
**Forsyth County Addendum to the
Georgia Stormwater Management Manual**

November 2021

Forsyth County Department of Engineering

Contents

1.	Introduction	1-1
1.1	Legal Authority	1-1
1.2	Purpose of the Addendum	1-1
1.3	How to Use the Addendum	1-1
1.4	Applicability	1-2
1.5	Exemptions	1-2
1.6	Resources	1-3
2.	Planning and Design of Stormwater Management Systems	2-1
2.1	Review Process for Stormwater Management	2-1
2.1.1	Step 1: Pre-submittal Meeting	2-1
2.1.2	Step 2: Stormwater Management Plan	2-1
2.1.3	Step 3: As-built Certification of Stormwater Management Systems	2-1
2.2	Stormwater Management Standards	2-2
2.2.1	Unified Stormwater Sizing Criteria	2-3
2.3	Site Planning	2-4
2.3.1	Criteria for Requiring Stormwater Management	2-4
2.3.2	Stormwater Systems Permanent Easements	2-5
3.	Hydrology	3-1
4.	Stormwater Management Facilities	4-1
4.1	Additional Requirements for Select Facilities	4-1
4.1.1	Oil/Grit Separator Requirement for Hot Spot Land Uses	4-1
4.1.2	Collocation with Erosion and Sedimentation Controls	4-1
4.1.3	Stormwater Pond Fencing	4-1
4.1.4	Silt Gauge	4-2
4.1.5	Dual Purpose Stormwater & Landscape Design	4-2
4.1.6	Multifunctional Stormwater Management Facilities as Community Open Space	4-2
5.	Stormwater Conveyance and Piping	5-1
5.1	Storm Drainage Design	5-1
6.	Review Requirements	6-1
6.1	Pre-submittal Meeting	6-1
6.2	Stormwater Management Plan	6-1
6.3	As-built Certification of Stormwater Management Systems	6-3
6.4	Spill Prevention and Containment Plan	6-4
7.	Inspection and Maintenance	7-1
7.1	Executing an Inspection and Maintenance Agreement	7-1
7.1.1	Maintenance by Private Parties	7-1
7.1.2	Maintenance by Property or Homeowner Associations	7-2
7.2	Inspections to Ensure Plan Compliance During Construction	7-2
8.	References	8-1

1. Introduction

1.1 Legal Authority

The Forsyth County Department of Engineering (Department) has regulated stormwater design in Forsyth County (County) since 1997, when the County's first stormwater design manual became effective. On June 21, 2004, the Forsyth County Board of Commissioners approved the adoption of the Georgia Stormwater Management Manual (GSMM; Atlanta Regional Commission et al., 2001; updated 2016) and the Forsyth County Addendum to the Georgia Stormwater Management Manual (Addendum; Forsyth County Department of Engineering, 2004). The Forsyth County Board of Commissioners approved revisions to the Addendum on January 2, 2014, and again on December 2, 2021. The GSMM and the Addendum serve as the basis for the design and review of stormwater management facilities and practices in Forsyth County, including specific guidance for stormwater management standards and for methods of estimating stormwater runoff.

In addition, Chapter 34, Article V Stormwater Management, of the Forsyth County Code of Ordinance (Ordinance) provides the Department with the legal authority to manage stormwater based on the scope of responsibilities defined in the Ordinance. The Ordinance also includes a description of the violations, enforcement, and appeals processes.

1.2 Purpose of the Addendum

The Addendum is not intended to repeal nor override the GSMM, any other ordinance, rule, regulation, or other provision of law. The Addendum is not designed to replace the need for judgement by the design professional; rather, other accepted engineering procedures may be used to conduct hydrologic and hydraulic studies if approved by the Department.

The purpose of the Addendum is to provide additional County-specific criteria beyond those stated in the GSMM, which will be met to comply with County stormwater requirements. The Addendum shall be developed and updated by the Department as needed to provide County-specific clarification to the GSMM.

1.3 How to Use the Addendum

This Addendum is organized to follow the stormwater plan review process, which is one of multiple department reviews incorporated into the County's Land/Site Development Permit. The current version of the GSMM will provide the primary guidance for the design and evaluation of stormwater management facilities unless otherwise noted in the Addendum. To avoid redundancies, the Addendum references guidance from the GSMM when applicable.

As an overview, a brief annotation of each Addendum section is provided below:

- 1) Section 1: Introduction – provides guidance on the application and exemption of these regulations for new developments, redevelopment projects, and existing stormwater management facilities.
- 2) Section 2: Planning and Design of Stormwater Management Systems – specifies the review process to obtain stormwater approval for development permits and provides guidance on the stormwater management standards and other design requirements.
- 3) Section 3: Hydrology – specifies the hydrology calculations required to meet the stormwater management standards.
- 4) Section 4: Stormwater Management Facilities – provides an overview of the design criteria and selection of stormwater management facilities, as well as specific requirements for select facilities.
- 5) Section 5: Stormwater Conveyance and Piping – provides an overview of the design criteria and procedures for stormwater systems, culverts, open channels, and outlet protection.

- 6) Section 6: Review Requirements – provides guidance on the documentation requirements for the stormwater management review process.
- 7) Section 7: Inspection and Maintenance – establishes the maintenance responsibilities for existing and new stormwater management facilities and systems.

1.4 Applicability

The provisions of this Addendum shall apply throughout the unincorporated area of Forsyth County. The provisions of the GSMM and the Addendum are incorporated by reference as a part of the Forsyth County Stormwater Management ordinance as fully and completely as if set forth verbatim therein. The applicability and exemption information for specific stormwater standards and requirements is defined in this Section and Section 1.5 of the Addendum.

The stormwater management standards are applicable to the following:

- 1) New development that creates or adds 5,000 square feet or greater of new impervious surface area or that involves land disturbing activity of 1 acre of land or greater.
- 2) Redevelopment (excluding routine maintenance and exterior remodeling) that creates, adds, or replaces 5,000 square feet or greater of new impervious surface area or that involves land disturbing activity of 1 acre or more.
- 3) New development and redevelopment if:
 - a) Such new subdivision development or redevelopment is part of a major subdivision. The sum of all associated impervious surface area or land disturbing activities that are being developed as part of such subdivision meets or exceeds the threshold in (1) and (2) above.
 - b) Such new subdivision development or redevelopment is part of a minor subdivision that creates or adds impervious surface area equal to or greater than 5,000 square feet or 10 percent on any individual lot or that involves land disturbing activity of 1 acre of land or greater on any individual lot
- 4) Any commercial or industrial new development or redevelopment, regardless of size, that is a hotspot land use as defined in Ordinance Section 34-184 (Definitions).
- 5) Linear transportation projects that exceed the threshold in (1) or (2) above.

All new development, redevelopment, and previously developed sites will comply with the maintenance requirements outlined in Section 7 (Inspection and Maintenance) of the Addendum.

1.5 Exemptions

The development activities listed below are exempt from the stormwater management standards. These exemptions do not apply to the maintenance obligations established in Section 7 of the Addendum. The maintenance obligations in Section 7 shall be fulfilled irrespective of the exemptions listed below:

- 1) Land disturbing activity conducted by local, state, authority, or federal agencies, solely to conduct emergency repairs or respond to an emergency need to protect life, limb, or property.
- 2) Land disturbing activity that consists solely of cutting a trench for utility work and related pavement replacement, while maintaining the original grade.
- 3) Land disturbing activity conducted by local, state, authority, or federal agencies, whose sole purpose is to implement stormwater management or environmental restoration.
- 4) Agricultural practices as described in Official Code of Georgia Annotated (O.C.G.A.) Section 12-7-17(5) within areas zoned for these activities except for buildings or permanent structures that exceed the threshold in Section 1.4(3)(a) or (b).

- 5) Silvicultural land management activities as described in O.C.G.A. Section 12-7-17(6) within areas zoned for these activities except for buildings or permanent structures that exceed the threshold in Section 1.4(3)(a) or (b)
- 6) Installations or modifications to existing structures solely to implement Americans with Disability Act requirements, including but not limited to elevator shafts, handicapped access ramps and parking, and enlarged entrances or exits.
- 7) Linear transportation projects being constructed by Forsyth County to the extent the Department determines that the stormwater management standards may be infeasible to apply, all or in part, for any portion of the linear transportation project. For this exemption to apply, a linear infeasibility report that is compliant with Forsyth County linear feasibility program shall first be submitted to the Department. The linear infeasibility report must contain adequate documentation to support the evaluation for the applicable portion(s) and any resulting infeasibility determination, if any, by the Department.
- 8) Repairs to any stormwater management system deemed necessary by the Department.

1.6 Resources

The resources listed below form the primary guidance needed to adhere to Forsyth County stormwater regulations.

- 1) The following documents are made publicly available by the Department's Stormwater Division and may be accessed from the County's Stormwater Division webpage at <https://www.forsythco.com/Departments-Offices/Engineering/Stormwater-Division>.
 - a) Forsyth County Addendum to the Georgia Stormwater Management Manual, Forsyth County Department of Engineering, Stormwater Division.
 - b) Georgia Stormwater Management Manual, Atlanta Regional Commission.
 - c) Stormwater Quality Site Development Review Tool v2.2, Forsyth County Department of Engineering, Stormwater Division.
 - d) Stormwater Management Plan Checklist (Checklist), Forsyth County Department of Engineering, Stormwater Division.
 - e) Inspection and Maintenance Agreement, Forsyth County Department of Engineering, Stormwater Division.
 - f) Facility As-built Verification Form, Forsyth County Department of Engineering, Stormwater Division.
 - g) Policy on Practicability Analysis for Runoff Reduction (Practicability Policy).
 - h) Policy on Practicability Analysis for Linear Transportation Projects (Linear Transportation Policy).
- 2) Forsyth County Construction Standards and Specifications for permitted pipe materials and dimensions <https://www.forsythco.com/Departments-Offices/Engineering/Construction>

Additional checklists and references are made available by the Planning & Community Development Department and may be accessed from the County's Planning & Community Development Department webpage at <https://www.forsythco.com/Departments-Offices/Planning-Community-Development/Checklists>.

2. Planning and Design of Stormwater Management Systems

In addition to the design guidance presented in the GSMM, adherence to Forsyth County design requirements as defined in this Section shall be demonstrated for all stormwater management system designs. The design professional shall follow the review process outlined in Section 2.1.

2.1 Review Process for Stormwater Management

The stormwater management review process consists of a pre-submittal meeting with the Department, preparation and submittal of the stormwater management plan, and completion of the as-built certification for stormwater management systems. An overview of the process is described in Sections 2.1.1 through 2.1.3 and presented in further detail in Section 6 (Review Requirements).

2.1.1 Step 1: Pre-submittal Meeting

The design professional is required to arrange a pre-submittal meeting with the Department. The purpose of this meeting is to obtain early feedback from the County on the proposed project. During this meeting, the design professional may present a stormwater concept plan that includes a preliminary site layout and stormwater management facility selection and siting to demonstrate how the stormwater management standards in Section 2.2 will be addressed.

2.1.2 Step 2: Stormwater Management Plan

For every land disturbing project, a stormwater management plan (Plan) shall be prepared and submitted to the County by a design professional registered in the State of Georgia. The Plan is a comprehensive document that conveys the overall strategy for managing stormwater, such that runoff hazards are not created, existing runoff-related problems are not exacerbated, and stormwater quality is not adversely affected, either upstream or downstream from or within the boundaries of the property being developed. It summarizes the required stormwater technical information and analyses through a report, annotated copies of applicable County checklists, and associated construction drawings, as detailed in Section 6.2. The Plan shall clearly document the proposed stormwater management approach and all necessary computations.

The County will review each Plan submittal and provide comments. The design professional may schedule additional meetings or teleconferences with the County to review the provided comments. If necessary, the design professional shall address the County's comments and re-submit the revised Plan with an annotated checklist and any applicable sheets of the construction drawings. The County will review each re-submittal and provide comments as necessary. Once all comments from the County have been satisfactorily addressed, the Department will approve the Plan.

Issuance of the Land Disturbance Permit is contingent upon approval from multiple departments within the County, as outlined in the Unified Development Code (UDC).

2.1.3 Step 3: As-built Certification of Stormwater Management Systems

Upon completion of the development, the design professional is responsible for submitting an as-built report showing the as-built specifications for all components of the stormwater management system. The report must include certification that the stormwater management system is functioning properly and was constructed in conformance with the approved stormwater management plan and that the landscaping is established and installed in conformance with the landscaping plan. An inspection and maintenance agreement form (Inspection

and Maintenance Agreement), signed by the property owner or organization and notarized, is required prior to approval of the as-built plat or final plat.

2.2 Stormwater Management Standards

Subject to the applicability criteria in Section 1.4 and exemptions in Section 1.5, the following stormwater management standards apply. Additional details for the standards are found in Section 2.2.2.2 of the GSMM:

- 1) **Natural Resources Inventory:** Site reconnaissance and surveying techniques shall be used to complete a thorough assessment of existing natural resources, both terrestrial and aquatic, found on the site. At a minimum, the following resources are to be identified, mapped, and shown on the stormwater management plan (as applicable):
 - i) Topography (minimum of 2-foot contours) and steep slope areas (defined by slopes greater than 15 percent)
 - j) Natural drainage divides and patterns
 - k) Natural drainage features (e.g., swales, basins, depressional areas)
 - l) Natural feature protection and conservation areas such as wetlands, lakes, ponds, floodplains, stream buffers, drinking water wellhead protection areas, and river corridors
 - m) Predominant soils (including erodible soils and karst areas)
 - n) Existing predominant vegetation including trees, tree canopy, high quality habitats, and other existing vegetation
- 2) **Better Site Design Practices for Stormwater Management:** Design practices shall be used to preserve the natural drainage patterns and natural treatment systems, while reducing the generation of additional stormwater runoff and pollutants to the maximum extent practicable. Additional details are found in Section 2.3 of the GSMM.

Forsyth County encourages the protection and enhancement of existing wetlands and floodplains, which are protected from dredging and filling by 33 CFR Part 330 of the Federal Register and Section 404 of the Clean Water Act.

- 3) **Downstream Analysis:** Due to peak flow timing and runoff volume effects, components of the stormwater management system may fail to reduce peak discharges to predevelopment levels downstream from the site. A downstream peak flow analysis shall be provided to the point in the watershed downstream of the site where the area of the site comprises 10 percent of the total drainage area in accordance with Section 3.1.9.2 of the GSMM. This standard helps minimize downstream impacts from the development and may result in the designer resizing components of the stormwater management system.
- 4) **Stormwater Management System Inspection and Maintenance:** The components of the stormwater management system that will not be dedicated to and accepted by Forsyth County, including all drainage facilities, best management practices, credited conservation spaces, and conveyance systems, shall have an inspection and maintenance agreement to ensure that they continue to function as designed (Section 7.1). All new development and redevelopment sites are to prepare an Inspection and Maintenance Agreement for the onsite stormwater management system.
- 5) **Trout Stream Protection:** Trout stream protection shall be provided by controlling temperature for receiving waters with trout stream designation. In streams designated as primary trout waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2 degrees Fahrenheit of natural stream temperatures.

2.2.1 Unified Stormwater Sizing Criteria

The unified stormwater sizing criteria is an integrated set of engineering criteria (Runoff Reduction, Water Quality, Stream Channel Protection, Overbank Flood Protection, and Extreme Flood Protection), which have been developed for use in sizing stormwater management facilities.

- 1) Runoff Reduction and Water Quality: Stormwater Runoff Reduction/Quality shall be provided by using the following:
 - a) Development with a stormwater management plan submitted before April 12, 2020, the applicant may choose either (b.i) Runoff Reduction or (b.ii) Water Quality.
 - b) Development with a stormwater management plan submitted on or after April 12, 2020, the applicant shall choose (i) Runoff Reduction and additional water quality shall not be required. To the extent runoff reduction has been determined to be infeasible for all or a portion of the site using the Practicability Policy, then (ii) water quality shall apply for the remaining runoff from a 1.2-inch rainfall event and must be treated to remove at least 80 percent of the calculated average annual post-development total suspended solids load or equivalent as defined in the GSMM.
 - i) Runoff Reduction – The stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site using runoff reduction methods, to the maximum extent practicable.
 - ii) Water Quality – The stormwater management system shall be designed to remove at least 80% of the calculated average annual post-development total suspended solids load or equivalent as defined in the GSMM for runoff from a 1.2-inch rainfall event.
 - c) If a site is determined to be a hotspot, as detailed in Section 1.4, Forsyth County may require the use of specific or additional components for the stormwater management system to address pollutants of concern generated by that site.
- 2) Stream Channel Protection: Stream channel protection shall be provided by using all of the following three approaches:
 - a) 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event
 - b) Erosion prevention measures, such as energy dissipation and velocity control
 - c) Preservation of any applicable stream buffer

Flood Protection

Forsyth County requirements for overbank and extreme flood protection are dependent on the stormwater management facility type being designed for the site, as described below.

- *Stormwater Management Facilities with Detention*

Forsyth County requires that all sites utilizing stormwater management facilities with detention shall discharge at a rate equal to or less than 90 percent of the predeveloped rate of release for the 2-year, 10-year, 25-year, 50-year, and 100-year design storm.

- *Regional Stormwater Management Facilities*

Forsyth County requires that all sites utilizing regional stormwater management facilities shall discharge at a rate equal to or less than 100 percent of the predeveloped rate of release for the 2-year, 10-year, 25-year, 50-year, and 100-year design storm.

2.3 Site Planning

In addition to the design guidance presented in the GSMM, adherence to Forsyth County design requirements as defined in this Section shall be demonstrated for all stormwater management system designs.

2.3.1 Criteria for Requiring Stormwater Management

- 1) The following criteria shall be evaluated by the design professional preparing the Plan and used to determine what type stormwater management facilities should be required for any portion of any site:
 - a) Existing land uses downstream
 - b) Anticipated future land uses downstream
 - c) Magnitude of increase in peak flows due to development
 - d) Presence of existing drainage problems
 - e) Capacity of existing and anticipated stormwater systems
 - f) Creation of concentrated flows where none had occurred previously
 - g) Existing flows generated offsite that pass through the project site
 - h) The nature of the receiving watercourse
- 2) Stormwater management shall be required for all development activities not meeting the stormwater management standards. Flood protection standards may not be required when one or more of the following conditions is true and the design professional certifies the supporting documentation provided to the Department:
 - a) The uncontrolled, post-development runoff will leave the project site as sheet flow and will not have an adverse impact upon downstream properties due to dispersal of stormwater.
 - b) The effect of stormwater management will be to concentrate flows where sheet flow had occurred under predeveloped conditions, and any impact of increased sheet flows upon downstream properties would be less adverse than that which would result from the concentrated flow from a stormwater detention facility, even if energy dissipation devices were employed.
 - c) The runoff will flow directly into the 100-year floodplain without crossing off-site properties, and the post-development runoff will constitute less than 5 percent of the total peak flow in the watercourse, at the point where the watercourse crosses the project site's downstream property line. This condition will be referred to hereafter as the "5% rule."

Reporting requirements when 5% Rule is applicable:

- 1) *A studied Federal Emergency Management Agency floodplain or the 100-year floodplain for ultimate build-out conditions, as determined by the design professional, shall be present on the property of the proposed development.*
- 2) *The 5 percent study point must be located at the downstream property line of the proposed development.*
- 3) *The 5 percent study will compare post-development peak flows originating onsite against post-development peak flows of the receiving watercourse at the downstream property line of the proposed development. Comparison of the peak flows shall include the timing of the peak flows.*

- d) The runoff will flow directly into the 1085.00 flood elevation of Lake Lanier, provided that runoff reduction or water quality standards are met prior to discharging into the lake.

- e) The uncontrolled flow will pass through downstream properties, in drainage easements obtained by the design professional, to existing stormwater management facilities that have been designed to manage the upstream property's runoff, and the flow through downstream properties is shown to not produce adverse impacts.
- 3) Should flood protection standard not be required based on presence of any of the conditions (2)(a) through (2)(e) above, the design professional must rigidly comply with the following requirements:
 - a) A Plan shall be required, regardless of whether stormwater management facilities are required for the development.
 - b) At the pre-submittal meeting, the design professional shall be prepared to discuss which of the above conditions (2)(a) through (2)(e) are applicable to the development. The outcome of the downstream analysis shall also be presented, see Section 3.1.9 of the GSMM for guidance performing the analysis.

2.3.2 Stormwater Systems Permanent Easements

Permanent easements shall be provided that are suitable for detained flooding and stormwater conveyance in accordance with the design, construction activity, and long-term maintenance of the stormwater systems, as follows:

- 1) All stormwater management facilities shall include a minimum 20-foot-wide permanent access easement. Stormwater management facilities shall have a minimum 20-foot-wide vehicular access of appropriate width, slope, and surface stabilization to support maintenance equipment that extends from a public street to the stormwater management facility. No fences or shrub plantings shall be allowed within a permanent access easement.
- 2) For stormwater management facilities intended to detain the design storm events, a minimum 20-foot-wide drainage easement shall extend horizontally from the outer extent of the proposed 100-year peak stage within the facility.
- 3) For any drainage pipe, ditch, stream or other area that is designated for stormwater conveyance, a minimum of 20-foot-wide drainage easement shall be required. This requirement also includes conveyance associated with retaining walls that span multiple parcels. No obstruction shall be placed, built, constructed, or planted that would inhibit proper function of the stormwater system. Fences or shrub plantings may be placed within a piped drainage easement, if an indemnification agreement is provided to the property owner responsible for maintenance.

3. Hydrology

Stormwater management facilities must be designed to meet the stormwater management standards in Section 2.2 using the following hydrology steps and calculations:

- 1) Calculate stormwater runoff to the proposed stormwater management facility using the appropriate runoff calculation methods described in Section 3.1 of the GSMM.
- 2) Calculate the runoff reduction and/or stormwater volume storage required to meet the stormwater management standards as presented in Section 2.2, using the appropriate methods described in Sections 3.2 and 3.3 of the GSMM.
- 3) Design appropriate stormwater management facilities to achieve the volume reduction and/or stormwater volume storage required to meet the stormwater management standards as presented in Section 2.2, using the appropriate design methods described in Section 4 of the GSMM.
- 4) Design the runoff collection and conveyance portion of the stormwater system to meet the goals of the stormwater system in accordance with Section 5 of the GSMM.

As a basis for the design of stormwater systems, Forsyth County requires analysis of predeveloped and developed conditions for all of the following 24-hour design storm events:

- 1-year
- 2-year
- 10-year
- 25-year
- 50-year
- 100-year

4. Stormwater Management Facilities

Stormwater management facilities are engineered facilities designed to reduce and/ or treat stormwater runoff, which mitigate the effects of increased stormwater runoff peak rate, volume, and velocity due to urbanization. Section 4 of the GSMM provides a comprehensive overview, specific design criteria, and examples of stormwater management facilities. Descriptions of each facility are provided in Table 4.1.1-1 of the GSMM. Design removal efficiencies, site applicability, and relative construction and maintenance costs for each stormwater management facility are provided in Table 4.1.3-1 of the GSMM. A detailed discussion of each facility, as well as design criteria and procedures for each, is found in Sections 4.2 through 4.29 of the GSMM.

Other stormwater management facilities, including proprietary systems, may be chosen or designed for sites with specific stormwater runoff characteristics, design constraints, or as a minor component of a larger stormwater management system. These stormwater management facilities will be accepted only as part of the stormwater management system design where deemed appropriate by the Department.

4.1 Additional Requirements for Select Facilities

Additional County requirements for select stormwater management facilities are provided in this Section.

4.1.1 Oil/Grit Separator Requirement for Hot Spot Land Uses

Forsyth County requires proposed hotspot facilities with commercial fueling areas to be designed with an oil/grit separator for water quality management. Additional information on design considerations related to a gravity (oil-grit) separator is found in Section 4.10 of the GSMM.

4.1.2 Collocation with Erosion and Sedimentation Controls

Some stormwater management facilities may be installed during construction for erosion, sedimentation and pollution control, then are modified to provide post-construction stormwater management prior to project completion. If a stormwater management facility is used for sediment storage during construction, then the facility shall be designed to provide sediment filtration (see Forsyth County's Ordinance 73 for Erosion and Sedimentation Control) for peak stages up to the 25-year design storm.

Stormwater management facilities that provide runoff reduction and rely on stormwater infiltration to meet stormwater management standards may not be collocated in areas used for sediment storage during construction.

4.1.3 Stormwater Pond Fencing

When a stormwater pond is over 4 feet deep based on the depth of the 100-year water surface above the pond invert and is located in an area that constitutes a public safety hazard, access shall be restricted by a permanent fence or comparable barrier. Fences shall be chain link or other approved material by the Department. Fence height should be a minimum of 5 feet, installed flush with the surrounding grade. Vehicular access to the stormwater management facility for maintenance and emergency services shall be provided by at least one 10-foot-wide swing gate. Fences and gates shall be located along the outside edge of the minimum 20-foot-wide permanent perimeter easement, when possible (see Section 2.3.3).

4.1.4 Silt Gauge

For stormwater management facilities including a sediment forebay as a pretreatment facility, a silt gauge shall be installed in the sediment forebay. The silt gauge shall consist of a durable weather resistant post embedded a minimum of 2 feet and extend a minimum of 5 feet above grade. Numbers and adjacent tick marks must be indicated on the post beginning with the label "1 FT" at 1 foot above the ground elevation and thereafter a number and tick mark for each corresponding foot. Labels and tick marks must be clearly legible, durable to wear, and weather resistant. A comparable alternative may be accepted following review by the Department.

4.1.5 Dual Purpose Stormwater & Landscape Design

Select stormwater management facilities that provide runoff reduction may be considered by the County for approval to be installed within required landscape areas. This provision is applicable to private property, private drives, and parking lot accommodations where runoff reduction measures and enhanced landscape design for aesthetic purposes are both provided.

4.1.6 Multifunctional Stormwater Management Facilities as Community Open Space

Select stormwater management facilities may be considered by the County for approval to be collocated with accessible community amenity space. This provision would allow aesthetically-enhanced, natural looking stormwater management facilities to be designed to function as accessible community amenities. Approved design features may be applied towards minimum open space requirements at two times the amount of square footage for non-residential zoning districts to include the Master Planned District (MPD) and one and a half times the amount of square footage for residential districts. To qualify for open space credit as outlined in Chapter 18, Article XIII of the UDC, the multifunctional stormwater management facility must meet the following requirements:

- Stormwater management facility meets all required stormwater management standards.
- Community amenities located in a prominent and easily accessible location and/or other amenities in direct proximity and integrated with adjacent open space.
- Community amenities include a publicly-accessible pedestrian path that follows the stormwater management facility perimeter and connects to an adjacent street.
- Passive and/or active recreational user amenities (e.g. bench/picnic area/community green/bike racks) are provided.

5. Stormwater Conveyance and Piping

Stormwater conveyance design is an important balance between design of stormwater systems that meet stormwater management standards and providing adequate surface drainage to control flooding.

5.1 Storm Drainage Design

Technical guidance on design criteria and procedures is provided in Sections 5.2 through 5.5 of the GSMM. Additional Forsyth County design criteria for storm drainage structures are as follows:

- 1) Drainage criteria are as listed in the Forsyth County Preliminary Subdivision Checklist or the Forsyth County Commercial Site Plan Checklist.
- 2) Street catch basin spacing are as referenced in Section 5.2.1.2 of the GSMM.
- 3) Cross drains serving basins of 20 acres or less and longitudinal piping shall be designed for the 25-year storm and shall have a minimum diameter of 18 inches.
- 4) Cross drains serving basins of 20 acres or larger, live streams, and any other stormwater system receiving or transferring offsite drainage flow shall be designed for the 100-year storm.
- 5) Inlet and outlet headwalls are required to stabilize the ends of all storm drains.
- 6) Refer to Section 5.4.3.2 of the GSMM for storm drain velocities. If outlet velocities exceed 5 feet per second, then energy dissipation devices and/or downstream channel protection measures must be provided.
- 7) The downstream end of all storm drains shall be located a minimum of 50 feet past the building line, unless the storm drain conveys a live stream.
- 8) For all storm drain design, the design professional shall provide documentation of the 100-year hydraulic grade line profile to demonstrate that inlet structures will not be flooded and that their collection capacity will not be compromised by the 100-year peak stage.

Forsyth County Construction Standards and Specifications for permitted storm drain materials and dimensions may be obtained from the Department.

Reinforced concrete pipe or reinforced concrete box will be required for storm drains under the following conditions:

- *When the storm drain will convey a live stream and a more economical solution is not viable, as determined by the Department Director.*
- *When the storm drain will be installed with more than 15 feet of cover.*

6. Review Requirements

Refer to the UDC for a description of procedures and requirements for permitting activities associated with land development in the County. As part of the permitting process, the Department shall review and approve all applications that include stormwater systems prior to the County issuing a land development permit.

This section provides guidance on the documentation for the three primary steps of the stormwater review process:

- Step 1: Pre-submittal Meeting (see Section 6.1)
- Step 2: Stormwater Management Plan (see Section 6.2)
- Step 3: As-Built Certification of Stormwater Management Systems (see Section 6.3)

6.1 Pre-submittal Meeting

Before a land development permit application is submitted, the applicant shall request a pre-submittal meeting with the Department. The purpose of the pre-submittal meeting is to discuss opportunities, constraints, and ideas for the stormwater system before formal site design. As relevant, local and regional watershed plans, greenspace plans, trails and greenway plans, and other resource protection plans should be consulted prior to the pre-submittal meeting. The pre-submittal meeting also provides an opportunity for the applicant and the Department to identify preliminary waiver requests using the guidance in the Forsyth County Policy on Practicability Analysis for Runoff Reduction.

Prior to the pre-submittal meeting, it is helpful for the design professional to prepare the following information for discussion:

- 1) Existing site plan (boundary information, topography, site features and constraints, etc.)
- 2) Proposed site plan (conceptual site features)
- 3) Natural resources inventory including soil characteristics and infiltration rates
- 4) Stormwater concept plan (refer to Section 2.4.2.5 of the GSMM)

6.2 Stormwater Management Plan

The Plan is a comprehensive document prepared by a design professional registered in the State of Georgia that conveys the overall strategy for managing stormwater, such that runoff hazards are not created, existing runoff-related problems are not exacerbated, and stormwater quality is not adversely affected. Plan documentation must be appropriate for the Department's use in reviewing if a proposed project meets the local stormwater regulatory requirements and standards. The Plan summarizes the required stormwater technical information and analyses through a report, annotated copies of applicable County checklists, and associated construction drawings. The Plan's report shall include the items listed in the Checklist, including the following content:

- 1) Cover sheet bearing the original seal and signature of the Georgia Professional Engineer that prepared the Plan.
- 2) Introduction section with the following content:
 - a) Detailed narrative project description including site location, acreage, and current and proposed land use; offsite drainage areas; and project methodology, including stormwater management measures proposed.
 - b) Summary tables for each study point including the design storm events, pre-developed flow rates, developed flow rates, allowable flow rates, peak elevation in the stormwater management facility, and developed velocities.
 - c) Copy of the applicable County checklists with project-specific annotations to assist the Department with reviewing the Plan.

- 3) Natural resources inventory section with existing site plans, utilities information, and geotechnical investigation, as applicable.
- 4) Pre-developed hydrologic analysis section with drainage maps, hydrologic computations, and a summary of pre-developed flow rates.

Rational method is only acceptable for drainage basins with less than 5 acres of contributing runoff.

- 5) Developed hydrologic analysis section with drainage maps, hydrologic computations, unified stormwater sizing criteria calculations per drainage basin, calculation of site design credits, a summary of developed flow rates, and expected stormwater performance.
- 6) Stormwater management facilities section with details of the stormwater management system showing both existing and proposed stormwater practices. Stormwater management facility details should be provided with:
 - a) Cross-section and profile views.
 - b) Large-scale grading plan.
 - c) Outlet control structure details.
 - d) Stage/storage/discharge relationships.
 - e) Details of trash rack or other anti-clogging measures.
 - f) Completed Stormwater Quality Site Development Review Tool v2.2.
 - g) Supporting calculations to show unified stormwater sizing criteria are adequately met with the proposed stormwater system.
- 7) Downstream analysis section including analysis of the capacity of downstream structure(s), indication of the adequacy of the receiving waters for rate and velocity of flows and supporting calculations for a downstream peak flow analysis using the 10 percent rule.
- 8) Stormwater management facility landscaping plan section with construction drawings that detail the plan view arrangement, table of materials, installation methods, and any other supporting information necessary to the installation and establishment of vegetation. Where landscaping is used as a temporary or permanent erosion and sedimentation control best management practice, the designer shall include provisions for landscaping maintenance and replacement to meet regulatory requirements.
- 9) Evidence of acquisition of all other required local, state, and federal permits.
- 10) Documentation for Determination of Infeasibility for runoff reduction standard, if applicable.
- 11) Identify and summarize the applicable sheets found within the construction drawings that meet the following Plan requirements:
 - a) Stormwater conveyance section with plan and profile drawings, design calculations, and detailed summary chart for all existing and proposed stormwater drains, pipes, culverts, catch basins, channels, swales, and areas of overland flow.
 - b) Erosion and sedimentation control plan section containing all required elements in accordance with Ordinance No. 73, showing phasing of construction and temporary measures with details for practices proposed to be converted to or collocated with stormwater management facilities. Include a spill prevention and containment plan, where applicable.
 - c) Easement plan including construction drawings that clearly document 100-year flooding extents, existing and proposed easements, and access easements with detail for grade and surface protection to support vehicular traffic.

For redevelopment and to the extent existing stormwater management facilities are being used to meet applicable stormwater management standards, the following must also be included in the Plan for existing stormwater management facilities:

- As-built drawings
- Current inspection report for the existing stormwater management facilities with deficiencies noted
- Stormwater management facility landscaping plans

6.3 As-built Certification of Stormwater Management Systems

Following final site stabilization, a Georgia Professional Engineer shall submit the as-built report certifying the installed stormwater management system. The Department shall perform a final inspection with the applicant to confirm applicant has fulfilled these responsibilities prior to as-built approval. The as-built report shall include the following documentation.

- 1) Stormwater management facility as-built section including:
 - a) Introduction section with a summary of the findings included in the as-built report, detailed as-built project narrative, summary of design data, and a reference to the approved stormwater management plan.
 - b) As-built flow summary table with predeveloped, design, and as-built flow rates.
 - c) As-built volume summary with a comparison of unified stormwater sizing criteria volumes with as-built volumes to demonstrate volumes are not deficient.
 - d) Hydrologic and hydraulic computations section with comparison of design and as-built conditions.
 - e) Field-run topographic survey drawing prepared by a Georgia Professional Land Surveyor and summary of stage/storage relationship for the stormwater management facility.
 - f) Field-run stormwater survey and summary table documenting dimensions and elevations for all controls in the stormwater management systems.
 - g) Signed and sealed certifications by a Professional Engineer, stating:
 - i) "The stormwater system as-built conditions meet Forsyth County requirements."
 - ii) "The stormwater conveyance system as-built conditions function as designed and engineered in the approved construction drawings."
 - iii) "The stormwater management facilities as-built conditions provide the storage volumes and outflow rates as required by the approved stormwater management plan."
 - iv) "The stormwater management facilities landscaping is installed and maintained in conformance with the approved stormwater management plan and the established vegetation meets applicable vegetative cover requirements."
- 2) Stormwater Conveyances section with as-built plan and profile views of all stormwater conveyances, accompanied by surveyed sections detailing representative cross sections.
- 3) Inspection and Maintenance Agreement Form signed by the property owner or organization and notarized; form is considered incomplete without all required attachments.

Forsyth County requires performance bonds for all stormwater management facilities on residential projects. Following final site stabilization, the Forsyth County As-built Verification Form is required prior to release of the performance bond.

6.4 Spill Prevention and Containment Plan

All proposed commercial, industrial, and construction sites that store designated hazardous waste, as defined in Ordinance Section 34-184 (Definitions) are required to submit a spill prevention and containment plan for the proposed site. The spill prevention and containment plan must be submitted to the Department Director prior to the approval of the final plat or as-built.

Spill prevention and containment plan must address the following issues at a minimum:

- 1) Proposed storage areas must contain signs with phone numbers for reporting spills to Forsyth County and the Georgia Department of Natural Resources Environmental Protection Division.
- 2) Description of the types and quantities of designated hazardous waste materials to be stored at the proposed site.
- 3) Spill prevention measures will be taken for:
 - a) Fuel storage/ fueling facilities.
 - b) Chemical/ raw material storage methods (must occur under covered portion of site).
 - c) Other designated hazardous waste storage methods.
 - d) Loading/ unloading instructions.
- 4) Spill containment measures
 - a) Methods for spill capture and location of materials and equipment to implement these methods.
 - b) Provide a permanent physical barrier around large storage areas for containment of spills. The storage inside the berm shall be at least 110 percent of the volume of the largest tank plus the volume of rainfall associated with the 100-year, 24-hour storm event across the containment area. The containment area should be properly lined to prevent infiltration of the designated hazardous waste into the ground.
 - c) Fuel storage/ fueling facilities, chemical/ raw material storage, and any other designated hazardous waste storage must be covered.
- 5) Spill collection plan documenting procedures for collecting spilled materials and preventing the spilled materials from entering the Forsyth County separate storm sewer system.

In the event of a known or suspected release of designated hazardous waste or non-stormwater discharges from a facility or operation into stormwater, the Forsyth County separate storm sewer system, State Waters, or Waters of the U.S., then the person responsible for the facility or operation shall take all necessary steps to ensure the discovery, containment, and collection of such release to minimize the effects of the discharge.

The person responsible for a facility, activity or operation, or responsible for emergency response for a facility shall:

- Notify the Department in person, by phone, by email, or by facsimile no later than 24 hours following discovery of the spill of the nature, quantity and time of occurrence of the discharge. Notifications in person or by phone shall be confirmed by written notice mailed to the Department within three business days of the initial notification.
- If the discharge of non-stormwater emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an onsite written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least 3 years. The owner or operator shall also take immediate steps to ensure no recurrence of the discharge or spill.
- In the event of such a release of designated hazardous waste, emergency response agencies and/or other appropriate agencies shall be immediately notified.

Failure to provide notification of a non-stormwater discharge, as provided above, is a violation of the Ordinance Sec. 34-190 (Violations and Enforcement).

7. Inspection and Maintenance

This Section establishes obligations for inspection and maintenance of existing and new stormwater management facilities and stormwater systems. Refer to Appendix E of the GSMM for guidance on inspections and maintenance procedures, including maintenance checklists for stormwater management facilities.

7.1 Executing an Inspection and Maintenance Agreement

Prior to the approval of the final plat, as-built, or issuance of the certificate of occupancy, the owner shall execute an inspection and maintenance agreement obligating the owner to inspect, clean, maintain, and repair the stormwater management system, including establishing, maintaining, and repairing the vegetation in accordance with the stormwater management facility landscaping plan. Forsyth County requires inspection and maintenance agreements to be recorded using Forsyth County's Inspection and Maintenance Agreement form.

The Inspection and Maintenance Agreement shall identify by name or official title the person(s) serving as the point of contact for carrying out the owner's obligations under the inspection and maintenance agreement. The owner shall update the point of contact information within 90 days of a change to the point of contact or as requested by Forsyth County. Upon any sale or transfer of the site, the new owner shall notify Forsyth County in writing within 30 days of the name or official title of new person(s) serving as the point of contact for the new owner. Any failure of an owner to keep the point of contact up to date shall, following a 30 days' notice, constitute a failure to maintain the stormwater system.

The inspection and maintenance agreement shall run with the land and bind all future successors-in-title of the site. If there is a future sale or transfer of only a portion of the site, then:

- 1) The parties to such sale or transfer may enter into and record an assignment agreement designating the owner responsible for each portion of the site and associated obligations under the inspection and maintenance agreement. The parties shall record and provide written notice and a copy of such assignment agreement to Forsyth County.
- 2) In the absence of a recorded assignment agreement, all owners of the site shall be jointly and severally liable for all obligations under the inspection and maintenance agreement regardless of what portion of the site they own.

For any stormwater management systems approved and built based on requirements predating the current GSMM and that is not otherwise subject to an inspection and maintenance agreement, such stormwater management systems shall be maintained by the owner in a manner that ensures the stormwater management systems perform as they were originally designed.

As part of the inspection and maintenance agreement, an operations and maintenance plan shall be included to ensure proper function of the stormwater management system. The plan shall include a schedule for inspections and required maintenance. Inspection and maintenance requirements for BMPs are found in Section 4 and Appendix E of the current GSMM.

7.1.1 Maintenance by Private Parties

On all commercial sites and on residential property where stormwater management systems exist, the maintenance of new and existing systems is the responsibility of the owner or operator of the property. The Department's Stormwater Division personnel may perform periodic inspections of existing and new private stormwater systems to determine if they are maintained properly. Deficiencies will be noted to the owner or operator in writing. It shall be the responsibility of the owner or operator to repair deficiencies in a timely manner. Failure on the part of the owner or operator to repair deficient stormwater systems will be a violation of Ordinance Section 34-190 (Violations and Enforcement).

7.1.2 Maintenance by Property or Homeowner Associations

When any residential, industrial, or commercial subdivision, whether new or existing, has a legally created property or homeowners' association, the association will be responsible for maintenance of all drainage easements and all stormwater systems within the entire development. The association is responsible for providing updated contact information to the Department.

The association may be required to apply larvicides, stock mosquito fish, or take other measures, as required by the Department, to protect the health, safety, and welfare of the public. Any emergency maintenance required by Forsyth County will be performed by the County or their agent, and the cost of performing the emergency maintenance will be assessed to the association.

The Department's Stormwater Division personnel may perform periodic inspections of existing and new private stormwater systems to determine if they are maintained properly. Deficiencies will be noted to the association in writing. It shall be the responsibility of the association to repair deficiencies in a timely manner. Failure on the part of the association to repair deficient stormwater systems will be a violation of Ordinance Section 34-190 (Violations and Enforcement).

7.2 Inspections to Ensure Plan Compliance During Construction

Periodic inspections of the stormwater system during construction shall be conducted by County staff. The Department Director shall determine the inspection schedule necessary to ensure Plan compliance. Inspections shall use the approved Plan and the construction sequencing plan for establishing compliance. Inspections may include, but are not limited to, the following:

- 1) Initial inspection prior to Plan approval.
- 2) Bury inspection prior to burial of any underground drainage structures.
- 3) Erosion control inspections as necessary to ensure effective control of erosion and sedimentation.
- 4) Final inspection when all work, including installation of drainage facilities, has been completed; work must be approved prior to a final plat approval.

The Department Director, or their designee, bearing proper credentials and identifications shall be permitted to enter, in accordance with state and federal law, all properties for regular inspections, periodic investigations, observation, measurement, enforcement, or sampling and testing, in accordance with provisions of this Section. The Director, or their designee, shall duly notify the owner of such property or the representative onsite, except in the case of an emergency. All inspections shall be documented with written reports that contain the following information:

- Date and location of the inspection.
- Status of the stormwater system's compliance with the approved Plan.
- Variations from the approved Plan.
- Any other variations or violations of the conditions of the approved Plan.

8. References

Forsyth County Department of Engineering. *Forsyth County Addendum to the Georgia Stormwater Management Manual*. Revised January 2, 2014.

Atlanta Regional Commission, AMEC Earth and Environmental, Center for Watershed Protection, Debo and Associates, and Jordan Jones and Goulding. *Georgia Stormwater Management Manual*. First Edition. August 2001.

Atlanta Regional Commission, AECOM, Atlanta Regional Commission Center for Watershed Protection, Center Forward, Georgia Environmental Protection Division, and Mandel Design. *Georgia Stormwater Management Manual*. 2016 Edition.

Policy on Practicability Analysis for Linear Transportation Projects Forsyth County Department of Engineering

Introduction

The Forsyth County Policy on Practicability Analysis for Linear Transportation Projects (Linear Transportation Policy) sets reasonable criteria for determining when implementation of post-construction stormwater management standards for linear transportation projects being constructed by Forsyth County is infeasible. Linear transportation projects are defined as construction projects on travel corridors including but not limited to roads, sidewalks, multi-use paths and trails, and airport runways and taxiways. The Linear Transportation Policy defines the conditions and documentation to support the determination that the post-construction stormwater management standards may be infeasible to apply for entirety or any portion of a linear transportation project.

The Linear Transportation Policy recognizes that linear developments differ from other land development applications and that it may be challenging to implement post-construction stormwater management standards on linear projects because linear developments may include several drainage areas and are often constructed in narrow travel corridors, inhibiting the use of land-intensive stormwater management practices.

The Linear Transportation Policy outlines a tiered screening process to determine the exclusion or infeasibility of stormwater management facilities. The linear development is first evaluated at the project scale to determine if a Project Level Exclusion (PLE), which exempts the entire project from complying with MS4-related post-construction stormwater requirements, is applicable to the linear development. If a PLE does not apply, the development may be investigated further at the outfall or drainage basin level to determine if Outfall Level Exclusions (OLEs) are applicable. OLEs exempt the outfall's drainage area from MS4-related post-construction stormwater requirements through separate application to each of the major post-construction stormwater management requirements: runoff reduction, water quality, channel protection volume, overbank flood protection, and extreme flood protection. If OLEs do not apply, the development may be investigated further at each outfall drainage basin individually to determine if implementation of post-construction stormwater management facilities would be infeasible due to site constraints and other factors. The determination of exclusion or infeasibility does not remove the requirement for a downstream hydrologic assessment to check for adverse impacts downstream of the project.

For any exclusion or determination of infeasibility to apply, documentation compliant with the Linear Transportation Policy shall be submitted to the Forsyth County Department of Engineering (Department) for consideration.

Conditions and Documentation for Project Level Exclusion

PLEs exempt the entire project from post-construction stormwater treatment requirements. The following conditions and documentation may warrant a PLE. PLEs will be documented in Attachment 1 and include the following required documentation:

- 1) **The roadway is not owned or operated (maintained) by Forsyth County.** This Project Level Exclusion should not be marked unless it is applicable for the entire project. If the Forsyth County MS4 Permit requirements apply to a portion of the project, do not mark the Project Level Exclusion.

Required Documentation:

- *Identify the local entity that owns and operates the roadway.*
- *Provide a location map with the beginning/end of project demonstrating that it is not a County roadway.*

- 2) **The project is a maintenance or safety improvement project whereby the sites are not connected and the individual site disturbs less than 1 acre.** This includes repaving, bridge maintenance, maintenance projects that do not add impervious surface area, driveway access paving, shoulder paving and building, fiber optic line installation, sign addition, safety barrier installation, and sound barrier installation. There can be multiple non-connected projects or sites in the same plan set that each disturb less than 1 acre, and the project would still be exempt from MS4 requirements. If a NOI will be filed and a full multistage set of erosion control plans will be produced then this exclusion does not apply to the project.

Required Documentation:

- *Provide a brief narrative indicating the type of project and the proposed disturbed area.*
- *Provide project plan sheets with disturbed area clearly delineated/hatched.*

- 3) **The project is a roadway project that disturbs less than 1 acre or a site project that adds less than 5,000 square feet of impervious area.** The site project exclusion would most likely apply to expansions of existing facilities. There can be multiple non-connected projects or sites in the same plan set that each disturb less than 1 acre and the project would still be exempt from MS4 requirements. If a NOI will be filed and a full multistage set of erosion control plans will be produced then this exclusion does not apply to the project.

Required Documentation:

- *Provide a brief narrative indicating the type of project and the proposed disturbed area or impervious area documented.*
- *Provide project plan sheets with disturbed area and/or impervious area clearly delineated/hatched.*

Conditions and Documentation for Outfall Level Exclusion

OLEs exempt the outfall's drainage area from MS4-related post-construction stormwater requirements through separate application to each of the major post-construction stormwater management requirements: runoff reduction, water quality, channel protection volume, overbank flood protection, and extreme flood protection. Project outfalls are defined as the point where concentrated flows from the road drainage system leaves the right-of-way. Each outfall drainage area should not be confused with each receiving water's drainage area. The following conditions and documentation may warrant an OLE. OLEs will be documented in Attachment 2 and include the following required documentation:

- 1) Installation of a stormwater management facility is the sole reason why a change to the existing roadway alignment that would create a safety concern is required.**

Required Documentation:

- *Provide a written explanation detailing all safety concerns as well as demonstrating how any appropriate stormwater management facility design necessitated the roadway alignment change*

- 2) Installation of a stormwater management facility is the sole reason why realignment and/or piping of a stream is required.**

Required Documentation:

- *Provide a written explanation detailing the stream impact as well as demonstrating how any appropriate stormwater management facility design necessitated the impact*
- *Provide roadway exhibit that clearly shows stormwater management facility causing OLE.*

- 3) Installation of stormwater management facility is the sole reason why an existing vegetated stream buffer or wetland is impacted.**

Required Documentation:

- *Provide a copy of the Natural Resource Inventory showing buffers and wetland areas.*
- *Provide exhibit showing roadway alignment and all topo features clearly demonstrating that any appropriate stormwater management facility would require an impact to environmentally sensitive areas*

- 4) Stormwater discharges from the project site are designed to exit the right-of-way as sheet flow (non-point source discharges).** Department approval is required to claim this exclusion for instances where stormwater discharges leave the right-of-way as sheet flow but channelize prior to discharging to a receiving stream or waterbody. If a ditch is visible in the cross-section, it is likely that this outfall level exclusion is not applicable. The designer should assess (and will be responsible for) sheet flow design in relation to causing instability, erosion, and flooding by visiting the site prior to design, and provide a written explanation with supporting evidence for the drainage area. Level spreaders for MS4 applications are appropriate to return concentrated flows to sheet flow conditions where the 10-year storm flow is less than 5 cubic feet per second.

Required Documentation:

- *Provide calculations and an exhibit with the drainage basin delineation and roadway alignment showing all topo features indicating stormwater leaving the project as sheet flow.*

- *Note: The designer must prove that the sheet flow will not cause instability, erosion, or flooding downstream of the project. Determine the velocities and existing ground cover and compare to the velocity limitations associated with channel linings in Section 5.4.3 of the 2016 edition of the Georgia Stormwater Management Manual, Volume 2. A separate analysis must be completed to prove no downstream flooding.*

- 5) **Stormwater flows originate outside Forsyth County's right-of-way or are diverted flows from undisturbed areas.** This outfall level exclusion is most applicable to projects that only have a portion of the project subject to Forsyth County's MS4 Permit. For example, if only a portion of a project is located on Forsyth County right-of-way, then the drainage areas located outside Forsyth County right-of-way could claim this OLE.

Required Documentation:

- *Provide an exhibit with the drainage basin delineation and roadway alignment clearly indicating that flows originate off Forsyth County right-of-way.*

- 6) **Net impervious surface area within the outfall's drainage area has been reduced or remains the same as pre-developed conditions.** Special consideration may be given to an outfall's drainage area with a minimal increase in impervious area. Each minimal increase in impervious area claim at each outfall basin should be supported by calculations illustrating a negligible increase in post-condition flow rates. "Negligible" increases must be supported by reasons why the designer makes this claim and must also be agreed upon by the Department. As general rule increases over one tenth of an acre in impervious surface per basin are not considered negligible.

Required Documentation:

- *Provide pre-and post-development roadway plans showing the project footprint with limits of impervious areas delineated and labeled.*
- *In the case of a negligible increase, provide a pre- and post- analysis comparing percent increases in discharge, velocity, depth, and required water quality volume. Use engineering judgement to determine if the increases are negligible and create no adverse impact.*
- *Note: For cases where the designer determines the increase in stormwater runoff and/or volume is negligible, the Department will review the assessment and determine if it is acceptable.*

Conditions and Documentation for Stormwater Management Standard Infeasibility

Infeasibility criteria make compliance with post-construction requirements for a specific outfall's drainage area infeasible. The following conditions and documentation may warrant outfall post-construction stormwater management standards infeasible. Infeasibilities will be documented in Attachment 2.

1) Stormwater management facility cost equals or exceeds 10% of the project costs for the drainage basin.

Stormwater management facility costs should only be compared to the portion of the project within the stormwater management facility's associated drainage basin. The stormwater management facility costs should include: additional right-of-way requirements and stormwater management facility construction/other related design elements. Stormwater management facility construction costs include the stormwater management facility and all associated elements (for instance, the costs to construct a maintenance access drive to the stormwater management facility). Design costs should not be included in the estimate. The project cost should include: right-of-way acquisition, roadway construction, utility relocation, and mitigation costs. The project cost should be a quantified estimate within the associated drainage basin. Cost per linear foot or percent estimates are not allowed.

Required Documentation:

- *For both the roadway and stormwater management facility cost estimate, combine pay items into categories. Use GDOT pay item index or other source to obtain unit costs for each item or category. Estimate the quantity of each item needed to prepare a comparison of proposed roadway costs to additional stormwater management facility cost of the basin.*
- *Provide source of cost information and any assumptions made.*
- *If stormwater management facility cost is slightly above 10% of roadway cost, investigate cost saving measures to bring stormwater management facility within 10%.*

2) Implementation of the stormwater management facility/facilities will cause 90 days or greater of delays to the project.

Required Documentation:

- *Describe how the inclusion of the stormwater management facility would increase the schedule.*
- *Clearly indicate the delay is solely due to the stormwater management facility.*
- *Note: This infeasibility cannot be used for design delays; it is only applicable for exceptional impacts or new right-of-way phases.*

3) Implementation of the stormwater management facility/facilities will cause loss of habitat for threatened and endangered (T&E) species. For endangered or threatened bat areas, loss of habitat only applies inside the tree line. Roadways and associated stormwater management facilities installed in flyways do not constitute a loss of habitat.

Required Documentation:

- *Provide the relevant parts of the Protected Species Survey Report to establish T&E habitat locations.*
- *Provide a basin exhibit or plan sheets with roadway alignment and labeled T&E habitat delineations clearly demonstrating that any appropriate stormwater management facility would impact habitat areas.*

4) Implementation of the stormwater management facility/facilities will cause significant damage to a cultural or community resource. This can include a historical site, archeological site, cemetery, park, wildlife refuge, nature trail, or school facilities.

Required Documentation:

- *Provide the relevant parts of both the Historical and Archeological Resources Survey Reports showing all resource locations.*
- *Provide a basin exhibit with roadway alignment and cultural resource delineations clearly demonstrating that any appropriate stormwater management facility would impact resource areas. Include plan sheets with labeled resource areas shown.*
- *Note: Resource impacts must be from the stormwater management facility only and not the other project elements.*

5) Implementation of the stormwater management facility/facilities would result in the displacement of a residence or business.

Required Documentation:

- *Provide an exhibit with roadway alignment and project features including home and business locations clearly demonstrating that any appropriate stormwater management facility would impact a residence or business.*
- *Include cross sections and construction limits from the construction of the stormwater management facility.*
- *Note: Displacements must be from the stormwater management facility only and not the other project elements.*

6) Implementation of the stormwater management facility/facilities would result in a violation of state or federal law or regulation.

Required Documentation:

- *Provide the particular statute or regulation that would be violated in order to construct a stormwater management facility.*

7) Site limitations. This includes: shallow bedrock, contaminated soils, high groundwater, utilities, or underground facilities if avoidance or relocation is infeasible (cost of the relocation equals or exceeds the cost of the stormwater management facility).

Required Documentation:

- *Provide the pertinent geotechnical report to show bedrock and groundwater table data.*
- *Utilize the Web Soil Survey website or other available resources to give approximate data for bedrock and groundwater depths at the concept level phase.*
- *Provide above ground utility location survey data on roadway plans as part of stormwater management facility infeasibility exhibit.*
- *Use GPR or other subsurface utility surveys to locate underground facilities to determine stormwater management facility infeasibility.*
- *Provide the cost to relocate utilities and the estimated cost of the stormwater management facility.*
- *Note: Only the documentation listed above relevant to the specific site limitation is needed.*

8) Soil infiltration capacity is limited, where the soil hydraulic conductivity (K) is less than 0.5 inches/hour (3.5×10^{-4} cm/second).

Required Documentation:

- *Provide calculations and exhibits with roadway alignment and surveyed features along with alternatives analysis demonstrating that only infiltrating stormwater management facilities would be feasible for the basin.*
- *Utilize Web Soil Survey or other available resources at the concept level phase to determine soil data and infiltration stormwater management facility feasibility.*
- *Provide the Stormwater Management Facility Infiltration Report (if needed) or other geotechnical report to show bedrock, soils, and groundwater depth data.*

9) Site is too small to infiltrate a significant volume.

Required Documentation:

- *Provide a basin exhibit with roadway alignment and all topo features along with basin delineation demonstrating that only infiltrating stormwater management facilities would be feasible for the basin and that the available area is too small to infiltrate the needed volume.*
- *Utilize Web Soil Survey or other available resources at the concept level phase to determine soil data and infiltration stormwater management facility feasibility.*
- *Provide the Stormwater Management Facility Infiltration Report (if needed) or other geotechnical report to show bedrock, soils, and groundwater depth data.*

10) Site does not allow for gravity flow to the appropriate stormwater management facility.

Required Documentation:

- *Provide a basin exhibit with roadway alignment, survey features and contours demonstrating that topography does not provide adequate fall for flow into or out of the stormwater management facility.*

Attachment 1
MS4 Project Level Exclusions Checklist

Attachment 1. MS4 Project Level Exclusions Checklist

MS4 PROJECT LEVEL EXCLUSION CHECKLIST		
Specify whether a Project Level Exclusion (PLE) is applicable for the project. If a PLE is applicable, mark the applicable exclusion below and provide required documentation.		
	Included?	Conditions
<input type="checkbox"/>	Yes	PLE 1
		The roadway is not owned or operated (maintained) by Forsyth County
<input type="checkbox"/>	Yes	PLE 2
		The project is a maintenance or safety improvement project whereby the sites are not connected and the individual site disturbs less than 1 acre.
<input type="checkbox"/>	Yes	PLE 3
		The project is a roadway project that disturbs less than 1 acre or a site project that adds less than 5,000 square feet of impervious area.

Attachment 2
MS4 Outfall Level Exclusions Checklist and
MS4 Infeasibilities Checklist

Attachment 2. MS4 Outfall Level Exclusions Checklist and MS4 Infeasibilities Checklist

MS4 OUTFALL LEVEL EXCLUSION CHECKLIST		
Specify whether an Outfall Level Exclusion (OLE) is applicable for the project. If any of the project outfalls have an OLE, mark "Yes" and provide required documentation.		
Included?		Conditions
<input type="checkbox"/> Yes	OLE 1	Installation of a stormwater management facility is the sole reason why a change to the existing roadway alignment that would create a safety concern is required.
<input type="checkbox"/> Yes	OLE 2	Installation of a stormwater management facility is the sole reason why realignment and/or piping of a stream is required.
<input type="checkbox"/> Yes	OLE 3	Installation of stormwater management facility is the sole reason why an existing vegetated stream buffer or wetland is impacted.
<input type="checkbox"/> Yes	OLE 4	Stormwater discharges from the project site are designed to exit the right-of-way as sheet flow (non-point source discharges).
<input type="checkbox"/> Yes	OLE 5	Stormwater flows originate outside Forsyth County's right-of-way or are diverted flows from undisturbed areas.
<input type="checkbox"/> Yes	OLE 6	Net impervious surface area within the outfall's drainage area has been reduced or remains the same as pre-developed conditions.

Attachment 2. MS4 Outfall Level Exclusions Checklist and MS4 Infeasibilities Checklist

MS4 INFEASIBILITY CHECKLIST		
Specify whether any stormwater management facilities on the project were found to be infeasible based on the ten Infeasibility Criteria. If an Infeasibility Criterion is claimed, mark "Yes" and provide required documentation.		
Included?	Criteria	Conditions
<input type="checkbox"/> Yes	INF 1	Stormwater management facility cost equals or exceeds 10% of the project costs for the drainage basin.
<input type="checkbox"/> Yes	INF 2	Implementation of the stormwater management facility/facilities will cause 90 days or greater of delays to the project.
<input type="checkbox"/> Yes	INF 3	Implementation of the stormwater management facility/facilities will cause loss of habitat for threatened and endangered (T&E) species.
<input type="checkbox"/> Yes	INF 4	Implementation of the stormwater management facility/facilities will cause significant damage to a cultural or community resource.
<input type="checkbox"/> Yes	INF 5	Implementation of the stormwater management facility/facilities would result in the displacement of a residence or business.
<input type="checkbox"/> Yes	INF 6	Implementation of the stormwater management facility/facilities would result in a violation of state or federal law or regulation.
<input type="checkbox"/> Yes	INF 7	Site limitations.
<input type="checkbox"/> Yes	INF 8	Soil infiltration capacity is limited, where the soil hydraulic conductivity (K) is less than 0.5 inches/hour (3.5×10^{-4} cm/second).
<input type="checkbox"/> Yes	INF 9	Site is too small to infiltrate a significant volume.
<input type="checkbox"/> Yes	INF 10	Site does not allow for gravity flow to the appropriate stormwater management facility.

Policy on Practicability Analysis for Runoff Reduction

Forsyth County Department of Engineering

Introduction

Runoff reduction practices are stormwater best management practices (BMPs) used to disconnect impervious and disturbed pervious surfaces from the storm drainage system. The purpose is to reduce post-construction stormwater runoff rates, volumes, and pollutant loads. Runoff reduction is more than simple infiltration; the runoff reduction volume (RR_v) is the retention volume calculated to infiltrate, evapotranspire, harvest and use, or otherwise remove runoff from a post-developed condition to more closely mimic natural hydrologic conditions.

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

The Forsyth County Policy on Practicability Analysis for Runoff Reduction (practicability policy) was developed to provide guidance about the site conditions and supporting documentation that could justify a "Determination of Infeasibility" for the runoff reduction stormwater management standard. This policy does not address stormwater management standards infeasibility for linear transportation projects; refer to the Forsyth County Policy on Practicability Analysis for Linear Transportation Projects for additional information.

The practicability policy is based on the following principles:

- Designed to help County administrators implement a process for granting a Determination of Infeasibility that supports review of land development applications.
- Applies to new development and redevelopment projects for public and private post-construction stormwater BMPs. It is referenced in the Forsyth County Stormwater Management Ordinance and Forsyth County Addendum to the Georgia Stormwater Management Manual.
- Aligns with requirements for runoff reduction in the Georgia Environmental Protection Division's permit to discharge from the municipal separate storm sewer system (MS4) permit. The MS4 permit states that the stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site to the maximum extent practicable. Many Georgia Stormwater Management Manual (GSMM) BMPs include a runoff reduction component.
- Focused on the site conditions and regulatory environment in the Metro Water District.
- Requires ensuring all attempts to provide 100 percent RR_v onsite have been exhausted when pursuing a Determination of Infeasibility.

Conditions that may Warrant a Determination of Infeasibility

The GSMM and the Forsyth County Addendum to the GSMM provide broad guidance about conditions that may lead the Department to waive or reduce the runoff reduction stormwater management standard. The following conditions may warrant a Determination of Infeasibility.

- **Soil Infiltration Rate:** The soil infiltration rate is less than 0.5 inch per hour as measured over a meaningful portion of the site. Consideration should be given to infiltration rates throughout the soil profile.
- **Water Table:** The water table seasonal high elevation is measured less than 2 feet from the subgrade of a proposed infiltration practice.

Policy on Practicability Analysis for Runoff Reduction

- **Shallow Bedrock:** Bedrock that cannot be excavated by mechanical means AND is less than 2 feet from the subgrade of an infiltration practice.
- **Extreme Topography:** Proposed conditions reflect surface grades steeper than 3:1 (H:V) slope for more than 50 percent of the contributing drainage area.
- **Karst Topography:** Any of the existing conditions onsite exhibit karst topography.
- **Hotspots/ Contamination:** Reasonable suspicion that previous land uses have resulted in soil contamination onsite.
- **Historic Resources:** Buildings, structures, or historic sites included in the Georgia Historic Preservation Division's Historic Resources Survey or listed in the National Register of Historic Places or that has been recommended as a historic resource by a Preservation Professional.
- **Site Constraints:** Sites where the density or nature of the proposed redevelopment would create irreconcilable conflicts for compliance between the runoff reduction stormwater management standard and other requirements such as zoning, floodplains, stream buffers, or septic fields.
- **Economic Hardship:** The cost of retaining the first 1.0 inch of rainfall onsite using runoff reduction practices is equal to or greater than three times the cost of providing water quality practices to meet the stormwater management standards. This condition must be present with at least one other condition to warrant a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship is applicable to a maximum 50 percent of the volume required for meeting the runoff reduction stormwater management standard.

Appendix A
Runoff Reduction Infeasibility (RRI) Form for
Determination of Infeasibility

Date Submitted: _____

Forsyth County

Runoff Reduction Infeasibility (RRI) Form for Determination of Infeasibility

DESIGN PROFESSIONAL CONTACT INFORMATION

Name: _____

Email: _____

Phone: _____

DESCRIPTION OF SITE

Land Development Application Number: _____

Site Address: _____

PROPOSED CONDITIONS OF SITE

Disturbed Area (acres): _____

Impervious Area (acres): _____

RUNOFF REDUCTION AND WATER QUALITY VOLUME SUMMARY

Maximum Practicable Runoff Reduction Volume* (cubic feet):

Volume for Water Quality Treatment* (cubic feet):

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

GENERAL SUPPORTING DOCUMENTATION

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

- Stormwater Management Plan
 - Forsyth County Stormwater Quality Site Development Review Tool v2.2
 - Written justification that the site cannot accommodate runoff reduction practices that rely on evapotranspiration and reuse such as rainwater harvesting or green roofs
-

SITE CONDITION APPLICABILITY

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

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

Site Condition	Supporting Documentation
<input type="checkbox"/> Soil Infiltration Rate	Infiltration test(s), soil boring log(s), and report of results as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Water Table	Soil boring log(s) and report with results of the seasonal highwater table assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Bedrock	Soil boring log(s) and report with results of the shallow bedrock assessment as interpreted by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Extreme Topography	Site survey showing 50 percent of the contributing drainage area is steeper than 3:1 (H:V) slopes as interpreted by a Professional Engineer or Land Surveyor licensed in Georgia AND Stormwater Management Plan showing the post-development surface grades will reflect the same condition as the site survey
<input type="checkbox"/> Karst Topography	Report developed by a Professional Engineer, Professional Geologist, or Soil Scientist licensed in Georgia
<input type="checkbox"/> Hotspots/ Contamination	Phase I Environmental Assessment Report
<input type="checkbox"/> Historic Resources	Documentation of the Georgia's Natural, Archaeological, and Historic Resources GIS listing OR Report of assessment from a Preservation Professional (including Archaeologist, Architectural Historian, Historian, Historic Preservationist, or Historic Preservation Planner)
<input type="checkbox"/> Site Constraints	Site plan identifying all development requirements (zoning side/front setbacks, build-to-lines, stream buffers, floodplains, septic fields, etc.) that are creating irreconcilable conflicts with onsite runoff reduction
<input type="checkbox"/> Economic Hardship*	An estimated construction cost comparison of proposed runoff reduction practices compared to proposed water quality practices must be included to show the cost of runoff reduction practices is equal to or greater than three times the cost of providing water quality practices

* *Note: Economic Hardship must be present with at least one other condition to warrant a Determination of Infeasibility. Additionally, a Determination of Infeasibility for economic hardship is applicable to a maximum 50 percent of the volume required for meeting the runoff reduction stormwater management standard.*

Appendix A. Runoff Reduction Infeasibility (RRI) Form for Determination of Infeasibility

GEORGIA PROFESSIONAL ENGINEER CERTIFICATION

Printed Name: _____

Signature: _____

Date: _____

FOR FORSYTH COUNTY INTERNAL USE ONLY

APPROVED

APPROVED with the following requirements:

DENIED

INSPECTION AND MAINTENANCE AGREEMENT

Forsyth County, Georgia

Department of Engineering

(770) 781-2165

THIS Agreement made and entered into this _____ of _____,
20_____,
by and between (Insert Full Name of Owner) _____
hereinafter called the "Landowner", and Forsyth County, Georgia hereinafter called the
"County."

WHEREAS, the Landowner is the owner of certain real property described as (Forsyth County
Tax Map/Parcel Identification Number) _____ as recorded by
deed in the land records of Forsyth County, Georgia at Deed Book
Page _____,
hereinafter called the "Property;" and

WHEREAS, the Landowner is proceeding to, or has, made improvements on the Property; and

WHEREAS, the Site Plan/Subdivision Plan known as _____
(Name of Plan/Development) hereinafter called the "Plan," which is expressly incorporated
herein by reference, as approved, or to be approved, by the County, provides for detention of
stormwater within the confines of the Property; and

WHEREAS, the County requires that onsite stormwater management facilities as shown on
the Plan be constructed and adequately maintained by the Landowner, its successors and
assigns, including any homeowners association;

WHEREAS, the Georgia Stormwater Management Manual (2016 Edition, Volume 2)
addresses issues relating to the operation and/or maintenance of stormwater systems; and

WHEREAS, the Landowner, its successors and assigns, understands that the execution and
adherence to the provisions of this Agreement is a condition precedent to the County's
permitting, and/or approving the final plat for the Property and subdivision located thereon;

NOW, THEREFORE, in consideration of the foregoing premises and mutual covenants the parties hereby agree as follows:

1. The on-site stormwater management facilities shall be constructed, operated, and maintained by the Landowner, its successors and assigns, in accordance with the plans and specifications identified in the Plan, as well as in accordance with State and Federal law, the Georgia Stormwater Management Manual, and any and all applicable County ordinances.
2. The Landowner, its successors and assigns, including any homeowners' association, shall adequately maintain the stormwater management facilities and improvements on the Property. Adequate Maintenance required by this Agreement shall include, but is not limited to, scheduled and corrective maintenance of all facilities and improvements intended to manage and/or control stormwater on the Property, with such facilities and improvements to expressly include, but not be limited to pipes, channels structures, vegetation, berms, outlet structures, pond areas, access roads, or any other improvement relating to stormwater on the Property but excluding any such improvements located on, under, or within any publicly owned rights of way (the "Stormwater Facilities and Improvements"). Adequate maintenance is herein defined as keeping such Stormwater Facilities and Improvements in good working condition such that they satisfactorily perform their intended design functions.
3. The Landowner, its successors and assigns, shall inspect the Stormwater Management Facilities and Improvements and submit an inspection report to the County on an annual basis. The purpose of the inspection is to assure safe and proper functioning of the Stormwater Management Facilities and Improvements located on the Property. Each annual inspection shall include a full and complete inspection of all Stormwater Facilities and Improvements located on the Property. Any and all deficiencies identified during such inspections shall be noted in the inspection report submitted to the County. The inspection report shall also include a detailed plan for any and all repairs to the Stormwater Management Facilities and Improvements necessary to correct any deficiencies identified during the inspection, with the repair plan to be prepared by a professional engineer, or some other duly qualified professional, licensed in the State of Georgia.
4. The Landowner, its successors and assigns, hereby grants permission to the County, its authorized agents and employees, to enter upon the Property and to inspect the Stormwater Management Facilities and Improvements as deemed necessary by the County for purposes of protecting the public health, safety or welfare, for purposes of investigating or inspecting any reported or suspected deficiencies in the Stormwater Management Facilities and Improvements on the Property, for purposes of responding to or investigating citizens' complaints relating to the management or control of stormwater on the Property, or for any other purpose deemed necessary by the County. The County shall provide the Landowner, its successors and assigns, with a copy of any inspection findings, as well as a directive to commence with any required repairs. To the extent that the County does not agree with or to the contemplated repairs proposed by the Landowner, the County may submit an alternate repair plan to the Landowner.

5. In the event the Landowner, its successors and assigns, fails to maintain the Stormwater Management Facilities and Improvements on the Property in good working condition acceptable to the County, or fails to make repairs as specified in the inspection report within a reasonable time frame as established by the County, with such time frame not to be shorter than thirty (30) days, the County may enter upon the Property and take any and all action necessary to correct deficiencies identified in the inspection report. The Landowner, its successors and assigns, shall be responsible for any and all fees and expenses incurred by the County in taking such corrective action. This provision shall not be construed to allow the County to erect any structure of a permanent nature on the land of the Landowner outside the easement for the stormwater management facilities. It is expressly understood and agreed that this Agreement imposes no obligation or responsibility on the County to routinely maintain or repair any Stormwater Management Facilities and Improvements located on the property.
6. The Landowner, its successors and assigns, will perform all work necessary to keep the Stormwater Management Facilities and Improvements in good working condition as required by the approved Plan, as well as by State and federal law, the Georgia Stormwater Management Manual, and any and all applicable County ordinances.
7. In the event that the County performs or undertakes work of any kind pursuant to this Agreement or expends any funds or resources in performance of said work for labor, use of equipment, supplies, material, and the like, the Landowner, its successors and assigns, shall reimburse the County upon demand, within thirty (30) days of receipt of same.
8. This Agreement shall impose no liability on the County with respect to the maintenance or repair of any Stormwater Management Facilities and Improvements on the Property, nor does the County assume any obligation or duty to undertake or perform any action allowed for, or permitted by, this Agreement. The Landowner, its successors and assigns, further agrees to indemnify and hold the County harmless from any liability arising out of the management, operation, maintenance, or failure of any Stormwater Management Facilities and Improvement subject to this Agreement.
9. Notwithstanding any right extended to the County pursuant to this Agreement, it is expressly recognized and acknowledged that the County retains all prosecutorial rights and remedies available to it, including the enforcement of any and all applicable County ordinances, against the Landowner, its successors and assigns, relating to the operation, maintenance, and/or repair of Stormwater Management Facilities and Improvements located on the Property.
10. This Agreement shall be recorded among the land records of Forsyth County, Georgia, and shall constitute running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including homeowners' association.

WITNESS the following signatures and seal

(SEAL)

Company/Corporation/Partnership Name

By: _____

(Signature)

(Type/Print Name)

STATE OF _____

COUNTY OF _____

The foregoing Instrument was acknowledged before me this _____ day of _____, 20_____, by

NOTARY PUBLIC
(SEAL)

My Commission Expires: _____

**Attachment A
Responsible Person**

The Landowner hereby identifies the responsible person or position responsible for ensuring that the inspection and maintenance of the Stormwater Management Facilities and Improvements is accomplished according to the inspection and maintenance schedule prepared by the engineer of record for this Property

(Address or Name of the Property) as

(Name and Title of person so identified).

Results of the inspections shall be submitted annually to Forsyth County.
Inspection reports shall be submitted to:

Forsyth County
Department of Engineering
110 East Main Street
Suite 120
Cumming, Georgia 30040

If the responsible entity or contact person changes Forsyth County shall be notified in writing of the change not later than thirty (30) days from the effective date of such change.

Responsible Entity

Contact Person's Name

Signature

Address

City, State, Zip Code

Phone Number

Attachment B

Provide a required Inspection and Maintenance Schedule labeled as “Attachment B”

Refer to the Georgia Stormwater Management Manual, Appendix E, Best Management Practice Operations & Maintenance Guidance Document, for minimum recommended inspection and maintenance requirements for the applicable stormwater management structure.

ALSO INCLUDE AN 8 ½” X 11” SIZE COPY OF THE SITE PLAN NOTING THE LOCATION OF THE APPLICABLE STORMWATER STRUCTURES INCLUDED IN THE INSPECTION AND MAINTENANCE SCHEDULE.