

Appendix A:
MODEL ORDINANCES

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MODEL ORDINANCE IMPLEMENTATION BY JURISDICTION (2008)

	Post-Dev. Stormwater	Floodplain Management	Illicit Discharge	Stream Buffer
Bartow County (unincorporated)	●	●	●	●
Adairsville	●	●	●	●
Cartersville	●	●	●	●
Emerson	●	●	●	●
Euharlee		nr		
Kingston		nr		
Taylorville		nr		
White		nr		
Cherokee County (unincorporated)	●	●	●	●
Ball Ground		nr		
Canton		nr		
Holly Springs	●	●	●	●
Nelson		nr		
Waleska		nr		
Woodstock		nr		
Clayton County (unincorporated)	●	●	●	●
Forest Park	●	●	●	●
Jonesboro	●	●	●	●
Lake City	●	●	●	●
Lovejoy	●	●	●	●
Morrow	●	●	●	●
Riverdale	●	●	●	●
Cobb County (unincorporated)	●	●	●	●
Acworth	●	●	●	●
Austell	●	●	●	●
Kennesaw	●	●	●	●
Marietta	●	●	●	●
Powder Springs	●	●	●	●
Smyrna	●	●	●	●
Coweta County (unincorporated)	●	●	●	●
Grantsville		nr		
Haralson		nr		
Moreland		nr		
Newnan	●	●	●	●
Senoia	●	●	●	●
Sharpsburg	●	●	●	●
Turin		nr		
DeKalb County (unincorporated)	●	●	●	●
Avondale Estates		nr		
Chamblee	●	●	●	●
Clarkston		nr		
Decatur	●	●	●	●
Doraville		nr		
Dunwoody		nr		
Lithonia		nr		
Pine Lake	●	⊙	●	●
Stone Mountain		nr		
Douglas County (unincorporated)	●	●	●	●
Douglasville	●	●	●	●
Villa Rica	●	●	●	●
Fayette County (unincorporated)	●	●	●	●
Brooks		nr		
Fayetteville	●	●	●	●

	Post-Dev. Stormwater	Floodplain Management	Illicit Discharge	Stream Buffer
Peachtree City	●	●	●	●
Tyrone		nr		
Woolsey		nr		
Forsyth County (unincorporated)	●	●	●	●
Cumming	●	●	●	●
Fulton County (unincorporated)	●	●	●	●
Alpharetta	●	●	●	●
Atlanta	●	●	●	●
Chattahoochee Hill County		nr		
College Park	●	●	●	●
East Point	●	●	●	●
Fairburn	●	●	●	●
Hapeville	●	⊙	●	●
Johns Creek	●	●	●	●
Milton	●	●	●	●
Mountain Park	●	●	●	●
Palmetto	●	●	●	●
Roswell	●	●	●	●
Sandy Springs	●	●	●	●
Union City	●	⊙	●	●
Gwinnett County (unincorporated)	●	●	●	●
Auburn	●	●	●	●
Berkeley Lake		nr		
Braselton	●	●	●	●
Buford	●	●	●	●
Dacula		nr		
Duluth		nr		
Greyson		nr		
Lawrenceville	●	●	●	●
Lilburn		nr		
Norcross	●	●	●	●
Rest Haven		nr		
Snellville	●	●	●	●
Sugar Hill	●	●	●	●
Suwanee	●	●	●	●
Hall County (unincorporated)	●	●	●	●
Clermont		nr		
Flowers Branch	●	●	●	●
Gainesville	●	●	●	●
Gillsville		nr		
Lula	●	●	●	●
Oakwood	●	●	●	●
Henry County (unincorporated)	●	●	●	●
Hampton		nr		
Locust Grove		nr		
McDonough	●	●	●	●
Stockbridge	●	●	●	●
Paulding County (unincorporated)	●	●	●	●
Braswell		nr		
Dallas	●	●	●	●
Hiram	●	●	●	●
Rockdale County (unincorporated)	●	●	●	●
Conyers	●	●	⊙	●

Survey results as of November 15, 2008

● have adopted ordinance	-- did not respond to question
⊙ have not adopted ordinance	nr did not return 2008 survey

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APPENDIX A1 – MODEL ORDINANCE FOR POST-DEVELOPMENT STORMWATER MANAGEMENT ORDINANCE FOR NEW DEVELOPMENT AND REDEVELOPMENT

DESCRIPTION

This model ordinance addresses post-development stormwater management requirements for new development and redevelopment in a community. The ordinance defines requirements for a post-development stormwater management plan, which is required in order to undertake land development activities. This plan contains the details of how the development will address post-development stormwater runoff quality and quantity impacts resulting from the permanent alteration of the character and hydrology of the land surface as well as the nonpoint source pollution from land use activities. The ordinance also outlines the water quantity and quality performance criteria for managing this runoff and specifies local requirements for the use of structural stormwater controls and nonstructural practices, in order to protect public health and safety, protection of public and private property and infrastructure, and environmental protection. Ongoing long-term inspection and maintenance provisions are provided. The majority of technical criteria and standards are adopted by reference through the use of a local stormwater management design manual.

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- Section 6. Ongoing Inspection and Maintenance of Stormwater Facilities and Practices
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Note: Italicized text with this symbol  should be interpreted as comments, instructions, or information to assist the local government in tailoring the ordinance. This text would not appear in a final adopted ordinance.

INTRODUCTION

It is hereby determined that:

Land development projects and other land use conversions, and their associated changes to land cover, permanently alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, which in turn increase flooding, stream channel erosion, and sediment transport and deposition;

Land development projects and other land use conversions also contribute to increased nonpoint source pollution and degradation of receiving waters;

The impacts of post-development stormwater runoff quantity and quality can adversely affect public safety, public and private property, drinking water supplies, recreation, fish and other aquatic life, property values and other uses of lands and waters;

These adverse impacts can be controlled and minimized through the regulation of stormwater runoff quantity and quality from new development and redevelopment, by the use of both structural facilities as well as nonstructural measures, such as the conservation of open space and greenspace areas. The preservation and protection of natural area and greenspace for stormwater management benefits is encouraged through the use of incentives or “credits.” The Georgia Greenspace Program provides a mechanism for the preservation and coordination of those greenspace areas which provide stormwater management quality and quantity benefits;

Localities in the State of Georgia are required to comply with a number of both State and Federal laws, regulations and permits which require a locality to address the impacts of post-development stormwater runoff quality and nonpoint source pollution;

Therefore, **(local jurisdiction)** has established this set of stormwater management policies to provide reasonable guidance for the regulation of post-development stormwater runoff for the purpose of protecting local water resources from degradation. It has determined that it is in the public interest to regulate post-development stormwater runoff discharges in order to control and minimize increases in stormwater runoff rates and volumes, post-construction soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with post-development stormwater runoff.

SECTION 1. GENERAL PROVISIONS

1.1. Purpose and Intent

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

- (1) Establish decision-making processes surrounding land development activities that protect the integrity of the watershed and preserve the health of water resources;
- (2) Require that new development and redevelopment maintain the pre-development hydrologic response in their post-development state as nearly as practicable in order to reduce flooding, streambank erosion, nonpoint source pollution and increases in stream temperature, and maintain the integrity of stream channels and aquatic habitats;
- (3) Establish minimum post-development stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality;
- (4) Establish design and application criteria for the construction and use of structural stormwater control facilities that can be used to meet the minimum post-development stormwater management standards;
- (5) Encourage the use of nonstructural stormwater management and stormwater better site design practices, such as the preservation of greenspace and other conservation areas, to the maximum

- extent practicable. Coordinate site design plans, which include greenspace, with the county's greenspace protection plan;
- (6) Establish provisions for the long-term responsibility for and maintenance of structural stormwater control facilities and nonstructural stormwater management practices to ensure that they continue to function as designed, are maintained, and pose no threat to public safety; and,
 - (7) Establish administrative procedures for the submission, review, approval and disapproval of stormwater management plans, and for the inspection of approved active projects, and long-term follow up.
- ☛ *The above list is a general set of objectives to reduce the impacts of post-development stormwater runoff quantity and quality from land development activities. The local stormwater authority may wish to set more specific objectives based upon a watershed management plan, impervious surface targets, the findings of a watershed assessment or study, or in order to address a local water quality problem or TMDL.*

1.2. Applicability

- (1) This ordinance shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, and grading applications, unless exempt pursuant to Subsection 2 below. These standards apply to any new development or redevelopment site that meets one or more of the following criteria:
 - a. New development that involves the creation of 5,000 square feet or more of impervious cover, or that involves other land development activities of 1 acre or more;
 - b. Redevelopment that includes the creation, addition or replacement of 5,000 square feet or more of impervious cover, or that involves other land development activity of one (1) acre or more;
 - c. Any new development or redevelopment, regardless of size, that is defined by the **(administrator)** to be a hotspot land use; or,
 - d. Land development activities that are smaller than the minimum applicability criteria set forth in items A and B above if such activities are part of a larger common plan of development, even though multiple, separate and distinct land development activities may take place at different times on different schedules.
- (2) The following activities are exempt from this ordinance:
 - a. Individual single-family or duplex residential lots that are not part of a subdivision or phased development project;
 - b. Additions or modifications to existing single-family or duplex residential structures;
 - c. Agricultural or silvicultural land management activities within areas zoned for these activities; and,
 - d. Repairs to any stormwater management facility or practice deemed necessary by the **(administrator)**.

1.3. Designation of Ordinance Administrator

The **(title of administrator)** or **(designee)** is hereby appointed to administer and implement the provisions of this ordinance.

1.4. Compatibility with Other Regulations

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation or other provision of law. The requirements of this ordinance are in addition to the requirements of any other

ordinance, rule, regulation or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

1.5. Severability

If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this ordinance.

1.6. Stormwater Design Manual

The **(local permitting authority)** will utilize the policy, criteria and information including technical specifications and standards in the latest edition of the Georgia Stormwater Management Manual and any relevant local addenda (☞ *or equivalent local stormwater management design manual*), for the proper implementation of the requirements of this ordinance. The manual may be updated and expanded periodically, based on improvements in science, engineering, monitoring and local maintenance experience.

☞ *All references to the Georgia Stormwater Management Manual (GSMM) are presumed to be the "latest edition" as defined on the GSMM website at www.georgiastormwater.com. Updates, errata and revisions will be provided on the website. Local authorities may wish to develop a local manual or addendum that complements the GSMM. Further, the local permitting authority may wish to use its own equivalent stormwater management design manual provided that it includes an approach and standards at least as stringent as the Georgia Stormwater Management Manual.*

SECTION 2. DEFINITIONS

"Applicant" means a person submitting a post-development stormwater management application and plan for approval.

"Channel" means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

"Conservation Easement" means an agreement between a land owner and the (local jurisdiction) or other government agency or land trust that permanently protects open space or greenspace on the owner's land by limiting the amount and type of development that can take place, but continues to leave the remainder of the fee interest in private ownership.

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

"Detention Facility" means a detention basin or structure designed for the detention of stormwater runoff and gradual release of stored water at controlled rates.

"Developer" means a person who undertakes land development activities.

"Development" means a land development or land development project.

"Drainage Easement" means an easement appurtenant or attached to a tract or parcel of land allowing the owner of adjacent tracts or other persons to discharge stormwater runoff onto the tract or parcel of land subject to the drainage easement.

"Erosion and Sedimentation Control Plan" means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during land disturbance activities.

“**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 or more.

“**Flooding**” means a volume of surface water that is too great to be confined within the banks or walls of a conveyance or stream channel and that overflows onto adjacent lands.

“**Greenspace**” or “**Open Space**” means permanently protected areas of the site that are preserved in a natural state.

“**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.

“**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.

“**Impervious Cover**” means a surface composed of any material that significantly impedes or prevents the natural infiltration of water into soil. Impervious surfaces include, but are not limited to, rooftops, buildings, streets and roads, and any concrete or asphalt surface.

“**Industrial Stormwater Permit**” means a National Pollutant Discharge Elimination System (NPDES) permit issued to an industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

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

“**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.

“**Land Development**” means any land change, including, but not limited to, clearing, digging, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, paving, and any other installation of impervious cover.

“**Land Development Activities**” means those actions or activities which comprise, facilitate or result in land development.

“**Land Development Project**” means a discrete land development undertaking.

“**Inspection and Maintenance Agreement**” means a written agreement providing for the long-term inspection and maintenance of stormwater management facilities and practices on a site or with respect to a land development project, which 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.

“**New Development**” means a land development activity on a previously undeveloped site.

“**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 by-product 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 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 greenspace areas, overland flow filtration areas, natural depressions, and vegetated channels.

“**Off-Site Facility**” means a stormwater management facility located outside the boundaries of the site.

“**On-Site Facility**” means a stormwater management facility located within the boundaries of the site.

“**Overbank Flood Protection**” means measures taken to prevent an increase in the frequency and magnitude of out-of-bank flooding (i.e. flow events that exceed the capacity of the channel and enter the floodplain), and that are intended to protect downstream properties from flooding for the 2-year through 25-year frequency storm events.

“**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.

“**Permit**” means the permit issued by the (local permitting authority) to the applicant which is required for undertaking any land development activity.

“**Person**” means, except to the extent exempted from this ordinance, 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.

“**Post-development**” refers to the time period, or the conditions that may reasonably be expected or anticipated to exist, after completion of the land development activity on a site as the context may require.

“**Pre-development**” refers to the the time period, or the conditions that exist, on a site prior to the commencement of a land development project and at the time that plans for the land development of a site are approved by the plan approving authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first item being approved or permitted shall establish pre-development conditions.

“**Project**” means a land development project.

“**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 which 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.

“**Runoff**” means stormwater runoff.

“**Site**” means the parcel of land being developed, or the portion thereof on which the land development project is located.

“**Stormwater Better Site Design**” means nonstructural site design approaches and techniques that can reduce a site’s impact on the watershed and can provide for nonstructural stormwater management. Stormwater better site design includes conserving and protecting natural areas and greenspace, reducing impervious cover and using natural features for stormwater management.

“**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 Facility**” means any infrastructure that controls or conveys stormwater runoff.

“**Stormwater Management Measure**” means any stormwater management facility or nonstructural stormwater practice.

“**Stormwater Management Plan**” means a document describing how existing runoff characteristics will be affected by a land development project and containing measures for complying with the provisions of this ordinance.

“**Stormwater Management System**” means the entire set of structural and nonstructural stormwater management facilities and practices that are used to capture, convey and control the quantity and quality of the stormwater runoff from a site.

“**Stormwater Retrofit**” means a stormwater management practice designed for a currently developed site that previously had either no stormwater management practice in place or a practice inadequate to meet the stormwater management requirements of the site.

“**Stormwater Runoff**” means the flow of surface water resulting from precipitation.

“**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.

“**Subdivision**” means the 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.

SECTION 3. PERMIT PROCEDURES AND REQUIREMENTS

3.1. Permit Application Requirements

No owner or developer shall perform any land development activities without first meeting the requirements of this ordinance prior to commencing the proposed activity.

Unless specifically exempted by this ordinance, any owner or developer proposing a land development activity shall submit to the **(local permitting authority)** a permit application on a form provided by the **(local permitting authority)** for that purpose.

Unless otherwise exempted by this ordinance, a permit application shall be accompanied by the following items in order to be considered:

- (1) Stormwater concept plan and consultation meeting certification in accordance with Section 3.2;
- (2) Stormwater management plan in accordance with Section 3.3;
- (3) Inspection and maintenance agreement in accordance with Section 3.4, if applicable;
- (4) Performance bond in accordance with Section 3.5, if applicable; and,
- (5) Permit application and plan review fees in accordance with Section 3.6.

☞ *The following stormwater concept plan and consultation meeting is an optional step. At the local government’s discretion, the concept plan stage could be made a requirement, particularly for large development projects or those with substantial impact, or for developers and engineers who are unfamiliar with the local government’s requirements.*

3.2. Stormwater Concept Plan and Consultation Meeting

Before any stormwater management permit application is submitted, it is recommended that the land owner or developer [shall] meet with the (local permitting authority) for a consultation meeting on a concept plan for the post-development stormwater management system to be utilized in the proposed land development project. This consultation meeting should [shall] take place at the time of the preliminary plan of subdivision or other early step in the development process. The purpose of this meeting is to discuss the post-development stormwater management measures necessary for the

proposed project, as well as to discuss and assess constraints, opportunities and potential ideas for stormwater management designs before the formal site design engineering is commenced.

To accomplish this goal the following information should [shall] be included in the concept plan which should [shall] be submitted in advance of the meeting:

A. Existing Conditions / Proposed Site Plans

Existing conditions and proposed site layout sketch plans, which illustrate at a minimum: existing and proposed topography; perennial and intermittent streams; mapping of predominant soils from soil surveys (when available); boundaries of existing predominant vegetation and proposed limits of clearing and grading; and location of existing and proposed roads, buildings, parking areas and other impervious surfaces.

B. Natural Resources Inventory

A written or graphic inventory of the natural resources at the site and surrounding area as it exists prior to the commencement of the project. This description should include a discussion of soil conditions, forest cover, topography, wetlands, and other native vegetative areas on the site, as well as the 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.). Particular attention should be paid to environmentally sensitive features that provide particular opportunities or constraints for development.

C. Stormwater Management System Concept Plan

A written or graphic concept plan of the proposed post-development stormwater management system including: preliminary selection and location of proposed structural stormwater controls; location of existing and proposed conveyance systems such as grass channels, swales, and storm drains; flow paths; location of floodplain/floodway limits; relationship of site to upstream and downstream properties and drainages; and preliminary location of proposed stream channel modifications, such as bridge or culvert crossings.

Local watershed plans, the (**county**) greenspace projection plan (if applicable), and any relevant resource protection plans will be consulted in the discussion of the concept plan.

3.3. Stormwater Management Plan Requirements

The stormwater management plan shall detail how post-development stormwater runoff will be controlled or managed and how the proposed project will meet the requirements of this ordinance, including the performance criteria set forth in Section 4 below.

This plan shall be in accordance with the criteria established in this section and be prepared under the direct supervisory control of either a registered Professional Engineer or a registered Landscape Architect licensed in the state of Georgia. Section C, D, E and F shall be prepared under the direct supervisory control of a registered Professional Engineer, who shall seal and sign the work. Portions of the overall plan may be prepared and stamped by a registered Land Surveyor licensed in the state of Georgia as appropriate, such as boundary surveys, contour maps, erosion and sedimentation control plans.

The stormwater management plan must ensure that the requirements and criteria in this ordinance are being complied with and that opportunities are being taken to minimize adverse post-development stormwater runoff impacts from the development. The plan shall consist of maps, narrative, and supporting design calculations (hydrologic and hydraulic) for the proposed stormwater management

system. The plan shall include all of the information required in the Stormwater Management Site Plan checklist found in the stormwater design manual. This includes:

- A. Common address and legal description of site
- B. Vicinity Map
- C. Existing Conditions Hydrologic Analysis

The existing condition hydrologic analysis for stormwater runoff rates, volumes, and velocities, which shall include: a topographic map of existing site conditions with the drainage basin boundaries indicated; acreage, soil types and land cover of areas for each subbasin affected by the project; all perennial and intermittent streams and other surface water features; all existing stormwater conveyances and structural control facilities; direction of flow and exits from the site; analysis of runoff provided by off-site areas upstream of the project site; and methodologies, assumptions, site parameters and supporting design calculations used in analyzing the existing conditions site hydrology. For redevelopment sites, predevelopment conditions shall be modeled using the established guidelines for the portion of the site undergoing land development activities.

☞ *The local government will need to establish guidelines for how the predevelopment conditions will be modeled for redevelopment sites.*

- D. Post-Development Hydrologic Analysis

The post-development hydrologic analysis for stormwater runoff rates, volumes, and velocities, which shall include: a topographic map of developed site conditions with the post-development drainage basin boundaries indicated; total area of post-development impervious surfaces and other land cover areas for each subbasin affected by the project; calculations for determining the runoff volumes that need to be addressed for each subbasin for the development project to meet the post-development stormwater management performance criteria in Section 4; location and boundaries of proposed natural feature protection and conservation areas; documentation and calculations for any applicable site design credits that are being utilized; methodologies, assumptions, site parameters and supporting design calculations used in analyzing the existing conditions site hydrology. If the land development activity on a redevelopment site constitutes more than 50 percent of the site area for the entire site, then the performance criteria in Section 4 must be met for the stormwater runoff from the entire site.

☞ *The Metropolitan North Georgia Water Planning District is developing a spreadsheet-based computer modeling tool that will assist site developers in performing the post-development hydrologic water quality analysis.*

- E. Stormwater Management System

The description, scaled drawings and design calculations for the proposed post-development stormwater management system, which shall include: A map and/or drawing or sketch of the stormwater management facilities, including the location of nonstructural site design features and the placement of existing and proposed structural stormwater controls, including design water surface elevations, storage volumes available from zero to maximum head, location of inlet and outlets, location of bypass and discharge systems, and all orifice/restrictor sizes; a narrative describing how the selected structural stormwater controls will be appropriate and effective; cross-section and profile drawings and design details for each of the structural stormwater controls in the system, including supporting calculations to show that the facility is designed according to the applicable design criteria; a hydrologic and hydraulic analysis of the stormwater management system for all applicable design storms (including stage-storage or outlet rating curves, and inflow and outflow hydrographs); documentation and supporting

calculations to show that the stormwater management system adequately meets the post-development stormwater management performance criteria in Section 4; drawings, design calculations, elevations and hydraulic grade lines for all existing and proposed stormwater conveyance elements including stormwater drains, pipes, culverts, catch basins, channels, swales and areas of overland flow; and where applicable, a narrative describing how the stormwater management system corresponds with any watershed protection plans and/or local greenspace protection plan.

F. Post-Development Downstream Analysis

A downstream peak flow analysis which includes the assumptions, results and supporting calculations to show safe passage of post-development design flows downstream. The analysis of downstream conditions in the report shall address each and every point or area along the project site's boundaries at which runoff will exit the property. The analysis shall focus on the portion of the drainage channel or watercourse immediately downstream from the project. This area shall extend downstream from the project to a point in the drainage basin where the project area is 10 percent of the total basin area. In calculating runoff volumes and discharge rates, consideration may need to be given to any planned future upstream land use changes. The analysis shall be in accordance with the stormwater design manual.

G. Construction-Phase Erosion and Sedimentation Control Plan

An erosion and sedimentation control plan in accordance with the Georgia Erosion and Sedimentation Control Act (*or reference to the local Erosion and Sedimentation Control Ordinance*) or NPDES Permit for Construction Activities. The plan shall also include information on the sequence/phasing of construction and temporary stabilization measures and temporary structures that will be converted into permanent stormwater controls.

H. Landscaping and Open Space Plan

A detailed landscaping and vegetation plan describing the woody and herbaceous vegetation that will be used within and adjacent to stormwater management facilities and practices. The landscaping plan must also include: the arrangement of planted areas, natural and greenspace areas and other landscaped features on the site plan; information necessary to construct the landscaping elements shown on the plan drawings; descriptions and standards for the methods, materials and vegetation that are to be used in the construction; density of plantings; descriptions of the stabilization and management techniques used to establish vegetation; and a description of who will be responsible for ongoing maintenance of vegetation for the stormwater management facility and what practices will be employed to ensure that adequate vegetative cover is preserved.

I. Operations and Maintenance Plan

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

J. Maintenance Access Easements

The applicant must ensure access from public right-of-way to stormwater management facilities and practices requiring regular maintenance at the site for the purpose of inspection and repair by securing all the maintenance access easements needed on a permanent basis. Such access

shall be sufficient for all necessary equipment for maintenance activities. Upon final inspection and approval, a plat or document indicating that such easements exist shall be recorded and shall remain in effect even with the transfer of title of the property.

☛ *The local government will establish which stormwater facilities and practices will require regular maintenance.*

K. Inspection and Maintenance Agreements

Unless an on-site stormwater management facility or practice is dedicated to and accepted by the **(local permitting authority)** as provided in Section 3.4 below, the applicant must execute an easement and an inspection and maintenance agreement binding on all subsequent owners of land served by an on-site stormwater management facility or practice in accordance Section 3.4.

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

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

3.4. Stormwater Management Inspection and Maintenance Agreements

Prior to the issuance of any permit for a land development activity requiring a stormwater management facility or practice hereunder and for which the **(local permitting authority)** requires ongoing maintenance, the applicant or owner of the site must, unless an on-site stormwater management facility or practice is dedicated to and accepted by the **(local permitting authority)**, execute an inspection and maintenance agreement, and/or a conservation easement, if applicable, that shall be binding on all subsequent owners of the site.

☛ *The local government will establish which stormwater facilities and practices will require formal inspection and maintenance agreements.*

The inspection and maintenance agreement, if applicable, must be approved by the **(local permitting authority)** prior to plan approval, and recorded in the deed records upon final plat approval.

The inspection and maintenance agreement shall identify by name or official title the person(s) 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, shall remain with the property owner and shall pass to any successor owner. If portions of the land are sold or otherwise transferred, legally binding arrangements shall be made to pass the inspection and maintenance responsibility to the appropriate successors in title. These arrangements shall designate for each portion of the site, the person to be permanently responsible for its inspection and maintenance.

As part of the inspection and maintenance agreement, a schedule shall 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 shall also include plans for annual inspections to ensure proper performance of the facility between scheduled maintenance and shall also include remedies for the default thereof.

In addition to enforcing the terms of the inspection and maintenance agreement, the **(local permitting authority)** may also enforce all of the provisions for ongoing inspection and maintenance in Section 6 of this ordinance.

The **(local permitting authority)**, 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 ordinance and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

3.5. Performance and Maintenance Bonds

☞ *The local permitting authority may insert provisions under this section requiring the posting of bonds or other security to guarantee performance of construction and/or maintenance obligations hereunder.*

3.6. Application Procedure

- (1) Applications for land development permits shall be filed with the **(local permitting authority)**.
- (2) Permit applications shall include the items set forth in Section 3.1 above (two copies of the stormwater management plan and the inspection maintenance agreement, if applicable, shall be included).
- (3) The **(local permitting authority)** shall inform the applicant whether the application, stormwater management plan and inspection and maintenance agreement are approved or disapproved.
- (4) If either the permit application, stormwater management plan or inspection and maintenance agreement are disapproved, the **(local permitting authority)** shall notify the applicant of such fact in writing. The applicant may then revise any item not meeting the requirements hereof and resubmit the same, in which event subparagraph 3 above and this subparagraph shall apply to such resubmittal.
- (5) Upon a finding by the **(local permitting authority)** that the permit application, stormwater management plan and inspection and maintenance agreement, if applicable, meet the requirements of this ordinance, the **(local permitting authority)** may issue a permit for the land development project, provided all other legal requirements for the issuance of such permit have been met.
- (6) Notwithstanding the issuance of the permit, in conducting the land development project, the applicant or other responsible person shall be subject to the following requirements:
 - (a) The applicant shall comply with all applicable requirements of the approved plan and this ordinance and shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan;
 - (b) The land development project shall be conducted only within the area specified in the approved plan;
 - (c) The **(local permitting authority)** shall be allowed to conduct periodic inspections of the project;
 - (d) No changes may be made to an approved plan without review and written approval by the **(local permitting authority)**; and,
 - (e) Upon completion of the project, the applicant or other responsible person shall submit the engineer's report and certificate and as-built plans required by Section 5.2.

☞ *Jurisdictions may modify the above local review process to accommodate their current subdivision or development approval process. In addition, local officials will need to decide the appropriate time frames for review based on the number of stormwater management plans, maintenance agreements, etc. submitted, while keeping in mind the time frames for the review of initial and resubmitted applications, as well as the need for timely review turnaround for the applicant. This will often be determined by the staff available for permit review and inspection of sites undergoing construction.*

3.7. Application Review Fees

The fee for review of any stormwater management application shall be based on the fee structure established by the **(local permitting authority)** and shall be made prior to the issuance of any building permit for the development.

☞ *It is recommended that all of the monetary contributions be credited to a local budgetary category to support local plan review, inspection and program administration.*

3.8. Modifications for Off-Site Facilities

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

A stormwater management plan must be submitted to the **(local permitting authority)** which shows the adequacy of the off-site or regional facility.

To be eligible for a modification, the applicant must demonstrate to the satisfaction of the **(local permitting authority)** that the use of an off-site or regional facility will not result in the following impacts to upstream or downstream areas:

- (1) Increased threat of flood damage to public health, life, and property;
- (2) Deterioration of existing culverts, bridges, dams, and other structures;
- (3) Accelerated streambank or streambed erosion or siltation;
- (4) Degradation of in-stream biological functions or habitat; or
- (5) Water quality impairment in violation of State water quality standards, and/or violation of any state or federal regulations.

SECTION 4. POST-DEVELOPMENT STORMWATER MANAGEMENT PERFORMANCE CRITERIA

The following performance criteria shall be applicable to all stormwater management plans, unless otherwise provided for in this ordinance:

4.1. Water Quality

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

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

- (2) Appropriate structural stormwater controls or nonstructural practices are selected, designed, constructed or preserved, and maintained according to the specific criteria in the Georgia Stormwater Management Manual; and,
- (3) Runoff from hotspot land uses and activities identified by the **(local permitting authority)** are adequately treated and addressed through the use of appropriate structural stormwater controls, nonstructural practices and pollution prevention practices.

4.2. Stream Channel Protection

Protection of stream channels from bank and bed erosion and degradation shall be provided by using all of the following three approaches:

- (1) Preservation, restoration and/or reforestation (with native vegetation) of the applicable stream buffer;
- (2) 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event;
 - ☞ *This requirement may be adjusted or waived by the (local permitting authority) for sites that discharge directly into larger streams, rivers, wetlands, or lakes, or to a man-made channel or conveyance system where the reduction in these flows will not have an impact on upstream or downstream streambank or channel integrity.*
- (3) Erosion prevention measures such as energy dissipation and velocity control.

4.3. Overbank Flooding Protection

Downstream overbank flood and property protection shall be provided by controlling (attenuating) the post-development peak discharge rate to the pre-development rate for the 25-year, 24-hour return frequency storm event. If control of the 1-year, 24-hour storm under Section 4.2 is exempted, then peak discharge rate attenuation of the 2-year through the 25-year return frequency storm event must be provided.

☞ *This requirement may be adjusted or waived by the (local permitting authority) for sites where the post-development downstream analysis shows that uncontrolled post-development conditions will not increase downstream peak flows, or that meeting the requirement will cause greater peak flow downstream impacts than the uncontrolled post-development conditions.*

4.4. Extreme Flooding Protection

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

☞ *This requirement may be adjusted or waived by the (local permitting authority) for sites where the post-development downstream analysis shows that uncontrolled post-development conditions will not increase downstream peak flows, or that meeting the requirement will cause greater peak flow downstream impacts than the uncontrolled post-development conditions.*

4.5. Structural Stormwater Controls

All structural stormwater management facilities shall be selected and designed using the appropriate criteria from the Georgia Stormwater Management Manual. All structural stormwater controls must be designed appropriately to meet their intended function. For other structural stormwater controls not included in the Georgia Stormwater Management Manual, or for which pollutant removal rates have not been provided, the effectiveness and pollutant removal of the structural control must be documented through prior studies, literature reviews, or other means and receive approval from **(local permitting**

authority) before being included in the design of a stormwater management system. In addition, if hydrologic or topographic conditions, or land use activities warrant greater control than that provided by the minimum control requirements, the **(local stormwater permitting authority)** may impose additional requirements deemed necessary to protect upstream and downstream properties and aquatic resources from damage due to increased volume, frequency, and rate of stormwater runoff or increased nonpoint source pollution loads created on the site in question.

Applicants shall consult the Georgia Stormwater Management Manual for guidance on the factors that determine site design feasibility when selecting and locating a structural stormwater control.

4.6. Stormwater Credits for Nonstructural Measures

The use of one or more site design measures by the applicant may allow for a reduction in the water quality treatment volume required under Section 4.1. The applicant may, if approved by the **(local permitting authority)**, take credit for the use of stormwater better site design practices and reduce the water quality volume requirement. For each potential credit, there is a minimum set of criteria and requirements which identify the conditions or circumstances under which the credit may be applied. The site design practices that qualify for this credit and the criteria and procedures for applying and calculating the credits are included in the Georgia Stormwater Management Manual.

4.7. Drainage System Guidelines

Stormwater conveyance facilities, which may include but are not limited to culverts, stormwater drainage pipes, catch basins, drop inlets, junction boxes, headwalls, gutter, swales, channels, ditches, and energy dissipaters shall be provided when necessary for the protection of public right-of-way and private properties adjoining project sites and/or public right-of-ways. Stormwater conveyance facilities that are designed to carry runoff from more than one parcel, existing or proposed, shall meet the following requirements:

- (1) Methods to calculate stormwater flows shall be in accordance with the stormwater design manual;
- (2) All culverts, pipe systems and open channel flow systems shall be sized in accordance with the stormwater management plan using the methods included in the stormwater design manual; and,
- (3) Design and construction of stormwater conveyance facilities shall be in accordance with the criteria and specifications found in the stormwater design manual.

4.8. Dam Design Guidelines

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

SECTION 5. CONSTRUCTION INSPECTIONS OF POST-DEVELOPMENT STORMWATER MANAGEMENT SYSTEM

5.1. Inspections to Ensure Plan Compliance During Construction

Periodic inspections of the stormwater management system construction shall be conducted by the staff of the **(local permitting authority)** or conducted and certified by a professional engineer who has been approved by the **(local permitting authority)**. Construction inspections shall utilize the approved stormwater management plan for establishing compliance.

All inspections shall be documented with written reports that contain the following information:

- (1) The date and location of the inspection;
- (2) Whether construction is in compliance with the approved stormwater management plan;
- (3) Variations from the approved construction specifications; and,
- (4) Any other variations or violations of the conditions of the approved stormwater management plan.

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

5.2. Final Inspection and As Built Plans

Upon completion of a project, and before a certificate of occupancy shall be granted, the applicant is responsible for certifying that the completed project is in accordance with the approved stormwater management plan. All applicants are required to submit actual “as built” plans for any stormwater management facilities or practices after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and practices and must be certified by a Professional Engineer. A final inspection by the **(local permitting authority)** is required before the release of any performance securities can occur.

SECTION 6. ONGOING INSPECTION AND MAINTENANCE OF STORMWATER FACILITIES AND PRACTICES

6.1. Long-Term Maintenance Inspection of Stormwater Facilities and Practices

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 ordinance.

A stormwater management facility or practice shall 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 **(local permitting authority)** shall 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 shall specify the measures needed to comply with the agreement and the plan and shall specify the time within which such measures shall be completed. If the responsible person fails or refuses to meet the requirements of the inspection and maintenance agreement, the **(local permitting authority)**, may correct the violation as provided in Subsection 6.4 hereof.

Inspection programs by the **(local permitting authority)** 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.

6.2. Right-of-Entry for Inspection

The terms of the inspection and maintenance agreement shall provide for the **(local permitting authority)** to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when it has a reasonable basis to believe that a violation of this ordinance is occurring or has occurred and to enter when necessary for abatement of a public nuisance or correction of a violation of this ordinance.

6.3. Records of Maintenance Activities

Parties responsible for the operation and maintenance of a stormwater management facility shall provide records of all maintenance and repairs to the **(local permitting authority)**.

6.4. Failure to Maintain

If a responsible person fails or refuses to meet the requirements of the inspection and maintenance agreement, the **(local permitting authority)**, after thirty (30) days written notice (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be 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 **(local permitting authority)** may assess the owner(s) of the facility for the cost of repair work which shall 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.

SECTION 7. VIOLATIONS, ENFORCEMENT AND PENALTIES

Any action or inaction which violates the provisions of this ordinance or the requirements of an approved stormwater management plan or permit, may be subject to the enforcement actions outlined in this Section. Any such action or inaction which is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

7.1. Notice of Violation

If the **(local permitting authority)** determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved stormwater management plan or the provisions of this ordinance, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this ordinance without having first secured a permit therefor, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site.

The notice of violation shall contain:

- (1) The name and address of the owner or the applicant or the responsible person;
- (2) The address or other description of the site upon which the violation is occurring;
- (3) A statement specifying the nature of the violation;
- (4) A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the stormwater management plan or this ordinance and the date for the completion of such remedial action;

- (5) A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and,
- (6) A statement that the determination of violation may be appealed to the **(local permitting authority)** by filing a written notice of appeal within thirty (30) days after the notice of violation (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient).

7.2. Penalties

In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed. Before taking any of the following actions or imposing any of the following penalties, the **(local permitting authority)** shall first notify the applicant or other responsible person in writing of its intended action, and shall provide a reasonable opportunity, of not less than ten days (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) to cure such violation. In the event the applicant or other responsible person fails to cure such violation after such notice and cure period, the **(local permitting authority)** may take any one or more of the following actions or impose any one or more of the following penalties.

- (1) **Stop Work Order** - The **(local permitting authority)** may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take the necessary remedial measures to cure such violation or violations.
- (2) **Withhold Certificate of Occupancy** - The **(local permitting authority)** may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.
- (3) **Suspension, Revocation or Modification of Permit** - The **(local permitting authority)** may suspend, revoke or modify the permit authorizing the land development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated [upon such conditions as the **(local permitting authority)** may deem necessary] to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.
- (4) **Civil Penalties** - In the event the applicant or other responsible person fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten days, or such greater period as the **(local permitting authority)** shall deem appropriate (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) after the **(local permitting authority)** has taken one or more of the actions described above, the **(local permitting authority)** may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.
- (5) **Criminal Penalties** - For intentional and flagrant violations of this ordinance, the **(local permitting authority)** may issue a citation to the applicant or other responsible person, requiring such person to appear in **(appropriate municipal, magistrate or recorder's)** court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not

Appendix A: MODEL ORDINANCES

POST-DEVELOPMENT STORMWATER MANAGEMENT ORDINANCE

to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

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APPENDIX A2 – MODEL FLOODPLAIN MANAGEMENT/ FLOOD DAMAGE PREVENTION ORDINANCE

DESCRIPTION:

Floodplain management involves the designation of flood-prone areas and the managing of their uses. It is also aimed at minimizing modifications to streams, reducing flood hazards, and protecting the beneficial uses of the floodplain such as water quality protection. As such, floodplain management can be seen as a subset of the larger consideration of surface water and stormwater management.

Floodplain regulations and development restrictions can greatly reduce future flooding impacts, preserve greenspace and habitat, and protect their function in safely conveying floodwaters and protecting water quality. This model ordinance aims to help communities integrate floodplain management with stormwater management during the land development process.

The ordinance requires that a local government regulate the floodplains that will be expected with future land-use conditions, which are based upon the communities adopted future land use map, zoning, or watershed study projections. The ordinance also requires the local government to regulate floodplains on all streams with a drainage area of 100 acres and greater.

In order to administer the ordinance, “future-conditions” floodplains must be established:

Future-conditions floodplains for streams with a drainage area of one square mile (640 acres) and greater in size are to be delineated by the local jurisdiction. As required in the District-wide Watershed Management Plan, cities and counties are expected to model and map at least 10% of their area each year until future-conditions floodplains have been established for the entire community.

For streams with a drainage area between 100 acres and 640 acres, the local jurisdiction shall model and map the future-conditions floodplains -or- require the future-conditions floodplains be determined on a per development basis by the applicant.

For development projects in watersheds of any size where future-conditions floodplains have not yet been established, the applicant will be required to determine the future-conditions floodplain boundaries located on their property.

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- Section 7. Violations, Enforcement and Penalties

Note: Italicized text with this symbol ☞ should be interpreted as comments, instructions, or information to assist the local government in tailoring the ordinance. This text would not appear in a final adopted ordinance.

INTRODUCTION

It is hereby determined that:

The flood hazard areas of (**jurisdiction**) are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood relief and protection, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

Flood hazard areas can serve important stormwater management, water quality, streambank protection, stream corridor protection, wetland preservation and ecological purposes when permanently protected as undisturbed or minimally disturbed areas.

Effective floodplain management and flood hazard protection activities can (1) Protect human life and health; (2) Minimize damage to private property; (3) Minimize damage to public facilities and infrastructure such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains; and (4) Minimize expenditure of public money for costly flood control projects associated with flooding and generally undertaken at the expense of the general public.

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, (**jurisdiction**), Georgia, does ordain this ordinance and establishes this set of floodplain management and flood hazard reduction policies 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 damage are in the public interest and will minimize threats to public health and safety, as well as to private and public property.

SECTION 1. GENERAL PROVISIONS

1.1. Purpose and Intent

The purpose of this ordinance is to protect, maintain and enhance the public health, safety, environment and general welfare and to minimize public and private losses due to flood conditions in flood hazard areas, as well as to protect the beneficial uses of floodplain areas for water quality protection, streambank and stream corridor protection, wetlands preservation and ecological and environmental protection by provisions designed to:

- (1) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (2) Restrict or prohibit uses which are dangerous to health, safety and property due to flooding or erosion hazards, or which increase flood heights, velocities, or erosion;
- (3) Control filling, grading, dredging and other development which may increase flood damage or erosion;

- (4) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands;
- (5) Limit the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters; and,
- (6) Protect the stormwater management, water quality, streambank protection, stream corridor protection, wetland preservation and ecological functions of natural floodplain areas.

1.2. Applicability

This ordinance shall be applicable to all Areas of Special Flood Hazard within (**jurisdiction**).

1.3. Designation of Ordinance Administrator

The (**title of administrator**) or (**designee**) is hereby appointed to administer and implement the provisions of this ordinance.

1.4. Basis for Area of Special Flood Hazard – Flood Area Maps and Studies

For the purposes of this ordinance, the following are adopted by reference:

- (1) The Flood Insurance Study (FIS), dated _____, with accompanying maps and other supporting data and any revision thereto are hereby adopted by reference. [*For those land areas acquired by a municipality through annexation, the current effective FIS and data for (**unincorporated county**), dated _____, with accompanying maps and other supporting data and any revision thereto are hereby adopted by reference.*]
- (2) Other studies which may be relied upon for the establishment of the base flood elevation or delineation of the 100-year floodplain and flood-prone areas include:
 - (a) Any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey or any other local, State or Federal agency applicable to (**jurisdiction**); or
 - (b) Any base flood study authored by a registered professional engineer in the State of Georgia which has been prepared by FEMA approved methodology and approved by (**local permitting authority**).
- (3) Other studies which may be relied upon for the establishment of the future-conditions flood elevation or delineation of the future-conditions floodplain and flood-prone areas include:
 - (a) Any flood or flood-related study conducted by the United States Army Corps of Engineers, the United States Geological Survey, or any other local, State or Federal agency applicable to (**jurisdiction**); or
 - (b) Any future-conditions flood study authored by a registered professional engineer in the State of Georgia which has been prepared by FEMA approved methodology approved by (**local permitting authority**).
- (4) The repository for public inspection of the FIS, accompanying maps and other supporting data is located at (**specify repository location**).

1.5. Compatibility with Other Regulations

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation, statute, easement, covenant, deed restriction or other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other

ordinance, rule, regulation or other provision of law, whichever provision is more restrictive or impose higher protective standards for human health or the environment shall control.

1.6. Severability

If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this ordinance.

1.7. Warning and Disclaimer of Liability

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur; flood heights may be increased by manmade or natural causes. This ordinance does not imply that land outside the Areas of Special Flood Hazard or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of (jurisdiction) or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made there under.

SECTION 2. DEFINITIONS

☞ * *NOTE: data must be inserted*

"**Addition (to an existing building)**" means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by an independent perimeter load-bearing wall shall be considered New Construction.

* "**Appeal**" means a request for a review of the (appointed official)'s interpretation of any provision of this ordinance.

"**Area of Shallow Flooding**" means a designated AO or AH Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet, and/or where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

"**Area of Special Flood Hazard**" is the land subject to a one percent or greater chance of flooding in any given year. This includes all floodplain and flood prone areas at or below the base flood elevation (including A, A1-30, A-99, AE, AO, AH, and AR on the FHBM or the FIRM), all floodplain and flood prone areas at or below the future-conditions flood elevation, and all other flood prone areas as referenced in Section 1.4. All streams with a drainage area of 100 acres or greater shall have the area of special flood hazard delineated.

"**Base Flood**" means the flood having a one percent chance of being equaled or exceeded in any given year, also known as the 100-year flood.

"**Base Flood Elevation**" means the highest water surface elevation anticipated at any given point during the base flood.

"**Basement**" means that portion of a building having its floor subgrade (below ground level) on all sides.

"**Building**" means any structure built for support, shelter, or enclosure for any occupancy or storage.

"**Development**" means any man-made change to improved or unimproved real estate including but not limited to buildings or other structures, mining, dredging, filling, clearing, grubbing, grading, paving, any other installation of impervious cover, excavation or drilling operations or storage of equipment or materials.

"**Elevated Building**" means a non-basement building built to have the lowest floor of the lowest enclosed area elevated above the ground level by means of fill, solid foundation perimeter walls, pilings,

columns, piers, or shear walls adequately anchored so as not to impair the structural integrity of the building during a base flood event.

* **"Existing Construction"** Any structure for which the "start of construction" commenced before (a specific date) [i.e., the effective date of the FIRST floodplain management code or ordinance adopted by the community as a basis for that community's participation in the National Flood Insurance Program (NFIP)].

* **"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 final site grading or the pouring of concrete pads) is completed before a specific date [i.e., the effective date of the FIRST floodplain management regulations adopted by a community].

"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.

"FEMA" means the Federal Emergency Management Agency.

"Flood" or **"Flooding"** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(a) the overflow of inland or tidal waters; or

(b) the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood Hazard Boundary Map" or **"FHBM"** means an official map of a community, issued by the Federal Insurance Administration, where the boundaries of areas of special flood hazard have been defined as Zone A.

"Flood Insurance Rate Map" or **"FIRM"** means an official map of a community, issued by the Federal Insurance Administration, delineating the areas of special flood hazard and/or risk premium zones applicable to the community.

"Flood Insurance Study" or **"FIS"** means the official report by the Federal Insurance Administration evaluating flood hazards and containing flood profiles and water surface elevations of the base flood.

"Floodplain" means any land area susceptible to flooding.

"Floodproofing" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

"Floodway" or **"Regulatory Floodway"** means the channel of a stream or other watercourse and the adjacent areas of the floodplain which is necessary to contain and discharge the base flood flow without cumulatively increasing the base flood elevation more than one foot.

"Functionally Dependent Use" means a use which cannot perform its intended purpose 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.

"Highest Adjacent Grade" means the highest natural elevation of the ground surface, prior to construction, adjacent to the proposed foundation of a building.

"Historic Structure" means any structure that is;

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (b) 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 to qualify as a registered historic district;
- (c) Individually listed on a state inventory of historic places and determined as eligible by states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (d) Individually listed on a local inventory of historic places and determined as eligible by communities with historic preservation programs that have been certified either:
 - 1. By an approved state program as determined by the Secretary of the Interior, or
 - 2. Directly by the Secretary of the Interior in states without approved programs.

"Lowest Floor" means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage, in an area other than a basement, 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 this ordinance.

"Manufactured Home" means a building, transportable in one or more sections, built on a permanent chassis and designed to be used 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.

"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. For purposes of this ordinance the term is synonymous with National Geodetic Vertical Datum (NGVD) and/or the North American Vertical Datum (NAVD) of 1988.

"National Geodetic Vertical Datum (NGVD)" as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

* **"New Construction"** means any structure (see definition) for which the "start of construction" commenced after (* specific date) and includes any subsequent improvements to the structure. [* i.e., the effective date of the FIRST floodplain management ordinance adopted by the 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 (* specific date) [i.e., the effective date of the first floodplain management regulations adopted by a community].

"North American Vertical Datum (NAVD) of 1988" is a vertical control used as a reference for establishing varying elevations within the floodplain.

"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.

"Permit" means the permit issued by the (local permitting authority) to the applicant which is required prior to undertaking any development activity.

"Recreational Vehicle" means a vehicle which is:

- (a) built on a single chassis;
- (b) 400 square feet or less when measured at the largest horizontal projection;
- (c) designed to be self-propelled or permanently towable by light duty truck; and,
- (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Site" means the parcel of land being developed, or the portion thereof on which the development project is located.

"Start of Construction" means the date the permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of the structure such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation, and includes the placement of a manufactured home on a foundation. Permanent construction does not include initial 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 on the property of buildings appurtenant to the permitted structure, such as garages or sheds not occupied as dwelling units or part of the main structure. (NOTE: accessory structures are not exempt from any ordinance requirements). 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.

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

"Subdivision" means the 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 Damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before 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 10-year period, in which the cumulative cost equals or exceeds 50 percent of the market value of the structure prior to the improvement. The market value of the building 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 which have incurred "substantial damage" regardless of the actual amount of repair work performed. For the purposes of this definition, "substantial improvement" is considered 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 the Code Enforcement Official, and not solely triggered by an improvement or repair project.

"Substantially Improved Existing Manufactured Home Park 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.

"Variance" is a grant of relief from the requirements of this ordinance which permits construction in a manner otherwise prohibited by this ordinance.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the

elevation certificate, other certificates, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

SECTION 3. PERMIT PROCEDURES AND REQUIREMENTS

3.1. Permit Application Requirements

No owner or developer shall perform any development activities on a site where an Area of Special Flood Hazard is located without first meeting the requirements of this ordinance prior to commencing the proposed activity.

Unless specifically excluded by this ordinance, any landowner or developer desiring a permit for a development activity shall submit to the **(local permitting authority)** a permit application on a form provided by the **(local permitting authority)** for that purpose.

No permit will be approved for any development activities that do not meet the requirements, restrictions and criteria of this ordinance.

3.2. Floodplain Management Plan Requirements

An application for a development project with any Area of Special Flood Hazard located on the site will be required to include a floodplain management / flood damage prevention plan. This plan shall include the following items:

- (1) Site plan drawn to scale, which includes but is not limited to:
 - (a) 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;
 - (b) For all proposed structures, spot ground elevations at building corners and 20-foot or smaller intervals along the foundation footprint, or one foot contour elevations throughout the building site;
 - (c) Proposed locations of water supply, sanitary sewer, and utilities;
 - (d) Proposed locations of drainage and stormwater management facilities;
 - (e) Proposed grading plan;
 - (f) Base flood elevations and future-conditions flood elevations;
 - (g) Boundaries of the base flood floodplain and future-conditions floodplain;
 - (h) If applicable, the location of the floodway; and
 - (i) Certification of the above by a registered professional engineer or surveyor.
- (2) Building and foundation design detail, including but not limited to:
 - (a) Elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all proposed structures;
 - (b) Elevation in relation to mean sea level to which any non-residential structure will be floodproofed;
 - (c) Certification that any proposed non-residential floodproofed structure meets the criteria in Section 5.2(2);
 - (d) For enclosures below the base flood elevation, location and total net area of foundation openings as required in Section 5.1(5).
 - (e) Design plans certified by a registered professional engineer or architect for all proposed structure(s).

- (3) Description of the extent to which any watercourse will be altered or relocated as a result of the proposed development;
- (4) 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 regulatory floodway widths, flood profiles and all other computations and other information similar to that presented in the FIS;
- (5) Copies of all applicable State and Federal permits necessary for proposed development; and
- (6) All appropriate certifications required under this ordinance.

The approved floodplain management / flood damage prevention plan shall contain certification by the applicant that all development activities will be done according to the plan or previously approved revisions. Any and all development permits and/or use and occupancy certificates or permits may be revoked at any time if the construction and development activities are not in strict accordance with approved plans.

3.3. Construction Stage Submittal Requirements

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

Any work undertaken prior to approval of these certifications shall be at the permit holder's risk. The **(administrator)** shall review the above referenced certification data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being allowed to proceed. Failure to submit certification or failure to make the corrections required hereby shall be cause to issue a stop work order for the project.

3.4. Duties and Responsibilities of the Administrator

Duties of the **(administrator)** shall include, but shall not be limited to:

- (1) Review all development applications and permits to assure that the requirements of this ordinance have been satisfied and to determine whether proposed building sites will be reasonably safe from flooding;
- (2) Require that copies of all necessary permits from governmental agencies from which approval is required by Federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, be provided and maintained on file;
- (3) When Base Flood Elevation data or floodway data have not been provided, then the **(administrator)** shall require the applicant to obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, state or other sources in order to meet the provisions of Sections 4 and 5;
- (4) Review and record the actual elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all new or substantially improved structures;

- (5) Review and record the actual elevation, in relation to mean sea level to which any substantially improved structures have been flood-proofed;
- (6) When flood-proofing is utilized for a non-residential structure, the **(administrator)** shall obtain certification of design criteria from a registered professional engineer or architect;
- (7) Notify affected adjacent communities and the Georgia Department of Natural Resources prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency (FEMA);
- (8) Where interpretation is needed as to the exact location of boundaries of the Areas of Special Flood Hazard (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions) the **(administrator)** shall make the necessary interpretation. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this ordinance. Where floodplain elevations have been defined, the floodplain shall be determined based on flood elevations rather than the area graphically delineated on the floodplain maps; and,
- (9) All records pertaining to the provisions of this ordinance shall be maintained in the office of the **(administrator)** and shall be open for public inspection.

SECTION 4. STANDARDS FOR DEVELOPMENT

4.1. Definition of Floodplain Boundaries

- (1) Studied “A” zones, as identified in the FIS, shall 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 shall be provided by the **(local permitting authority)**. If future-conditions elevation data is not available from the **(local permitting authority)**, then it shall be determined by a registered professional engineer using a method approved by FEMA and the **(local permitting authority)**.

4.2. Definition of Floodway Boundaries

- (1) The width of a floodway shall be determined from the FIS or FEMA approved flood study. For all streams with a drainage area of 100 acres or greater, the regulatory floodway shall be provided by the **(local permitting authority)**. If floodway data is not available from the **(local permitting authority)**, then it shall be determined by a registered professional engineer using a method approved by FEMA and the **(local permitting authority)**.

4.3. General Standards

- (1) No development shall be 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 equal to or more than 0.01 foot;
 - (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 within the future-conditions floodplain allowed under (1) above shall also meet the following conditions:
- (a) Compensation for storage capacity shall occur between the average ground water table elevation and the base flood elevation for the base flood, and between the average ground water table elevation and the future-condition flood elevation for the future-conditions flood, and lie either within the boundaries of ownership of the property being developed and shall 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 shall any required compensation be provided via bottom storage or by excavating below the elevation of the top of the natural (pre-development) stream channel unless such excavation results from the widening or relocation of the stream channel;
 - (b) Cut areas shall be stabilized and graded to a slope of no less than 2.0 percent;
 - (c) Effective transitions shall 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 shall be provided via a step-backwater analysis meeting the requirements of Section 4.4;
 - (e) Public utilities and facilities, such as water, sanitary sewer, gas, and electrical systems, shall be located and constructed to minimize or eliminate infiltration or contamination from flood waters; and
 - (f) Any significant physical changes to the base flood floodplain shall be submitted as a Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Amendment (CLOMA), whichever is applicable. The CLOMR submittal shall be subject to approval by the (local permitting authority) using the Community Consent forms before forwarding the submittal package to FEMA for final approval. The responsibility for forwarding the CLOMR to FEMA and for obtaining the CLOMR approval shall be the responsibility of the applicant. Within six months of the completion of construction, the applicant shall submit as-built surveys for a final Letter of Map Revision (LOMR).

4.4. 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 5.4 apply. This study shall be prepared by a currently registered Professional Engineer in the State of Georgia and made a part of the application for a permit. This information shall be submitted to and approved by the **(local permitting authority)** prior to the approval of any permit which would authorize the disturbance of land located within the future-conditions floodplain. Such study shall 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 **(local permitting authority)**. Cross-sections (which may be supplemented by the applicant) and flow information will be obtained whenever available. Computations will be shown duplicating FIS results and will 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 shall include a preliminary plat, grading plan, or site plan, as appropriate, which shall clearly define all future-conditions floodplain encroachments.

4.5. Floodway Encroachments

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

- (1) Encroachments are prohibited, including earthen fill, new construction, substantial improvements or other development within the regulatory floodway, except for activities specifically allowed in (2) below.
- (2) Encroachments for bridges, culverts, roadways and utilities within the regulatory floodway may be permitted provided it is demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the encroachment shall 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 supporting technical data and certification thereof; and,
- (3) If the applicant proposes to revise the floodway boundaries, no permit authorizing the encroachment into or an alteration of the floodway shall be issued by the **(local permitting authority)** until an affirmative Conditional Letter of Map Revision (CLOMR) is issued by FEMA and no-rise certification is approved by the **(local permitting authority)**.

4.6. Maintenance Requirements

The property owner shall be responsible for continuing maintenance as may be needed within an altered or relocated portion of a floodplain on his property so that the flood-carrying or flood storage capacity is not diminished. The **(local permitting authority)** may direct the property owner (at no cost to **[jurisdiction]**) 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 **(local permitting authority)**.

SECTION 5. PROVISIONS FOR FLOOD DAMAGE REDUCTION

5.1. General Standards

In all Areas of Special Flood Hazard the following provisions apply:

- (1) New construction of principal buildings (residential or non-residential), including manufactured homes, shall not be allowed within the limits of the future-conditions floodplain, unless all requirements of Sections 4.3, 4.4 and 4.5 have been met;
- (2) New construction or substantial improvements of existing structures shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- (3) New construction or substantial improvements of existing structures shall be constructed with materials and utility equipment resistant to flood damage;

- (4) New construction or substantial improvements of existing structures shall be constructed by methods and practices that minimize flood damage;
- (5) Elevated Buildings - 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 shall be designed so as to be an unfinished and flood resistant enclosure. The enclosure shall 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:
 - (i) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - (ii) The bottom of all openings shall be no higher than one foot above grade; and,
 - (iii) Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwater in both directions.
 - (b) So as not to violate the "Lowest Floor" criteria of this ordinance, the unfinished and flood resistant enclosure shall solely 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 shall 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 shall be designed and/or located three (3) feet above the base flood elevation or one (1) 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 shall 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 shall be in addition to and consistent with applicable State requirements for resisting wind forces;
- (8) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (9) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- (10) On-site waste disposal systems shall be located and constructed to avoid impairment to them, or contamination from them, during flooding; and,
- (11) Any alteration, repair, reconstruction or improvement to a structure which is not compliant with the provisions of this ordinance, shall be undertaken only if the non- conformity 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 shall take precedence.

5.2. Building Standards for Structures and Buildings Within the Future-Conditions Floodplain

The following provisions, in addition to those in Section 5.1, shall apply:

- (1) Residential Buildings

- (a) New construction. New construction of principal buildings, including manufactured homes shall not be allowed within the limits of the future-conditions floodplain unless all requirements of Sections 4.3, 4.4 and 4.5 have been met. If all of the requirements of Sections 4.3, 4.4 and 4.5 have been met, all new construction shall have the lowest floor, including basement, elevated no lower than three (3) feet above the base flood elevation or one (1) foot above the future-conditions flood elevation, whichever is higher. Should solid foundation perimeter walls be used to elevate the structure, openings sufficient to equalize the hydrologic flood forces on exterior walls and to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of Section 5.1(5).
- (b) Substantial Improvements. Substantial improvement of any principal structure or manufactured home shall have the lowest floor, including basement, elevated no lower than three (3) feet above the base flood elevation or one (1) foot above the future-conditions flood elevation, whichever is higher. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to equalize the hydrologic flood forces on exterior walls and to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Section 5.1(5).
- (2) Non-Residential Buildings
- (a) New construction. New construction of principal buildings, including manufactured homes shall not be allowed within the limits of the future-conditions floodplain unless all requirements of Sections 4.3, 4.4 and 4.5 have been met. New construction that has met all of the requirements of Sections 4.3, 4.4 and 4.5 may be flood-proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be watertight to one (1) 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 shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above, and shall provide such certification to the **(administrator)**.
- (b) Substantial Improvements. Substantial improvement of any principal non-residential structure located in A1- 30, AE, or AH zones, may be authorized by the **(administrator)** to be flood-proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to one (1) 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 shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above, and shall provide such certification to the **(administrator)**.
- (3) Accessory Structures and Facilities
- Accessory structures and facilities (i.e., barns, sheds, gazebos, detached garages, parking lots, recreational facilities and other similar non-habitable structures and facilities) which are permitted to be located within the limits of the floodplain shall be constructed of flood-resistant materials and designed to pass all floodwater in accordance with Section 5.1(5) and be anchored to prevent flotation, collapse or lateral movement of the structure.

- (4) Standards for 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 Residential Buildings—Substantial Improvements (Section 5.2(1)(b)), including the anchoring and elevation requirements.
- (5) Standards for Manufactured Homes
 - (a) New manufactured homes shall not be allowed to be placed within the limits of the future-conditions floodplain unless all requirements of Sections 4.3, 4.4 and 4.5 have been met.
 - (b) Manufactured homes placed and/or substantially improved in an existing manufactured home park or subdivision shall be elevated so that either:
 - (i) The lowest floor of the manufactured home is elevated no lower than three (3) feet above the level of the base flood elevation, or one (1) foot above the future-conditions flood elevation, whichever is higher; or
 - (ii) 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 standards of Section 5.1(7).

5.3. Building Standards for Structures and Buildings Authorized 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, shall be at least three (3) feet above the base flood elevation or one (1) foot above the future-conditions flood elevation, whichever is higher.
- (2) Non-Residential Buildings – For new construction or substantial improvement of any principal non-residential building, the elevation of the lowest floor, including basement and access to the building, shall be at least one (1) foot above the level of the base flood elevation or at least as high as the future-conditions flood elevation, whichever is higher.

5.4. Building Standards for Residential Single-Lot Developments on Streams Without Established Base Flood Elevations and/or Floodway (A-Zones)

For a residential single-lot development not part of a subdivision that has Areas of Special Flood Hazard, where streams exist but no base flood data have been provided (A-Zones), the **(administrator)** shall 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 and standards of this ordinance.

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

- (1) No encroachments, including structures or fill material, shall be located within an area equal to twice the width of the stream or fifty (50) feet from the top of the bank of the stream, whichever is greater.
- (2) In special flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade at the building site. Openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with Section 5.1(5).

5.5. Building Standards for Areas of Shallow Flooding (AO-Zones)

Areas of Special Flood Hazard may include designated "AO" shallow flooding areas. These areas have base flood depths of one (1) to three (3) feet above ground, with no clearly defined channel. In these areas the following provisions apply:

- (1) All substantial improvements of residential and non-residential structures shall have the lowest floor, including basement, elevated to no lower than one (1) 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, shall be elevated at least three (3) feet above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Section 5.1(5).
- (2) Substantial improvement of a non-residential structure may be flood-proofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to the specified FIRM flood level plus one (1) 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 shall certify that the design and methods of construction are in accordance with accepted standards of practice; and,
- (3) Drainage paths shall be provided to guide floodwater around and away from any proposed structure.

5.6. Standards for Subdivisions

- (1) All subdivision proposals shall 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 shall have sufficient buildable area outside of the future-conditions floodplain such that encroachments into the future-conditions floodplain for residential structures will not be required;
- (3) All subdivision plans will provide the elevations of proposed structures in accordance with Section 3.2.
- (4) All subdivision proposals shall be consistent with the need to minimize flood damage;
- (5) All subdivision proposals shall have public utilities and facilities such as water, sanitary sewer, gas, and electrical systems located and constructed to minimize or eliminate infiltration of flood waters, and discharges from the systems into flood waters; and,
- (6) All subdivision proposals shall include adequate drainage and stormwater management facilities per the requirements of (**jurisdiction**) to reduce potential exposure to flood hazards.

SECTION 6. VARIANCE PROCEDURES

The following variance and appeals procedures shall apply to an applicant who has been denied a permit for a development activity, or to an owner or developer who has not applied for a permit because it is clear that the proposed development activity would be inconsistent with the provisions of this ordinance. A request for a variance may be submitted by an applicant who has been denied a permit by the **(local permitting authority)**, or by an owner or developer who has not previously applied for a permit for the reasons stated herein above.

- (1) Requests for variances from the requirements of this ordinance shall be submitted to the **(local permitting authority)**. All such requests shall be heard and decided in accordance with procedures to be published in writing by the **(local permitting authority)**. At a minimum, such procedures shall include notice to all affected parties and the opportunity to be heard.
- (2) Any person adversely affected by any decision of the **(local permitting authority)** shall have the right to appeal such decision to the **(appointed board)** as established by **(jurisdiction)** in accordance with procedures to be published in writing by the **(appointed board)**. At a minimum, such procedures shall include notice to all affected parties and the opportunity to be heard.
- (3) Any person aggrieved by the decision of the **(appointed board)** may appeal such decision to the **(appropriate court)**, as provided in **Section 5-4-1 of the Official Code of Georgia Annotated**.
- (4) 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 issued shall be the minimum necessary to preserve the historic character and design of the structure.
- (5) Variances may be issued for development necessary for the conduct of a functionally dependent use, provided the criteria of this Section are met, no reasonable alternative exists, and the development is protected by methods that minimize flood damage during the base flood and create no additional threats to public safety.
- (6) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (7) In reviewing such requests, the **(local permitting authority)** and **(appointed board)** shall consider all technical evaluations, relevant factors, and all standards specified in this and other sections of this ordinance.
- (8) Conditions for Variances:
 - (a) A variance shall be issued only when there is:
 - (i) a finding of good and sufficient cause;
 - (ii) a determination that failure to grant the variance would result in exceptional hardship; and,
 - (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, or the creation of a nuisance.
 - (b) The provisions of this ordinance are minimum standards for flood loss reduction; therefore, any deviation from the standards must be weighed carefully. Variances shall only be issued upon determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and, in the instance of a Historic structure, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building.

- (c) Any person to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation of the proposed lowest floor and stating that the cost of flood insurance will be commensurate with the increased risk to life and property resulting from the reduced lowest floor elevation.
- (d) The **(administrator)** shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.
- (9) Any person requesting a variance shall, from the time of the request until the time the request is acted upon, submit such information and documentation as the **(local permitting authority)** and **(appointed board)** shall deem necessary to the consideration of the request.
- (10) Upon consideration of the factors listed above and the purposes of this ordinance, the **(local permitting authority)** and the **(appointed board)** may attach such conditions to the granting of variances as they deem necessary or appropriate, consistent with the purposes of this ordinance.
- (11) Variances shall not be issued “after the fact.”

SECTION 7. VIOLATIONS, ENFORCEMENT AND PENALTIES

Any action or inaction which violates the provisions of this ordinance or the requirements of an approved stormwater management plan or permit, may be subject to the enforcement actions outlined in this Section. Any such action or inaction which is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

7.1. Notice of Violation

If the **(local permitting authority)** determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved stormwater management plan or the provisions of this ordinance, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this ordinance without having first secured a permit therefor, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site.

The notice of violation shall contain:

- (1) The name and address of the owner or the applicant or the responsible person;
- (2) The address or other description of the site upon which the violation is occurring;
- (3) A statement specifying the nature of the violation;
- (4) A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the stormwater management plan or this ordinance and the date for the completion of such remedial action;
- (5) A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and,
- (6) A statement that the determination of violation may be appealed to the **(local permitting authority)** by filing a written notice of appeal within thirty (30) days after the notice of violation (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient).

7.2. Penalties

In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed. Before taking any of the following actions or imposing any of the following penalties, the **(local permitting authority)** shall first notify the applicant or other responsible person in writing of its intended action, and shall provide a reasonable opportunity, of not less than ten (10) days (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) to cure such violation. In the event the applicant or other responsible person fails to cure such violation after such notice and cure period, the **(local permitting authority)** may take any one or more of the following actions or impose any one or more of the following penalties.

- (1) **Stop Work Order** - The **(local permitting authority)** may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take the necessary remedial measures to cure such violation or violations.
- (2) **Withhold Certificate of Occupancy** - The **(local permitting authority)** may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.
- (3) **Suspension, Revocation or Modification of Permit** - The **(local permitting authority)** may suspend, revoke or modify the permit authorizing the development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated (upon such conditions as the **(local permitting authority)** may deem necessary) to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.
- (4) **Civil Penalties** - In the event the applicant or other responsible person fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten (10) days, or such greater period as the **(local permitting authority)** shall deem appropriate (except, that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) after the **(local permitting authority)** has taken one or more of the actions described above, the **(local permitting authority)** may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.
- (5) **Criminal Penalties** - For intentional and flagrant violations of this ordinance, the **(local permitting authority)** may issue a citation to the applicant or other responsible person, requiring such person to appear in **(appropriate municipal, magistrate or recorder's)** court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

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APPENDIX A3 – MODEL STREAM BUFFER PROTECTION ORDINANCE

DESCRIPTION:

This model ordinance provides a framework for local governments to develop buffer zones for streams, as well as the requirements that minimize land development within those buffers. It is the purpose of these buffer zone requirements to protect and stabilize stream banks, protect water quality and preserve aquatic and riparian habitat.

Note: Italicized text with this symbol ☞ should be interpreted as comments, instructions, or information to assist the local government in tailoring the ordinance. This text would not appear in a final adopted ordinance.

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SECTION 1. TITLE

This ordinance shall be known as the “(Local Jurisdiction) Stream Buffer Protection Ordinance.”

SECTION 2. FINDINGS AND PURPOSES

2.1. Findings

Whereas, the (name of governing body) of (local jurisdiction) finds that buffers adjacent to streams provide numerous benefits including:

- (1) Protecting, restoring and maintaining the chemical, physical and biological integrity of streams and their water resources
- (2) Removing pollutants delivered in urban stormwater
- (3) Reducing erosion and controlling sedimentation
- (4) Protecting and stabilizing stream banks
- (5) Providing for infiltration of stormwater runoff
- (6) Maintaining base flow of streams

- (7) Contributing organic matter that is a source of food and energy for the aquatic ecosystem
- (8) Providing tree canopy to shade streams and promote desirable aquatic habitat
- (9) Providing riparian wildlife habitat
- (10) Furnishing scenic value and recreational opportunity
- (11) Providing opportunities for the protection and restoration of greenspace

2.2. Purposes

It is the purpose of this Ordinance is to protect the public health, safety, environment and general welfare; to minimize public and private losses due to erosion, siltation and water pollution; and to maintain stream water quality by provisions designed to:

- (1) Create buffer zones along the streams of (**local jurisdiction**) for the protection of water resources; and,
- (2) Minimize land development within such buffers by establishing buffer zone requirements and by requiring authorization for any such activities.

Section 3. Definitions

“**Buffer**” means, with respect to a stream, a natural or enhanced vegetated area (established by Section 5.1.1 below), lying adjacent to the stream.

“**Impervious Cover**” means any manmade paved, hardened or structural surface regardless of material. Impervious cover includes but is not limited to rooftops, buildings, streets, roads, decks, swimming pools and any concrete or asphalt.

“**Land Development**” means any land change, including but not limited to clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, paving and any other installation of impervious cover.

“**Land Development Activity**” means those actions or activities which comprise, facilitate or result in land development.

“**Land Disturbance**” means any land or vegetation change, including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, that do not involve construction, paving or any other installation of impervious cover.

“**Land Disturbance Activity**” means those actions or activities which comprise, facilitate or result in land disturbance.

“**Floodplain**” means any land area susceptible to flooding, which would have at least a one percent probability of flooding occurrence in any calendar year based on the basin being fully developed as shown on the current land use plan; i.e., the regulatory flood.

“**Parcel**” means any plot, lot or acreage shown as a unit on the latest county tax assessment records.

“**Permit**” means the permit issued by the (**local permitting authority**) required for undertaking any land development activity

“**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.

“**Protection Area, or Stream Protection Area**” means, with respect to a stream, the combined areas of all required buffers and setbacks applicable to such stream.

“**Riparian**” means belonging or related to the bank of a river, stream, lake, pond or impoundment.

“**Setback**” means, with respect to a stream, the area established by Section 5.1.2 extending beyond any buffer applicable to the stream.

“**Stream**” means any stream, beginning at:

1. The location of a spring, seep, or groundwater outflow that sustains streamflow; or

2. A point in the stream channel with a drainage area of 25 acres or more; or
3. Where evidence indicates the presence of a stream in a drainage area of other than 25 acres, the **(local permitting authority)** may require field studies to verify the existence of a stream.

☞ *As a long-term goal, the local jurisdiction can also map its perennial and intermittent streams through field work, prioritizing basins and developing information as time, staffing and budgets permit.*

“**Stream Bank**” means the sloping land that contains the stream channel and the normal flows of the stream.

“**Stream Channel**” means the portion of a watercourse that contains the base flow of the stream.

“**Watershed**” means the land area that drains into a particular stream.

SECTION 4. APPLICABILITY

This ordinance shall apply to all land development activity on property containing a stream protection area as defined in Section 3 of this ordinance. These requirements are in addition to, and do not replace or supersede, any other applicable buffer requirements established under state law and approval or exemption from these requirements do not constitute approval or exemption from buffer requirements established under state law or from other applicable local, state or federal regulations.

4.1. Grandfather Provisions

This ordinance shall not apply to the following activities:

- (1) Work consisting of the repair or maintenance of any lawful use of land that is zoned and approved for such use on or before the effective date of this ordinance.
- (2) Existing development and on-going land disturbance activities including but not limited to existing agriculture, silviculture, landscaping, gardening and lawn maintenance, except that new development or land disturbance activities on such properties will be subject to all applicable buffer requirements.
- (3) Any land development activity that is under construction, fully approved for development, scheduled for permit approval or has been submitted for approval as of the effective date of this ordinance.
- (4) Land development activity that has not been submitted for approval, but that is part of a larger master development plan, such as for an office park or other phased development that has been previously approved within two years of the effective date of this ordinance.

4.2. Exemptions

The following specific activities are exempt from this ordinance. Exemption of these activities does not constitute an exemption for any other activity proposed on a property.

- (1) Activities for the purpose of building one of the following:
 - a stream crossing by a driveway, transportation route or utility line;
 - public water supply intake or public wastewater outfall structures;
 - intrusions necessary to provide access to a property;
 - public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the river, fishing platforms and overlooks;
 - unpaved foot trails and paths;
 - activities to restore and enhance stream bank stability, vegetation, water quality and/or aquatic habitat, so long as native vegetation and bioengineering techniques are used.

- (2) Public sewer line easements paralleling the creek, except that all easements (permanent and construction) and land disturbance should be at least 25 feet from the top of the bank. This includes such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures. This exemption shall not be construed as allowing the construction of roads, bike paths or other transportation routes in such easements, regardless of paving material, except for access for the uses specifically cited in Item 4.2.(1), above.
- (3) Land development activities within a right-of-way existing at the time this ordinance takes effect or approved under the terms of this ordinance.
- (4) Within an easement of any utility existing at the time this ordinance takes effect or approved under the terms of this ordinance, land disturbance activities and such impervious cover as is necessary for the operation and maintenance of the utility, including but not limited to manholes, vents and valve structures.
- (5) Emergency work necessary to preserve life or property. However, when emergency work is performed under this section, the person performing it shall report such work to the (review and permitting authority) on the next business day after commencement of the work. Within 10 days thereafter, the person shall apply for a permit and perform such work within such time period as may be determined by the (review and permitting authority) to be reasonably necessary to correct any impairment such emergency work may have caused to the water conveyance capacity, stability or water quality of the protection area.
- (6) Forestry and silviculture activities on land that is zoned for forestry, silvicultural or agricultural uses and are not incidental to other land development activity. If such activity results in land disturbance in the buffer that would otherwise be prohibited, then no other land disturbing activity other than normal forest management practices will be allowed on the entire property for three years after the end of the activities that intruded on the buffer.

➡ *Unless specifically provided for in a State law, local governments generally do not have permitting or enforcement authority over State and Federal departments, agencies and authorities. Local governments need to address these issues in the context of their overall permitting and enforcement regulations and provide for reporting observed problems, first to the agency performing the activity, then, if no corrective action results, to Georgia EPD.*

After the effective date of this ordinance, it shall apply to new subdividing and platting activities.

Any land development activity within a buffer established hereunder or any impervious cover within a setback established hereunder is prohibited unless a variance is granted pursuant to Section 5.2 below.

SECTION 5. LAND DEVELOPMENT REQUIREMENTS

5.1. Buffer and Setback Requirements

All land development activity subject to this ordinance shall meet the following requirements:

- (1) An undisturbed natural vegetative buffer shall be maintained for 50 feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank.
➡ *The top of the bank is often a clearer landmark than the edge of the water or the end of vegetation, particularly on intermittent streams. The land forming the bank is also considered part of the buffer for purposes of this ordinance.*

- (2) An additional setback shall be maintained for 25 feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthmoving shall be minimized within the setback.

☞ *Any buffer and setback widths that may be listed are intended as minimums. Local governments are encouraged to adopt wider buffers and setbacks as necessary. A local government has many options in developing wider buffers. One method would be to increase the width as the stream drainage basin increases in size, as Cobb County does. Another method is to offer incentives for voluntary wider buffers. For example, Clayton County allows developers to offset proposed land development with deeper buffers as an alternative to using other stormwater controls.*

- (3) No septic tanks or septic tank drain fields shall be permitted within the buffer or the setback.

5.2. VARIANCE PROCEDURES

Variances from the above buffer and setback requirements may be granted in accordance with the following provisions:

- (1) Where a parcel was platted prior to the effective date of this ordinance, and its shape, topography or other existing physical condition prevents land development consistent with this ordinance, and the **(review and permitting authority)** finds and determines that the requirements of this ordinance prohibit the otherwise lawful use of the property by the owner, the **(appeals board)** of **(local jurisdiction)** may grant a variance from the buffer and setback requirements hereunder, provided such variance require mitigation measures to offset the effects of any proposed land development on the parcel.
- (2) Except as provided above, the **(appeals board)** of **(local jurisdiction)** shall grant no variance from any provision of this ordinance without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of the **(appeals board)**. The **(local jurisdiction)** shall give public notice of each such public hearing in a newspaper of general circulation within **(local jurisdiction)**. The **(local jurisdiction)** shall require that the applicant post a sign giving notice of the proposed variance and the public hearing. The sign shall be of a size and posted in such a location on the property as to be clearly visible from the primary adjacent road right-of-way. Variances will be considered only in the following cases:
- (a) When a property's shape, topography or other physical conditions existing at the time of the adoption of this ordinance prevents land development unless a buffer variance is granted.
- (b) Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.

Variances will not be considered when, following adoption of this ordinance, actions of any property owner of a given property have created conditions of a hardship on that property.

- (3) At a minimum, a variance request shall include the following information:
- (a) A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey;
- (b) A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
- (c) A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both

- inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated;
- (d) Documentation of unusual hardship should the buffer be maintained;
 - (e) At least one alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;
 - (f) A calculation of the total area and length of the proposed intrusion;
 - (g) A stormwater management site plan, if applicable; and,
 - (h) Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.
- (4) The following factors will be considered in determining whether to issue a variance:
- (a) The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;
 - (b) The locations of all streams on the property, including along property boundaries;
 - (c) The location and extent of the proposed buffer or setback intrusion; and,
 - (d) Whether alternative designs are possible which require less intrusion or no intrusion;
 - (e) The long-term and construction water-quality impacts of the proposed variance;
 - (f) Whether issuance of the variance is at least as protective of natural resources and the environment.

SECTION 6. COMPATIBILITY WITH OTHER BUFFER REGULATIONS AND REQUIREMENTS

This ordinance is not intended to interfere with, abrogate or annul any other ordinance, rule or regulation, statute or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

➡ *Examples of existing legislation and regulations include:*

Metropolitan River Protection Act and Chattahoochee Corridor Plan

Requires a 50-foot undisturbed vegetative buffer and 150-foot impervious surface setback on the Chattahoochee and its impoundments and a 35-foot undisturbed vegetative buffer (all measured from the edge of the water) on perennial tributary streams in a Corridor extending 2000 feet from either bank of the river and its impoundments. The Corridor extends from Buford Dam to the downstream limits of the Atlanta region (Douglas and Fulton Counties). Streams in the basin of the Corridor are required to be protected by buffers, but no required width is specified. (Georgia Code 12-5-440 et seq.)

DNR Part 5 Criteria for Small (under 100 square miles) Water Supply Watersheds

Authorized under Part V of the Georgia Planning Act of 1989, these criteria require 100-foot undisturbed buffers and 150-foot setbacks on all perennial streams within 7 miles upstream of a public water supply reservoir or public water supply intake. Beyond 7 miles, the required buffer is 50 feet and the required setback is 75 feet. Equivalent protection measures can be adopted with approval from Georgia DCA and DNR.

DNR Part 5 Criteria for River Protection

Authorized under the 1991 Mountains and River Corridors Protection Act of 1991, these criteria require a 100-foot buffer along rivers with average annual flows of greater than 400 cfs

(excepting the portion of the Chattahoochee referenced above). The buffer is measured from the top of the stream bank.

These examples are partial descriptions of more extensive regulations as of July, 2002. They represent only three of the stricter regulations that already exist.

☞ *While the requirements of this ordinance are intended to apply to all streams in (local jurisdiction), special conditions may exist that require greater protection. Nothing in this ordinance should be construed as preventing the establishment of wider and/or more restrictive buffers and setbacks as required under any other existing or future legislation. In addition, nothing in this ordinance should be construed as preventing the establishment of wider buffers for purposes of protecting greenspace, preserving habitat or other goals that may not be specifically mandated by legislation.*

SECTION 7. ADDITIONAL INFORMATION REQUIREMENTS FOR DEVELOPMENT ON BUFFER ZONE PROPERTIES

Any permit applications for property requiring buffers and setbacks hereunder must include the following:

- (1) A site plan showing:
 - (a) The location of all streams on the property;
 - (b) Limits of required stream buffers and setbacks on the property;
 - (c) Buffer zone topography with contour lines at no greater than five (5)-foot contour intervals;
 - (d) Delineation of forested and open areas in the buffer zone; and,
 - (e) Detailed plans of all proposed land development in the buffer and of all proposed impervious cover within the setback;
- (2) A description of all proposed land development within the buffer and setback; and,
- (3) Any other documentation that the (review and permitting authority) may reasonably deem necessary for review of the application and to insure that the buffer zone ordinance is addressed in the approval process.

All buffer and setback areas must be recorded on the final plat of the property following plan approval.

SECTION 8. RESPONSIBILITY

Neither the issuance of a development permit nor compliance with the conditions thereof, nor with the provisions of this ordinance shall relieve any person from any responsibility otherwise imposed by law for damage to persons or property; nor shall the issuance of any permit hereunder serve to impose any liability upon (local jurisdiction), its officers or employees, for injury or damage to persons or property.

SECTION 9. INSPECTION

The (review and permitting authority) may cause inspections of the work in the buffer or setback to be made periodically during the course thereof and shall make a final inspection following completion of the work. The permittee shall assist the (review and permitting authority) in making such inspections. The (local jurisdiction) shall have the authority to conduct such investigations as it may reasonably deem necessary to carry out its duties as prescribed in this ordinance, and for this purpose to enter at reasonable time upon any property, public or private, for the purpose of investigating and inspecting the sites of any land development activities within the protection area.

No person shall refuse entry or access to any authorized representative or agent who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out official duties.

SECTION 10. VIOLATIONS, ENFORCEMENT AND PENALTIES

Any action or inaction which violates the provisions of this ordinance or the requirements of an approved site plan or permit may be subject to the enforcement actions outlined in this Section. Any such action or inaction which is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

10.1. Notice of Violation

If the **(review and permitting authority)** determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved site plan or the provisions of this ordinance, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this ordinance without having first secured the appropriate permit therefor, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site. The notice of violation shall contain:

- (1) The name and address of the owner or the applicant or the responsible person;
- (2) The address or other description of the site upon which the violation is occurring;
- (3) A statement specifying the nature of the violation;
- (4) A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the approved site plan or this ordinance and the date for the completion of such remedial action;
- (5) A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and,
- (6) A statement that the determination of violation may be appealed to the **(review and permitting authority)** by filing a written notice of appeal within thirty (30) days after the notice of violation (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient).

10.2. Penalties

In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed. Before taking any of the following actions or imposing any of the following penalties, the **(review and permitting authority)** shall first notify the applicant or other responsible person in writing of its intended action, and shall provide a reasonable opportunity, of not less than ten days (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) to cure such violation. In the event the applicant or other responsible person fails to cure such violation after such notice and cure period, the **(review and permitting authority)** may take any one or more of the following actions or impose any one or more of the following penalties.

- (1) **Stop Work Order** - The **(review and permitting authority)** may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall

remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take necessary remedial measures to cure such violation or violations.

- (2) **Withhold Certificate of Occupancy** - The **(review and permitting authority)** may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.
- (3) **Suspension, Revocation or Modification of Permit** - The **(review and permitting authority)** may suspend, revoke or modify the permit authorizing the land development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated (upon such conditions as the **(review and permitting authority)** may deem necessary) to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.
- (4) **Civil Penalties** - In the event the applicant or other responsible person fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten days (or such greater period as the **(review and permitting authority)** shall deem appropriate) (except that in the event the violation constitutes an immediate danger to public health or public safety, 24 hours notice shall be sufficient) after the **(review and permitting authority)** has taken one or more of the actions described above, the **(review and permitting authority)** may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.
- (5) **Criminal Penalties** - For intentional and flagrant violations of this ordinance, the **(review and permitting authority)** may issue a citation to the applicant or other responsible person, requiring such person to appear in **(appropriate municipal, magistrate or recorders)** court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

SECTION 11. ADMINISTRATIVE APPEAL AND JUDICIAL REVIEW

11.1. Administrative Appeal

Any person aggrieved by a decision or order of (review and permitting authority), may appeal in writing within ___ days after the issuance of such decision or order to the (designated official) of (local jurisdiction) and shall be entitled to a hearing before the (designated appeals body) of (local jurisdiction) within ___ days of receipt of the written appeal.

11.2. Judicial Review

Any person aggrieved by a decision or order of (review and permitting authority), after exhausting all administrative remedies, shall have the right to appeal de novo to the ___ court of (appropriate jurisdiction).

SECTION 12. SEVERABILITY

If any article, section, subsection, paragraph, clause, phrase or provision of this ordinance shall be adjudged invalid or held unconstitutional, such decision shall not affect or invalidate the remaining portions of this ordinance.

APPENDIX A4 – MODEL ILLICIT DISCHARGE AND ILLEGAL CONNECTION ORDINANCE

DESCRIPTION:

An illicit discharge is defined as any discharge to a municipal or county separate storm sewer system (stormwater drainage system) that is not composed entirely of stormwater runoff (except for discharges allowed under an NPDES permit or non-polluting flows). These non-stormwater discharges occur due to illegal dumping or illegal connections to the stormwater drainage system. This model ordinance provides communities with the authority to deal with illicit discharges and establishes enforcement actions for those persons or entities found to be in noncompliance or that refuse to allow access to their facilities.

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- Section 7. Violations, Enforcement and Penalties

Note: Italicized text with this symbol ➡ should be interpreted as comments, instructions, or information to assist the local government in tailoring the ordinance. This text would not appear in a final adopted ordinance.

INTRODUCTION

It is hereby determined that:

Discharges to the (municipal/county) separate storm sewer system that are not composed entirely of stormwater runoff contribute to increased nonpoint source pollution and degradation of receiving waters;

These non-stormwater discharges occur due to spills, dumping and improper connections to the (municipal/county) separate storm sewer system from residential, industrial, commercial or institutional establishments.

These non-stormwater discharges not only impact waterways individually, but geographically dispersed, small volume non-stormwater discharges can have cumulative impacts on receiving waters.

The impacts of these discharges adversely affect public health and safety, drinking water supplies, recreation, fish and other aquatic life, property values and other uses of lands and waters;

These impacts can be minimized through the regulation of spills, dumping and discharges into the (municipal/county) separate storm sewer system;

Localities in the State of Georgia are required to comply with a number of State and Federal laws, regulations and permits which require a locality to address the impacts of stormwater runoff quality and nonpoint source pollution due to improper non-stormwater discharges to the (municipal/county) separate storm sewer system;

Therefore, the **(local enforcement authority)** adopts this ordinance to prohibit such non-stormwater discharges to the (municipal/county) separate storm sewer system. It is determined that the regulation of spills, improper dumping and discharges to the (municipal/county) separate storm sewer system is in the public interest and will prevent threats to public health and safety, and the environment.

SECTION 1. GENERAL PROVISIONS

1.1. Purpose and Intent

The purpose of this ordinance is to protect the public health, safety, environment and general welfare through the regulation of non-stormwater discharges to the (municipal/county) separate storm sewer system to the maximum extent practicable as required by Federal law. This ordinance establishes methods for controlling the introduction of pollutants into the (municipal/county) separate storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are to:

- (1) Regulate the contribution of pollutants to the (municipal/county) separate storm sewer system by any person;
- (2) Prohibit illicit discharges and illegal connections to the (municipal/county) separate storm sewer system;
- (3) Prevent non-stormwater discharges, generated as a result of spills, inappropriate dumping or disposal, to the (municipal/county) separate storm sewer system; and,
- (4) To establish legal authority to carry out all inspection, surveillance, monitoring and enforcement procedures necessary to ensure compliance with this ordinance

1.2. Applicability

The provisions of this ordinance shall apply throughout the (corporate/other) area of (local government).

1.3. Compatibility with Other Regulations

This ordinance is not intended to modify or repeal any other ordinance, rule, regulation, other provision of law. The requirements of this ordinance are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule, regulation, or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

1.4. Severability

If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision or clause of this ordinance.

1.5. Responsibility for Administration

The **(local enforcement authority)** shall administer, implement, and enforce the provisions of this ordinance.

☞ *The local government may wish to explicitly designate the head of the local enforcement authority or his/her designee here to administer this ordinance.*

SECTION 2. DEFINITIONS

“**Accidental Discharge**” means a discharge prohibited by this ordinance which occurs by chance and without planning or thought prior to occurrence.

“**Clean Water Act**” means the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

“**Construction Activity**” means activities subject to the Georgia Erosion and Sedimentation Control Act or NPDES General Construction Permits. These include construction projects resulting in land disturbance. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

“**Illicit Discharge**” means any direct or indirect non-stormwater discharge to the (municipal/county) separate storm sewer system, except as exempted in Section 3 of this ordinance.

“**Illegal Connection**” means either of the following:

- (a) Any pipe, open channel, drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system, regardless of whether such pipe, open channel, drain or conveyance has been previously allowed, permitted, or approved by an authorized enforcement agency; or
- (b) Any pipe, open channel, drain or conveyance connected to the (municipal/county) separate storm sewer system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

“**Industrial Activity**” means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

“**National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit**” means a permit issued by the Georgia EPD under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

“**(Municipal/County) Separate Storm Sewer System**” means any facility designed or used for collecting and/or conveying stormwater, including but not limited to any roads with drainage systems, highways, (municipal/county) streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, structural stormwater controls, ditches, swales, natural and man-made or altered drainage channels, reservoirs, and other drainage structures, and which is:

- (a) Owned or maintained by the **(jurisdiction)**;

- (b) Not a combined sewer; and
- (c) Not part of a publicly-owned treatment works.

“**Non-Stormwater Discharge**” means any discharge to the storm drain system that is not composed entirely of stormwater.

“**Person**” means, except to the extent exempted from this ordinance, 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.

“**Pollutant**” means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents (biodegradable or otherwise); degreasers; cleaning chemicals; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; concrete and cement; and noxious or offensive matter of any kind.

“**Pollution**” means the contamination or other alteration of any water’s physical, chemical or biological properties by the addition of any constituent and includes but is not limited to, a change in temperature, taste, color, turbidity, or odor of such waters, or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety, welfare, or environment, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

“**Premises**” mean any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

“**State Waters**” means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface and subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State of Georgia which are not entirely confined and retained completely upon the property of a single person.

“**Stormwater Runoff**” or “**Stormwater**” means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

“**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.

SECTION 3. PROHIBITIONS

3.1. Prohibition of Illicit Discharges

No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the (municipal/county) separate storm sewer system any pollutants or waters containing any pollutants, other than stormwater.

The following discharges are exempt from the prohibition provision above:

- (1) Water line flushing performed by a government agency, other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not

including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, natural riparian habitat or wetland flows, and any other water source not containing pollutants;

- (2) Discharges or flows from fire fighting, and other discharges specified in writing by the **(local enforcement authority)** as being necessary to protect public health and safety;

☞ *The local government may evaluate and remove either of the above exemptions if it is determined that they are causing adverse impacts.*

- (3) The prohibition provision above shall not apply to any non-stormwater discharge permitted under an NPDES permit or order issued to the discharger and administered under the authority of the State and the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the (municipal/county) separate storm sewer system.

3.2. Prohibition of Illegal Connections

The construction, connection, use, maintenance or continued existence of any illegal connection to the (municipal/county) separate storm sewer system is prohibited.

- (1) This prohibition expressly includes, without limitation, illegal connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (2) A person violates this ordinance if the person connects a line conveying sewage to the (municipal/county) separate storm sewer system, or allows such a connection to continue.
- (3) Improper connections in violation of this ordinance must be disconnected and redirected, if necessary, to an approved onsite wastewater management system or the sanitary sewer system upon approval of the **(sanitary sewer department/agency)**.
- (4) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which may be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice of violation from the **(local enforcement authority)** requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be completed, that the drain or conveyance be identified as storm sewer, sanitary sewer or other, and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to the **(local enforcement authority)**.

SECTION 4. INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the **(local enforcement authority)** prior to allowing discharges to the (municipal/county) separate storm sewer system.

SECTION 5. ACCESS AND INSPECTION OF PROPERTIES AND FACILITIES

The **(local enforcement authority)** shall be permitted to enter and inspect properties and facilities at reasonable times as often as may be necessary to determine compliance with this ordinance.

- (1) If a property or facility has security measures in force which require proper identification and clearance before entry into its premises, the owner or operator shall make the necessary arrangements to allow access to representatives of the **(local enforcement authority)**.
- (2) The owner or operator shall allow the **(local enforcement authority)** ready access to all parts of the premises for the purposes of inspection, sampling, photography, videotaping, examination and copying of any records that are required under the conditions of an NPDES permit to discharge stormwater.
- (3) The **(local enforcement authority)** shall have the right to set up on any property or facility such devices as are necessary in the opinion of the **(local enforcement authority)** to conduct monitoring and/or sampling of flow discharges.
- (4) The **(local enforcement authority)** may require the owner or operator to install monitoring equipment and perform monitoring as necessary, and make the monitoring data available to the **(local enforcement authority)**. This sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the owner or operator at his/her own expense. All devices used to measure flow and quality shall be calibrated to ensure their accuracy.
- (5) Any temporary or permanent obstruction to safe and easy access to the property or facility to be inspected and/or sampled shall be promptly removed by the owner or operator at the written or oral request of the **(local enforcement authority)** and shall not be replaced. The costs of clearing such access shall be borne by the owner or operator.
- (6) Unreasonable delays in allowing the **(local enforcement authority)** access to a facility is a violation of this ordinance.
- (7) If the **(local enforcement authority)** has been refused access to any part of the premises from which stormwater is discharged, and the **(local enforcement authority)** is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder, or to protect the overall public health, safety, environment and welfare of the community, then the **(local enforcement authority)** may seek issuance of a search warrant from any court of competent jurisdiction.

SECTION 6. NOTIFICATION OF ACCIDENTAL DISCHARGES AND SPILLS

Notwithstanding other requirements of law, as soon as any person responsible for a facility, activity or operation, or responsible for emergency response for a facility, activity or operation has information of any known or suspected release of pollutants or non-stormwater discharges from that facility or operation which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the (municipal/county) separate storm sewer system, State Waters, or Waters of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release so as to minimize the effects of the discharge.

Said person shall notify the authorized enforcement agency in person or by phone, facsimile or in person no later than 24 hours of the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the **(local enforcement**

authority) within three business days of the phone or in person notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years. Said person shall also take immediate steps to ensure no recurrence of the discharge or spill.

In the event of such a release of hazardous materials, emergency response agencies and/or other appropriate agencies shall be immediately notified.

Failure to provide notification of a release as provided above is a violation of this ordinance.

SECTION 7. VIOLATIONS, ENFORCEMENT AND PENALTIES

7.1. Violations

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. Any person who has violated or continues to violate the provisions of this ordinance, may be subject to the enforcement actions outlined in this section or may be restrained by injunction or otherwise abated in a manner provided by law.

In the event the violation constitutes an immediate danger to public health or public safety, the (local enforcement authority) is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. The (local enforcement authority) is authorized to seek costs of the abatement as outlined in Section 7.5.

7.2. Notice of Violation

Whenever the (**local enforcement authority**) finds that a violation of this ordinance has occurred, the (**local enforcement authority**) may order compliance by written notice of violation.

- (1) The notice of violation shall contain:
 - (a) The name and address of the alleged violator;
 - (b) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;
 - (c) A statement specifying the nature of the violation;
 - (d) A description of the remedial measures necessary to restore compliance with this ordinance and a time schedule for the completion of such remedial action;
 - (e) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and,
 - (f) A statement that the determination of violation may be appealed to the (**local enforcement authority**) by filing a written notice of appeal within thirty (30) days of service of notice of violation.
- (2) Such notice may require without limitation:
 - (a) The performance of monitoring, analyses, and reporting;
 - (b) The elimination of illicit discharges and illegal connections;
 - (c) That violating discharges, practices, or operations shall cease and desist;
 - (d) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
 - (e) Payment of costs to cover administrative and abatement costs; and,

- (f) The implementation of pollution prevention practices.

7.3. APPEAL OF NOTICE OF VIOLATION

Any person receiving a Notice of Violation may appeal the determination of the **(local enforcement authority)**. The notice of appeal must be received within thirty (30) days from the date of the Notice of Violation. Hearing on the appeal before the (local enforcement authority, or other appropriate authority) or his/her designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the appropriate authority or their designee shall be final.

7.4. ENFORCEMENT MEASURES AFTER APPEAL

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal, within ____ days of the decision of the appropriate authority upholding the decision of the **(local enforcement authority)**, then representatives of the **(local enforcement authority)** may enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

7.5. COSTS OF ABATEMENT OF THE VIOLATION

Within ____ days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the assessment or to the amount of the assessment within ____ days of such notice. If the amount due is not paid within thirty (30) days after receipt of the notice, or if an appeal is taken, within thirty (30) days after a decision on said appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Any person violating any of the provisions of this article shall become liable to the **(jurisdiction)** by reason of such violation.

7.6. CIVIL PENALTIES

In the event the alleged violator fails to take the remedial measures set forth in the notice of violation or otherwise fails to cure the violations described therein within ten days, or such greater period as the **(local permitting authority)** shall deem appropriate, after the **(local permitting authority)** has taken one or more of the actions described above, the **(local permitting authority)** may impose a penalty not to exceed \$1,000 (depending on the severity of the violation) for each day the violation remains unremedied after receipt of the notice of violation.

7.7. CRIMINAL PENALTIES

For intentional and flagrant violations of this ordinance, the **(local permitting authority)** may issue a citation to the alleged violator requiring such person to appear in **(appropriate municipal, magistrate or recorders)** court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not to exceed \$1,000 or imprisonment for 60 days or both. Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

7.8. VIOLATIONS DEEMED A PUBLIC NUISANCE

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this ordinance is a threat to public health, safety, welfare, and environment and is declared and deemed a nuisance, and may be abated by injunctive or other equitable relief as provided by law.

7.9. REMEDIES NOT EXCLUSIVE

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable Federal, State or local law and the **(local enforcement authority)** may seek cumulative remedies.

The **(local enforcement authority)** may recover attorney's fees, court costs, and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

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APPENDIX A5 – MODEL LITTER CONTROL ORDINANCE

DESCRIPTION

Litter found throughout our community often finds its way into our streams, rivers and lakes and detracts from our quality of life. Pollutants carried into our streams, rivers, and lakes by litter, diminish the quality of our water and its aquatic resources. Litter control ordinances provide a prohibition against littering and provide an enforcement mechanism with penalties for dealing with those found littering.

This ordinance is modeled on the “Georgia Litter Control Law” (O.C.G.A. § 16-7-40 et. seq.) and adoption of this ordinance is authorized by O.C.G.A. § 16-7-48.

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- Section 1. General Provisions
- Section 2. Definitions
- Section 3. Prohibition Against Littering Public or Private Property or Waters
- Section 4. Vehicle Loads Causing Litter
- Section 5. Violations, Enforcement and Penalties

Note: Italicized text with this symbol ➞ should be interpreted as comments, instructions, or information to assist the local government in tailoring the ordinance. This text would not appear in a final adopted ordinance.

SECTION 1. GENERAL PROVISIONS

1.1. Purpose and Intent

The purpose of this ordinance is to protect the public health, safety, environment, and general welfare through the regulation and prevention of litter. The objectives of this ordinance are:

- (1) Provide for uniform prohibition throughout the (**jurisdiction**) of any and all littering on public or private property; and,
- (2) Prevent the desecration of the beauty and quality of life of the (**jurisdiction**) and prevent harm to the public health, safety, environment, and general welfare, including the degradation of water and aquatic resources caused by litter.

1.2. Applicability

This ordinance shall apply to all public and private property within the (jurisdiction).

1.3. Compatibility with Other Regulations

This ordinance is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

1.4. Severability

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

SECTION 2. DEFINITIONS

“**Litter**” means any organic or inorganic waste material, rubbish, refuse, garbage, trash, hulls, peelings, debris, grass, weeds, ashes, sand, gravel, slag, brickbats, metal, plastic, and glass containers, broken glass, dead animals or intentionally or unintentionally discarded materials of every kind and description which are not "waste" as such term is defined in O.C.G.A., §16-7-51, paragraph 6.

“**Public or private property**” means the right of way of any road or highway; any body of water or watercourse or the shores or beaches thereof; any park, playground, building, refuge, or conservation or recreation area; timberlands or forests; and residential, commercial, industrial, or farm properties.

SECTION 3. PROHIBITION AGAINST LITTERING PUBLIC OR PRIVATE PROPERTY OR WATERS

It shall be unlawful for any person or persons to dump, deposit, throw or leave or to cause or permit the dumping, depositing, placing, throwing or leaving of litter on any public or private property in this (jurisdiction) or any waters in this (jurisdiction) unless:

- (1) The property is designated by the State or by any of its agencies or political subdivisions for the disposal of such litter, and such person is authorized by the proper public authority to use such property;
- (2) The litter is placed into a receptacle or container installed on such property; or,
- (3) The person is the owner or tenant in lawful possession of such property, or has first obtained consent of the owner or tenant in lawful possession, or unless the act is done under the personal direction of the owner or tenant, all in a manner consistent with the public welfare.

SECTION 4. VEHICLE LOADS CAUSING LITTER

No person shall operate any motor vehicle with a load on or in such vehicle unless the load on or in such vehicle is adequately secured to prevent the dropping or shifting of materials from such load onto the roadway.

☞ *Section 4 adapted from O.C.G.A. § 40-6-254.*

SECTION 5. VIOLATIONS, ENFORCEMENT AND PENALTIES

5.1. Violations

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this ordinance. Any person who has violated or continues to violate the provisions of this ordinance, may be subject to the enforcement actions outlined in this section or may be restrained by injunction or otherwise sentenced in a manner provided by law.

5.2. Evidence

- (1) Whenever litter is thrown, deposited, dropped or dumped from any motor vehicle, boat, airplane, or other conveyance in violation of this ordinance, it shall be prima facie evidence that the operator of the conveyance has violated this ordinance.
- (2) Except as provided in subsection (1), whenever any litter which is dumped, deposited, thrown or left on public or private property in violation of this ordinance is discovered to contain any article or articles, including but not limited to letters, bills, publications or other writing which display the name of the person thereon in such a manner as to indicate that the article belongs or belonged to such person, it shall be a rebuttable presumption that such person has violated this ordinance.

5.3. Penalties

Any person who violates this ordinance shall be guilty of a violation and, upon conviction thereof, shall be punished as follows:

- (1) By a fine of not less than \$200 and not more than \$1,200; and
- (2) In addition to the fine set out in subsection 1 above, the violator shall reimburse the **(jurisdiction)** for the reasonable cost of removing the litter when the litter is or is ordered removed by the **(jurisdiction)**; and
- (3)
 - (A) In the sound discretion of the court, the person may be directed to pick up and remove from any public street or highway or public right-of way for a distance not to exceed one mile any litter he has deposited and any and all litter deposited thereon by anyone else prior to the date of execution of sentence; or
 - (B) In the sound discretion of the court, the person may be directed to pick up and remove any and all litter from any public property, private right-of-way, or with prior permission of the legal owner or tenant in lawful possession of such property, any private property upon which it can be established by competent evidence that he has deposited litter. Pick up and removal shall include any and all litter deposited thereon by anyone prior to the date of execution of sentence; and,
- (4) The court may publish the names of persons convicted of violating this ordinance.

5.4. Enforcement

All law enforcement agencies, officers and officials of this state or any political subdivision thereof, or any enforcement agency, officer or any official of any commission of this state or any political subdivision thereof, are hereby authorized, empowered and directed to enforce compliance with this article.

☞ *Official Code of Georgia § 16-7-43(d) provides procedures for local governments to appoint individuals, in addition to traditional law enforcement officials, to enforce the provisions of this ordinance. The District encourages the use of this procedure to appoint individuals involved in public works, code enforcement (including local environmental code enforcement officers) or building inspection to carry out this important function.*

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