

## **MEMORANDUM**

**To:** Mayor and City Council  
**From:** Jeff Mueller, City Engineer  
**Date:** October 26, 2020  
**Subject:** Text Amendment  
Chapter 16, Article II, Division 8 -Flood Damage Prevention;  
Chapter 16, Article VI, Division 2 -Definitions

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### **ITEM DESCRIPTION**

This item is a request to consider various text amendments to the above referenced divisions of Chapter 16 of the city code. The proposed revisions are attached to this memo.

### **BACKGROUND**

In 2019, the city was notified that FEMA was intent on conducting a "Community Assistance Visit" (CAV). FEMA staff met with city staff the week of August 26, 2019. At this CAV, FEMA staff reviewed the city's ordinance and conducted an audit of the Community Development Department's permitting and inspection processes as they relate to flood damage prevention.

After this meeting, the city came into receipt of a letter from FEMA dated December 17, 2019. In this letter FEMA outlined required changes to the city's code as it relates to flood damage prevention.

The city submitted a response letter to FEMA on the matter dated January 31, 2020. Since that time, city staff has been in correspondence and coordination with FEMA staff to verify that the changes to the code as presented in this agenda item will address the requests of FEMA's December 17, 2019 letter as it relates to code changes.

### **DISCUSSION**

There are 15 discrete changes to the two above referenced divisions in Chapter 16. Of the fifteen changes, ten are modifications to current definitions found in Article VI, Division 2. One change involves moving the definition for "floor" from Chapter 16 to Chapter 27, as this is where the definition for floor has its application, and a definition for "lowest floor" in Chapter 16 is introduced by FEMA's requirement. The remaining four changes are in Article II, Division 8 which cover four issues:

1. Include a reference to the OCGA clause that delegate this responsibility to local government units.
2. Modify applicability of this division to special flood hazard areas and other floodplains regulated by the city of Dunwoody, and not 'all areas.'
3. Modify language concerning a requirement that all necessary permits from federal and state agencies must be obtained.
4. Add a requirement that all necessary permits from federal and state agencies have been obtained as a part of the authorized review process of proposed development and subdivision proposals.

### **RECOMMENDATION**

PROPOSED changes:

1. Add a new subsection, subsection (3), under Section 16-136 (a) to state:  
*(3) Article IX, Section II of the Constitution of the State of Georgia and Section 36-1-20(a) of the Official Code of Georgia Annotated have delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City establishes this set of*

*floodplain management and flood hazard reduction provisions for the purpose of regulating the use of flood hazard areas. It is determined that the regulation of flood hazard areas and the prevention of flood damages is in the public interest and will minimize threats to public health and safety, as well as to private and public property.*

2. Modify Section 16-136 (d) as follows:
  - (d) *Applicability.* The flood damage prevention regulations of this division apply ~~to all areas~~ *Special Flood Hazard Areas and other floodplains regulated by within* the City of Dunwoody.
3. Modify Section 16-138 (a) (2) a.2 as follows:
  2. *All necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. All other required state and federal permits have been obtained;* and
4. Modify Section 16-138 (b) (1) e and add a new subsection f, under Section 16-138 (b) (1) to state:
  - e. *Copies of all applicable state and federal permits necessary for proposed development;* ~~Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334;~~
  - f. *Review subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal or other proposed new development is in a flood-prone area, any such proposals shall be reviewed to assure that (i) all such proposals are consistent with the need to minimize flood damage within the flood-prone area, (ii) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and (iii) adequate drainage is provided to reduce exposure to flood hazards;* and
5. Modify Section 16-138 (b) (1) f to be renumbered as Section 16-138 (b) (1) g.
6. Modify Section 16-301 (e) by modifying definition of 'elevated building' as follows:

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.
7. Modify Section 16-301 (f) by modifying definition of 'floodplain' as follows:

means any land area susceptible to ~~flooding~~ *being inundated by water from any source (see definition of 'flooding').*
8. Modify Section 16-301 (f) by moving the definition of 'floor' from Section 16-301 (f) to Section 27-621 (f).
9. Modify Section 16-301 (l) by modifying definition of 'lowest floor' as follows:

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. An unfinished or flood resistant enclosure, usable solely for parking of 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 the applicable non- elevation design requirements of 44 Code of Federal Regulations Section 60.3.~~
10. Modify Section 16-301 (m) by modifying definition of 'manufactured home' as follows:

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. *The term 'manufactured home' does not include a 'recreational vehicle.'*

11. Modify Section 16-301 (n) by modifying definition of 'new construction' as follows:  
means ~~any structure for which the permitted date of construction commenced after adoption of this chapter, October 14, 2009.~~ , for the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial Flood Insurance Rate Map (May 15, 1980) or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, "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,~~ and includes any subsequent improvements to such structures".
12. Modify Section 16-301 (p) by modifying definition of 'permit' as follows:  
means the authorization necessary to conduct a land-disturbing activity *and development* under the provisions of this chapter.
13. Modify Section 16-301 (r) by adding a definition for 'regulatory floodway' as follows:  
*means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.*
14. Modify Section 16-301 (v) by adding a definition for 'variance' as follows:  
*means, for the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, a grant of relief by a community from the terms of a flood plain management regulation.*
15. Modify Section 16-301 (v) by adding a definition for 'violation' as follows:  
*means, for the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in § 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided".*

Staff recommends **APPROVAL**.

Attachments:

Chapter 16, Article II, Division 8 -Flood Damage Prevention  
Chapter 16, Article VI, Division 2 -Definitions

## DIVISION 2. - DEFINITIONS

### Sec. 16-301. - Terms defined.

The words and terms expressly defined in this division 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.

(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.

*Adjacent to the future-conditions floodplains* means those areas located within the defined horizontal distance from the future-conditions floodplain boundary that are at or lower in elevation than either three feet above the base flood elevation or one foot above the future-conditions flood elevation, whichever is higher, unless the area is hydraulically independent (meaning absolutely no connection to the flooding source such as through pipes, sewer laterals, down drains, foundation drains, ground seepage, overland flow, gated or valved pipes, excavated and backfilled trenches, etc. with no fill or other manmade barriers creating the separation).

*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 three 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.

(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 percent 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 three or more sides.

*Best management practices (BMPs)* include sound 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 commission as of January 1 of the year in which the land-disturbing activity was permitted.

*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.* See "structure".

*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 setback 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.

(c) *Terms beginning with "C."*

*Caliper* means the diameter of a tree trunk, taken six inches above the ground for up to and including four-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.

*Commission* means the Georgia Soil and Water Conservation Commission (GSWCC).

*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.

*CPESC* means certified professional in erosion and sediment control with current certification by EnviroCert, Inc. which is also referred to as CPESC or CPESC, Inc.

*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 eight feet.

*Crosswalk* means a right-of-way within a block dedicated to public use, ten 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."

(d) *Terms beginning with "D."*

*DBH (diameter at breast height)* means the diameter of a tree trunk measured in inches at a height of four and one-half feet above the ground. If a tree splits into multiple trunks below four and one-half 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.

*Design professional* means a professional licensed by the State of Georgia in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a certified professional in erosion and sediment control (CPESC) with a current certification by EnviroCert, Inc. Design professionals shall practice in a manner that complies with applicable Georgia law governing professional licensure.

*Detached* means being separated from a principal structure by a minimum of three 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 II, division 8, "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.

*District* means the DeKalb Soil and Water Conservation District.

*Division* means the Environmental Protection Division (EPD) of the Department of Natural Resources.

*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.

(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 required by the Erosion and Sedimentation Act, O.C.G.A. Ch. 12-7, that includes, as a minimum protection at least as stringent as the state general permit, best management practices, and requirements in section IV.C.[16-59(c)] of this division.

*Existing construction* means any structure for which the "start of construction" commenced before October 14, 2009 the effective date of floodplain management regulations adopted by this community.

*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 October 14, 2009, the effective date of floodplain management regulations adopted by this community as a basis for community 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.

(f) *Terms beginning with "F."*

*Fill* means a portion of land surface to which soil or other solid material has been added; the depth above the original ground surface or an excavation.

*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 percent of the soil surface is uniformly covered in permanent vegetation with a density of 70 percent or greater, or landscaped according to the plan (uniformly covered with landscaping materials in planned landscape areas), or equivalent permanent stabilization measures as defined in the manual (excluding a crop of annual vegetation and seeding of target crop perennials appropriate for the region). 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 being inundated by water from any source (see definition of 'flooding').~~

*Floodplain coordinator* means the individual appointed to administer and enforce the flood protection regulations of article II, division 8.

*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.

(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.

(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.

(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.

(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.

(k) *Terms beginning with "K."*

*RESERVED*

(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 section 16-58.

*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 two or more streets at their intersection or upon two parts of the same street forming an interior angle of less than 135 degrees.

*Lot, double-frontage*, means a lot that abuts two parallel streets or that abuts two streets that do not intersect at the boundaries of the lot. A double-frontage lot may also be referred to as a through lot.

*Lot, flag*, means a lot that sits behind lots which face directly onto a street with access provided to the bulk of the lot by means of a narrow corridor, whether providing the minimum amount of street frontage and width or not.

*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.~~ An unfinished or flood resistant enclosure, usable solely for parking of 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 the applicable non- elevation design requirements of 44 Code of Federal Regulations Section 60.3".

(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. **The term 'manufactured home' does not include a 'recreational vehicle.'**

*Manufactured home park or subdivision* means a parcel (or contiguous parcels) of land divided into two 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.

*Multi-phase 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.

(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 colloiddally dispersed particles are present.

*New construction* means any structure for which the permitted date of construction commenced after adoption of this chapter, October 14, 2009. For the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, "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 October 14, 2009, 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.

(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 one-percent 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 two-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.

(p) *Terms beginning with "P."*

*Permit* means the authorization necessary to conduct a land-disturbing activity **and development** 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.

(q) *Terms beginning with "Q."*

**RESERVED**

(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 easement encompassing the stormwater management facility and extending ten 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) Four hundred 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.

*Regulatory floodway* means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

*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.

(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 eight 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.

*Soil and water conservation district approved plan* means an erosion, sedimentation and pollution control plan approved in writing by the DeKalb Soil and Water Conservation District.

*Special flood hazard area (SFHA)* means an area in the floodplain subject to a one-percent 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 floodprone areas at or below the future-conditions flood elevation; and all other floodprone areas as referenced in section 16-136. 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.

*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.

*Spite strip* means a piece of land used to separate a street or road rights-of-way from adjoining property and whose primary purpose is to preclude access to such rights-of-way.

*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 II, division 8, "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 construction 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 chapter.

*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 ownership. 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 a walled and roofed building (including a gas or liquid storage tank), that is principally above ground, or a manufactured home.

*Subdivision* means any division or redivision of a lot, tract or parcel, regardless of its existing and future use, into two 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 percent of the county tax assessor's 100 percent 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 percent 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, taking place during a ten-year period, the cost of which equals or exceeds 50 percent 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 building 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 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

(t) *Terms beginning with "T."*

*Tree* means any living, self-supporting, woody perennial plant that has a trunk caliper of two inches or more measured at a point six inches above the ground and that normally attains a height of at least ten 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.

(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."

(v) *Terms beginning with "V."*

*Variance* means, for the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, a grant of relief by a community from the terms of a flood plain management regulation.

*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.

*Violation* means, for the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, the failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in § 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided".

(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.

*Width, lot*, means the distance between the side lot lines, measured along a line drawn parallel to the front lot line at a distance from the front lot line equal to the minimum street yard setback. For lots with curvilinear frontage and setback lines (e.g.: cul-de-sac lots), the width shall be measured as a straight line through the points that intersect the side lot lines at a distance from the front lot line equal to the minimum street yard setback.

(x) *Terms beginning with "X."*

*RESERVED*

(y) *Terms beginning with "Y."*

*RESERVED*

(z) *Terms beginning with "Z."*

*RESERVED*

(Ord. No. 2013-10-14, 1(Exh. A § 16-18.10), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015; Ord. No. 2017-03-06, § 2, 3-27-2017; Ord. No. 2018-10-16, § I, 10-8-2018)

## DIVISION 8. - FLOOD DAMAGE PREVENTION<sup>[8]</sup>

### Footnotes:

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**Editor's note**— Ord. No. 2018-10-16, adopted Oct. 8, 2018, amended div. 8 in its entirety to read as herein set out. Former div. 8, §§ 16-136—16-141 pertained to similar subject matter, and derived from Ord. No. 2013-10-14, § 1(Exh. A §§ 16-10.10—16-10.60), adopted Oct. 14, 2013; and Ord. No. 2015-01-04, § 1, adopted Jan. 26, 2015.

### Sec. 16-136. - General.

#### (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.

(3) Article IX, Section II of the Constitution of the State of Georgia and Section 36-1-20(a) of the Official Code of Georgia Annotated have delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City establishes this set of floodplain management and flood hazard reduction provisions for the purpose of regulating the use of flood hazard areas. It is determined that the regulation of flood hazard areas and the prevention of flood damages is in the public interest and will minimize threats to public health and safety, as well as to private and public property.

#### (b) *Purposes.* It is the purpose of the flood damage prevention regulations of this division 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.

#### (c) *Methods of reducing flood losses.* In order to accomplish its purposes, this division 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.
- (d) *Applicability.* The flood damage prevention regulations of this division apply to ~~all-areas~~ Special Flood Hazard Areas and other floodplains regulated by ~~within~~ the City of Dunwoody.
- (e) *Compliance.* All structures and land may hereafter be constructed, located, extended, converted, or altered only in full compliance with the terms of this division and other applicable regulations.
- (f) *Violations.*
- (2) 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 division 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 section 16-35.
- (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 division.
  - (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 division and may be supplemented by studies for other areas that allow implementation of this division 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 floodprone 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 floodprone 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.
- (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 two or more occasions during a ten-year period in which the cost of repairing the flood damage, on average, was 25 percent 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 percent or more of the market value of the building before the damage occurred.
- (i) *Warning and disclaimer of liability.* The degree of flood protection required by this division 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 division 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 division 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 division or any administrative decision lawfully made hereunder.

(Ord. No. 2018-10-16, § II, 10-8-2018)

Sec. 16-137. - Definitions.

See division 2.

~~(~~(Ord. No. 2018-10-16, § II, 10-8-2018)

Sec. 16-138. - Administration.

- (a) *Floodplain coordinator.*
  - (1) *Appointment.* The community development director is appointed as the floodplain coordinator to administer and enforce this division, 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 division have been satisfied;
      - 2. All necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. 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 division.

- 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 subsection (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 division.
- (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 section 16-140;

4. For enclosures below the base flood elevation, location and total net area of foundation openings as required in section 16-140;
  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; Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334";
  - f. Review subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal or other proposed new development is in a flood-prone area, any such proposals shall be reviewed to assure that (i) all such proposals are consistent with the need to minimize flood damage within the flood-prone area, (ii) all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and (iii) adequate drainage is provided to reduce exposure to flood hazards; and
  - f.g. All certifications required under this division. 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.

- (c) *Record maintenance.* All records pertaining to the provisions of this division must be maintained in the department of community development and must be open for public inspection.
- (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 division.

(Ord. No. 2018-10-16, § II, 10-8-2018)

Sec. 16-139. - Standards for development.

(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.

(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.

(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 groundwater table elevation and the base flood elevation for the base flood, and between the average groundwater 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 (predevelopment) 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 percent;

- 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 subsection (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 floodwaters; 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 six months of the completion of construction, the applicant must submit as-built surveys for a final letter of map revision (LOMR).
- (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 section 16-140 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.
- (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 floodwaters, 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.
- (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.

(Ord. No. 2018-10-16, § II, 10-8-2018)

Sec. 16-140. - Flood hazard reduction.

- (a) *General regulations.* The following regulations apply in all special flood hazard areas:
- (1) New construction and substantial improvements of principal buildings (residential or nonresidential), including manufactured homes, are not allowed within the limits of the future-conditions floodplain, unless all requirements of section 16-139(c), (d), and (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 two 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 three 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 floodwaters into the system;
  - (9) New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters;
  - (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.
- (b) *Within future-conditions floodplain.* In addition to the general regulations of subsection (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 section 16-139(c), (d) and (e) have been met. If all of the requirements of section 16-139(c), (d) and (e) have been met, all new construction must have the lowest floor, including basement, elevated at least three 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 subsection (a)(5).
    - b. *Substantial improvements.* Substantial improvements of principal buildings, including manufactured homes, is not allowed within the limits of the future-conditions floodplain unless all requirements of section 16-139(c), (d), and (e) have been met. If all of the requirements of section 16-139(c), (d), and (e) have been met, all substantial improvements must have the lowest floor, including basement, elevated at least three 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 subsection (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 section 16-139(c), (d), and (e) have been met. New construction that has met all of the requirements of section 16-139(c), (d), and (e) shall have the elevation of the lowest floor, including basement and access to the building, at least three 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 subsection

- (a)(5). New construction that has met all of the requirements of section 16-139(c), (d), and (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 improvements of principal buildings, including manufactured homes, is not allowed within the limits of the future-conditions floodplain unless all requirements of section 16-139(c), (d), and (e) have been met. Substantial improvements that have met all of the requirements of section 16-139(c), (d), and (e) shall have the elevation of the lowest floor, including basement and access to the building, at least three 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 subsection (a)(5). Substantial improvements that have met all of the requirements of section 16-139(c), (d), and (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.
- (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 subsection (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 subsection (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 section 16-139(c), (d) and (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 three 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 subsection (a)(7).
- (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. 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 subsection (a)(5).
  - (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. 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 subsection (a)(5).
- (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 division.
  - (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 three 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 subsection (a)(5).
- (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 three 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 three feet above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of floodwaters must be provided in accordance with subsection (a)(5).

- (2) Substantial improvement of a nonresidential structure may be floodproofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be watertight 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.
- (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 section 16-138(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 floodwaters, and discharges from the systems into floodwaters; 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.

(Ord. No. 2018-10-16, § II, 10-8-2018)

Sec. 16-141. - Variances.

- (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 division 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 division 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.
- (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 division, 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.
- (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 division. 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 (subsection (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 subsection (b) and the purposes of this division, the zoning board of appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this division.
- (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.

(Ord. No. 2018-10-16, § II, 10-8-2018)

Secs. 16-142—16-155. - Reserved.

## **MEMORANDUM**

**To:** Mayor and City Council  
**From:** Carl Thomas, Stormwater Utility Manager  
**Date:** October 26<sup>th</sup>, 2020  
**Subject:** Post-Development Stormwater Ordinance Revisions

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### **ITEM DESCRIPTION**

This memo outlines proposed updates to the Post-Development Stormwater Management Ordinance (Chapter 16, Article II, Division 5). The ordinance revisions accomplish the regulatory goals stated in the City's Municipal Separate Storm Sewer System (MS4) Permit and the Metropolitan North Georgia Water Planning District's Water Resource Management Plan. These updates will add to the City's ability to control the quality and quantity of stormwater runoff discharged from developed sites and facilitate resilient, sustainable development.

### **BACKGROUND**

The Georgia Environmental Protection Division (EPD) requires local jurisdictions with MS4 permits to revise existing ordinances, when necessary, to remain in compliance with current standards. The updates to the MS4 Permit require new construction projects that need a stormwater management plan to be designed to retain and treat the first 1.0 inch of rainfall, or Runoff Reduction Volume (RR<sub>v</sub>), on the site to the maximum extent practicable. These updates to the Permit prompted an update to the City's existing ordinances.

On June 9<sup>th</sup> 2020, the Metropolitan North Georgia Water Planning District (Metro District) finalized updates to the Post-Construction Stormwater Management Model Ordinance to match the substance and language of the current MS4 permit and Georgia Stormwater Management Manual (GSMM). Updates to the ordinance are listed below:

- Modifications to ordinance language to improve consistency and clarity
- Define new terms
- Runoff Reduction Feasibility Policy

Members located within the Metro District's authority (15 counties and 93 municipalities) must adopt the revised ordinance before the December 6<sup>th</sup> deadline stated in the MS4 permit.

### **RECOMMENDED ACTION**

Staff recommends approval of the revised Post-Development Stormwater Management Ordinance.

## APPENDIX A

### Revisions to Chapter 16, Article II, Division 5 Post-Construction Stormwater Management Ordinance (changes highlighted)

## DIVISION 5. - STORMWATER MANAGEMENT

## Sec. 16-91. – Post-Construction Stormwater Management for New Development and Redevelopment.

- (a) *Purpose and Intent.* The regulations of this division 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-construction stormwater runoff and nonpoint source pollution associated with new development and redevelopment. Proper management of post-construction 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. Additionally, the City of Dunwoody is required to comply with several State and Federal laws, regulations and permits and the requirements of the Metropolitan North Georgia Water Planning District's regional water plan related to managing the water quantity, velocity, and quality of post-construction stormwater runoff.
- (b) Adoption and Implementation of the GSMM
- (1) *Georgia Stormwater Management Manual.* The City of Dunwoody must use and require compliance with all relevant criteria, specifications, calculations, formulas, methods, design standards, and other guidance provided in the Georgia Stormwater Management Manual and its appendices, as may be hereafter amended. The rainfall intensities used in hydrologic and hydraulic computations must be those published in the Georgia Stormwater Management Manual (GSMM).
- (2) This division is not intended to modify or repeal any other Article, ordinance, rule, regulation or other provision of law, including but not limited to any applicable stream buffers under state and local laws, and the Georgia Safe Dams Act and Rules for Dam Safety. In the event of any conflict or inconsistency between any provision in the City of Dunwoody's MS4 permit and this division, the provision from the MS4 permit shall control. In the event of any conflict or inconsistency between any provision of this division and the GSMM, the provision in this division shall control. In the event of any other conflict or inconsistency between this division and any other regulation, the provision that is more restrictive or imposes higher protective standards for human health or the environment shall control.
- (3) If any provision of this division is invalidated by a court of competent jurisdiction, such judgement shall not affect or invalidate the remainder of this division.
- (4) *Designation of administrator.* The City Manager may from time to time appoint someone to administer and implement this division.
- (c) *Applicability Criteria for Stormwater Management Standards.* The stormwater management regulations of this division applies to the following activities:
- (1) New development that involves the creation or addition of 5,000 square feet or more of new impervious surface area or that involves other land disturbing activities of one acre or more;
- (2) Redevelopment (excluding routine maintenance and exterior remodeling) that creates, adds, or replaces 5,000 square feet or more of new impervious surface area or that involves land disturbing activity of 1 acre or more;
- (3) New development and redevelopment if
- a. such new development or redevelopment is part of a subdivision or other common plan of development, **and**
  - b. the sum of all associated impervious surface area or land disturbing activities meets or exceeds applicability criteria of paragraphs (1) **and** (2) above;

- (4) Any commercial or industrial new development or redevelopment, regardless of size, that is a hotspot land use as defined in this division; and
- (5) Linear transportation projects that exceed the threshold in paragraphs (1) or (2) above.
- (d) *Exemptions from Stormwater Management Standards.* The following activities are exempt from the stormwater management requirements of this division:
- (1) Land disturbing activity conducted by local, state, authority, or federal agencies solely to respond to an emergency need to protect life, limb, or property or conduct emergency repairs.
  - (2) Land disturbing activity that consists solely of cutting a trench for utility work and related pavement replacement;
  - (3) Land disturbing activity conducted by local, state, authority, or federal agencies whose sole purpose is to implement stormwater management or environmental restoration;
  - (4) Agricultural practices as described O.C.G.A. 12-7-17(5) within areas zoned for these activities with the exception of buildings or permanent structures that exceed the threshold in 16-91(c)(1) or 16-91(c)(2);
  - (5) Silvicultural land management activities as described in O.C.G.A. 12-7-17(6) within areas zoned for these activities with the exception of buildings or permanent structures that exceed the threshold in 16-91(c)(1) or 16-91(c)(2);
  - (6) Repairs to any stormwater management facility or practice deemed necessary by the community development director, or designee;
  - (7) Installations or modifications to existing structures solely to implement Americans with Disabilities Act (ADA) requirements, including but not limited to elevator shafts, handicapped access ramps and parking, and enlarged entrances or exists; and
  - (8) Linear transportation projects being constructed by the City of Dunwoody to the extent the administrator determines that the stormwater management standards may be infeasible to apply, all or in part, for any portion of the linear transportation project. For this exemption to apply, an infeasibility report that is compliant with the City of Dunwoody linear feasibility program shall first be submitted to the administrator that contains adequate documentation to support the evaluation for the applicable portion(s) and any resulting infeasibility determination, if any, by the administrator.
- (e) Stormwater Management Standards. Subject to the applicability criteria in Sec. 16-91(c) and exemptions in Sec. 16-91(d), the following standards apply.
- (1) Design of Stormwater Management System: The design of the stormwater management system shall be in accordance with the applicable sections of the GSMM as directed by the community development director, or designee. Any design which proposes a dam shall comply with the Georgia Safe Dams Act and Rules for Dam Safety as applicable.
  - (2) Natural Resources Inventory: Site reconnaissance and surveying techniques shall be used to complete a thorough assessment of existing natural resources, both terrestrial and aquatic, found on the site. Resources to be identified, mapped, and shown on the Stormwater Management Plan, shall include, at a minimum (as applicable):
    - a. Topography (min. of 2-foot contours) and Steep Slopes (slopes >15%)
    - b. Natural drainage Divides and Patterns
    - c. Natural drainage features (e.g., swales, basins, depressed areas)

- d. Natural feature protection and conservation areas (such as wetlands, lakes, ponds, floodplains, stream buffers, drinking water wellhead protection areas and river corridors).
  - e. Predominant soils (including erodible soils and karst areas), and
  - f. Existing, predominant vegetation including trees, high quality habitat and other existing vegetation.
- (3) Better Site Design Practices for Stormwater Management. Stormwater Management Plans shall preserve the natural drainage and treatment systems and reduce the generation of additional stormwater runoff and pollutants to the maximum extent practicable.
- (4) Stormwater Runoff Quality/Reduction:
- a. For development with a stormwater management plan submitted before December 6, 2020, the applicant may choose either (A) Runoff Reduction or (B) Water Quality.
  - b. For development with a stormwater management plan submitted on or after December 6, 2020, the applicant shall choose (A) Runoff Reduction and additional water quality shall not be required. To the extent (A) Runoff Reduction has been determined to be infeasible for all or a portion of the site using the Practicability Policy, then (B) Water Quality shall apply for the remaining runoff from a 1.2 inch rainfall event and must be treated to remove at least 80% of the calculated average annual post-development total suspended solids (TSS) load or equivalent as defined in the GSMM.
    - (A) Runoff Reduction – The Stormwater management system shall be designed to retain the first 1.0inch of rainfall on the site using runoff reduction methods to the maximum extent practicable.
    - (B) Water Quality – The stormwater management system shall be designed to remove at least 80% of the calculated average annual post-development TSS load from a 1.2 inch rainfall event, or equivalent as defined in the GSMM.
  - c. If a site is determined to be a hotspot, the City of Dunwoody may require the use of specific or additional components for the stormwater management system to address pollutants of concern generated by that site.
- (5) Stream Channel Protection: Stream channel protection shall be provided by using all of the following three approaches:
- a. Preservation, restoration and/or reforestation (with native vegetation) of the applicable stream buffer;
  - b. 24-hour extended detention storage of the one-year, 24-hour return frequency storm event; and
  - c. Erosion prevention measures such as energy dissipation and velocity control.
- (6) *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 storm event.
- (7) *Extreme flooding protection.* Extreme flood and public safety protection must be provided by controlling the 100-year, 24-hour storm event such that flooding is not exacerbated.
- (8) *Downstream analysis.* Due to peak flow timing and runoff volume effects, some structural components of the stormwater management system fail to reduce discharge peaks to pre-development levels downstream of the site. A downstream peak flow analysis must be provided to the point in the watershed downstream of the site or the stormwater management downstream from the project to a point in the drainage basin where the

project area is ten percent of the total basin area (GSMM, Section 3.1.9). This is to help ensure that there are minimal downstream impacts from development on the site. The downstream analysis may result in the need to resize structural components of the stormwater management system. In calculating runoff volumes and discharge rates, consideration may need to be given to any planned future upstream land use changes.

- (9) *Stormwater Management System Inspection and Maintenance.* The components of the stormwater management system that will not be dedicated to and accepted by the City of Dunwoody, including all drainage facilities, best management practices, credited conservation spaces, and conveyance systems, shall have an inspection and maintenance agreement to ensure that they continue to function as designed. All new development and redevelopment sites are to prepare a comprehensive inspection and maintenance agreement for the on-site stormwater management system. This plan shall be written in accordance with the requirements in Sec. 16-92.

(f) *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. 16-92;
- (2) Performance bond, if applicable; and
- (3) Applicable permit application and plan review fees.

(Ord. No. 2013-10-14, 1(Exh. A § 16-7.10), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015)

Sec. 16-92. - Pre-Submittal Meeting, Stormwater Concept Plan, and Stormwater Management Plan Requirements

(a) Before a land development permit application is submitted, an applicant may request a pre-submittal meeting with the City of Dunwoody. The pre-submittal meeting should take place based on an early step in the development process such as before site analysis and inventory (GSMM Section 2.4.2.4) or the stormwater concept plan (GSMM Section 2.3.2.5). The purpose of the pre-submittal meeting is to discuss opportunities, constraints, and ideas for the stormwater management system before formal site design engineering. To the extent applicable, local and regional watershed plans, greenspace plans, trails and greenway plans, and other resource protection plans should be consulted in the pre-submittal meeting. Applicants must request a pre-submittal meeting with the City of Dunwoody when applying for a Determination of Infeasibility through the Practicability Policy.

(b) The stormwater concept plan shall be prepared using the minimum following steps:

- (1) Develop the site layout using better site design techniques, as applicable (GSMM Section 2.3).
- (2) Calculate preliminary estimates of the unified stormwater sizing criteria requirements for stormwater runoff quality/reduction, channel protection, overbank flooding protection and extreme flooding protection (GSMM Section 2.2).
- (3) Perform screening and preliminary selection of appropriate best management practices and identification of potential siting locations (GSMM Section 4.1).

(c) The stormwater concept plan shall contain:

- (1) Common address and legal description of the site,
- (2) Vicinity Map, and
- (3) Existing conditions and proposed site layout mapping and plans (recommended scale of 1"=50'), which illustrate at a minimum:
  - a. Existing and proposed topography (minimum of 2-foot contours).

- b. Perennial and intermittent streams,
- c. Mapping of predominant soils from USDA soil surveys
- d. Boundaries of existing predominant vegetation and proposed limits of clearing and grading,
- e. Location and boundaries of other natural feature protection and conservation areas such as wetlands, lakes, ponds, floodplains, stream buffers and other setbacks (e.g., drinking water well setbacks, septic setbacks, etc.)
- f. Location of existing and proposed roads, buildings, parking areas and other impervious surfaces,
- g. Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements,
- h. Preliminary estimates of unified stormwater sizing criteria requirements,
- i. Preliminary selection and location, size and limits of disturbance of proposed BMPs,
- j. Location of existing and proposed conveyance systems such as grass channels, swales, and storm drains,
- k. Flow paths
- l. Location of the boundaries of the base flood floodplain, future-conditions floodplain, and the floodway (as applicable) and relationship of site to upstream and downstream properties and drainage, and
- m. Preliminary location and dimensions of proposed channel modifications, such as bridge or culvert crossings.

(d) The stormwater management plan shall contain the items listed in this part and be prepared under the direct supervisory control of either a registered Professional Engineer (PE) or a registered Landscape Architect licensed in the state of Georgia. Items (3), (4), (5) and (6) shall be sealed and signed by a registered PE licensed in the state of Georgia. The overall site plan must be stamped by a design professional licensed in the State of Georgia for such purpose (GSMM Section 2.4.2.7).

(1) Natural Resource Inventory

(2) Stormwater Concept Plan

(3) Existing conditions hydrologic analysis

(4) Post-development hydrologic analysis

(5) Stormwater management system

(6) Downstream analysis

(7) Erosion and sedimentation control plan

(8) BMP Landscaping plan

(9) Inspection and maintenance agreement

(10) Evidence of acquisition of applicable local and non-local permits

(11) Determination of Infeasibility (if applicable)

(e) For redevelopment sites, predevelopment conditions must be modeled using the established guidelines for the portion of the site undergoing land development activities. For redevelopment and to the extent existing stormwater management structures are being used to meet stormwater management standards, the following must also be included in the stormwater management plan for existing stormwater management structures:

(1) As-built drawings

(2) Hydrology Reports

(3) Current inspection of existing stormwater management structures with deficiencies noted

(4) BMP Landscaping Plan

#### Sec.16-93 – Application Fee.

(a) The fee for review of any land development application shall be based on the fee structure established by the City of Dunwoody, and payment shall be made before the issuance of any land disturbance permit or building permit for the development.

#### Sec. 16-94 – Application Procedures.

(a) Land development applications are handled as part of the process to obtain the land disturbance permit pursuant to Sec. 16-60 or building permit Sec. 16-29, as applicable. Before any person begins development on a site, the owner of the site shall first obtain approval in accordance with the following procedure:

(b) File a land development application with the City of Dunwoody on the City's form of application with the following supporting materials:

(1) the stormwater management plan prepared in accordance with Sec. 16-92(d).

(2) a certification that the development will be performed in accordance with the stormwater management plan once approved.

(3) a Preliminary Determination of Infeasibility, as applicable, prepared in accordance with the practicability policy, and

(4) an acknowledgement that the applicant has reviewed the City of Dunwoody's form of inspection and maintenance agreement and that applicant agrees to sign and record such inspection and maintenance agreement before the final inspection.

(c) The administrator shall inform the applicant whether the application and supporting materials are approved or disapproved.

(d) If the application and supporting materials are approved, the City of Dunwoody may issue the associated land disturbance permit or building permit, provided all other legal requirements for the issuance of such permits have been met. The stormwater management plan included in such applications becomes the approved stormwater management plan.

#### Sec.16-95. Compliance with the Approved Stormwater Management Plan.

(a) All development shall be:

(1) consistent with the approved stormwater management plan and all applicable land disturbance and building permits, and

(2) conducted only within the area specified in the approved stormwater management plan.

(b) No changes may be made to an approved stormwater management plan without review and advanced written approval by the administrator.

#### Section 16-96. *Inspection and maintenance agreement.*

(a) The owner shall execute an inspection and maintenance agreement with City of Dunwoody obligating the owner to inspect, clean, maintain, and repair the stormwater management system; including vegetation in the final BMP landscaping plan. The form of the inspection and maintenance

agreement shall be the form provided by the City of Dunwoody. After the inspection and maintenance agreement has been signed by the owner and the City of Dunwoody, the owner shall promptly record such agreement at the owner's cost in the property record for all parcels that make up the site.

- (b) The inspection and maintenance agreement shall identify by name or official title the person(s) serving as the point of contact for carrying out the owner's obligations under the inspection and maintenance agreement. The owner shall update the point of contact from time to time as needed and upon request by the City of Dunwoody. Upon any sale or transfer of the site, the new owner shall notify the City of Dunwoody in writing within 30 days of the name or official title of the new person(s) serving as the point of contact for the new owner. Any failure of an owner to keep the point of contact up to date shall, following 30 days' notice, constitute a failure to maintain the stormwater management system.
- (c) The inspection and maintenance agreement shall run with the land and bind all future successors-in-title of the site. If there is a future sale or transfer of only a portion of the site, then:
  - (1) The parties to such sale or transfer may enter into and record an assignment agreement designating the owner responsible for each portion of the site and associated obligations under the inspection and maintenance agreement. The parties shall record and provide written notice and a copy of such assignment agreement to the City of Dunwoody.
  - (2) In the absence of a recorded assignment agreement, all owners of the site shall be jointly and severally liable for all obligations under the inspection and maintenance agreement regardless of what portion of the site they own.
  - (3) 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 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.
  - (4) 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 appropriate successors in title. These arrangements must designate for each portion of the site, the person to be permanently responsible for its inspection and maintenance.
  - (5) 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.
  - (6) 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 division and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

(Ord. No. 2013-10-14, 1(Exh. A § 16-7.20), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015)

## Sec. 16-97. - Design.

- (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.
- (b) *Discharge velocities.* Discharge velocities from detention facilities must be reduced to provide a nonerosive velocity flow from a structure, channel, or other control measure as set forth in the approved Georgia Stormwater Management Manual.
- (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.
- (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.
- (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 department, 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.
- (f) *Combined detention.* When the applicant requests and the community development director, or designee, determines that development and construction projects are too small, or that engineering and economic factors make combined detention or other stormwater management facilities more practical, the city may authorize the joint construction of these facilities to serve two or more properties by two or more applicants.
- (g) *Fencing.*
  - (1) Permanent fencing at least four 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 four 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, or designee, 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, or designee, would damage the environment or affect stream flow.

- (h) *Special flood hazard area elevation contours.* In residential districts, not less than 70 percent 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.
- (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, or designee, 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.

(Ord. No. 2013-10-14, 1(Exh. A § 16-7.30), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015)

Sec. 16-98. - Inspections and maintenance.

(a) Inspections **to Ensure Compliance** During Construction.

- (1) Periodic inspections of the stormwater management system **during** construction must be conducted by the community development department or conducted and certified by a professional engineer approved by the community development director, or designee. Inspections must **use** the approved stormwater management 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 **the stormwater management system** is in compliance with the approved stormwater management plan;
  - c. Variations from the approved **stormwater management plan**; and
  - d. Any other variations or violations of the conditions of the approved stormwater management plan.

(b) Final Inspection.

- (1) **As-Built Drawings; Delivery of Inspection and Maintenance Agreement.** Upon completion of **development**, the applicant is responsible for:
  - a. Certifying that the **stormwater management system is functioning properly and was constructed in conformance with** the approved stormwater management plan **and associated hydrologic analysis**,
  - b. **Submitting as-built drawings showing** the final design specifications for all **components of the** stormwater management **system as** certified by a professional engineer.
  - c. **Certifying that the landscaping is established and installed in conformance with the BMP landscaping plan, and**
  - d. **Delivering to the City of Dunwoody a signed inspection and maintenance agreement that has been recorded by the owner in the property record for all parcels that make up the site.**

1. *Specific Certification Requirements.* In order to ensure each component is functioning as designed and built according to the design specifications in the approved stormwater management plan, a certification of volume, or other performance test applicable to the type of stormwater management system component, must be performed by a qualified person.

2. *Final Inspection.* The certification and required performance tests shall be submitted to the City of Dunwoody with the request for a final inspection. The City of Dunwoody shall perform a final inspection with the applicant to confirm applicant has fulfilled all applicable responsibilities. A final inspection by the city is required before the release of any performance bonds or financial guarantees.

(c) *Violations and Enforcement.* Any violation of the approved stormwater management plan during construction, failure to submit as-built drawings, failure to submit a final BMP landscaping plan, or failure of the final inspection shall constitute and be addressed as violations of, or failures to comply with, the underlying land disturbance permit pursuant to Sec. 16-60 or the underlying building permit pursuant to Sec. 16-29. To address a violation of this division, the City of Dunwoody shall have all the powers and remedies that are available to it for other violations of building and land disturbance permits, including without limitation the right to issue notices and orders to ensure compliance, stop work orders, and penalties as set forth in the applicable ordinances for such permits.

(d) *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 division.

(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.

(e) *Right-of-entry.*

*Maintenance Agreements.* The terms of the inspection and maintenance agreement must provide for the right of entry for authorized city or city contracted officials for the purpose of maintenance inspections and other specified purposes. If a site was developed before the requirement to have an inspection and maintenance agreement or an inspection and maintenance agreement was for any reason not entered into, recorded, or has otherwise invalidated or deemed insufficient, the City of Dunwoody shall have the right to enter and make inspections pursuant to the City of Dunwoody's general provisions for property maintenance inspections pursuant to Sec. 16-98/this section.

(f) *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 public works director and suitable access easements are provided. The public works director shall make a decision within 30 days of submittal of the request. The applicant shall be empowered to appeal the decision of the public works director to the mayor and city council, which shall hear the appeal within 30 days of receipt of the appeal.

**(g) *Owner's Failure to Maintain the Stormwater Management System.*** The terms of the inspection and maintenance agreement shall provide for what constitutes a failure to maintain a stormwater management system and the enforcement options available to the City of Dunwoody. If a site was developed before the requirement to have an inspection and maintenance agreement or an inspection and maintenance agreement was for any reason not entered into, recorded, or has otherwise been invalidated or deemed insufficient, then:

- (1) An owner's failure to maintain the stormwater management system so that it performs as it was originally designed shall constitute and be addressed as a violation of, or failure to comply with, owner's property maintenance obligations pursuant to Sec. 8-1 (State Minimum Standard Codes) and
- (2) To address such a failure to maintain the stormwater management system, the City of Dunwoody shall have all the powers and remedies that are available to it for other violations of an owner's property maintenance obligations, including without limitation prosecution, penalties, abatement, and emergency measure.

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.

**(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, or designee, 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.

(Ord. No. 2013-10-14, 1(Exh. A § 16-7.50), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015; Ord. No. 2019-01-01, § I, 1-28-2019)

Secs. 16-99—16-104. - Reserved.

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## APPENDIX B

### Revisions to Chapter 16, Article II, Division 2 Glossary of Terms (changes highlighted)

## DIVISION 2. - DEFINITIONS

Sec. 16-301. - Terms defined.

**Definitions.** For this division, the terms below have the following meanings:

The words and terms expressly defined in this division have the specific meanings assigned, unless the context clearly indicates another meaning.

**Other terms used but not defined in this division shall be interpreted based on how such terms are defined and used in the GSMM and the City of Dunwoody's MS4 Permit.**

(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.

*Adjacent to the future-conditions floodplains* means those areas located within the defined horizontal distance from the future-conditions floodplain boundary that are at or lower in elevation than either three feet above the base flood elevation or one foot above the future-conditions flood elevation, whichever is higher, unless the area is hydraulically independent (meaning absolutely no connection to the flooding source such as through pipes, sewer laterals, down drains, foundation drains, ground seepage, overland flow, gated or valved pipes, excavated and backfilled trenches, etc. with no fill or other manmade barriers creating the separation).

***Administrator* means the person appointed to administer and implement this division on Post-Construction Stormwater Management for New Development and Redevelopment in accordance with Sec. 16-91(b)(4).**

*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 a person **submitting a land development application for approval.**

*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 three 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.

(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 percent 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 three or more sides.

*Best management practice (BMP)* means both structural devices to store or treat stormwater runoff and non-structural programs or practices which are designed to prevent or reduce the pollution of the waters of the State of Georgia.

*BMP landscaping plan* means a design for vegetation and landscaping that is critical to the performance and function of the BMP including how the BMP will be stabilized and established with vegetation. It shall include a layout of plants and plant names (local and scientific).

*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.* See "structure".

*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 setback 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.

(c) *Terms beginning with "C."*

*Caliper* means the diameter of a tree trunk, taken six inches above the ground for up to and including four-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 conveys 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.

*Commission* means the Georgia Soil and Water Conservation Commission (GSWCC).

*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.

*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.

*CPESC* means certified professional in erosion and sediment control with current certification by EnviroCert, Inc. which is also referred to as CPESC or CPESC, Inc.

*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 eight feet.

*Crosswalk* means a right-of-way within a block dedicated to public use, ten 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."

(d) *Terms beginning with "D."*

*DBH (diameter at breast height)* means the diameter of a tree trunk measured in inches at a height of four and one-half feet above the ground. If a tree splits into multiple trunks below four and one-half 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.

*Design professional* means a professional licensed by the State of Georgia in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a certified professional in erosion and sediment control (CPESC) with a current certification by EnviroCert, Inc. Design professionals shall practice in a manner that complies with applicable Georgia law governing professional licensure.

*Detached* means being separated from a principal structure by a minimum of three feet.

*Detention* means the temporary storage of stormwater runoff in a stormwater **detention** facility for the purpose of controlling the peak discharge.

*Detention facility* means a **structure designed** for **the storage and gradual release** of stormwater runoff **at** controlled **rates**.

*Development* means **new or redevelopment**.

*Development permit* means a permit issued by the City of Dunwoody that authorizes the commencement of development on a specific parcel of land.

*District* means the DeKalb Soil and Water Conservation District.

*Division* means the Environmental Protection Division (EPD) of the Department of Natural Resources.

*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 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.

(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.

*Existing construction* means any structure for which the "start of construction" commenced before October 14, 2009 the effective date of floodplain management regulations adopted by this community.

*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 October 14, 2009, the effective date of floodplain management regulations adopted by this community as a basis for community 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 **of time.**

*Extreme flood protection* means measures taken to prevent adverse impacts from large low-frequency storm events with a return frequency of 100 years **or more.**

(f) *Terms beginning with "F."*

*Fill* means a portion of land surface to which soil or other solid material has been added; the depth above the original ground surface or an excavation.

*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 percent of the soil surface is uniformly covered in permanent vegetation with a density of 70 percent or greater, or landscaped according to the plan (uniformly covered with landscaping materials in planned landscape areas), or equivalent permanent stabilization measures as defined in the manual (excluding a crop of annual vegetation and seeding of target crop perennials appropriate for the region). 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.

*Flooding* means a **volume of surface water that exceeds the banks or walls of the BMP or channel; and overflows onto adjacent lands.**

*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 II, division 8.

*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.

(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.

**GSMM means to latest edition of the Georgia Stormwater Management Manual, Volume 2: Technical Handbook, and its Appendices.**

(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.

**Hotspot** means a land use or activity on a site that has the potential to produce higher than normally found levels of pollutants in stormwater runoff. As defined by the administrator, hotspot land use may include gasoline stations, vehicle services and maintenance areas, industrial facilities (both permitted under the Industrial Stormwater General Permit and others), material storage sites, garbage transfer facilities, and commercial parking lots with high-intensity use.

(i) *Terms beginning with "I."*

**Impervious surface** means a surface composed of any material that significantly impedes or prevents the natural infiltration of water into the soil.

**Industrial Stormwater General Permit** means the National Pollutant Discharge Elimination System (NPDES) permit issued by Georgia Environmental Protection Division to an industry for stormwater discharges associated with industrial activity. The permit regulates pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies based on Standard Industrial Classification (SIC) Code.

**Infiltration** means the process of percolating stormwater runoff into the subsoil.

**Inspection and maintenance agreement** means a written agreement providing for the long-term inspection, operation, and maintenance of the stormwater management system and its components on a site.

(j) *Terms beginning with "J."*

(k) *Terms beginning with "K."*

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(l) *Terms beginning with "L."*

**Land development application** means the application for a land development permit on a form provided by the City along with the supporting documentation required in Sec. 16-94(b).

**Land development permit...** means the authorization necessary to begin construction-related, land-disturbing activity.

**Land disturbing activity** means any activity which may result in soil erosion from water or wind and the movement of sediments into state water or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, and filling of land, but not including agricultural practices as described in Sec. 16-58 or Silvicultural land management activities as described O.C.G.A. 12-7-17(6) within areas zoned for these activities.

**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.

**Linear feasibility program** means a feasibility program developed by the City and submitted to the Georgia Environmental Protection Division, which sets reasonable criteria for determining when implementation of stormwater management standards for linear transportation projects being constructed by the City is infeasible.

**Linear transportation projects** means construction projects on traveled ways including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways.

*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 two or more streets at their intersection or upon two parts of the same street forming an interior angle of less than 135 degrees.

*Lot, double-frontage*, means a lot that abuts two parallel streets or that abuts two streets that do not intersect at the boundaries of the lot. A double-frontage lot may also be referred to as a through lot.

*Lot, flag*, means a lot that sits behind lots which face directly onto a street with access provided to the bulk of the lot by means of a narrow corridor, whether providing the minimum amount of street frontage and width or not.

*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.

(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 two 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.

**MS4 Permit means the NPDES permit issued by Georgia Environmental Protection Division for discharges from the City's municipal separate storm sewer system.**

*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.

(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 colloiddally dispersed particles are present.

*New construction* means any structure for which the permitted date of construction commenced after adoption of this chapter, October 14, 2009. For the purposes of interpreting and administering the flood damage prevention regulations of article II, division 8, "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 Development* means land disturbing activities, structural development (construction, installation or expansion of a building or other structure), and/or creation of impervious surfaces on a previously undeveloped site.

*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 October 14, 2009, 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 *wastewater treatment facility* 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 or groundwater via mechanisms such as precipitation, stormwater runoff and leaching. Nonpoint source pollution is a by-product of land use practices such as agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

*North American Vertical Datum (NAVD), as corrected in 1988*, means a vertical datum used as a reference for establishing varying elevations within the floodplain.

(o) *Terms beginning with "O."*

*100-year floodplain* means land in the floodplain subject to a one-percent or greater statistical occurrence probability of flooding in any given year.

*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).

*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 legal or beneficial owner of a site, including but not limited to, a mortgagee or vendee in possession, receiver, executor, trustee, lessee or other person, firm or corporation in control of the site.

(p) *Terms beginning with "P."*

*Person* means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county, or other political subdivision of the State, any interstate body or any other legal entity.

*Planning commission* means the planning commission of the city.

*Post-construction stormwater management* means stormwater best management practices that are used on a permanent basis to control and treat runoff once construction has been completed in accordance with a stormwater management plan.

*Post-development* means the conditions anticipated to exist on a site immediately after completion of the proposed development.

*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.

*Practicability Policy...means the latest edition of the Metropolitan North Georgia Water Planning Districts Policy on Practicability Analysis for Runoff Reduction.*

*Pre-development* means the conditions that exist on a site immediately before the implementation of the proposed development. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time before the first item being approved or permitted shall establish pre-developed conditions. *Pre-development hydrology* means (a) for new development, the runoff curve number determined using natural conditions hydrologic analysis based on the natural, undisturbed condition of the site immediately before implementation of the proposed development; and (b) for redevelopment, the existing conditions hydrograph may take into account the existing development when defining the runoff curve number and calculating existing runoff, unless the existing development causes a negative impact on downstream property.

*Previously developed site* means a site that has been altered by paving, construction, and/or land disturbing activity.

*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.

(q) *Terms beginning with "Q."*

RESERVED

(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 easement encompassing the

stormwater management facility and extending ten 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) Four hundred 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 structural development (construction, installation, or expansion of a building or other structure), creation or addition of impervious surfaces, replacement of impervious surfaces not as a part of routine maintenance, and land disturbing activities associated with structural or impervious development on a previously developed site. Redevelopment does not include such activities as exterior remodeling.

*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 stormwater runoff.

*Runoff coefficient* means the ratio of runoff to rainfall.

*Routine Maintenance* means activities to keep an impervious surface as near as possible to its constructed condition. This includes ordinary maintenance activities, resurfacing paved areas, and exterior building changes or improvements which do not materially increase or concentrate stormwater runoff, or cause additional nonpoint source pollution.

(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 eight inches DBH or greater in size.

*Site* means an area of land where development is planned, which may include all or portions of one or more parcels of land. For subdivisions and other common plans of development, the site includes all areas of land covered under an applicable land development permit.

*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.

*Soil and water conservation district approved plan* means an erosion, sedimentation and pollution control plan approved in writing by the DeKalb Soil and Water Conservation District.

*Special flood hazard area (SFHA)* means an area in the floodplain subject to a one-percent 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 floodprone areas at or below the future-conditions flood elevation; and all other floodprone areas as referenced in section 16-136. 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.

*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.

*Spite strip* means a piece of land used to separate a street or road rights-of-way from adjoining property and whose primary purpose is to preclude access to such rights-of-way.

*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 II, division 8, "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 construction 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 Concept Plan* means an initial plan for post-construction stormwater management at the site that provides the groundwork for the stormwater management plan including the natural resources inventory, site layout concept, initial runoff characterization, and first round stormwater management system design.

*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 manual* means the Georgia Stormwater Management Manual.

*Stormwater management plan* means a plan for post-construction stormwater management at the site that meets the requirements of Sec. 16-92(d) and is included as part of the land development application.

*Stormwater Management Standards* means those standards set forth in Sec. 16-91(e).

*Stormwater management system* means the entire set of nonstructural site design features and structural BMPs for collection, conveyance, storage, infiltration, treatment, and disposal of stormwater runoff in a manner designed 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 runoff* means flow on the surface of the ground, resulting from precipitation.

*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 ownership. 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.

*Structure* means a walled and roofed building (including a gas or liquid storage tank), that is principally above ground, or a manufactured home.

*Subdivision* means any division of a tract or parcel of land resulting in one or more new lots or building sites for the purpose, whether immediately or in the future, of sale, other transfer of ownership or land development, and includes divisions of land resulting from or made in connection with the layout or development of a new street or roadway or a change in an existing street or roadway.

*Substantial building permit* means a nonresidential building permit issued by the city with a total value in excess of 50 percent of the county tax assessor's 100 percent 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 percent 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, taking place during a ten-year period, the cost of which equals or exceeds 50 percent 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 building 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 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

(t) *Terms beginning with "T."*

*Tree* means any living, self-supporting, woody perennial plant that has a trunk caliper of two inches or more measured at a point six inches above the ground and that normally attains a height of at least ten 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.

(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."

(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.

(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.

*Width, lot*, means the distance between the side lot lines, measured along a line drawn parallel to the front lot line at a distance from the front lot line equal to the minimum street yard setback. For lots with curvilinear frontage and setback lines (e.g.: cul-de-sac lots), the width shall be measured as a straight line through the points that intersect the side lot lines at a distance from the front lot line equal to the minimum street yard setback.

(x) *Terms beginning with "X."*

RESERVED

(y) *Terms beginning with "Y."*

RESERVED

(z) *Terms beginning with "Z."*

RESERVED

(Ord. No. 2013-10-14, 1(Exh. A § 16-18.10), 10-14-2013; Ord. No. 2015-01-04, § 1, 1-26-2015; Ord. No. 2017-03-06, § 2, 3-27-2017; Ord. No. 2018-10-16, § 1, 10-8-2018)

## APPENDIX C

### Runoff Reduction Feasibility Policy

## Policy on Practicability Analysis for Runoff Reduction

### ***Introduction***

Runoff reduction practices are stormwater Best Management Practices (BMPs) used to disconnect impervious and disturbed pervious surfaces from the storm drainage system. The purpose is to reduce post-construction stormwater runoff rates, volumes, and pollutant loads. Runoff reduction is more than simple infiltration. The Runoff Reduction Volume (RR<sub>v</sub>) is the retention volume calculated to infiltrate, evapotranspire, harvest and use, or otherwise remove runoff from a post-developed condition to more closely mimic the natural hydrologic conditions.

Certain conditions, such as soils with very low infiltration rates, high groundwater, or shallow bedrock, may lead a local jurisdiction to waive or reduce the runoff reduction requirement for proposed site development on a case-by-case basis. If any of the stormwater runoff volume generated by the first 1.0” of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.

The Policy on Practicability Analysis for Runoff Reduction (practicability policy) was developed to provide guidance about the site conditions and supporting documentation that could justify a “Determination of Infeasibility” for the runoff reduction requirement. This practicability policy does not address infeasibility for linear transportation projects being constructed by the local jurisdiction, other local governments, or authorities.

The practicability policy is based on the following principles:

- It is designed to help administrators implement a process for granting a Determination of Infeasibility that supports efficient review of land development applications.
- It applies to new development and redevelopment projects for public and private post-construction stormwater BMPs. It is referenced in the *Model Ordinance for Post-Construction Stormwater Management for New Development and Redevelopment* (Model Ordinance) developed by the Metropolitan North Georgia Water Planning District (Metro Water District).
- It aligns with requirements for runoff reduction in the Georgia Environmental Protection Division’s (EPD’s) permit to discharge from the municipal separate storm sewer system (MS4) permit. The MS4 permit states that the stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site to the maximum extent practicable. Most Georgia Stormwater Management Manual (GSMM) BMPs include a runoff reduction component.
- It is focused on the typical site conditions and regulatory environment in the Metro Water District and may not be applicable for all of Georgia.
- It requires a pre-submittal meeting when pursuing a Determination of Infeasibility to ensure all attempts to provide 100% RR<sub>v</sub> on site have been exhausted.

The local jurisdiction is responsible for the review of land development applications and determination that it is infeasible to apply the runoff reduction requirement on part or all of a proposed site development. Local jurisdictions may choose to make substantive changes or otherwise customize this

practicability policy. These further changes and customizations are allowable so long as their substance meets the requirements of a local jurisdiction's MS4 permit. EPD is responsible for evaluating MS4 permit and District Plan compliance, which includes verifying whether changes and customizations are "at least as effective." EPD has reviewed this document and their comments have been incorporated.

### ***Conditions that may warrant a Determination of Infeasibility***

The GSMM provides broad guidance about conditions that may lead a local jurisdiction to waive or reduce the runoff reduction requirement. The following conditions may warrant a Determination of Infeasibility.

- **Soil Infiltration Rate:** The soil infiltration rate is less than 0.5 inch per hour as measured over a meaningful portion of the site. Consideration should be given to infiltration rates throughout the soil profile.
- **Water Table:** The seasonal high-water table is less than two feet from the bottom of an infiltration practice.
- **Shallow Bedrock:** Material that cannot be excavated except by drilling or blasting AND is less than two feet from the bottom of an infiltration practice.
- **Extreme Topography:** In the proposed final condition, as shown on the Stormwater Concept Plan with the proposed post-development condition, anything steeper than 3:1 slope for more than 50% of the site.
- **Karst Topography:** Any of the existing condition is karst.
- **Hotspots/ Contamination:** Reasonable suspicion that previous uses of the site have resulted in soil contamination.
- **Historic Resources:** Buildings, structures, or historic sites included in the Georgia Historic Preservation Division's Historic Resources Survey or listed in the National Register of Historic Places or that has been recommended as a historic resource by a Preservation Professional.
- **Site Constraints:** Sites where the density or nature of the proposed redevelopment would create irreconcilable conflicts for compliance between the on-site runoff reduction requirement and other requirements such as zoning, floodplains, stream buffers, or septic fields.
- **Economic Hardship:** The cost of retaining the first 1.0 inch of rainfall onsite using runoff reduction practices is a minimum of three times greater than the cost of providing water quality practices. This condition must be present with another site condition for a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship may only be allowed for up to 50% runoff reduction volume.

### ***Supplemental Materials***

The District has prepared supplemental materials to support the implementation of this practicability policy. *Appendix A* is meant for internal use and provides an overview of the steps a local jurisdiction could take to implement the practicability policy and issue a Determination of Infeasibility. *Appendix B* has a template the local jurisdiction could use as a runoff reduction infeasibility form.

***Appendix A:***

**Overview of Processing a Determination of Infeasibility**

## Overview of Processing a Determination of Infeasibility

### *Obtaining a Determination of Infeasibility*

Determination of Infeasibility is not an all or nothing proposition. Designers must demonstrate that they have explored all avenues to meet the runoff reduction standard. If this is determined to be infeasible, they must attempt to provide the maximum percentage of RRV on site as feasible. Only after all attempts to provide any RRV on site are exhausted will the local jurisdiction consider a Determination of Infeasibility. The following process is recommended to:

1. identify conditions early,
2. provide flexibility,
3. support efficient land development application review, and
4. protect water quality to the maximum extent practicable.

### *Does the Site Qualify for a Determination of Infeasibility?*

Answering “NO” to any of the following questions may indicate that the site qualifies for a Determination of Infeasibility:

1. Can GSMM runoff reduction BMPs fully meet the runoff reduction volume?
2. Does the site analysis show the conditions are supportive for managing the calculated runoff reduction volume needed for the site?
3. Can better site design practices (see GSMM, Volume 2, Section 2.3) be used to avoid challenging site conditions or constraints?
4. Can BMPs, such as green roofs and rainwater harvesting techniques, be used in ways that do not require infiltration into subsurface soils, but rather rely on evapotranspiration and reuse?
5. Can the installation of multiple runoff reduction BMPs, such as installing runoff reduction BMPs at higher elevations or in multiple sub watersheds, manage the calculated runoff reduction volume needed for the site?

### *Prior to Construction*

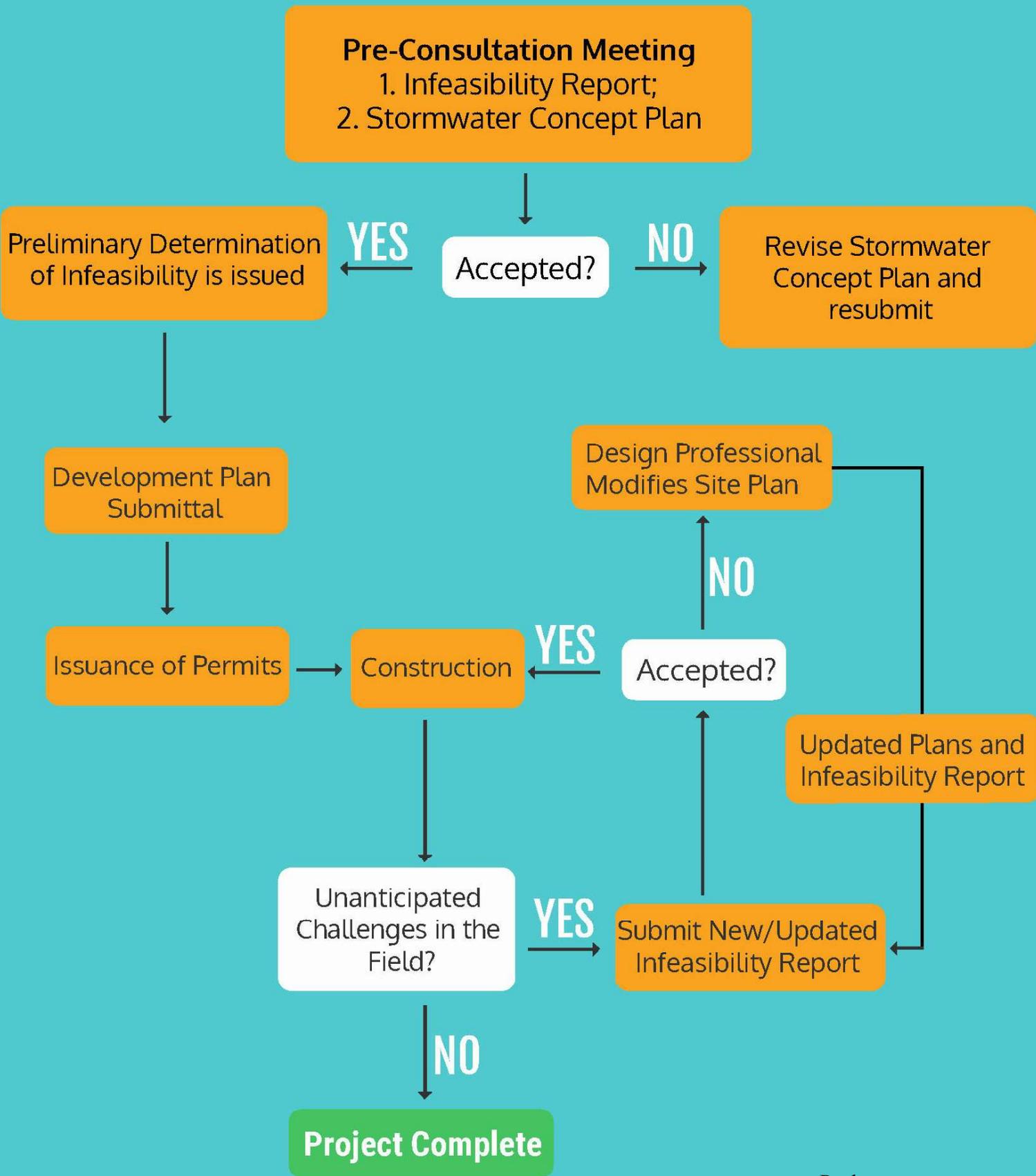
- 1) The design professional identifies conditions that limit using runoff reduction methods to retain 100% of the first 1.0 inch of rainfall onsite and initiates a pre-submittal meeting with the plan reviewer prior to submittal of the land development permit application. During the meeting, the following information will be reviewed:
  - Runoff Reduction Infeasibility Form to initiate the request and provide basic project information, confirmation that supporting documentation was submitted, and documentation of pre-submittal meeting outcomes.
  - Stormwater Concept Plan that has been developed based on site analysis, and natural resources inventory (including impracticability) in accordance with Section 2.4.2.5 of the GSMM.
- 2) The plan reviewer will evaluate the pre-submittal information on a case-by-case basis; coordinate with the design professional to understand site-specific issues; and (if possible) explore potential design strategies to achieve 100% RRV in compliance with the standards and specifications of the Post-Construction Stormwater Management Ordinance and GSMM.

- 3) Based on the pre-submittal information and meeting, the plan reviewer will provide one of the following determinations to the design professional:
  - Approval – preliminary Determination of Infeasibility issued
  - Approval with conditions – preliminary Determination of Infeasibility issued with conditions to incorporate plan reviewer comments into the Stormwater Concept Plan
  - Denial - revise the Stormwater Concept Plan to obtain 100% RRv
- 4) Design professional may either:
  - Submit the land development application with the Stormwater Management Plan and preliminary Determination of Infeasibility (as applicable).
  - Appeal the “denial” or “conditions” following the appeals process outlined in the local jurisdiction’s regulations.

### ***During Construction***

- 1) During the development process, the owner encounters a site condition that would prevent building stormwater BMPs as specified in the Stormwater Management Plan. The design professional will complete a Runoff Reduction Infeasibility Form and initiate a meeting with the local jurisdiction plan reviewer to discuss the findings. The designer must evaluate modifications to the proposed BMPs or installation of alternative BMPs that will provide some or all RRv in an alternative method.
- 2) The plan reviewer will evaluate the Runoff Reduction Infeasibility Form on a case-by-case basis; coordinate with the design professional to understand site-specific issues; and (if possible) explore potential design strategies to keep the stormwater BMPs identified in the Stormwater Management Plan.
- 3) Based on the Runoff Reduction Infeasibility Form and meeting, the plan reviewer will provide one of the following determinations to the design professional:
  - Approval – Determination of Infeasibility is issued and attached to the land development permit
  - Approval with conditions – preliminary Determination of Infeasibility issued with conditions to either:
    - i) Revise the design of runoff reduction methods (e.g. adding soil amendments or an underdrain to maximize runoff reduction volume) to retain the first 1.0 inch of rainfall onsite.
    - ii) Meet the stormwater runoff quality/reduction standard through a combination of Runoff Reduction and Water Quality.
- 4) Design professional may either:
  - Continue construction as outlined modified Stormwater Management Plan under the Permit Revision with approved Determination of Infeasibility.
  - Appeal the “conditions” following the appeals process as outlined in the local jurisdiction regulations.

# Determination of Infeasibility Process



***Appendix B:***

**Template for a Runoff Reduction Infeasibility Form**

Date (submitted): \_\_\_\_\_

**City of Dunwoody**  
**Runoff Reduction Infeasibility (RRI) Form for**  
**Determination of Infeasibility**

Design Professional Primary Contact (Name/Email/Phone): \_\_\_\_\_

Description of Site/Land Development Application Number: \_\_\_\_\_

Address: \_\_\_\_\_

Size (acres): \_\_\_\_\_

Maximum Practicable Runoff Reduction Volume\*: \_\_\_\_\_

*\*If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.*

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**GENERAL SUPPORTING DOCUMENTATION**

All General Supporting Documentation must be included with this RRI Form for the submittal for a Determination of Infeasibility to be considered complete. Please check each item below to confirm it has been included in the submittal package.

- Stormwater Concept Plan that has been developed based on site analysis, and natural resources inventory (including impracticability) in accordance with Section 2.4.2.5 of the GSMM
- GSMM Stormwater Quality Site Development Review Tool for the Stormwater Concept Plan
- Please include justification that the site cannot accommodate best management practices that rely on evapotranspiration and reuse such as rainwater harvesting or green roofs

**SITE CONDITION APPLICABILITY**

(descriptions are in *Policy on Practicability Analysis for Runoff Reduction*)

Please check each applicable item below and confirm the supporting documentation has been included in the submittal for a Determination of Infeasibility.

<b>Site Condition</b>	<b>Supporting Documentation</b>
<input type="checkbox"/> Soil Infiltration Rate	Infiltration test(s), Soil Boring Log(s), and Report of results as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Water Table	Soil Boring Log(s) and Report with results of the seasonal high-water table assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Bedrock	Soil Boring Log(s) and Report with results of the shallow bedrock assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Extreme Topography	Site survey showing 50% of the site is steeper than 3:1 slopes as interpreted by a Professional Engineer or Land Surveyor licensed in Georgia AND Stormwater Concept Plan showing the proposed post-development condition will not change from the site survey
<input type="checkbox"/> Karst Topography	Report developed by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Hotspots/ Contamination	Phase I Environmental Assessment Report
<input type="checkbox"/> Historic Resources	Documentation of the NAHRGIS listing OR Report of assessment from a Preservation Professional (including Archaeologist, Architectural Historian, Historian, Historic Preservationist, or Historic Preservation Planner)
<input type="checkbox"/> Site Constraints	Site Plan identifying all development requirements (e.g. zoning side/front setbacks, build-to-lines, stream buffers, floodplains, septic fields) that are creating irreconcilable conflicts with on-site runoff reduction
<input type="checkbox"/> Economic Hardship*	An estimated cost comparison of proposed runoff reduction practices compared to the proposed water quality practices must be included to demonstrate an economic hardship and must show the cost of providing runoff reduction is a minimum of three times greater than the cost of providing water quality practices

\* *Note: A Determination of Infeasibility cannot be granted solely for economic hardship and must be present with another site condition. Additionally, a Determination of Infeasibility for economic hardship may only be allowed for up to 50% runoff reduction volume.*

**STORMWATER RUNOFF QUALITY/ REDUCTION SUMMARY**

Maximum Practicable Runoff Reduction Volume\*: \_\_\_\_\_

Remainder of Volume treated by Water Quality Best Management Practice: \_\_\_\_\_

*\*If any of the stormwater runoff volume generated by the first 1.0" of rainfall cannot be reduced or retained on the site, due to site characteristics or constraints, the remaining volume shall be increased by a multiplier of 1.2 and shall be intercepted and treated in one or more best management practices that provide at least an 80 percent reduction in total suspended solids.*

Design Professional Printed Name \_\_\_\_\_

Design Professional Signature \_\_\_\_\_

**FOR CITY OF DUNWOODY USE ONLY**

APPROVED

APPROVED with conditions \_\_\_\_\_

DENIED \_\_\_\_\_

**Reviewer:** \_\_\_\_\_

(Print Name)

(Signature)

(Date)