch plat:

1. Owner Consent
The property owner must consent in writing to the proposed development in a consent affidavit provided by the community development director with the application;

2. Taxes
Provide statement from the county tax commissioner certifying that all ad valorem taxes on the property have been paid;

3. Location
A small map of the city depicting the subdivision location within the city;

4. Vicinity Map
Vicinity map at a scale of 400 feet to one inch showing the location of the tract with reference to surrounding properties, streets, municipal boundaries, and streams within 500 feet of the tract, and showing zoning districts of adjoining property;

5. Adjacent Properties
Names of adjoining property owners and the zoning classification of adjacent properties; and

6. Engineer
Name, address and phone of developer and engineer on plat.

16-13.10-E. Scale

Sketch plats must be prepared at an appropriate scale of not more than 100 feet to one inch. Maximum sheet size may not exceed 24 inches by 36 inches, with a minimum text size of 0.08 inches.

16-13.10-F. Application Submittal

1. The community development director must give written notice to the applicant within 7 days of the date the sketch plat and application are submitted whether the sketch plat application is accepted for review and the official date of acceptance. An application will be considered complete and ready for processing only when it fully complies with the requirements of Sec. 16-13.10-B through Sec. 16-13.10-E.
2. If the application and sketch plat are not accepted, the community development director must inform the applicant of the deficiencies and request the applicant to resubmit the application and sketch plat with the additional information.

16-13.10-G. Referral of Sketch Plat for Review

1. Upon official acceptance of the application and the sketch plat, the community development director must provide copies of the sketch plat to the community development department, public works, police department, and any other city department the community development director determines should be consulted for the particularities of the proposed subdivision. Each such department and receiving entity must review the sketch plat and must make comments and recommendations regarding any required changes necessary to comply with all applicable regulations. Each department must return its annotated copy of the sketch plat and written comments and recommendations to the community development director within 14 days from the date of receipt.
2. Once the community development director has received each department's comments and recommendations, the community development director must either notify the applicant that the sketch plat has been approved or notify the applicant that revisions to the sketch plat are required.
3. In the event that any revisions to the sketch plat are required, the applicant may submit a revised sketch plat to the community development director and, if the applicant submits a revised sketch plat, the community development director has 14 days to review the revisions and determine whether such revisions are sufficient for approval. If the revisions are insufficient, the community development director must notify the applicant that further revisions to the sketch plat are required and for each set of revisions submitted by the applicant the community development director has 14 days for review as described in this section.
4. If a sketch plat is not approved within 180 days of the official acceptance of the application, the application and sketch plat is considered withdrawn without further action by the city. The community development director must approve the sketch plat if the application and sketch plat conform to all requested revisions, the requirements of this Code and state law and must deny the sketch

plat if the application and sketch plat do not conform to all requested revisions, the requirements of this Code or state law.

16-13.10-H. Public Notice

1. The applicant must place a public notification sign on the site of the proposed subdivision within 7 days of the date that the sketch plan is determined to be complete and accepted for processing. The sign must remain in place of at least 30 days. The community development director must verify that the sign has been posted. If applicant fails to properly post the required sign, the sketch plat may not be approved until the applicant has properly posted the required notification sign.

2. Once the application has been submitted, the applicant and members of the public may submit written comments to the community development director in support of or in opposition to the sketch plat.

3. The community development director may approve or disapprove the proposed sketch plat in accordance with the approval criteria of Sec. 16-13.10-I.

4. Any person or entity (i.e., an owner, applicant, adjoining neighbor or a neighbor whose property line is within 1,500 feet of the nearest property line of the proposed subdivision) aggrieved by a denial or approval of a sketch plat, may appeal by filing a petition for writ of certiorari to the county superior court in accordance with state law.

16-13.10-I. Approval Criteria

1. The community development director may not approve a sketch plat unless it is found that:

a. Provisions have been made for a water supply system that is sufficient in terms of quantity, dependability, and quality for purposes of health, emergency, and adequate fire protection for the subdivision proposed;

b. If a public sewage system is proposed, adequate provision has been made for such a system and, if other methods of sewage disposal are proposed, that such systems will comply with federal, state, and local laws and regulations;

c. Adequate areas have been allocated within a subdivision to meet the regulations in this chapter for the long-term collection, management, and treatment of stormwater;

d. The proposed subdivision is designed to protect floodplains, watercourses, wetlands, exceptional or specimen trees and woodlands;

e. No platting of lots within the subdivision will create any non-conforming lots or increase the non-conformity of existing non-conforming lots on property within or adjacent to the subdivision;

f. If the subdivision abuts a state highway, all applicable statutory provisions are followed, including the rules of state department of transportation;

g. The proposed subdivision meets all the requirements of this chapter, the city zoning ordinance, the comprehensive plan, the comprehensive trans-

portation plan, and all other standards and regulations adopted by all boards, commissions, agencies, and officials of the city and all other applicable laws from other relevant jurisdictions;

h. A properly issued certificate of appropriateness, when the subdivision or portions thereof lie within a designated historic area that required such a certificate as may be required by state law or this Code;

i. Lot lines have been laid out so as to minimize crossing municipal or county boundaries; and

j. All requirements of Sec. 16-13.10-C have been fulfilled.

2. The community development director may require the applicant to submit a site plan for any lot to demonstrate that the lot contains adequate buildable area that is suitable for the intended use.

3. After review of the sketch plat and related comments, and where, in the judgment of the community development director, the sketch plat conforms to all of the requirements of this chapter and the city zoning ordinance, all conditions of zoning, and any other applicable city regulations or law, the community development director must approve the sketch plat. The following wording for approval must be shown on the sketch plat:

"This sketch plat has been submitted to and approved by the City of Dunwoody, on this _____ day of _____, _____ _____.

By: _____ _____ (By Dir.)

Community Development Director, City of Dunwoody, Georgia"

4. A sketch plat becomes and will be known as a “preliminary plat” upon its approval by the community development director.

16-13.10-J. Effect of Approval

The preliminary plat does not constitute nor provide assurance of approval of the final plat, but is to be used as the development design for the subdivision and for the acquisition of a development permit as provided for in the city zoning ordinance. The preliminary plat must be submitted to the community development department in a digital format acceptable to the city, prior to or simultaneous with an application for a development permit.

16-13.10-K. Lapse of Approval

The preliminary plat expires 24 months from the date of its approval. If more than 50% of linear feet of total road in the entire development shown on the preliminary plat is complete at the expiration of 24 months from the date of the approval of the preliminary plat, then the community development director is authorized to grant a one-time, one-year extension of the approval of the preliminary plat. An expired preliminary plat is null and void and is of no effect. An expired preliminary plat may not be renewed.

16-13.10-L. Preliminary Plat Amendments

If the approved sketch plat, which becomes the preliminary plat, is amended or altered by the applicant, without an approved variance, after approval as a sketch plat, then the applicant is required to re-submit the revised preliminary plat as a new sketch plat and begin anew the application process contained in this article.

16-13.20 Final Plats

16-13.20-A. Preparation

The applicant must have a registered surveyor prepare the final plat of the subdivision. An application for final plat approval may be made when a preliminary plat of the proposed subdivision has been approved and construction of all required infrastructure is complete to ascertain its location as built.

16-13.20-B. Application Filing

The final plat and a fee in the amount established by the city council must be filed with the city. The final plat and as-built drawings must also be submitted in a digital format acceptable to the city.

16-13.20-C. Plat Review

1. Upon receipt of the final plat, the community development director must forward copies of the final plat to the following city departments for certification that the improvements are complete and in conformity with the preliminary plat:
   - **a.** Appropriate official of the department of community development;
   - **b.** City geographic information system department;
   - **c.** Police and fire department;
   - **d.** Public works department;
   - **e.** Any other department or entity the community development director deems appropriate.
2. Any department to which the final plat is submitted must note on the plat whether the development meets or fails to meet the requirements of this Code and of that department, specifically, whether all improvements were properly completed and whether the improvements are in conformity with the preliminary plat. If the improvements are incomplete or if the improvements are not in conformity with the preliminary plat, the department must note on the plat the manner in which the plat fails to meet these requirements. Each department must return its copy of the final plat with notations made within 21 calendar days of receipt thereof.
3. Upon receipt of the annotated copies from all of the departments which received the final plat for notation, the community development director must independently review the final plat and determine whether it complies with all city zoning, environmental, and subdivision ordinances and regulations and all applicable state and federal laws. The community development director must certify in writing on the final plat his finding of whether the final plat complies

with all city zoning, environmental, and subdivision ordinances and regulations and all applicable state and federal laws.

4. The final plat must conform to the approved preliminary plat on file with the city and must comply with the city zoning ordinance, including any conditions of zoning.

5. The final plat may not be forwarded to the city manager until such time as the community development director certifies that the final plat conforms to the approved preliminary plat and complies with all city zoning, environmental, and subdivision ordinances and regulations and all applicable state and federal laws.

16-13.20-D. City Manager Approval

1. No later than 14 calendar days after receiving the annotated copies from all of the departments which received the final plat for notation, the community development director must transmit the final plat, containing the certifications required in Sec. 16-13.20-C.1 and any necessary supplemental materials to the city manager for approval.

2. The city manager as the designee for the governing authority of the city must approve or disapprove the final plat within 10 days of receiving the final plat, as indicated by a receipt stamp on the final plat. If the final plat is not approved or denied within 10 days of receipt, the final plat is deemed to be automatically approved and the city manager must acknowledge and certify that automatic approval. If the final plat is denied, the city manager must provide the reasons for denial in writing and such writing must be given to the applicant with the denied plat. If the final plat is approved, the city manager must place the following wording on the original as follows:

"This plat has been submitted to and accepted by the City Manager of the City of Dunwoody, Georgia, and has been approved as required by State law and City codes as meeting all conditions precedent to recording in the county superior court.

Dated this _____ day of _____, _____ _____.

By:_____ _____/_____/_____

[City Manager as designee of the governing authority]"

3. Final plat acknowledgement and approval by the city manager constitute the approval, if any, required in order to file subdivision plats with the clerk of the county superior court pursuant to O.C.G.A. §15-6-67(d).

16-13.20-E. Appeals

The decision of the city manager to approve or disapprove the final plat may be appealed to the city council by request in writing to the city manager within 30 days of the city manager's decision. If no appeal is made within the 30-day period, the decision of the city manager is final. If an appeal is made to the city council, the city council must set a hearing date for the appeal within 30 days of the appeal being

requested and the decision of the city council is final. The city council decision may be appealed only by a petition for writ of certiorari to the county superior court in accordance with state law.

16-13.20-F. Recording

The approved final plat must be recorded with the clerk of the county superior court by the community development director and returned to the applicant.

16-13.20-G. Dedications

The filing and recording of the final plat by the community development director will, upon completion of the improvements by the applicant and compliance with all procedures of this chapter, be deemed an acceptance of the dedication of the streets and other public land as shown upon the plat on behalf of the public.

16-13.20-H. Material Specifications

The final plat must be composed of Mylar, or other durable, stable, and reproducible drafting medium approved by the community development director and must meet all provisions of the Georgia Plat Act, O.C.G.A. §15-6-67.

16-13.20-I. Scale

Final plats must be prepared at a scale of not more than 100 feet to one inch and must have a maximum sheet size of not more than 24 inches in width and 36 inches in length, and a minimum sheet size of not less than 17 inches in width and 21 inches in length.

16-13.20-J. Compliance with Zoning Ordinance

The final plat must comply with the requirements of the city zoning ordinance and all conditions of zoning for the subject property to be shown in the upper right corner of the final plat with text height at a minimum of 0.08 inches.

16-13.20-K. Required Information

The final plat must show the following:

1. Sufficient data to determine readily and reproduce on the ground the location, bearings and lengths of every right-of-way, street line, lot line, boundary line and building line, whether curved or straight;
2. Tract boundary lines, land lot and district lines, city and county limit lines, right-of-way lines of streets, easements and other rights-of-way and property lines of residential lots and other sites;
3. All dimensions must be accurate to the nearest one hundredth of a foot and all angles accurate to the nearest second;
4. Name and right-of-way width of each street including necessary right-of-way required by the city's plans, policies, codes, and requirements;
5. Sidewalk and bike path locations and width;
6. House numbers: numbers will be assigned by the city geographic information system department and placed on the final plat;
7. Title, north arrow, date, scale, land lot numbers and district numbers;

8. Location, dimensions and purpose of easements and areas to be dedicated to public use, common areas or sites for other than residential use with notices stating their purpose and limitations;

9. Special flood hazard area contour line and setback line required by this chapter, state waters/state streams, wetlands, and required stream buffers;

10. Water and sewer utility locations, and the location and type of permanent stormwater management facilities and water quality facilities;

11. Lots numbered in numerical order and blocks lettered alphabetically; all lot and block numerals must be kept in a uniform sequence on all plats and units of the subdivision;

12. Accurate location, material and description of monuments and markers; within each subdivision set one monument on 2 front corners of the property adjacent to existing rights-of-way on interior streets, or as otherwise approved by the development director; each monument must be a minimum 4-inch diameter disk by 24-inch high concrete monument with brass caps set flush with finished grade; and

13. Lots that may not be built upon until detailed plans for grading and drainage have been approved by the community development director.

16-13.20-L. Space for Comments, Certifications

A blank space of 50 square inches must be provided on the final plat to allow room for any stamps, notes, approval or denials as required to be placed thereon by city agencies and for the certification of the community development director and approval or denial by the city manager.

16-13.20-M. Surveyor's and Owner's Acknowledgments

The acknowledgements of the surveyor and property owner must be provided and certified on the final plat in a form approved by the city.

16-13.20-N. Protective Covenants

The final plat may not contain protective covenants stipulating lower standards than the minimum restrictions required by the city zoning ordinance.

16-13.20-O. Disclosure Statement

1. Before any final plat for any residential subdivision and any multiphase residential development may be submitted for review by the city, a disclosure statement, sworn to by the applicant under penalty of perjury before a notary public or other officer authorized to administer oaths, must be filed with the community development director. The disclosure statement must be in a form promulgated by the community development director and approved by the city attorney.

2. Any applicant for the final plat, intending to make written or oral representations to potential purchasers of homes in any residential subdivision and any multiphase residential development must submit the information specified herein on the disclosure statement which must be made available to members of the public by the community development director:

a. An estimated date of completion of the entire residential subdivision;

b. A statement of the average size of homes to be constructed in the subdivision, any specified style of architecture, landscaping, the type of construction materials to be used (i.e., brick, stone, stucco, pressboard, etc.) and the average size of lots;

c. A statement of the applicant's commitment to build any community amenities within the subdivision, including, but not limited to, a clubhouse, tennis courts or swimming pool;

d. A statement of the general terms and conditions at which the applicant proposes to dispose of the lots and/or homes in the residential subdivision;

e. Copies of all forms of conveyance to be used in selling lots to potential purchasers;

f. A statement of all deed restrictions, easements and covenants applicable to the residential subdivision;

g. Copies of instruments creating any deed restrictions, easements and covenants applicable to the residential subdivision;

h. A statement regarding whether there will be a mandatory membership in any homeowners association and if so, a copy of the budget for the association for its first year of operation including the estimated amount of the first year's assessments and the estimated amount of revenue to be subsidized by the developer; and

i. An explanation of the timing and method of transfer of control of the association to the homeowners where there is a mandatory membership in the homeowner's association governing the residential subdivision.

3. With respect to the first phase and subsequent phases of a multiphase residential development, the applicant must also submit the following information:

a. An estimated date of completion of each phase of a multiphase residential development and estimated date of completion of all phases of the development;

b. A statement of the average size of homes to be constructed in the future phases of the development, any specified type of architecture, landscaping, the type of construction materials to be used (i.e., brick, stone, stucco, pressboard, etc.), and the average size of lots;

c. A statement of any community amenities to be built within the development currently or in the future, including, but not limited to, a clubhouse, tennis courts or swimming pools the applicant is committed to constructing in future phases; and

d. A statement of the general terms and conditions at which the applicant proposes to dispose of the lots and/or homes in the future phases of the development.

4. If the applicant intends to make no representations or commitments to potential purchasers concerning each of the representations set forth in §16-13.20-O.2 and §16-13.20-O.3, the applicant must note the same in the disclosure statement filed with the community development director which statement must be made available by the community development director to the public.

5. After the required disclosure statement has been submitted, the community development director must examine the information provided and determine whether the information submitted is consistent with the final plat and if the information is consistent, the community development director must approve the disclosure statement in writing within 35 days of submission of the statement.

6. If it appears to the community development director that a disclosure statement is incomplete or fraudulent, the community development director must disapprove the disclosure statement and notify the applicant for the final plat in writing within 14 days after the initial submission of the statement. Such notification suspends the review of the final plat by any city employee or official until the applicant files such additional information, as the community development director requires. No final plat may be certified by the community development director until such time as the community development director approves the applicant's disclosure statement.

7. If at any time after approval of the disclosure statement the community development director becomes aware that the disclosure statement contains false or misleading information, or that the applicant is developing in a manner inconsistent with the approved disclosure statement, the community development director must disapprove the disclosure statement and notify the applicant in writing that the disclosure statement has been disapproved.

8. Subsequent to the recording of the final plat for a residential subdivision and for each phase of a multiphase residential development, the approved disclosure statement on file with the city must be provided by any seller to potential purchasers at the execution of the purchase and sales contract or, if no such contract is executed, 10 days prior to the real estate closing on any property governed by this section.

16-13.20-P. Violations

It is unlawful for any person to sell property in a residential subdivision or a multiphase residential development without providing a potential purchaser with a copy of an approved disclosure statement as required by Sec. 16-13.20-O. It is unlawful for any person to provide the community development director with false or misleading information in an approved disclosure statement as required by Sec. 16-13.20-O. It is unlawful for any person to develop in a manner inconsistent with the approved disclosure statement. Any person convicted of violating this section is subject to fine and/or imprisonment in accordance with section 1-6.

16-13.20-Q. Revised Final Plat (Plat Amendments)

1. The original recorded plat must be used for all revisions.

a. When it becomes necessary to revise an original recorded final plat due to some error, required adjustment or desired adjustment, the applicant must confer with the community development director to determine if the revision is a minor or major revision. The applicant's surveyor must make the necessary corrections on the original final plat or prepare a new tracing of that portion of the subdivision involved. The subdivision name, date and book and page number of the original recording must be noted on the new plat. If the original final plat is not available, then any proposed revision to the final plat must be considered a major change.

b. A minor change is one that corrects a drafting or scrivener's error or is otherwise administrative in nature and does not affect how the subdivision will be developed or built. A major change is any other change, including changes that alter how the subdivision will be developed or built, such as, but not limited to, changing or moving lot lines, increasing or decreasing the number of lots, changing the location of any public facilities or utilities, and revising protective covenants applying to the property.

c. If the community development director determines the change is minor, then the community development director will obtain the city manager's acknowledgment, approval, and acceptance of the revised final plat, and must file such revised plat with the clerk of the county superior court.

d. If the community development director determines the change is major, the revised plat must proceed through the approval process for final plats described in this Code.

e. The basis for the community development director's characterization of the change as either major or minor must be recorded on the revised plat.

2. If the original final plat is not available, the applicant must prepare a new Mylar or other durable, stable, and reproducible drafting medium approved by the department of community development, in accordance with this section 16-13.20-Q.

3. Revisions and a notation explaining the revisions must be shown in black ink on the revised plat.

4. A blank space consisting of not less than 50 square inches must be provided on the revised plat to accommodate required certifications.

5. Revised plats must be prepared at a scale of not less than 50 feet to one inch.

6. The revised plat must comply with the regulations of the city zoning ordinance, including all conditions of zoning, which are to be shown in the upper right hand corner of the revised plat.

7. The revised plat must show the following wording in black ink:

"This revised plat has been submitted to the city manager of the City of Dunwoody, Georgia, and has been approved as required by state law and municipal codes as meeting all conditions precedent to recording in the county superior

court. This plat is hereby approved subject to any protective covenants shown hereon.

Dated this _____ day of _____, _____ _____

_____ _____

City Manager City of Dunwoody, Georgia"

8. All revisions to original plats must be bound by the protective covenants on the original final plat and a statement to that effect must be noted in black ink on the revised plat unless noted otherwise.

9. Other data which may be required in support of a revised final plat are: a final engineering design report on proposed revisions and such other certificates, affidavits, endorsements, or dedications as may be required by city officials in the enforcement of this chapter.

Article 14 Subdivision Design

16-14.10 General

16-14.10-A. Adequate Public Facilities

The applicant must submit sufficient information and data with the application on the proposed subdivision to demonstrate compliance with the following:

1. Comprehensive Plan Consistency

Proposed public improvements must conform to and be properly related to the city comprehensive plan and all applicable capital improvement plans.

2. Water

All habitable buildings and buildable lots must be connected to a public water system capable of providing water for health and emergency purposes, including adequate fire protection.

3. Wastewater

All habitable buildings and buildable lots must be served by an approved means of wastewater collection and treatment.

4. Stormwater Management

Drainage improvements must accommodate potential runoff from the entire upstream drainage area and must be designed to prevent increases in downstream flooding as required under article II, division 6 of this chapter. Stormwater quality management facilities must be adequate as required by article II, division 6 of this chapter. The city may require the use of control methods such as retention or detention, and or the construction of offsite drainage improvements to mitigate the impacts of the proposed developments.

5. Streets

Proposed streets must provide a safe, convenient, and functional system for all lawful modes of transportation, must be properly related to the comprehensive plan, and must be appropriate for the particular traffic characteristics of each proposed development. The community development director is authorized to require submittal of traffic impact study at the time of application for any development that will generate additional motor vehicle trips to or from the subject site during a 24-hour period or during the peak traffic hour, based on trip generation rates obtained from the most recent editions of *Trip Generation* and *Trip Generation Handbook*, published by the Institute of Transportation Engineers (ITE). Only "new" vehicle trips will be counted; no pass-by or internal trip capture will be used in calculating "added vehicle trips." Traffic impact studies must be prepared by a professional transportation planner or traffic engineer.

6. Extension Policies

All public improvements and required easements must be extended through the parcel on which new development is proposed. Streets, water lines, wastewater systems, drainage facilities, electric lines, and telecommunications

lines must be constructed through new development to promote the logical extension of public infrastructure.

16-14.10-B. Natural Resources

1. To better implement the policies and purposes of this chapter, to protect the health, safety, and welfare of the citizens of the city and to minimize the negative environmental effects of development, subdivisions must be designed and developed to avoid areas of environmental sensitivity. The following land areas must be preserved in their natural state and not subjected to any development or land disturbance activity, and may not be part of the buildable area:

a. Wetlands; and

b. Special flood hazard areas.

2. Subdivisions must be also laid out to:

a. Avoid adversely affecting watercourses, ground water, and aquifer recharge;

b. Minimize cut and fill;

c. Minimize impervious cover and the environmental impacts of roads and access points;

d. Minimize flooding; and

e. Minimize adverse effects of noise, odor, traffic, drainage, and utilities on neighboring properties.

3. The community development director may not recommend approval for a sketch plat or parts thereof if the community development director determines that:

a. The areas listed §16-14.10-B.1 have not been set aside and protected from development;

b. The proposed subdivision does not comply with the requirements of §16-14.10-B.2; or

c. If the proposed subdivision is not in the best interest of the public health, safety, and general welfare of the city.

16-14.20 Streets

16-14.20-A. Applicability

The provisions of this section apply to streets in subdivisions and in other projects requiring a development or land disturbance permit from the city.

16-14.20-B. Arrangement

1. The arrangement, character, extent, width, grade and location of all subdivision streets must conform to the provisions of this chapter and to the comprehensive transportation plan. New streets must be designed and located with consideration of their relation to existing and planned streets, to topographical

conditions, to public convenience and safety in their appropriate relation to the proposed uses of the land to be served by the streets.

2. Where not shown in the comprehensive transportation plan, the arrangement of streets in a subdivision must either:

a. Provide for the continuation or appropriate projection of existing streets in surrounding areas; or

b. Conform to a plan for a neighborhood approved or adopted by the city council to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impracticable.

3. Local residential streets must be designed to discourage speeding and provide a safe environment for nonmotorized transportation.

4. Within historic districts, the platting of lots and streets must be compatible with the historic patterns that exist within the historic district except for numbered state or federal routes.

16-14.20-C. Comprehensive Transportation Plan Review

The community development director and the public works director must review changes in the patterns of traffic, land development, and subdivisions, and prepare a report to the city council with recommendations concerning appropriate revisions to the comprehensive transportation plan. Such review must:

1. Ensure safe and efficient access between neighborhoods and local services;

2. Ensure the continuity and adequacy of local streets, collector streets and arterial streets to form a coherent and continuous system of routes;

3. Identify applications of appropriate traffic calming and traffic management strategies to discourage unnecessary traffic and travel speeds in neighborhoods; and

4. Ensure a coherent and continuous system for nonmotorized travel.

16-14.20-D. Subdivisions Bordering Major Streets or Railroad Rights-of-way

Where a subdivision borders on or contains an arterial or collector street, a railroad right-of-way or limited-access highway right-of-way, the community development director may impose reasonable limits or conditions on the number, type, location and design of driveway access points, including but not limited to the following:

1. Rear service alleys to facilitate traffic flow, safety and public services;

2. Provision of one or a pair of smaller marginal access streets approximately parallel to and on each side of this right-of-way at a distance suitable for the appropriate use of the intervening land as park or open space and to provide for multipurpose trails. These distances must also be determined with due regard for the requirements of approach grades and future grade separations; or

3. In the case of limited-access highways only, reverse frontage lots may be created with landscape buffers and a non-access reserve strip along the rear property line.

16-14.20-E. Reserve Strips

Reserve strips that separate developed or undeveloped land from necessary access to streets are prohibited except when such access is controlled by the city.

16-14.20-F. Intersections

1. Spacing

Street intersections with centerline offsets of less than 125 feet are prohibited.

2. General Design

Street intersections in subdivisions must be as nearly at right angles as practicable. No interior angle may be less than 75 degrees. Intersections of more than 2 streets must be designed in accordance with city standards and specifications.

3. Radius

Right-of-way lines at intersections must be rounded by a tangential arc that is concentric with the paved radii lines. At each street intersection in a subdivision the property line at each block corner must either be mitered or rounded. A mitered property line must be located on the interior chord of a convex curve or located 15 feet inside the tangent of a concave curve. A rounded property line must be established with a curve of radius R varying with the interior angle as specified in the following table, unless sufficient data is presented to show that strict adherence to this requirement is impractical due to topographical or engineering considerations.

Interior Angle (degrees)	R	R
150–145	12	15
145–140	12	18
140–135	12	20
135–85	12	25
85–75	20	40
75–65	30	70
65–55	40	80
55–45	50	100
45–0	75	140

4. Grade at intersections must have tangent of no greater than 2%

16-14.20-G. Street Frontage

Each building must be located on a lot or parcel that abuts a public street or private street.

16-14.20-H. Private Streets

1. Private streets are allowed only if the development seeking to have a private streets is 10 acres or larger in area. The zoning board of appeals is authorized to waive this minimum acreage requirement if all real property owners that abut the proposed private street agree to such waiver.

2. Where this chapter measures minimum building setback lines and frontages, or imposes development standards in connection with, or with reference to public streets, such measurements or standards set forth in the district regulations and supplemental regulations of the city zoning ordinance, in this chapter or

elsewhere in this Code apply similarly for property abutting a private street where such private street has been approved by the zoning board of appeals. Nothing in this section is intended to authorize any kind of development on a private street that would not be authorized where there was public right-of-way.

3. Private streets within any zoning district may not be used to satisfy the off-street parking requirements of this Code. Private streets within any district must be assigned names and locations. The names of these streets must be shown on plans required for the issuance of building and development permits as provided in this chapter, chapter 8, and the city zoning ordinance. The city geographic information services department must approve all private street names and addresses to avoid conflicting names and addresses.

4. Where sanitary or storm sewer lines are constructed underneath a private street, the developer is required to grant an easement to the applicable utility authority for their installation, maintenance and repair. In the case of private streets, the city is authorized to assign responsibility for maintenance of storm sewers to a property owners association.

5. Private streets are not eligible for participation in the city's residential sidewalk district program as provided for in this Code.

6. Developers and property owners' associations must ensure access to all private streets by emergency and law enforcement vehicles and must ensure that private streets are constructed to allow access by all emergency vehicles and law enforcement vehicles.

7. The use of private streets may not result in an increase in permitted density above that which would otherwise be permitted by the applicable district regulations. Density calculations must be made based on a public street system and the preliminary plat that provides for a private street must be density neutral.

8. Private streets must comply with requirements for public streets found in this chapter and all other applicable sections of this Code. Private streets must be surfaced with the same type of materials that are used by the city's department of public works for the surfacing and resurfacing of public streets or with materials that are as protective as those used by the city to surface and resurface streets so long as such alternative materials are approved by the director of public works.

9. The zoning board of appeals may authorize a private street where the department of community development has certified that the applicant has submitted all required documentation as set forth herein and where the zoning board of appeals finds that:

a. The location of the proposed private street will not adversely impact use of any existing surrounding public street;

b. The location of the proposed private street will not adversely impact adjacent existing communities or neighborhoods;

c. The applicant has shown that there is the requisite legal mechanism for the maintenance of the proposed private street; and

d. The applicant has provided written evidence that the proposed private street system is acceptable to the city departments or divisions responsible for law enforcement, sanitation, transportation and fire and rescue.

10. Private street rights-of-way must be owned by the mandatory homeowners' association as required by Sec. 16-14.20-H.11. Street rights-of-way must comply with all the requirements set forth in this Code, including, but not limited to, the requirements set forth in this chapter and in the city zoning ordinance. An access easement and a utility easement must entirely overlay the rights-of-way and must be dedicated to the city for public use. All applicable setbacks, lot widths and lot areas must be measured from the homeowner's association right-of-way.

11. Each developer that chooses to include private streets within a condominium, as that term is defined by state law, or any other residential, commercial, institutional, industrial or office development, must organize and establish a property owners' association prior to recording of the final plat. Membership in the property owners' association must be mandatory for each original and successive purchaser of a lot, building or unit within the development. The property owners' association must be organized so that it has clear legal authority to maintain and exercise control over the private streets and required improvements associated with private streets, including, but not limited to, sidewalks, bikeways, curbs and gutters, traffic signs and markings, associated landscaping and lighting, entry signs, monuments, perimeter walls and fences, entry gates and gatehouses. The declaration of covenants creating the property owners' association must be recorded with the clerk of the county superior court and the recorded declaration of covenants and articles of incorporation creating the property owners' association must provide that all private streets and associated improvements are owned by the property owners' association or are held in common by the property owners within the development. The streets must be properly maintained and insured with no liability or maintenance responsibilities accruing to the city. The recorded declaration of covenants and articles of association must specifically require the property owners' association repair and maintain each private street in the same manner as similar public streets are maintained by the city and such maintenance and repair must be performed in compliance with all city standards and all applicable provisions of law.

12. Prior to any final plat approval, the developer must submit articles of incorporation, declarations of covenants and bylaws for the property owners' association to the department of community development. Those documents must thereafter be reviewed and approved by the community development director.

13. The declaration of covenants and articles of association must provide for a street maintenance fund the proceeds of which may be used solely for the purpose of regular maintenance of the streets, whether for resurfacing or a similar purpose. For the purposes of providing further assurance that city funds may not be used for maintenance of private streets, the developer must sub-

mit proof of deposit of 50% of the current estimate of resurfacing costs, as determined by the community development director or his designee, in an interest bearing account on behalf of the property owners' association.

14. At the end of the 12-month maintenance period provided for in Sec. 16-15.40-F, a developer must provide a maintenance bond renewable annually to cover the cost of maintenance and repair for any private streets within a subdivision. The bond must be for an amount equal to 50% of the current estimate of resurfacing costs, as determined by the community development director or his designee. The developer may avoid securing a maintenance bond if they submit proof to the department of community development that 100% of the then-current estimate of resurfacing costs, as determined by the community development director, has been deposited in an interest-bearing account on behalf of the property owners' association. If the developer chooses this alternative, the declarations of covenants and articles of association must specifically require the property owners' association to continuously maintain 100% of the then-current estimate of resurfacing costs of the private streets in this maintenance fund.

15. The property owners' association must be empowered to levy assessments against owners within the development for the payment of expenditures made by the association for maintenance of the private streets and other items set forth in §16-14.20-H.11. At least 15% of all fees or assessments paid must be set aside in the maintenance fund. Any unpaid assessments will constitute a lien in favor of the property owners' association on the lot, building or unit of the owner.

16. Within 9 months following approval of the final plat, the city's community development director or his designee must inspect the private streets to ensure compliance with all city standards and all applicable provisions of this Code including, but not limited to, the requirements set forth in law for public streets, curbs, sidewalks, signage and street lighting. The developer must be notified of any deficiencies in writing and such deficiencies must be corrected within 60 days of the written notice of deficiencies unless the city agrees to extension of that period in writing.

17. Failure to correct the complete list of deficiencies constitutes a violation of this section and will subject the developer to prosecution for a code violation in the city municipal court. Any person found to have violated this section is subject to a fine of not less than $500.00 for each violation. Each day that the violation exists is a separate and distinct offense.

18. The community development director or his designee must deny the issuance of certificates of occupancy until all deficiencies have been corrected.

16-14.20-I. Street Abandonment

1. Any abandonment of a public street by the city pursuant to this section must comply with the applicable requirements set forth in state law and this Code, including, but not limited to, the requirements set forth in O.C.G.A. §32-7-2(b) and §32-7-4 and as may hereinafter be amended.

2. A property owner may petition the city council to abandon an existing public street that abuts the owner's property. The petition must include documents that comply with all of the requirements set forth in this section.

3. The petition must contain evidence that each abutting landowner to the public street seeks to have the street abandoned.

4. The petition must contain evidence that once abandoned pursuant to the requirements of state law, all property owners that abut the street agree that ownership of the street must be placed in a property owners' association. The petition must include evidence that 100% of all property owners in the property owners' association have agreed that the street at issue may become private and have agreed to maintain and exercise control over the private street as required by this section.

5. The petition must contain evidence that the property owners' association has the financial ability to maintain the street and associated improvements in perpetuity.

6. The petition must include evidence that the declaration of covenants and articles of association or other legal instruments creating the property owners' association provide or have been amended to provide that membership in the property owners' association is mandatory for each original and successive purchaser of a lot, building or unit on the street.

7. The petition must include evidence that the property owners' association must be organized so that it has absolute legal authority to maintain and exercise control over the private streets and required improvements associated with private streets, including, but not limited to, sidewalks, bikeways, curbs and gutters, traffic signs and markings, associated landscaping and lighting, entry signs, monuments, perimeter walls and fences, entry gates and gatehouses.

8. The petition must include evidence that the declaration of covenants creating the property owners' association must be recorded with the clerk of the county superior court and the recorded declaration of covenants and articles of incorporation creating the property owners' association must provide that all private streets and associated improvements are owned by the property owners' association or are held in common by the property owners within the development. The streets must be properly maintained and insured with no liability or maintenance responsibilities accruing to the city.

9. The petition must include evidence that the declaration of covenants and articles of association must provide for a maintenance fund, the proceeds of which may be used solely for the purpose of regular maintenance of the streets, whether for resurfacing or similar purpose. For the purposes of providing further assurances that city funds will not be required or used for maintenance of private streets, the property owners' association must submit proof of a maintenance fund equal to 50% of the current estimate of resurfacing costs, as determined by the community development director or his designee, in an interest bearing account on behalf of the property owners' association.

10. The petition must include evidence that the property owners have a maintenance bond renewable annually in an amount equal to 50% of the current estimate of resurfacing costs, as determined by the community development director or his designee.

11. The petition must include evidence that the property owners' association is empowered to levy assessments against owners on the streets for the payment of expenditures made by the association for maintenance of the private streets and improvements associated with private streets, including, but not limited to, sidewalks, bikeways, curbs and gutters, traffic signs and markings, associated landscaping and lighting, entry signs, monuments, perimeter walls and fences, entry gates and gatehouses and evidence that any unpaid assessments constitute a lien in favor of the property owners' association on the lot, building, or unit of the owner. At least 15% of all fees or assessments paid must be set aside in the maintenance fund.

12. The city council may not consider a petition for abandonment unless it:

a. Contains all of the evidence and documents required by this section;

b. Is supported by an analysis by the department of public works that shows that the street is no longer used by the public to the extent that it serves no substantial public purpose and that the public at large will benefit from its closure since the public will no longer be responsible for any costs to maintain and repair the street; and

c. Is supported by an analysis by the department of community development that shows that the abandonment of the street does not negatively impact adjacent neighboring communities and the public at large.

16-14.20-J. Street Cross-sections

Except as expressly stated in a city-adopted plan (e.g., Dunwoody Village) or within the city's standards and specifications, all streets must be designed and constructed in accordance with the regulations of the following table:

Type	Travel Lanes	Bike Lanes	Curb and Gutter	Shoulder [1]
Arterial and collector streets	11'	2 @ 4'	2 @ 2'	2 @ 13'
Local streets	10'	0	2 @ 2'	2 @ 13'

[1] Shoulder width includes minimum 6-foot tree planting strip, minimum 5-foot sidewalk and space for underground utilities (cable TV, water, telephone, electric and natural gas).

Figure 14-1: Street Cross-section (typical), Principal Arterial

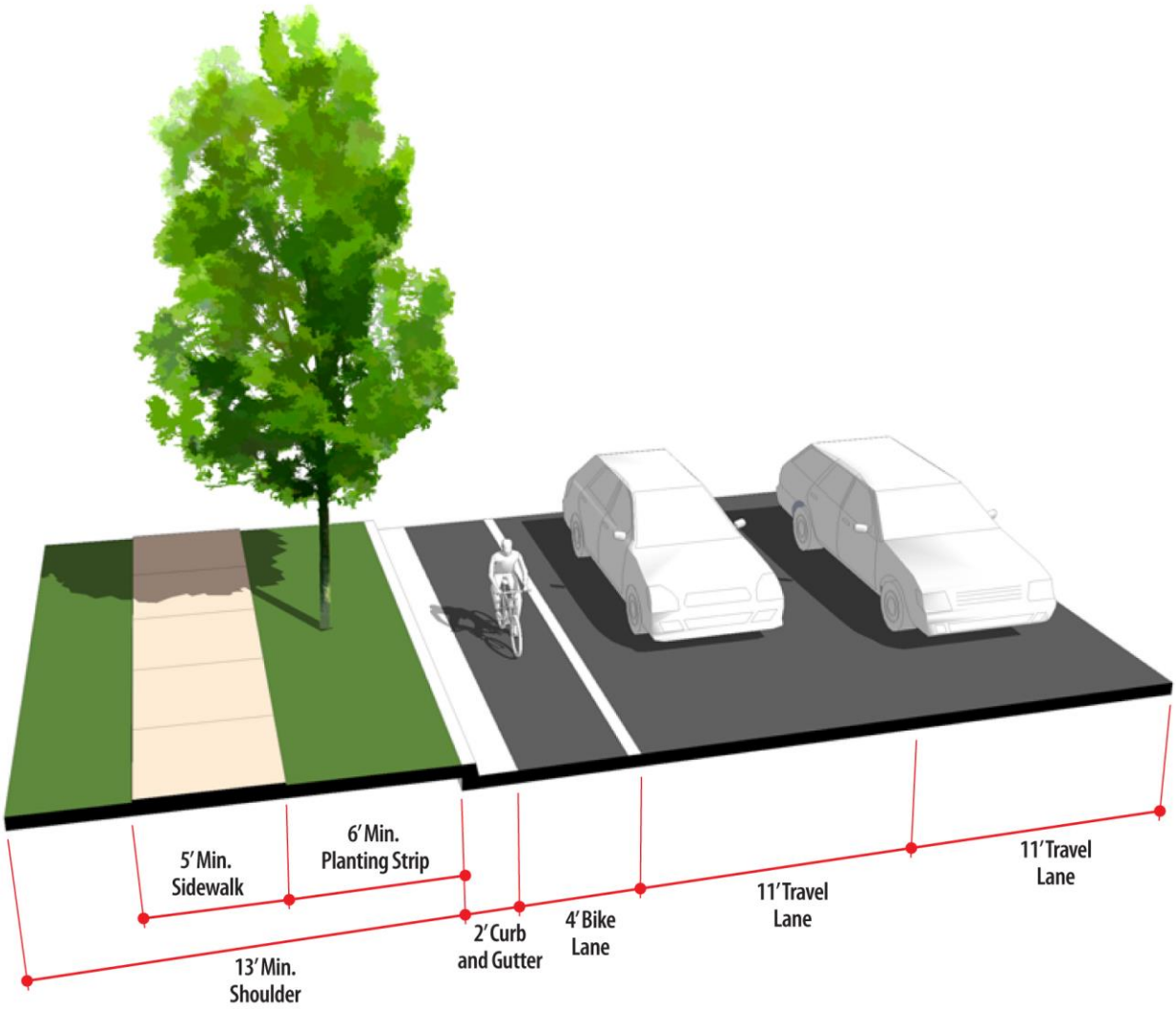


Figure 14-2: Street Cross-section (typical), Collector and Minor Arterial

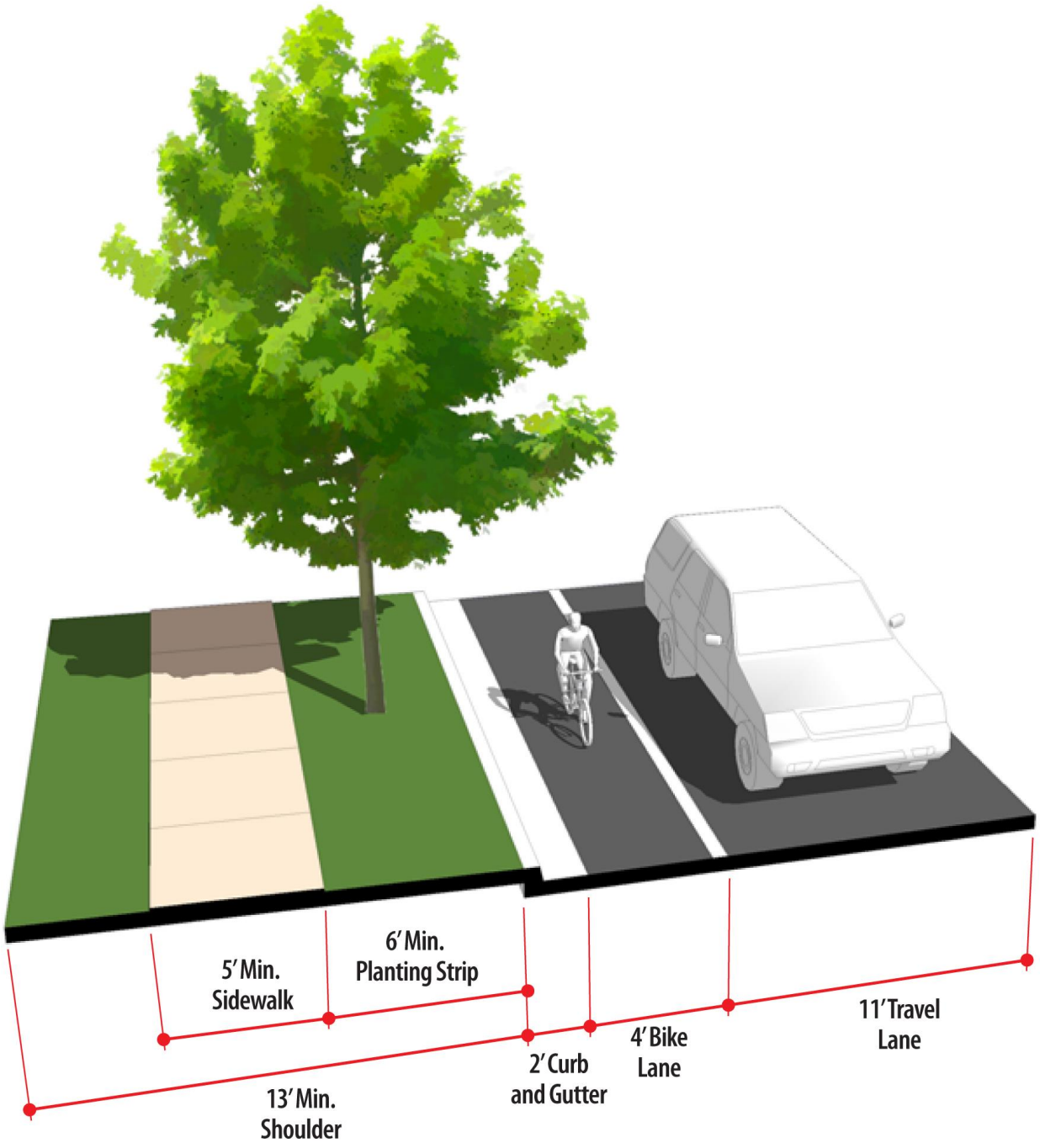
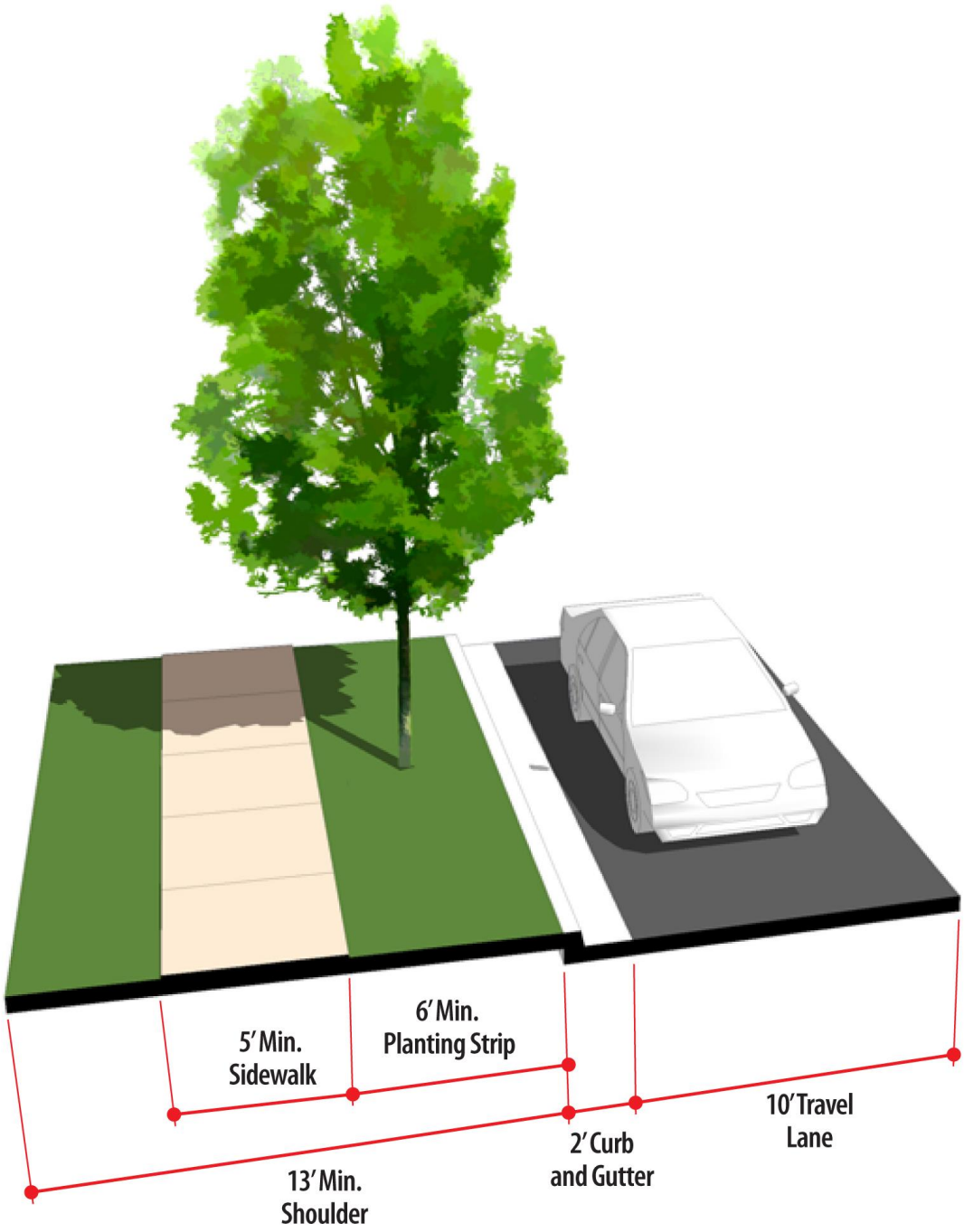


Figure 14-3: Street Cross-section (typical), Local Street



16-14.20-K. Right-of-Way and Street Improvements

1. All proposed new streets must be designed and built in accordance with the standards listed in Sec. 16-14.20-J and the city's standards and specifications.

2. Streets must have a minimum right-of-way width that complies with the comprehensive transportation plan and that will safely accommodate motorized and nonmotorized transportation improvements and street cross-sections

needed to provide appropriate, safe and adequate access to the subject property, in accordance with the city's standards and specifications. Where a proposed subdivision or project requiring a land development permit has frontage on an existing public street, right-of-way must be dedicated to meet the requirements of this section. The right-of-way must be improved wherever required as further provided in this section. For existing streets on which a proposed subdivision or project requiring a land development permit has frontage, the applicant must:

a. Dedicate a minimum of 50% of the required right-of-way width as measured from the centerline of the existing street right-of-way;

b. Install all required sidewalks, street trees, streetlights, and place utilities in accordance with the standards in Sec. 16-14.20-J; and

c. Provide a minimum of 50% of the roadway pavement required in Sec. 16-14.20-J and install it to the right-of-way centerline.

3. Land reserved for any road purposes may not be counted in satisfying yard or area requirements on the city zoning ordinance where the land is to be dedicated to the public in fee simple or an easement associated with the road is granted to the city.

4. Right-of-way dedication and road widening must extend for the full length of road frontage of the property under development and must conform to the standards in these regulations. Flares at pavement ends may be required to extend beyond property under development.

5. The city council, after considering all related factors, may authorize deviations from this section as follows:

a. Right-of-way dedication may be waived or modified if

existing government plans for the roadway indicate lesser right-of-way would be required for dedication.

b. Road improvements may be waived or modified if:

(1) Existing use of property not to be substantially changed (i.e., traffic generation and ingress/egress would remain the same);

(2) Governmental construction plans for the road indicate a pavement width less than city standards (only the planned pavement width is required);

(3) Widening would create a hazard to motorized or nonmotorized traffic.

c. The applicant may, with written concurrence of the community development director, provide payment to the city in lieu of road improvements when:

(1) Road improvements by state or local action are scheduled within 24 months;

(2) Existing utility companies' improvements are situated so as to require their removal or relocation before road improvements should be accomplished;

(3) Improvements would cause unreasonable land development hardships because of topography, soils, bridges, grades, etc., and delay of improvements would not adversely impact the city's road system; and

(4) Payment for road improvements must be in accordance with the Georgia Department of Transportation's *Item Mean Summary* cost information or other documentation of construction and improvement costs approved by the public works director.

16-14.20-L. Half Streets

Half streets are prohibited. The applicant is required to pave the full standard width of any existing unpaved public right-of-way or any proposed public street on which the proposed subdivision has frontage and access.

16-14.20-M. Temporary Dead-end Streets

Temporary dead-end streets may be platted, if recommended by the community development director and approved by the city manager, where the proposed subdivision adjoins property not yet subdivided or property that may be redeveloped. A temporary dead end street must end in a temporary turn-around. The right-of-way of any temporary dead end street must be carried to the boundary of the properties being subdivided. Street signs must be posted stating: "No Exit–Temporary dead-end street."

16-14.20-N. Permanent Dead-end Streets

1. Dead-end streets designed to be so permanently must be provided with a cul-de-sac at the closed end and may not exceed 1,200 feet.

2. The outside radius of a cul-de-sac on a public street must be at least 40 feet, measured to the inside face of the outside curb. Each cul-de-sac must provide a landscaped island at the center, and the clear width of the paved roadway measured from the outside of the landscaped island to the inside face of the outside curb may not be less than 24 feet. The radius of the right-of-way for the cul-de-sac may not be less than 50 feet.

16-14.20-O. Alleys

1. Alleys are required wherever topography or the presence of arterials or other features makes vehicular access from the front of the lot impractical or unsafe. Where the alley serves as the primary means of vehicular access to the lot, it must be dedicated as a public right-of-way and built to the standards required in this chapter.

2. Alleys may be permitted as private streets providing secondary or service access and where the principal buildings have adequate access for emergency vehicles from a public street on their frontage. Private alleys may end in a turn-around. All alleys dedicated to the public must provide a continuous connec-

tion between one or more public streets. Alleys must be paved and constructed to the same standards as the connecting public streets except that:

a. Alleys constructed with flush curbs must have a minimum paved width of 12 feet;

b. Alleys constructed without flush curbs must have a minimum paved width of 16 feet;

c. Buildings must be set back at least 10 feet from the back of curb of an alley.

16-14.20-P. Street Grades

1. Subdivision street grades may not exceed the following, with due allowance for reasonable vertical curves:

Type	Percent Grade
4-lane arterial	8
2-lane arterial	10
Collector	12
Local	12
Alley	12

2. A 16% grade on local streets may be approved by the community development director where AASHTO sight distance is maintained. An as-built street profile may be required.

3. No street grade may be less than 1% and no 1% grade may be longer than 300 feet.

16-14.20-Q. Horizontal Curves

Subdivision streets with design speeds of 20 miles per hour may not have a minimum centerline horizontal curve radius less than 90 feet. No other subdivision street may have a horizontal curve radius less than 150 feet. Radius must be measured from the centerline of the right-of-way.

16-14.20-R. Sight Distance

All subdivision streets must comply with AASHTO sight distance standards.

16-14.20-S. Intersection Design

Subdivision intersections may not be designed in such a manner as to create a traffic hazard. Sight distance must be provided at all intersections in accordance with AASHTO standards and criteria. If, due to other restrictions, this minimum sight distance cannot be maintained, the applicant must, at the applicant's expense, provide adequate traffic-control devices or other physical improvements subject to the approval and installation by the city.

16-14.20-T. Access Management

The following standards apply to all subdivisions and all projects requiring a land development permit where the primary access is from a state or federal highway or an arterial or collector street. These standards apply unless a more restrictive standard is required by the state department of transportation:

1. Commercial or office properties may be required, based on site conditions as determined by the community development director, to provide cross-access to allow motorized and nonmotorized circulation between sites. Motorized cross-access is not required between nonresidential uses and single-family uses.

2. Joint driveways, cross-access easements and nonmotorized transportation access must be established wherever feasible along an arterial or collector street. The building site must incorporate the following:

a. Continuous service drives or cross-access corridors extending the entire length of each block served to provide for driveway separation of at least 1,000 feet of linear street frontage.

b. A design speed of 10 miles per hour and a 2-way travel aisle width of 24 feet to accommodate automobiles, service vehicles, and loading vehicles.

c. Stub-outs and other design features to indicate that abutting properties may be connected to provide cross-access via a service drive.

3. The community development director may reduce the required separation distance of access points where they prove impractical, provided all of the following requirements are met:

a. Joint access driveways and cross-access easements are provided in accordance with this section.

b. The site plan incorporates a unified motorized and nonmotorized transportation access and circulation system in accordance with this section.

c. The property owner must enter into a written agreement with the city, recorded with the deed, that pre-existing connections on the site that do not meet the requirements of this section will be closed and eliminated after construction of each side of the joint use driveway.

4. All developments must have access to a public right-of-way. The number of access points must be as follows:

Type of Development	Minimum Access Points
Residential, under 75 units	1
Residential, 76 to 150 units	2
Residential, 151 to 300	3
Residential, over 300 units	4
Nonresidential, less than 300 required parking spaces	1
Nonresidential, 300 to 999 required parking spaces	2
Nonresidential, 1,000 or more required parking spaces	2 or more as determined by the department

5. The separation of access points on an arterial or collector street must be determined by the speed limit of the road with the following minimum spacing requirements:

Posted Speed Limit	Minimum Driveway Spacing
Less than 35 mph	125 feet
35 to 45 mph	245 feet
Greater than 45 mph	440 feet

a. The distance between access points must be measured from the centerline of the proposed driveway or public street to the centerline of the nearest existing adjacent driveway or public street.

b. Driveway spacing at intersections and corners must provide adequate sight distance, response time, and permit adequate queuing space.

c. No driveways, except residential access drives, are allowed within 100 feet of the centerline of an intersecting arterial or collector street.

d. No nonresidential access except right-in/right-out channelized access is allowed within 100 feet of the centerline of any other arterial.

e. The requirements of this section are not intended to eliminate all access to a parcel of land that was legally subdivided prior to the enactment of this section.

6. Where arterials or collector streets include medians, directional median openings must be separated by a minimum of 330 feet and full median openings must be separated by a minimum of 660 feet.

7. All street design and other development activities, including landscaping, must be arranged on-site so as to provide safe and convenient access for emergency vehicles.

8. Along arterials or collector streets, a deceleration lane, a turn lane, larger or reduced turning radius, traffic islands or other devices or designs, including traffic calming devices and designs, may be required to avoid specific traffic hazards which would otherwise be created by the proposed driveway location.

9. Deceleration lanes and left turn lanes must be provided in accordance with Georgia Department of Transportation Regulations for Driveway and Encroachment Control (Driveway Manual) .

16-14.30 Street Trees

16-14.30-A. General

These street tree planting requirements apply in all districts.

16-14.30-B. Tree Planting Requirements

1. A street tree planting plan must be submitted to and approved by the city arborist prior to issuance of a development permit. The plan must be prepared and sealed by a registered landscape architect, certified arborist or registered forester. All proposed trees must be individually identified on the plan with an included tree species list.

2. Street trees must be planted in the right-of-way. Trees must be planted at intervals or no more than 50 feet and no closer than 25 feet to street intersections. Street trees are not required abutting 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 50-foot spacing requirement cannot be met due to driveways and other improvements.

3. Street tree species shall be selected in accordance with the Appendix B, subject to approval by the city arborist. No more than 35% of any one species may be used throughout the development.

4. Street trees must have a minimum caliper of 3 inches. They must be single-stemmed with a single, straight leader.

5. The builder/developer must install the street trees specified on the street tree planting plan prior to the issuance of the certificate of occupancy. However, street tree plantings may be delayed from May 1 through October 1, provided that the builder enters 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 certificates of occupancy.

6. Street trees count towards the minimum individual lot tree density requirements set forth in Article 8.

16-14.30-C. Installation and Maintenance

1. Installation

a. All trees must be installed in a sound workmanlike manner and according to accepted good planting procedures. No certificate of occupancy or similar authorization may be issued unless the requirements of this section have been met.

b. Impermeable rigid tree root barriers must be installed in a linear method in all tree planting areas. The barriers must be a minimum of 24 inches deep and include ribs to direct root growth downward. The root barriers must be installed in accordance with city standards and specifications.

c. Expandable plastic tree trunk protectors must be installed on each tree.

2. Staking and Guying

Newly planted trees may not be staked or guyed unless approved by the city arborist.

3. Maintenance

Street trees must be maintained by the property owner who owns the abutting lot or by the property owners' association. Maintenance must include watering, pruning, tree replacement and removal of leaves and litter from the sidewalks and street, as necessary. A maintenance responsibility statement must be provided on the final plat.

16-14.40 Easements

16-14.40-A. Applicability

The provisions of this section apply to easements for or in subdivisions.

16-14.40-B. Dedication Permission

The applicant must obtain permission from the community development director for the dedication of utility easements prior to the submission of the dedication.

16-14.40-C. On-site Floodplain Easements

Where a subdivision is traversed by a stream, or floodplain, a floodplain easement must be dedicated to the city. The easement must conform to the requirements of this chapter and must conform substantially to the limits of such stream or floodplain plus additional width outside the floodplain limits, up to 5 feet, as necessary to accommodate future access.

16-14.40-D. Off-site Drainage Easements

Where drainage system improvements are required on private land outside the subdivision, appropriate drainage rights must be secured by the applicant and indicated on the plat.

16-14.40-E. Nonmotorized Transportation Easements and Paths

Nonmotorized transportation easements and paths are required in subdivisions or projects requiring a land development permit to provide circulation or access to schools, parks, libraries, shopping centers, transportation centers and other community facilities. Such easements must have a width of 15 feet. Such paths must be surfaced and constructed in accordance with city standards and specifications.

16-14.50 Blocks

16-14.50-A. Length, Width and Shape Determination

The lengths, widths and shapes of blocks in subdivisions must be determined with due regard to:

1. Provision of building sites suitable to the special needs of the type of use contemplated or for the conservation of open space or existing historic features;
2. Zoning requirements as to lot sizes and dimensions;
3. Needs for convenient nonmotorized transportation access to public transit, nearby schools, or commercial districts, vehicular circulation at safe speeds and adequate access for emergency vehicles; and
4. Limitations and opportunities of topography to minimize land disturbance and erosion.

16-14.50-B. Maximum and Minimum Lengths

The dimensions of blocks must be designed to promote safe and efficient motorized and nonmotorized transportation access. The maximum block length in a low-density residential subdivision (4 or fewer dwelling units per acre) is 1,200 feet. The maximum block length in other contexts is 600 feet. Shorter maximum block length requirements may be imposed by the city in walkable, mixed-use environments.

16-14.50-C. Midblock Easements and Paths

In blocks of 600 feet or more, the community development director may require the reservation of a 10-foot easement and durable, all-weather surfaced path with a minimum width of 5 feet through the block to accommodate utilities, drainage facil-

ities, or nonmotorized travel. Such paths must be constructed in accordance with city standards and specifications.

16-14.60 Lots

16-14.60-A. Dimension, Size and Shape Orientation

The lot size, width, depth, shape and orientation and the minimum building setback, side yard, and rear yard lines in subdivisions must be in accordance with requirements of the city zoning ordinance.

16-14.60-B. Frontage

Each subdivision lot must front upon an existing paved private or public street.

16-14.60-C. Through Lots and Reverse Frontage Lots

Through lots and reverse frontage lots are discouraged in subdivisions except along limited access highways, such as interstate highways. Where it is necessary to provide separation of residential development from arterials or to overcome specific disadvantages of topography and orientation, lots fronting such features may be platted in greater depth so that dwellings may be set back an additional distance from the arterial or other feature. Such lots may obtain vehicular access from a rear alley. Lots having access from an alley do not constitute prohibited through lots. A landscape reservation of at least 10 feet in width, and across which there is no right of vehicular access, may be required along the lot lines of lots abutting any disadvantageous feature or land use where access should be restricted in the public interest.

16-14.60-D. Side Lot Lines

Side lot lines in subdivisions must be substantially at right angles or radial to street lines as they extend from the front lot line to the front building line.

16-14.70 Common Open Space

16-14.70-A. Required

1. All residential subdivisions of 5 acres or greater or consisting of more than 36 dwelling units are required to provide common open space, in order to achieve the following public purposes:

a. To conserve open land, including those areas containing historic or cultural resources, or sensitive natural features and wildlife habitats;

b. To reduce erosion and sedimentation by minimizing land disturbance; and

c. To preserve and develop an adequate tree cover.

2. When required, common open space must constitute a minimum of 20% of the land area in new subdivision developments.

3. Common open space required by this section may be used in a variety of ways, including natural areas for wildlife and ecological functions, parks, gardens, landscaped medians, squares, village greens, courtyards, recreational space, or recreational facilities, provided the use is consistent with the requirements of this section.

16-14.70-B. Restrictions

No more than 20% of the required common open space area may be covered with paved trails, bike paths or multi-use paths, buildings, plazas, swimming pools, or athletic courts. Sidewalks along public rights-of-way or parking lots, streets, or other areas for motorized vehicular use may not be counted as common open space area.

16-14.70-C. Dedications

Parks, open space, multi-use trails, recreation areas and conservation easements may be offered for dedication to the city by the property owner.

16-14.80 Public and Civic Sites

16-14.80-A. Reservations

A developer may reserve and offer property within a subdivision as a site for a civic use, including, but not limited to, public schools, fire stations, police stations, or recreation centers. The developer must allow a minimum period of one year from the date of submittal of the preliminary plat during which time the proper authorities may authorize acquisition of the property for its intended civic purposes. If the reserved site has not been authorized for acquisition by the proper authorities within one year, the reservation will terminate unless extended by the developer. If not extended, development of the formerly reserved site must follow the standard plat approval process. An amended final plat for the entire subdivision must then be processed in the required manner when submitted by the developer.

Article 15 Subdivision Improvements

16-15.10 General

16-15.10-A. Applicability

This division applies to required improvements for or in subdivisions.

16-15.10-B. Location of Required Utilities in Public Rights-of-way

All required utilities within city rights-of-way must be located as shown in the city's standards and specifications and as stated in this article.

16-15.20 Water

16-15.20-A. Certification of Final Plat

Compliance with the improvement standards of this section must be certified by an authorized representative of the services provider.

16-15.20-B. Water Mains

1. The city, or its designated water service provider, has the right and privilege to design water mains and appurtenances of the right size and materials in subdivisions. The design will include necessary improvements to the water system, including extensions along the entire roadway frontage of the development.
2. Sizes of water mains in subdivisions will be determined by the city to ensure adequate domestic supply and fire protection for the subdivision.
3. All materials for water mains in subdivisions will conform to specifications of the American Water Works Association.
4. Water mains will be laid a minimum distance of 4 feet back of the curb line.

16-15.20-C. Fire Hydrants

Fire hydrants must be installed in subdivisions so that all residential property will comply with the requirements of the applicable fire prevention code. The location of fire hydrants must be reviewed and approved by the public works director. Additional fire hydrant locations may be required to ensure water quality and air release standards.

16-15.20-D. Water Valves

Water valves must be installed in subdivisions to affect a minimum cutoff of mains in case of shutdowns.

16-15.20-E. Stub-out Services

Stub-out services must be installed when the city determines them necessary to avoid cutting of pavement or sidewalks. Stub-out services must be placed on lots as specified by the city.

16-15.20-F. Water Service Data

1. The applicant must furnish data on the final subdivision plat in digitized form, as required by the community development director.

2. The city is authorized to determine the location and size of all pipe, valves, fire hydrants, fittings and stubs to lots, consistent with design regulations promulgated by the community development director in conjunction with the city's water services provider. The city must furnish to the owner/applicant copies of the final plat with a list of materials that will include the total linear feet of main to be extended.

3. With this information the applicant will take bids from contractors and when the contract is awarded, furnish the city with a copy of the contract.

16-15.20-G. Certification

The applicant's engineer or surveyor must furnish the city with an engineer's certificate.

16-15.20-H. Prerequisites to Materials Delivery to Contractor

1. No materials to be used for subdivision water improvements will be delivered to the job site until the requirements of §16-15.20-F and §16-15.20-G have been met.

2. No work will commence on the water improvements until the water services provider has inspected and approved all materials on the site for compliance with the materials specifications as published by the water services provider.

3. Any water line material or appurtenances found not to meet specifications must be removed from the job site by the contractor prior to commencement of any water line construction activity.

16-15.20-I. Final Inspection

Upon completion of the job of installing water improvements in a subdivision, the owner/applicant's engineer and the city's water services provider will measure the work done showing station numbers to all valves, fire hydrants and other pertinent fittings including stub locations. The owner/applicant must furnish the city a copy of this report showing the work done. The owner/applicant must furnish the city with a final cost of the labor to install the materials.

16-15.20-J. Material Storage

It is the contractor's responsibility to acquire, properly handle, store and protect all materials. The city may not be held responsible for loss or damage to any materials. No damaged material must be utilized in the water line construction.

16-15.20-K. Excavation

1. **Depth**

   Trenches must be excavated to a depth sufficient to provide a minimum of 3 feet of cover over subdivision water mains, and 2½ feet over subdivision water service lines. In rock cuts, the excavation must be of sufficient depth and width to provide a minimum of 6 inches' earth cushion below and along the sides of the mains.

2. Sheeting
The contractor must install sheeting and bracing where necessary to prevent caving, to protect new work and to protect adjacent utility lines, and public and private property.

3. Blasting
Blasting is permitted only with the written approval of the city for each location. The contractor must provide adequate protection, such as mats, and permit only qualified, experienced personnel to supervise blasting. Approval by the city in no way relieves the contractor from any liability for any damages whatsoever resulting from the blasting operations.

16-15.20-L. Pipe-laying
Pipe-laying must conform to the specifications prepared and approved by the community development department in effect at the time a development permit application is received by the community development department. The community development director is authorized to promulgate specifications and regulations to govern and implement this provision.

16-15.20-M. Backfilling

1. All backfilling in subdivisions must be done with material free from roots, stumps and other foreign material. No rock will be permitted within a distance of 6 inches from the pipe or ground surface. Rock larger than 12 inches in greatest dimension will not be allowed in any part of the trench. All rock larger than 12 inches must be disposed of by the contractor.

2. The placing and compaction of all backfill material must comply with all applicable standards and specifications of the service provider/governing authority.

3. The contractor must restore to the original condition as at the start of the job, all shrubbery, grass, sod, fences, etc., disturbed during the contractor's operations.

16-15.20-N. Pavement Replacement
Cuts in existing street pavement and driveways will be patched by the applicant/owner. The applicant/owner must maintain the cuts in good condition until a permanent patch is made. When necessary to abate dust, mud or potholing, the contractor must furnish and install crushed rock or cold patch asphaltic concrete to the surface of the trench. Appropriate utility permits must be obtained from the public works director prior to work being initiated.

16-15.20-O. Barricades and Lights
The contractor must furnish and place sufficient barricades and lights to adequately protect the work on subdivision water improvements, and to protect all motorized and nonmotorized traffic. No street may be completely blocked, without the permission of the public works department.

16-15.20-P. Testing
Testing of required improvements must be conducted in accordance with standards and specifications of the service provider/governing authority.

16-15.20-Q. Sterilization of Mains

The contractor will furnish all chemicals, feeding equipment and manpower for the sterilization of water mains. The contractor is responsible for the disposal of dose water in accordance with environmental protection division regulations. The contractor must employ a hydric meter to record the quantity of water used and reimburse the city's water services provider for the appropriate amount.

16-15.20-R. Cleanup

A thorough cleanup must be made before final acceptance of subdivision water improvements. All excess rock must be removed; private and public property must be restored to original condition, and all excess water line materials removed from the job site.

16-15.20-S. Service Laterals

The contractor must submit an as-built drawing showing the location, lot number and street address for each service lateral installed in a subdivision.

16-15.20-T. Maintenance

1. The owner/applicant must maintain all water mains, appurtenances, trenches and other disturbed surfaces for a period of 12 months after approval and acceptance by the city.
2. The contractor is responsible for repairs to any leaking pipe, fittings, etc. Should any trench settle, the contractor must promptly furnish and place fill to original grade. If any leak or trench settlement occurs under any pavement, the contractor will be held responsible for the cost of replacing the pavement.

16-15.30 Sewer

16-15.30-A. Installation

1. Sanitary sewers must be laid in all streets, service connections installed to property lines, and connections made to trunk line sewers in all subdivisions, including subdivisions with private disposal systems.
2. The developer of a property adjacent to undeveloped and unserved land lying upgradient from the subject property, must extend the sewer main to the outside boundary of the property being developed in order to allow for the future provision of sewer service to such unserved adjacent property unless waived by the community development director.
3. In all developments with private disposal systems, lines must be laid and temporarily plugged or capped at the points of service connections to the proposed trunk sewer line and individual lot lines in accordance with county requirements and specifications.
4. Corresponding service connections must be installed and temporarily plugged or capped from each principal structure in such a manner that a proper service connection can be made when permanent sewer service is available. This requirements may be waived by the community development director based upon service feasibility to the principal structure as determined by the elevation of the structure with reference to the elevation of the proposed sewer line.

16-15.30-B. Design

Design of the proposed sewer system within a development must conform to the specifications prepared and approved by the department of community development in effect at the time a development permit application is received by the department of community development.

16-15.30-C. Filing of Plans

Filing of plans must conform to the specifications prepared and approved by the department of community development in effect at the time a development permit application is received by the department of community development. The lowest minimum finished floor elevation must be noted for each lot.

16-15.30-D. Materials

Materials must conform to the specifications prepared and approved by the department of community development in effect at the time a development permit application is received by the department of community development.

16-15.30-E. Construction

Construction must conform to the specifications prepared and approved by the department of community development in effect at the time a development permit application is received by the department of community development.

16-15.30-F. Comments on Plat

Upon receiving the preliminary plat, the community development director must compare the proposed subdivision in relation to existing and proposed sewer systems. Comments, recommendations and changes deemed advisable will be marked on the preliminary plat and returned to the community development director.

16-15.30-G. Certification on Plat

The community development director must place certification upon the final plat after the applicant has complied with the sewer system requirements of the county. Such certification is required prior to final approval by the city manager.

16-15.30-H. Acceptance

The city or its designated wastewater services provider may not accept the subdivision sewer project until the applicant has complied with all applicable requirements of the city and the county.

16-15.30-I. Maintenance

1. The owner/applicant must maintain all sewer lines, appurtenances, trenches and other disturbed surfaces for a period of 12 months after approval and acceptance by the city manager and/or the city's wastewater services provider.
2. The owner/applicant must be responsible for repairs to sewer system. Should any trenches settle, the owner/applicant must promptly furnish and place fill to original grade. Should any leaks or trench settlement occur under any pavement, the contractor will be held responsible for the cost of replacing pavement.

16-15.40 Streets

16-15.40-A. Standards

1. Generally

Street improvements must be provided in each subdivision in accordance with the city's standards and specifications and the regulations of this chapter.

2. Grading

The construction limits must be cleared of all trees, stumps, brush and rubbish before grading operations are begun. No trees, stumps, brush or rubbish must be placed in fill sections within the construction limits. Such debris must be disposed of in a manner satisfactory to the community development director. Fill sections must be placed in 6-inch layers with each layer thoroughly compacted with a sheep foot roller or by other approved methods before the next layer is placed, compaction to be not less than 95% as determined by ASTM D 698. Streets must be graded to the width required to accommodate street, curb and sidewalk improvements.

3. Curbing

Header curbs or standard curb and gutter is required on all streets and must be furnished and installed by the applicant unless grassed swales are used for water quality control and approved by the community development director. The minimum classes and types of curbing permitted will be as follows:

a. Granite curbing, class D or better.

b. Other as approved by the community development director. All curbing must be placed in firm, well-compacted subgrade, and curbing displaced prior to acceptance for maintenance by the city must be reset or replaced. Specifications for the granite curbing are available from the city department of community development.

4. Base and Paving

All roadways must be paved in accordance with city standards and specifications.

5. As-built Drawings

As-built drawings for all new streets must be submitted to the department of community development depicting a street profile based on the centerline and 50 foot stations.

6. Third Party Inspections

Before acceptance by the city, street improvements must be inspected by a qualified third party for compliance with all applicable city standards and specifications.

16-15.40-B. Street Signs

1. The city's standard steel post with horizontal reflectorized street nameplates with 4-inch letters must be furnished and set by the city at all subdivision street intersections.

2. The applicant must pay to the city for each street name sign a fee in the amount established by the community development director and approved by the city council.

3. To ensure that all street markers are paid for by the applicant and installed at the proper time, the required street markers will be paid for by the applicant at the time of recording.

4. Street name signs must be installed before a final plat is approved.

16-15.40-C. Road Hazards

Subdivision signs, planter boxes, and other similar permanent structures may not be located on street rights-of-way and may not be constructed in a manner which, in the opinion of the city, obstructs driveway sight distance or creates a traffic hazard; detailed plans for these structures must be submitted to the community development director.

16-15.40-D. Surface Drainage

1. The size, length and location of all surface drainage pipes or structures must be shown on the final subdivision plats and subject to the approval of the public works department. All storm drain pipes or culverts carrying stormwater from the street and adjacent property between or through lots must be extended to at least 30 feet behind the rear of the house. Stormwater must be released into a channel without causing scouring, erosion or resulting sedimentation to the receiving channel. When necessary, the outlet channel must include structural and vegetative measures to ensure non-erosion velocities. This requirement for pipe extension only applies to the discharge ends of piped systems.

a. An exception to extending pipes 30 feet behind the rear of the house may be made for pipes 54 inches and larger where the house site is proposed to be more than 30 feet from the center of the drainageway.

b. An exception to extending pipes 30 feet behind the rear of the house may be granted by the city when soil conditions prohibit erosion.

c. An exception to extending pipes 30 feet behind the rear of the house may be granted by the city where lots are at least one acre in size, open channels are provided, and neither ponding nor erosion control will result.

2. Installation, backfilling and compaction must be in accordance with state transportation department specifications, sections 106 and 520. All pipes must have a minimum cover of one foot and headwalls or inlet basins constructed at the end of each pipe.

3. The design of drainage structures must be based on recognized hydrological formulas as outlined in the *Stormwater Management Manual*.

4. A contour map with an interval of 2 feet must be submitted as part of preliminary plats. As determined by the community development director, any lots within the subdivision which are undesirable for building due to bad drainage conditions must be excluded, and no building is permitted thereon until these conditions have been corrected as specified by the community development director.

16-15.40-E. Plans and Profiles

Three copies and one electronic/digital copy of the complete plans and profiles for subdivision street improvements must be submitted for review and recommendation of approval or denial by the public works department prior to approval of the final plat.

16-15.40-F. Financial Guarantees

1. If, at the time the final plat is submitted for approval, the construction of the street improvements has not been accomplished, then the final plat must be disapproved. No performance bonds may be allowed or authorized except the community development director may require a performance bond to be filed with the city to ensure that all final road improvements required by this Code are made by the owner or applicant. The city may not accept a road until such time as all road improvements required by the city are made.

2. After the work has been completed in accordance with the city specifications and duly inspected by the city, then a maintenance bond is required, equal to 10% of the estimated construction cost. The proposed maintenance bond must be reviewed and approved as to form by the city attorney prior to acceptance by the city. The maintenance bond must cover the street improvements, drainage system, water system and sewer system. Funds may be placed in escrow with the city in lieu of maintenance bonds.

3. The applicant must sign a maintenance agreement with the city, by which the applicant must agree to maintain the streets, drainage, water quality BMPs, water and sewer systems, and rights-of-way for a period of 12 months. During the applicant maintenance period, the city must make inspections and instruct the applicant by letter as to what correction must be made.

4. In case of emergency repairs, which must be made immediately, or required corrections, which are not made within 30 days of notice, the city must have the authority to make these corrections and recover costs from the applicant. In cases where funds are being held in escrow by the city, the cost of making these corrections must be deducted from these funds, and the applicant charged with any costs above the amount of escrow funds.

5. At the end of the 12-month applicant maintenance period, the city must make a final inspection and notify the applicant and the bonding company of any corrections to be made. If the work is acceptable, the community development director must recommend to the city attorney that all remaining escrow funds be released; provided, however, in the discretion of the community development director, based upon:

a. Weather conditions;

b. Labor market;

c. Material market; or

d. Circumstances beyond the control of the applicant or the city unforeseen by either party.

6. The maintenance period may be extended for a definite period of time sufficient to make the necessary corrections by an agreement in writing executed by the city, the applicant and his surety. Provided, further, that the applicant is responsible for any damages done to work already completed by him to the time of the extension agreement whether or not the city had accepted it.

7. Maintenance bonds and acceptance by the city of any dedicated improvements must be as one package upon completion of all improvements, even though the final plat may have been approved prior to completion.

16-15.40-G. Standard Plans and Specifications

Standard city plans and specifications referred to in this part are on file and may be obtained from the community development department.

16-15.40-H. Sidewalks and Bicycle Lanes

1. Sidewalks are required on all sides of street frontage on all new and improved local residential streets in all subdivisions and along the street frontage of all new and improved nonresidential developments and as set forth in Sec. 16-14.20-J, unless the community development director determines that

a. Sidewalks are infeasible and their absence in the particular circumstances will not be detrimental to the public health, safety or welfare of the public or injurious to the property or public improvements;

b. The requested sidewalk exception does not go beyond the minimum necessary to afford relief and does not constitute a grant of special privilege inconsistent with the limitations upon other similarly situated properties; and

c. The requested exception is consistent with all relevant purpose and intent statements of this chapter.

2. At a minimum continuous sidewalks are required on at least one side of all new and improved local residential streets. No other variances or exceptions are allowed.

3. The community development director may require that sidewalks be extended to the nearest arterial or collector street.

4. A grassed, planted or landscaped strip, as set forth in Sec. 16-14.20-J, must separate all sidewalks from adjacent curbs, bridges excepted. The community development director may approve a variable sidewalk location and landscape strip width based on site conditions and future road expansions. Where sidewalks currently exist, new sidewalk construction or reconstruction must be continuous with existing sidewalks.

5. Sidewalks must be installed at the same time as the building construction, unless an alternative method is approved by the community development director. Sidewalks must be completed prior to the issuance of certificate of occupancy for property on which the sidewalk fronts. The sidewalk plan must be recorded on the final plat and all sidewalks completely installed prior to approval of the final plat.

6. Sidewalks may not be cut, removed or closed temporarily without a permit from the public works department. Such permit may not be issued unless safe, adequate, and convenient provision is made for nonmotorized travel through the area that is disrupted. Damage to sidewalks caused during construction or development activity must be repaired at no cost to the city within 30 days or prior to issuance of a certificate of occupancy, whichever is earlier.

7. All sidewalk construction and repairs must provide for wheelchair ramps to and from sidewalks at the intersection of each street corner and crosswalk. Access ramps must be constructed pursuant to standards approved by the public works department.

8. Sidewalks may not be constructed on any street in the city without first obtaining a permit to do so from the public works department. Any person constructing a sidewalk on a street, without first obtaining a permit, is in violation of this Code, and the public works department is authorized to condemn the sidewalk and have it removed and replaced at no cost to the city.

9. Bicycle lanes are required on new or substantially improved arterials or collector streets where the posted speed limit is 35 miles per hour or greater. Bicycle lanes may also be required by the community development director where necessary to provide connections to bikeways identified on the comprehensive transportation plan or other adopted plan. Bicycle lanes must be constructed as follows:

a. Bicycle lanes, where required, must be at least 4 feet wide and placed in the outside lane of a roadway, adjacent to the curb and gutter or shoulder. Curb and gutter areas may not be counted in calculating the width of a bicycle lane. When on-street parking is permitted, bicycle lanes must be at least 4 feet in width and located between the parking lane and the outer travel lane. Bicycle pavement widths are in addition to the minimum pavement width required for the road. See also Sec. 16-14.20-J.

b. Bicycle lanes must be delineated with signs and striping consistent with the latest edition of the manual for uniform traffic control devices, and approved by the community development director.

c. Bikeways and bicycle lanes must be constructed in accordance with the most recent specifications set forth in American Association of State Highway and Transportation Officials (AASHTO) guidelines.

d. The design, striping and sign system for bicycle lanes must be coordinated with that of the vehicular road system to provide a safe and continuous route for bicycles. Deceleration lanes must be striped so that bicycles can safely remain in a lane marked between the deceleration lane and the through traffic lane.

10. No wall, fence, sign or other structure may obstruct passage along a sidewalk or bicycle lane.

16-15.40-I. Parking on Right-of-way

1. For residential projects constructed under the provisions of the zoning ordinance as single-family attached residential projects, wherein title to the single-family unit is held by fee simple ownership, the city may assume maintenance responsibility one year after the release of the subdivision bonds for parking constructed on public rights-of-way, in accordance with minimum city standards. A special parking maintenance district, as authorized by Georgia Constitution article IX, §II, ¶ VI, comprised of all property within such single-family attached residential subdivision, may be established by resolution of city council for the maintenance of such parking constructed on the public right-of-way at the time the subdivision plat is finally recorded, provided the plat is so noted.

2. Final subdivision plats for single-family attached residential projects must have the following notation when a special district is to be established for city maintenance of parking within the public right-of-way:

"All single-family residential lots on this plat are included in a special taxing district for funding the maintenance of parking provided in the development."

3. If the city creates a special parking district, as authorized by Georgia Constitution article IX, §II, ¶ VI, revenue to fund city parking maintenance will be obtained by an ad valorem tax levied on all properties within such parking district. Such ad valorem millage will be set annually by the city council when other ad valorem millage rates are set. No assessment will be made in a special parking district in the calendar year in which it is established.

16-15.40-J. Underground Utilities

All utilities are required to be placed underground unless the community development director determines that underground utilities are infeasible due to shallow rock, high water table, or other similar geologic or hydrologic conditions.

16-15.40-K. Streetlights

Streetlights consistent with Georgia Power specifications are required in all new subdivisions of 2 or more lots except where no utility improvements are required by this chapter. Streetlights must be provided on the same side of the street as sidewalks.

16-15.50 Private Sewage Disposal

16-15.50-A. Preliminary Plat

At the time of submittal of the preliminary subdivision plat and application to the community development director, the applicant must submit to the county board of health the following information when public sewers are not available to the proposed subdivision:

1. Four copies of a sewer feasibility report;

2. Four copies of soil data records on forms provided by the board of health; and

3. Four copies of the subdivision analysis record on forms provided by the board of health.

16-15.50-B. Contour Intervals

Topographic data submitted to the city pursuant to the provisions of this division must show contour intervals of 2 feet.

16-15.50-C. Soils

Soil analysis must be conducted in accordance with the health regulations of the DeKalb County Code.

16-15.50-D. Review and Analysis

1. Upon receiving the preliminary plat from the department of community development and data required in §16-15.50-A through §16-15.50-D from the applicant, the county board of health personnel must make an overall analysis of the subdivision and must indicate in writing on the preliminary plat the results of this analysis. The plat must then be returned to the department of community development.
2. Regarding the preliminary analysis, each lot must have sufficient area and topographic features to accommodate the installation of an individual sewage disposal system in accordance with regulations applicable to these installations.
3. Any condition in the area to be subdivided found to be in violation of any health regulation is sufficient grounds for disapproval of the preliminary plat.

16-15.50-E. Inspections

1. Upon receiving the final plat from the city and when streets have been cut and individual lots are staked and identified, the board of health personnel will inspect each lot for adaptability to individual sewage disposal systems.
2. After inspection has been completed, the board of health must render a written report to the community development director that must include changes or recommendations or deletions. The final plat must be signed by the authorized representative of the board of health, written report attached, and returned to the city.

16-15.50-F. Issuance of Septic Tank Permits

No septic tank permits may be issued until 4 copies of the approved final plat, signed by the city manager, have been submitted to the board of health. The 4 copies of the approved plat must be provided by the city.

16-15.50-G. Drainage Between Lots

Where drainage between subdivision lots is involved and pipe is required, a watertight pipe must be used and must extend for a sufficient depth of the lot and not terminate at some point just behind the building line causing pools to be formed or flooding of septic tank drain fields.

16-15.50-H. Discharge into Public Waters

The Georgia Department of Natural Resources is authorized by the Georgia Water Quality Control Act to review plans and specifications of all sewage treatment facilities discharging into any waters of the state.

16-15.50-I. Board of Health Recommendation

The board of health may reject any or all domestic sewage disposal systems and may recommend in lieu thereof the extension of the public sewerage system or the installation of any approved temporary community sewerage system conforming to the Georgia Water Quality Control Act.

16-15.50-J. Impoundment Permit

Where ponds one-tenth of an acre or larger are located in a subdivision or adjoin a subdivision, an impoundment permit must be obtained in compliance with the impounded water regulations of the Georgia Board of Natural Resources.

16-15.50-K. Compliance with Board of Health Requirements

All septic tank systems must conform to the requirements of the board of health.

Article 16 Subdivision Variances

16-16.10 Authority

16-16.10-A. The zoning board of appeals is authorized to hear and decide applications for variances from the strict application of the subdivision design standards of Article 14, where strict application of any of the regulations of Article 14 would result in exceptional and undue hardship to the owner of such property. These regulations provide the minimum necessary requirements for subdivisions in the city; thus, variances from the requirements of Article 14 may be authorized only upon the zoning board of appeals making all of the following findings:

1. By reason of the shape or topographical conditions of a parcel of property which were not created by the owner or applicant, the strict application of Article 14 would deprive the property owner of rights and privileges enjoyed by other similarly situated property owners in the same zoning district;
2. By reason of the shape or topographical conditions of a parcel of property which were not created by the owner or applicant, there is no opportunity for development under any design configuration allowed by these subdivision regulations unless a variance is granted;
3. The requested variance does not go beyond the minimum necessary to afford relief, and does not constitute the grant of a special privilege inconsistent with the limitations upon other property owners in the zoning district in which the subject property is located;
4. The requested variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the subject property is located; and
5. The requested variance will not in any manner vary the provisions of the city zoning ordinance, the city comprehensive plan or the zoning map of the city.

16-16.10-B. No variance may be granted by the zoning board of appeals to:

1. Allow any variance which conflicts with or changes any requirement enacted as a condition of zoning or of a special land use permit by the city council;
2. Increase the density allowed on the property; or
3. Vary the requirements set forth §16-14.60.

16-16.10-C. Applications for variances must be submitted in writing to the community development director along with the application for sketch plat approval or if a variance becomes necessary after the approval of the sketch plat, within 30 days of discovery of the conditions requiring such a variance from the preliminary plat. Applications must contain all those materials and documents required by the community development director that are necessary to demonstrate the necessity for the variance and compliance with the requirements of this Code. At a minimum, the variance application must contain a full explanation of the reasons for the variance and must

include a plat that shows the proposed subdivision designed without the variance and a plat that shows the proposed subdivision designed with the variance.

16-16.10-D. When the variance application is first considered by the zoning board of appeals, the community development director must provide the zoning board of appeals with written findings of fact and a recommendation for approval or disapproval of the variance.

16-16.10-E. Applications for variances that accompany the application for sketch plat approval must be heard by the zoning board of appeals prior to the approval of a sketch plat.

16-16.10-F. After the filing of a complete application for a preliminary plat variance, the application must be placed on the next available meeting agenda of the zoning board of appeals. All land development activity associated with a proposed variance from a preliminary plat must cease until a final decision on the variance is made by the zoning board of appeals. Land development activity that is not related to the proposed variance may continue unabated.

16-16.10-G. All decisions by the zoning board of appeals approving or disapproving a variance must be issued in writing and must provide the grounds for the decision of the zoning board of appeals. The zoning board of appeals must issue a final decision on a variance submitted with the application for a sketch plat at the same time that it issues the final decision approving or disapproving the sketch plat. The zoning board of appeals must issue a final decision on a variance from the preliminary plat within 50 days after the first meeting at which the zoning board of appeals considers the variance. If a final decision is not made on a subdivision plat variance in accordance with the time constraints set forth in this section, the variance will be deemed approved.

16-16.10-H. Any person or entity (i.e., an owner, applicant, adjoining neighbor or a neighbor whose property line is within 1,500 feet of the nearest property line of the proposed subdivision) aggrieved by a variance decision of the zoning board of appeals affecting a preliminary plat, may appeal such decision by filing a petition for writ of certiorari to the county superior court in accordance with state law.

PART IV: TERMINOLOGY

Article 17 Rules of Language and Interpretation

16-17.10 Meanings and Intent

The language of these land development regulations must be read literally. Regulations are no more or less strict than stated. Words and terms expressly defined in these land development regulations (See, for example, Article 18) have the specific meanings assigned, unless the context clearly indicates another meaning. Words that are not expressly defined in these land development regulations have the meaning given in the latest edition of Merriam-Webster's *Unabridged Dictionary*.

16-17.20 Tenses and Usage

16-17.20-A. Words used in the singular include the plural. The reverse is also true.

16-17.20-B. Words used in the present tense include the future tense. The reverse is also true.

16-17.20-C. The words "must," "will," "shall" and "may not" are mandatory.

16-17.20-D. The word "may" is permissive, and "should" is advisory, not mandatory or required.

16-17.20-E. When used with numbers, "up to x," "not more than x" and "a maximum of x" all include "x."

16-17.20-F. The word "lot" includes the word "plot."

16-17.20-G. The word "used" is deemed to also include "designed, intended or arranged to be used."

16-17.20-H. The word "erected" is deemed to also include "constructed," "reconstructed," "altered," "placed," "relocated" or "removed."

16-17.20-I. The terms "land use" and "use of land" are deemed to also include "building use" and "use of building."

16-17.30 Conjunctions

Unless the context otherwise clearly indicates, conjunctions have the following meanings:

16-17.30-A. "And" indicates that all connected items or provisions apply; and

16-17.30-B. "Or" indicates that the connected items or provisions may apply singularly or in combination.

16-17.40 Computation of Time

16-17.40-A. References to "days" are to calendar days unless otherwise expressly stated. References to "business days" are references to regular city government working days, excluding Saturdays, Sundays and holidays observed by the city.

16-17.40-B. The time in which an act is to be completed is computed by excluding the first day and including the last day. If the last day is a Saturday, Sunday or holiday observed by the city, that day is excluded.

16-17.40-C. A day concludes at the close of business of city hall, and any materials received after that time will be considered to have been received the following day.

16-17.50 Headings and Illustrations

Headings and illustrations are provided for convenience and reference only and do not define or limit the scope of any provision of these land development regulations. In case of any difference of meaning or implication between the text of these land development regulations and any heading, drawing, table, figure or illustration, the text governs.

16-17.60 References to Other Regulations

All references in these land development regulations to other city, state or federal regulations are for informational purposes only, and do not constitute a complete list of such regulations. These references do not imply any responsibility by the city for enforcement of state or federal regulations.

16-17.70 Current Versions and Citations

All references to other city, state or federal regulations in these land development regulations refer to the most current version and citation for those regulations, unless otherwise expressly indicated.

16-17.80 Lists and Examples

Lists of items or examples that use “including,” “such as” or similar terms are intended to provide examples only. They are not to be construed as exhaustive lists of all possibilities.

16-17.90 Delegation of Authority

Whenever a provision appears requiring the head of a department or another officer or employee of the city to perform an act or duty, that department head, officer or employee is authorized to delegate the assigned responsibility to other individuals over whom they have authority.

16-17.100 Public Officials and Agencies

All employees, public officials, bodies and agencies to which references are made are those of the City of Dunwoody unless otherwise expressly stated.

Article 18 Definitions

16-18.10 Terms Defined

The words and terms expressly defined in this article have the specific meanings assigned, unless the context clearly indicates another meaning. Words that are not expressly defined have the meaning given in the latest edition of Merriam-Webster's *Unabridged Dictionary*.

16-18.10-A. Terms Beginning with "A"

Accessory structure means a structure, the use of which is customarily incidental and subordinate to that of the principal building of the same lot, such as a detached garage, toolshed or gazebo.

Accessory use means a use customarily incidental and subordinate to the principal use of the principal building or to the principal use of the premises.

Addition (to an existing building) means any walled and roofed expansion to the perimeter of a building in which the addition is connected to a common load-bearing wall other than a firewall. Any walled and roofed addition that is connected by a firewall or is separated by independent perimeter load-bearing walls is considered new construction.

Aggrieved person means a person whose property is the subject of the action appealed from or a person who has a substantial interest in the action appealed from, who is in danger of suffering special damage or injury not common to all property owners similarly situated.

Agricultural operations means those practices involving the establishment, cultivation or harvesting of products of the field or orchard; the preparation and planting of pasture land and farm ponds; dairy operations; livestock and poultry management practices; and the construction of farm buildings.

Alley means a minor way that is used primarily for vehicular service access to the back or side of properties otherwise fronting on a street.

Applicant means any person who acts in the person's own behalf or as the agent of an owner of property and engages in alteration of land or vegetation in preparation for construction activity.

Area of shallow flooding means a designated AO or AH zone on the flood insurance rate map (FIRM). The base flood depths range from one to 3 feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard. See "special flood hazard area"

Arterial (street) means a street, road or highway shown as an arterial in the City of Dunwoody Comprehensive Transportation Plan.

As-built drawings means amended site plans specifying the location, dimensions, elevations, capacities and operational capabilities of public improvements, including

water, sewer, road and drainage structures and stormwater management facilities as they have been constructed.

16-18.10-B. Terms Beginning with "B"

Bank (stream bank) means as measured horizontally from that point where vegetation has been wrested by normal stream flow or wave action.

Base flood means a flood that has a 1% chance of being equaled or exceeded in any given year (also called the 100-year flood).

Base Flood Elevation means the highest water surface elevation anticipated at any given point during the base flood.

Basement means any area of a building having its floor below ground level on 3 or more sides.

Best management practices (BMPs) means a collection of structural practices and vegetative measures that, when properly designed, installed and maintained, will provide effective erosion, sedimentation and pollution control. The term "properly designed" means 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).

Bicycle lane means that part of a street or highway adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles.

Block means a piece or parcel of land entirely surrounded by public highways or streets, other than alleys. In cases where the platting is incomplete or disconnected, the community development director may delineate the outline of the block.

Breakaway wall means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting system.

Buffer area means that portion of a lot set aside for open space and/or visual screening purposes, pursuant to the applicable provisions of this Code and all conditions of zoning, to separate different use districts or to separate uses on one property from uses on another property of the same use district or a different use district.

Buffer, stream, means the portion of a lot and/or area of land immediately adjacent to the banks of streams as regulated by the land development regulations of this Code.

Buffer zone, state, means the area of land immediately adjacent to the banks of state waters in its natural state of vegetation that facilitates the protection of water quality and aquatic habitat.

Buildable area means the area of a lot remaining after all applicable zoning and land development regulations have been met (i.e., that portion of a lot where a building may be located).

Builder means a person who constructs a structure or dwelling for residential occupancy by humans.

Building means any structure built for support, shelter or enclosure for any occupancy or storage.

Building, elevated. See "Elevated building."

Building permit means required written permission issued by the community development director or a building inspector for the construction, repair, alteration or addition to a structure.

Building setback line means the minimum horizontal distance required between the public right-of-way or the utility easement abutting a private street and the principal building or structure on a lot or any projection thereof, except projections that are authorized exceptions to building set back line requirements in the city zoning ordinance and any zoning conditions approved by the city council pursuant thereto. The size of the utility easement for a private street is equal to the required size of the public right-of-way and may not be any smaller in width or length than what would be required for a public right-of-way.

16-18.10-C. Terms Beginning with "C"

Caliper means the diameter of a tree trunk, taken 6 inches above the ground for up to and including 4-inch caliper size, and 12 inches above the ground for larger sizes.

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

Channel means a natural or artificial watercourse with a definite bed and banks that conduct continuously or periodically flowing water.

Channel protection means the protection of stream channels, in accord with the *Georgia Stormwater Management Manual*, from bank and bed erosion and degradation by preserving or restoring the applicable stream buffer, by providing extended detention and by integrating erosion prevention measures such as energy dissipation and velocity control.

City arborist means the community development director or the community development director's designee having primary administration and enforcement responsibilities for landscaping and tree regulations.

City manager means the city manager of the City of Dunwoody.

City of Dunwoody Stormwater Management Manual means the *Georgia Stormwater Management Manual*.

Collector street means a street or road designated as a collector street in the City of Dunwoody Comprehensive Transportation Plan.

Comprehensive plan means the comprehensive plan adopted by the city council, as it may be amended from time to time, that divides the city into land use categories

and that constitutes the official policy of the city regarding long-term planning and use of land.

Conservation easement means a restriction or limitation on the use of real property that is expressly recited in any deed or other instrument of grant or conveyance executed by or on behalf of the owner of the land described therein and whose purpose is to preserve land or water areas predominantly in their natural scenic landscape or open condition or in an agricultural farming, forest or open space use and includes conservation easements authorized by state law.

Construction means any alteration of land for the purpose of achieving its development or changed use, including particularly any preparation for, building of or erection of a structure.

Construction waste means waste building materials and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings and other structures. Such waste includes, but is not limited to, asbestos-containing waste, wood, tree stumps, tree tops, bricks, metal, concrete, wall board, paper, cardboard, glass, wire, plastics and other typical construction waste products and refuse.

Critical root zone means 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 critical root zone encompasses one foot of radial distance for every one inch of the tree's DBH, with a minimum radius of 8 feet.

Crosswalk means a right-of-way within a block dedicated to public use, 10 feet or more in width, intended exclusively for pedestrians and nonmotorized transportation and that is designed to improve or provide access to adjacent roads or lots.

Crown reduction pruning means a method of pruning to reduce the height or spread of a tree by performing appropriate pruning cuts.

Cut means a portion of land surface or area from which earth has been removed or will be removed by excavation or the depth below original ground surface to excavated surface. Also known as "excavation."

16-18.10-D. Terms Beginning with "D"

DBH (diameter at breast height) means the diameter of a tree trunk measured in inches at a height of 4½ feet above the ground. If a tree splits into multiple trunks below 4½ feet, then the trunk is measured at its most narrow point beneath the split.

Density factor means a unit of measurement used to calculate the required tree coverage on a site.

Detached means being separated from a principal structure by a minimum of 3 feet.

Detention means the temporary storage of stormwater runoff in a stormwater management facility for the purpose of controlling the peak discharge of the stormwater, as that term is defined by state law, the City of Dunwoody *Stormwater Management Manual* or this chapter.

Detention facility means a facility that provides for storage of stormwater runoff and controlled release of this runoff during and after a flood or storm.

Developer means any person who acts in the person's own behalf or as the agent of an owner of property and engages in alteration of land or vegetation in preparation for construction activity.

Development means all activities associated with the conversion of land or the expansion or replacement of an existing use to any new use intended for human operation, occupancy or habitation, other than for agricultural purposes devoted strictly to the cultivation of land, dairying or animal husbandry. Such activities include, but are not limited to, land disturbance (clearing and grubbing the land of vegetation and stumps and grading) and the construction of improvements such as, but not limited to, streets, driveways or parking area, water sewer mains, stormwater drainage facilities, sidewalks or other structures permanently placed in or on the property. Where appropriate to the context, development also may be used to denote a specific subdivision or project that is a single entity or intended to be constructed as interrelated whole, whether simultaneously or in phases. For the purposes of interpreting and administering the flood damage prevention regulations of Article 10, "development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving or any other installation of impervious cover, excavating or drilling operations or storage of equipment or materials.

Development permit means a permit issued by the City of Dunwoody that authorizes the commencement of development on a specific parcel of land.

DNR means the Georgia Department of Natural Resources.

Drainage means the removal of surface or subsurface water from a given area, either by gravity or by pumping, commonly applied herein to surface water.

Drainage easement means an easement appurtenant or attached to a tract or parcel of land allowing the owners of adjacent tracts or other persons to discharge stormwater runoff onto the tract or parcel of land subject to the drainage easement.

Drainage plan means a plan prepared using appropriate and commonly accepted engineering standards that specifies the means for alteration or development of a drainage system.

Drainage structure means a device composed of a virtually non-erodible material such as concrete, steel, plastic or other such material that conveys water from one place to another by intercepting the flow and carrying it to a release point for stormwater management, drainage control or flood control purposes.

Drainage system means the surface and subsurface system for the removal of water from the land, including, but not limited to, both the natural elements of streams, marshes, swales and ponds, whether of an intermittent or continuous nature and the manmade element that includes culverts, ditches, channels and detention facilities that comprise the storm drainage system.

16-18.10-E. Terms Beginning with "E"

Elevated building means a non-basement building built to have the lowest floor of the lowest enclosed area elevated above ground level by means of fill, solid foundation perimeter walls, pilings, columns, piers or shear walls that are adequately anchored so as not to impair the structural integrity of the building during a base flood event.

Encroachment means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain that may impede or alter the flow capacity of a floodplain.

EPD means the Environmental Protection Division of the Georgia Department of Natural Resources.

Erosion means the process by which land surface is worn away by the action of wind, water, ice or gravity.

Erosion*, sedimentation and pollution control plan* means a plan for the control of soil erosion, sedimentation and pollution resulting from a land-disturbing activity and that conforms to the requirements of the *Manual for Soil Erosion and Sedimentation Control in Georgia*.

Existing Construction means any structure for which the "start of construction" commenced before the effective date of the first floodplain management regulations adopted by a community as a basis for that community's participation in the National Flood Insurance Program.

Existing manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed before the effective date of the first floodplain management regulations adopted by a community as a basis for that community's participation in the National Flood Insurance Program.

Expansion to an existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads).

Extended detention means the detention of stormwater runoff for an extended period, typically 24 hours or greater.

Extreme flood protection means measures taken to prevent adverse impacts from large low-frequency storm events with a return frequency of 100 years.

16-18.10-F. Terms Beginning with "F"

Fill means a portion of land surface to which properly compacted soils have been added or the depth above the original ground.

Final stabilization means all soil disturbing activities at the site have been completed, and that for unpaved areas and areas not covered by permanent structures, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or equivalent permanent stabilization measures (such as the use of rip rap, gabions, permanent mulches or geotextiles) have been used. Permanent vegetation must consist of planted trees, shrubs or grasses. Final stabilization applies to each phase of construction.

Finished grade means the final elevation and contour of the ground after cutting or filling and conforming to the proposed design.

Flood or *flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from

1. the overflow of inland waters; or
2. the unusual and rapid accumulation or runoff of surface waters from any source.

Flood hazard boundary map (FHBM) means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated the special flood hazard areas as Zone A.

Flood insurance rate map (FIRM) means an official map on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

Flood insurance study means the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the flood boundary floodway map and the water surface elevation of the base flood.

Floodplain means any land area susceptible to flooding.

Floodplain coordinator means the individual appointed to administer and enforce the flood protection regulations of Article 10.

Floodproofing means any combination of structural and nonstructural additions, changes or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway means the channel of a river or other watercourse and the adjacent areas of the floodplain that is necessary to contain and discharge the base flood flow without cumulatively increasing the base flood elevation more than one foot; sometimes referred to as the “regulatory floodway."

Floor means the top surface of an enclosed area in a building, including basement (i.e., the top of slab in concrete slab construction or top of wood flooring in wood frame construction). The term does not include the floor of a garage used solely for parking vehicles.

Frontage, lot means the distance for which the front boundary line of the lot and the street line are coincident.

Functionally dependent use means a use that cannot perform its intended purposes unless it is located or carried out in close proximity to water.

Future-conditions flood means the flood having a one percent chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

Future-conditions flood elevation means the flood standard equal to or higher than the base flood elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

Future-conditions floodplain means any land area susceptible to flooding by the future-conditions flood.

Future-conditions hydrology means the flood discharges associated with projected land-use conditions based on a community's zoning map, comprehensive land-use plans and/or watershed study projections, and without consideration of projected future construction of flood detention structures or projected future hydraulic modifications within a stream or other waterway, such as bridge and culvert construction, fill and excavation.

16-18.10-G. Terms Beginning with "G"

Grading means altering the shape of ground surfaces to a predetermined condition; this includes stripping, cutting, filling, stockpiling and shaping or any combination thereof and includes the land in its cut or filled condition.

Ground elevation means the original elevation of the ground surface prior to cutting or filling.

16-18.10-H. Terms Beginning with "H"

Hardwood tree means 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.

Highest adjacent grade means the highest natural elevation of the ground surface, prior to construction, next to the proposed foundation of a building.

Historic structure means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary of the Interior to qualify as a registered historic district;

3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or

4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs. *Hydrologic soil group (HSG)* means a Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from group A soils, with high permeability and little runoff produced, to group D soils, which have low permeability rates and produce much more runoff.

16-18.10-I. Terms Beginning with "I"

Impervious surface or impervious cover means any surface that is highly resistant to infiltration by water, including, but not limited to, surfaces such as concrete or asphalt as well as most conventionally surfaced streets, roofs, sidewalks, driveways, parking lots and other similar structures.

Infiltration means the process of percolating stormwater runoff into the soil.

Inspection and maintenance agreement means a written agreement executed by an owner in a form approved by the community development director that will provide the long-term inspection and maintenance of stormwater management facilities and practices on a site or with respect to a land development project that, when properly recorded in the deed records, constitutes a restriction on the title to a site or other land involved in a land development project.

16-18.10-J. Terms Beginning with "J"

Jurisdictional wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

16-18.10-K. Terms Beginning with "K"

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16-18.10-L. Terms Beginning with "L"

Land-disturbing activity means any activity that may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting and filling of land, but not including agricultural practices as described in Sec. 16-5.30-E.

Landscape plan means 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.

Larger common plan of development or sale means a contiguous area where multiple separate and distinct construction activities are occurring under one plan of development or sale. For the purposes of this definition, the term "plan" means an announcement; piece of documentation such as a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request or computer design; or physical demarcation such as boundary signs, lot stakes or surveyor markings indicating that construction activities may occur on a specific plot.

Live detention means that quantity of water capable of being effectively contained by a designated facility for stormwater storage for a specified period of time.

Local issuing authority means the governing authority of the city that is certified pursuant to O.C.G.A. §12-7-8(a).

Local street means a street used primarily for access to abutting properties in residential, industrial or other developments.

Lot means a designated parcel, tract or area of land legally established by plat, subdivision, or as otherwise permitted by law, to be separately owned, used, developed or built upon.

Lot, corner, means a lot abutting upon 2 or more streets at their intersection or upon 2 parts of the same street forming an interior angle of less than 135 degrees.

Lot, double-frontage, means a lot that abuts 2 parallel streets or that abuts 2 streets that do not intersect at the boundaries of the lot. A double-frontage lot may also be referred to as a through lot.

Lowest floor means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure below the lowest floor that is usable solely for parking or vehicles, building access or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of other provisions of these land development regulations.

16-18.10-M. Terms Beginning with "M"

Maintenance of detention facility means preserving the enclosed walls or impounding embankments of the detention facility in good condition; ensuring structural soundness, functional adequacy and freedom from excessive sediment; removing obstructions affecting operation of outlet device; and rectifying any unforeseen erosion problems.

Manufactured home means a structure, transportable in one or more sections, built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term includes any structure commonly referred to as a "mobile home" regardless of the date of manufacture. The term also includes parked trailers, travel trailers and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

Manufactured home park or subdivision means a parcel (or contiguous parcels) of land divided into 2 or more manufactured home lots for rent or sale.

Market value means (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. This term includes structures that have incurred "substantial damage" regardless of the actual amount of repair work performed.

Mean sea level means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. It is used as a reference for establishing various elevations within the floodplain. For purposes of these regulations, the term is synonymous with National Geodetic Vertical Datum (NGVD) and/or the North American Vertical Datum (NAVD) of 1988.

Multiphase residential development means any development undertaken by a single developer or a group of developers acting in concert to develop lots for sale in a residential subdivision where such land is developed pursuant to multiple preliminary or final plats and such land is contiguous or is known, designated or advertised as a common unit or by a common name.

Multi-use trail means a recreation corridor intended for the use of nonmotorized forms of transportation such as, but not limited to, walking, wheelchairs, running, bicycles and inline skates, as identified in the Parks, Recreation and Greenspace Master Plan, the Comprehensive Transportation Plan or other plan adopted by the city council.

16-18.10-N. Terms Beginning with "N"

National Geodetic Vertical Datum (NGVD), as corrected in 1929, means a vertical control used as a reference for establishing varying elevations within the floodplain.

Natural ground surface means the ground surface in its original state before any grading excavation or filling.

Nephelometric turbidity units (NTUs) means numerical units of measure based upon photometric analytical techniques for measuring the light scattered by finely divided particles of a substance in suspension. This technique is used to estimate the extent of turbidity in water in which colloidally dispersed particles are present.

New construction means any structure for which the permitted date of construction commenced after adoption of this chapter. For the purposes of interpreting and administering the flood damage prevention regulations of Article 10, "new construction" means structures for which the start of construction commenced on or after the effective date of floodplain management regulations adopted by this community as a basis for community participation in the NFIP.

New manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by this community.

Nonpoint source pollution means a form of water pollution that does not originate from a discrete point such as a sewage treatment plant or industrial discharge, but involves the transport of pollutants such as sediment, fertilizers, pesticides, heavy metals, oil, grease, bacteria, organic materials and other contaminants from land to surface water and groundwater via mechanisms such as precipitation, stormwater runoff and leaching. Nonpoint source pollution is a byproduct of land use practices such as agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

Nonstructural stormwater management practice or *nonstructural practice* means any natural or planted vegetation or other nonstructural component and practice of the stormwater management plan that provides for or enhances stormwater quantity and/or quality control or other stormwater management benefits and includes, but is not limited to, riparian buffers, open and green space areas, overland flow filtration areas, vegetated channels and natural depressions.

North American Vertical Datum (NAVD), as corrected in 1988, means a vertical datum used as a reference for establishing varying elevations within the floodplain.

16-18.10-O. Terms Beginning with "O"

Off-site facility means a stormwater management facility located outside the boundaries of the site.

100-year floodplain means land in the floodplain subject to a 1% or greater statistical occurrence probability of flooding in any given year.

On-site facility means a stormwater management facility located within the boundaries of the site.

Open space means that portion of a lot, including yards, established pursuant to the requirements of this chapter as open space that is open and unobstructed from ground level to the sky, with the exception of natural foliage or accessory recreational facilities or walkways, that is accessible to all persons occupying a building on the lot and is not a part of the roof of any portion of any building.

Operator means the party that has:

1. Operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; or
2. Day-to-day operational control of those activities that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other permit conditions, such as a person authorized to direct workers at a site to carry out activities required by the stormwater pollution prevention plan or to comply with other permit conditions.

Ornamental trees means small growing trees, attaining a mature height of less than 40 feet, grown primarily for aesthetic purposes, i.e., flowers, fruit, etc.

Overbank flood protection means measures taken to prevent an increase in the frequency and magnitude of out-of-bank flooding (i.e., flow events that exceed the capacity of the channel and enter the floodplain) and that are intended to protect

downstream properties from flooding for the 2-year through 25-year frequency storm events.

Overstory tree means those trees that compose the top layer or canopy of vegetation and will generally reach a mature height of greater than 40 feet.

Owner means the person in whom is vested the fee ownership, dominion or title of property or the proprietor. This term may also include a tenant, if chargeable under the lease for maintenance of the property and any agent of the owner or tenant, including a developer.

16-18.10-P. Terms Beginning with "P"

Permit means the authorization necessary to conduct a land-disturbing activity under the provisions of this chapter.

Person means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, state agency, municipality or other political subdivision of this state, any interstate body or any other legal entity.

Planning commission means the planning commission of the city.

Post-development refers to the time period or the conditions that may reasonably be expected or anticipated to exist, after completion of land development activity on a site as the context may require.

Potential purchaser means a person purchasing property in a residential subdivision or a multiphase residential development from a developer and/or builder for occupancy as a residence or as a residence to be rented or leased to others.

Pre-development refers to conditions of a site before any development activity occurred or before a development permit was issued.

Project means the entire proposed development project regardless of the size of the area of land to be disturbed.

Protected zone means all areas of a parcel required to remain in open space, including all areas required as yard or setback areas, buffer areas, stream buffers, state buffer zones or landscaped areas in accordance with provisions of the city zoning ordinance or by conditions of zoning or variance approval.

Public facilities means the roads, water, sewer, schools, traffic control devices and electrical service.

16-18.10-Q. Terms Beginning with "Q"

RESERVED

16-18.10-R. Terms Beginning with "R"

Reach means a longitudinal segment of a stream or river measured along specified points on the stream or river.

Reasonable access means a 15-foot wide access easement from the public right-of-way to the stormwater management facility and a drainage and maintenance ease-

ment encompassing the stormwater management facility and extending 10 feet outside the pond's 100-year water ponding elevation.

Recreation areas mean those portions of open space designed and intended for active recreational use, such as sports fields and other play areas.

Recreational vehicle means a vehicle that is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light-duty truck; and
4. Not designed primarily for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use.

Redevelopment means a land development project on a previously developed site, but excludes ordinary maintenance activities, remodeling of existing buildings, resurfacing of paved areas and exterior changes or improvements that do not materially increase or concentrate stormwater runoff or cause additional nonpoint source pollution.

Regional stormwater management facility or *regional facility* means stormwater management facilities designed to control stormwater runoff from multiple properties, where the owners or developers of the individual properties may assist in the financing of the facility and the requirement for on-site controls is either eliminated or reduced.

Residential has the same meaning as given in the city zoning ordinance except that it does not include apartments.

Revegetation means replacement of trees and landscape plant materials into the minimum required landscape areas, as determined by the zoning ordinance, conditions of zoning approval or applicable tree preservation or protection regulations.

Roadway drainage structure means a device such as a bridge, culvert or ditch, composed of a virtually nonerodible material such as concrete, steel, plastic or other such material that conveys water under a roadway by intercepting the flow on one side of a traveled way consisting of one or more defined lanes, with or without shoulder areas and carrying water to a release point on the other side.

Rock outcropping means a single, contiguous piece of exposed rock that has a horizontal surface area equal to or greater than 200 square feet.

Runoff means the portion of precipitation on the land that reaches the drainage system.

Runoff coefficient means the ratio of runoff to rainfall.

16-18.10-S. Terms Beginning with "S"

Sediment means solid material, both organic and inorganic, that is in suspension, is being transported or has been moved from its site of origin by air, water, ice or gravity as a product of erosion.

Sediment basin means a detention facility specifically developed for the purpose of allowing the deposit of sediment resulting from the land development process that may be constructed as part of or separately from a detention facility.

Sedimentation means the process by which eroded material is transported and deposited by the action of water, wind, ice or gravity.

Seller means a builder or developer.

Significant tree means any existing, healthy, living tree 8 inches DBH or greater in size.

Site plan means that plan required to acquire a development, construction or building permit that shows the means by which the applicant will comply with applicable provisions of this chapter and other applicable ordinances.

Softwood tree means any coniferous (cone-bearing) tree.

Special Flood Hazard Area (SFHA) means an area in the floodplain subject to a 1% or greater chance of flooding in any given year. This includes areas shown on an FHBM or FIRM as zone A, AO, A1-A30, AE, A99, AE, AO, AH or AR; all floodplain and flood prone areas at or below the future-conditions flood elevation; and all other flood prone areas as referenced in Sec. 16-10.10-G. All streams with a drainage area of 100 acres or greater must have the special flood hazard area delineated.

Special tree means any tree that qualifies for special consideration for preservation due to its size, type, and condition (See 16-8.50).

Specimen tree means any tree that 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 (See 16-8.50).

Stabilization means the process of establishing an enduring soil cover of vegetation by the installation of temporary or permanent cover for the purpose of reducing to a minimum the erosion process and the resulting transport of sediment by wind, water, ice or gravity.

Standards and specifications means construction and technical requirements that govern construction and installation of streets and other public improvements in the City of Dunwoody.

Start of construction means the initial disturbance of soils associated with clearing, grading or excavating activities or other construction activities. The term "construction activities" means the disturbance of soils associated with clearing, grading, excavating, filling of land or other similar activities that may result in soil erosion. For the purposes of interpreting and administering the flood damage prevention regulations of Article 10, “start of construction” means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement was within 180 days of the date of the permit. The actual start means either the first placement of permanent con-

struction of a structure on a site, such as the pouring of slab for footings, the installation of piles, the construction of columns or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation of accessory buildings or structures appurtenant to the principal structure, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

State general permit means the national pollution discharge elimination system general permit for stormwater runoff from construction activities as is now in effect or as may be amended or reissued in the future pursuant to the state's authority to implement the same through federal delegation under the federal *Water Pollution Control Act*, as amended, 33 USC 1251 et seq. and O.C.G.A. §12-5-30(f).

State waters means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the state that are not entirely confined and retained completely upon the property of a single individual, partnership or corporation.

Stormwater better site design means a nonstructural site design approach and technique that can reduce a site's impact on the watershed and can provide for nonstructural stormwater management. The term "stormwater better site design" includes conserving and protecting natural areas and greenspace, reducing impervious cover and using natural features for stormwater management.

Stormwater hotspot means an area where the use of the land has the potential to generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. Examples of stormwater hotspots include, but are not limited to, gas/fueling stations, vehicle maintenance areas, vehicle washing/steam cleaning facilities, auto recycling facilities, outdoor material storage areas, loading and transfer areas, landfills, construction sites, industrial sites and industrial rooftops.

Stormwater management means the collection, conveyance, storage, treatment and disposal of stormwater runoff in a manner intended to prevent increased flood damage, streambank channel erosion, habitat degradation and water quality degradation and to enhance and promote the public health, safety and general welfare.

Stormwater management facilities means those structures and facilities that are designed for the collection, conveyance, storage, treatment and disposal of stormwater runoff into and through the drainage system.

Stormwater management manual means the *Georgia Stormwater Management Manual*.

Stormwater management measure means any stormwater management facility or nonstructural stormwater practice.

Stormwater management plan means a document describing how existing runoff characteristics will be affected by a land development project and containing measures for complying with the provisions of this ordinance.

Stormwater management system means the entire set of structural and nonstructural stormwater management facilities and practices that are used to capture, convey and control the quantity and quality of the stormwater runoff from a site.

Stormwater retrofit means a stormwater management practice designed for a currently developed site that previously had either no stormwater management practice in place or a practice inadequate to meet the stormwater management requirements of the site.

Stream means natural, running water flowing continuously or intermittently in a channel on or below the surface of the ground. Field verification must be performed to make a final determination as to the existence of a stream where a dispute exists. Such field verification must be performed under the direction of the community development director.

Streambank means a sloping land that contains a stream channel in the normal flows of the stream.

Stream channel means the portion of a watercourse that contains the base flow of the stream.

Stream, ephemeral (stormwater) means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is defined always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

Stream, intermittent: means a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the seasonally high water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the conveyance of water.

Stream, perennial means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological and physical characteristics commonly associated with the continuous conveyance of water.

Street, private, means an access way similar to and having the same function as a public street, providing access to more than one property but held in private owner-

ship. Private streets, when authorized, must be developed in accordance with the specifications for public streets established in this chapter.

Street, public, means any right-of-way set aside for public travel dedicated to the city and any right-of-way that has been accepted for maintenance as a street by the city.

Street right-of-way line means the dividing line between a lot, tract or parcel of land and a street right-of-way.

Structural erosion, sedimentation and pollution control measures means measures for the stabilization of erodible or sediment-producing areas by utilizing the mechanical properties of matter for the purpose of either changing the surface of the land or storing, regulating or disposing of runoff to prevent excessive sediment loss. Examples of structural erosion and sediment control practices are riprap, sediment basins, dikes, level spreaders, waterways or outlets, diversions, grade stabilization structures, sediment traps and land grading. Such measures can be found in the *Manual for Erosion and Sediment Control in Georgia*.

Structural stormwater control means a structural stormwater management facility or device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow of such runoff.

Structure means anything constructed or erected with a fixed location on the ground or attached to something having a fixed location on or in the ground. This does not include telephone poles and utility boxes, but does include gas or liquid storage tanks and manufactured homes.

Subdivision means any division or redivision of a lot, tract or parcel, regardless of its existing and future use, into 2 or more lots, tracts or parcels. Where appropriate to context, subdivision may also be used to reference the aggregate of all lots held in common ownership at the time of division.

Substantial building permit means a nonresidential building permit issued by the city with a total value in excess of 50% of the 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 must be included in this calculation (see Appendix E).

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred.

Substantial improvement means any combination of repairs, reconstruction, alteration or improvements to a building, the cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement. For the purposes of this definition, "substantial improvement" is deemed to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. The term does not, however, include those improvements of a build-

ing required to comply with existing health, sanitary or safety code specifications which are solely necessary to assure safe living conditions, which have been pre-identified by code enforcement officials, and not solely triggered by an improvement or repair project.

Substantially improved existing manufactured home parks or subdivision is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50% of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

16-18.10-T. Terms Beginning with "T"

Tree means any living, self-supporting, woody perennial plant that has a trunk caliper of 2 inches or more measured at a point 6 inches above the ground and that normally attains a height of at least 10 feet at maturity, usually with one main stem or trunk and many branches.

Tree harvesting means the felling, loading, and transporting of timber products done pursuant to a special exception issued by the zoning board of appeals.

Tree replacement means the replacement of trees and landscape plant materials in the minimum required landscape areas, as determined by the zoning regulations or the tree protection ordinance.

Tree save area means the boundaries of the area surrounding trees wherein it is essential that they remain undisturbed in order to prevent damage and loss of trees that are to be retained on-site during the development and building process.

Tree topping means 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.

16-18.10-U. Terms Beginning with "U"

Understory tree means those trees that grow beneath the overstory trees and will generally reach a mature height of less than 40 feet.

Used for includes the terms "arranged for," "designed for," "intended for," "maintained for" and "occupied for."

16-18.10-V. Terms Beginning with "V"

Vegetation means all plant growth, especially trees, shrubs, vines, ferns, mosses and grasses.

Vegetative erosion, sedimentation and pollution control practices means practices for the stabilization of erodible or sediment-producing areas by covering the soil with:

(1) Permanent seeding, sprigging or planting, producing long-term vegetative cover;

(2) Temporary seeding, producing short-term vegetative cover; or

(3) Sodding, covering areas with a turf of perennial sod-forming grass.

Such practices can be found in the *Manual for Erosion and Sediment Control in Georgia* published by the state soil and water conservation commission.

16-18.10-W. Terms Beginning with "W"

Water quality protection means the requirement that all developments must improve the quality of storm runoff from the development site.

Watercourse means any natural or artificial waterway, stream, river, creek, channel, ditch, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which water flows either continuously or intermittently and that has a definite channel, bed and banks and including any area adjacent thereto subject to inundation by reason of overflow or floodwater.

Wetlands means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

16-18.10-X. Terms Beginning with "X"

RESERVED

16-18.10-Y. Terms Beginning with "Y"

RESERVED

16-18.10-Z. Terms Beginning with "Z"

RESERVED

Appendix A Tree Replacement Density Factor Calculations

The following abbreviations are used in the examples 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 × 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:

DBH	UNITS		QUANTITY		# TREES
12"	0.8	×	7	=	5.6
14"	1.1	×	3	=	3.3
18"	1.8	×	3	=	5.4
20"	2.2	×	1	=	2.2
30"	4.9	×	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 RTF (Step 2) from 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 combination of transplantable 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:

Number	Size	Species	Density Factor
15	6'	Pines	(12 × 0.4) = 6.0
20	2"	Red Maples	(20 × 0.5) = 10.0
7	6"	Oaks	(7 × 1.0) = 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 acres × 20 units/acre = 44 units required

RTF (Remaining Tree Factor)

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

RRD (Required Replacement Density)

SIZE	UNITS	NUMBER	TOTAL UNITS
2"–3"	0.5	10	5.0
1"	0.4	100	40.0
		TOTAL RRD	45.0

RTF + RRD > or = TDF

29.0 + 45.0 = 74.0. Thus, Tree the tree density requirement is 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	51	14

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

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 B Tree Selection

1. Trees selected for planting must meet minimum requirements as provided below and in the American Standard of Nursery Stock.
2. Trees selected for planting must be free from injury, pests, disease, or nutritional disorders.
3. 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:
4. 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.
5. Shoot growth for most vigorous trees will be at least 1 foot per year. At least ½ of the branches should arise from the top 1/3 and ½ from the center 1/3.
6. 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.
7. 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.
8. Root color. Young roots of most trees will be light in color.
9. Trees selected for planting must be free of root defects. Two types of root defects generally occur:
10. Kinked roots, in which taproots, major branch roots, or both are bent more than 90 degrees with less than 20% 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.
11. Circling or girdling roots which circle 80% or more of the root system by 360 degrees or more. A tree with such roots would ultimately have less than 20% of its system available for support.

Appendix C Tree Transplanting

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. Transplanting procedures must 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.

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.

Planting Procedures

1. Planting holes should be at least 3 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 negative 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 D Planting Standards

1. After selecting a suitable location, mark out a planting area that is 5 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 2 to 4 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 bark needs air and sunlight in order to build a healthy protective sheath.

Appendix E Substantial Building Permits

Example 1

The 100% assessed value of the improvements of a 10,000 square foot shopping center is assessed by DeKalb County at $250,000.

In January the owner is issued a permit in the amount of $25,000 to replace heating and air conditioning equipment. 3 months later he is issued a permit in the amount of $50,000 to replace the roof covering and add a false mansard roof.

Does this equate to a Substantial Building Permit?

$25,000 + $50,000 = $75,000 (building permits 12 months)

$75,000/$250,000 = 30.00% (less than 50%)

This case is not a substantial building permit.

Example 2

The 100% assessed value of the improvements of a 10,000 square feet shopping center is assessed by DeKalb County at $250,000.

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

Does this equate to a Substantial Building Permit?

$200,000/$250,000 = 80.00% (greater than 50%)

Yes, this is a substantial building permit.

Example 3

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

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

Does this equate to a Substantial Building Permit?
Yes, because the permit exceeds half of the value of the improvements.