GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334
404-463-1511

November 9, 2020

Ms. Regina McDuffie, City Manager
City of Brunswick
601 Gloucester Street
Brunswick, Georgia 31520

RE: Phase II MS4
NPDES Permit No. GAG610000
Storm Water Management Program

Dear Ms. McDuffie:

In a March 9, 2020 letter, the Georgia Environmental Protection Division (Division) provided comments on the City of Brunswick's proposed Storm Water Management Program (SWMP). The City was granted an extension until October 20, 2020. In an October 21, 2020 letter, the City transmitted a revised SWMP document to the Division. Based on our review, we have determined the document is acceptable. Additionally, the Illicit Discharge Detection and Elimination (IDDE) Plan, Enforcement Response Plan (ERP), and Impaired Waters Plan (IWP) are acceptable. However, there are two minor items that the City should address during the current reporting period. These items are summarized on the attached page.

Thank you for your cooperation in this matter. If you have any questions, please contact me at 404-651-8541 or mallory.warren@dnr.ga.gov.

Sincerely,

Mallory Warren
Environmental Compliance Specialist
Stormwater Unit

cc: Garrow Alberson, Public Works Director
Robert Brown, Goodwyn, Mills and Cawood (GMC)

Division Comments
City of Brunswick
Storm Water Management Program

Construction Site Stormwater Runoff Control

BMP #1 – Legal Authority – The BMP Description and Measurable Goal states that the City will revise the E&S ordinance to contain the required construction waste control wording by December 31, 2020. Provide the ordinance containing the construction waste control wording with the 2020 annual report, due February 15, 2021.

Post-Construction Stormwater Management

As part of the 2019 annual report, which was due by February 15, 2020, the County was required to submit a Green Infrastructure/ Low Impact Development (GI/LID) Program. The County included the program with the submittal of the SWMP. A review of the GI/LID program will be conducted in conjunction with the 2019 annual report review.

Pollution Prevention/Good Housekeeping for Municipal Operations

BMP #1 – MS4 Control Structure Inventory and Map – The map includes "Stormwater Points" and "MS4 Outfalls". The Map should include 4 different MS4 structure types: catch basins, ditches, pipes, and ponds. Revise the map to demonstrate these four structure types, including a unique symbol for each. Include the revised map with the 2020 annual report.

STORM WATER MANAGEMENT PROGRAM

THE CITY OF BRUNSWICK, GEORGIA

JUNE 2018

*Resubmitted October 2020

Prepared to Meet the Requirements of the National Pollutant Discharge and Elimination System (NPDES) Phase II Municipal Separate Storm Sewer (MS4) Permit (NPDES Permit #GAG610000)

Table of Contents

ACRONYMS

BMPs	Best Management Practices
CIP	Capital Improvement Project
E&S	Erosion & Sedimentation
EPD	Georgia Environmental Protection Division
ERP	Enforcement Response Plan
ESPC	Erosion, Sedimentation & Pollution Control
GESA	Georgia Erosion & Sedimentation Act
GIS	Geographic Information System
GI/LID	Green Infrastructure/Low Impact Development
GSMM	Georgia Stormwater Management Manual
GSWCC	Georgia Soil & Water Conservation Commission
IDDE	Illicit Discharge Detection & Elimination
LDP	Land Disturbance Permit
LIA	Local Issuing Authority
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge & Elimination System
POC	Pollution of Concern
ROW	Right of Way
SIC	Standard Industrial Classification
SWCD	Soil and Water Conservation District
SWMP	Stormwater Management Program
TSS	Total Suspended Solids

DEFINITIONS

The following definitions were established by the NPDES Phase II MS4 permit, signed on December 6, 2017, and are hereby included in the City of Brunswick's SWMP.

Annual Report means the document submitted by the permittee on an annual basis summarizing the SWMP activities conducted during the previous reporting period.

Best Management Practice or BMP means both structural devices to store or treat storm water runoff and non-structural programs or practices which are designed to prevent or reduce the pollution of the waters of the State of Georgia.

Construction Activity means the disturbance of soils associated with clearing, grading, excavating, filling of land, or other similar activities which may result in soil erosion.

Construction General Permits or CGPs means the Georgia NPDES Permit for Stormwater Discharges Associated with Construction Activity Nos. GAR100001, GAR100002, and GAR100003, which identify the Manual for Erosion and Sediment Control in Georgia (Green Book) and stream buffer requirements.

Control Measure means any BMP or other method used to prevent or reduce the discharge of pollutants to the waters of the State of Georgia.

CWA means the Federal Clean Water Act (formerly known as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972), as amended.

Director means the Director of the Environmental Protection Division of the Department of Natural Resources, State of Georgia.

Discharge means the "discharge of a pollutant".

Discharge-related Activities includes activities which cause, contribute to, or result in storm water point source pollutant discharge; and measures to control storm water discharges, including the siting, construction and operation of BMPs to control, reduce or prevent storm water pollution.

EPA or USEPA means the United States Environmental Protection Agency.

EPD means the Environmental Protection Division of the Department of Natural Resources, State of Georgia.

Existing Permittee means a Phase II municipal separate storm sewer system designated by EPD for coverage under this permit prior to the issuance date of this permit.

Illicit Connection means any man-made conveyance connecting a non-stormwater discharge directly to a municipal separate storm sewer system.

Illicit Discharge means any direct or indirect non-stormwater discharge to a municipal separate storm sewer system, including but not limited to, sewage, process wastewater, and washwater. The discharge may be continuous or intermittent in occurrence.

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

Maximum Extent Practicable or MEP means the technology-based discharge standards and controls necessary for the reduction of pollutants discharged from a municipal separate storm sewer system. These standards and controls may consist of a combination of best management practices, control techniques, system design and engineering methods, and such other provisions for the reduction of pollutants as described in the Storm Water Management Program.

Municipal Separate Storm Sewer System or MS4 means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains, owned or operated by a municipality or other public body, designed or used for collecting or conveying storm water runoff and is not a combined sewer or part of a Publicly Owned Treatment Works.

National Pollutant Discharge Elimination System or NPDES means the program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits under the CWA.

New Development means land disturbing activities, structural developments (construction, installation or expansion of a building or other structure), and/or creation of impervious surfaces on a previously undeveloped site.

New Permittee means a Phase II MS4 designated by EPD for coverage under this permit based on the 2020 or subsequent decennial U.S. Census, or based on other State designation criteria.

Notice of Intent or NOI means the mechanism used to register for coverage under this general permit.

Outfall means the most downstream point (i.e. final discharge point) on an MS4 where it discharges to waters of the State.

Owner or Operator means the owner or operator of any MS4 or any activity subject to regulation under the NPDES program.

Permitted Area means the area of City or County that is covered by this General NPDES Stormwater Permit. For a City, it refers to the entire City limits; for a County, it refers only to that part of the County contained within an "Urbanized Area" as defined by the latest Decennial Census by the Bureau of the Census.

Point Source means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged into the waters of the State of Georgia. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

POTW means Publicly Owned Treatment Works.

Small MS4 (defined in 40 CFR Part 122.26(b)(8)) means all separate storm sewers that are owned or operated by the United States, the State of Georgia, city, town, borough, county, parish, district, association, or other public body (either created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity or a designated and approved management agency under Section 208 of the CWA that discharges to the waters of the State of Georgia but is not defined as a "large" or "medium" MS4. This term includes systems similar to municipal MS4s, such as systems at military bases, large hospitals, universities, prison complexes, and highways and other thoroughfares. This definition does not include separate storm sewers in very discrete areas, such as individual buildings.

State Act means the Georgia Water Quality Control Act, as amended.

State Rules or Rules means the Georgia Rules and Regulations for Water Quality Control.

Stormwater means stormwater runoff, snow melt runoff, and surface runoff and drainage.

SWMP or Program means the storm water management program required to be developed and implemented under the terms and conditions of this permit and refers to a comprehensive program to manage the quality of storm water discharged from a MS4.

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

RESPONSIBLE PARTY AND PLAN CERTIFICATION

Responsible Official:

Regina McDuffie
City Manager
601 Gloucester Street
Brunswick, GA 31520
(912) 267-5500

Designated Stormwater Management Program Contacts:

Garrow Alberson
Director, Public Works
525 Lakewood Avenue
Brunswick, GA 31520
(912) 267-5540
galberson@cityofbrunswick-ga.gov

Sharing Responsibility

The City of Brunswick does not share responsibility with any other entity for implementation of the Best Management Practices outlined in this Plan.

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Regina McDuffie Date: 10/12/2020

Signature: _____ Title: City Manager

INTRODUCTION

In 1987, amendments to the Clean Water Act (CWA) established a legal framework and requirements for the United States Environmental Protection Agency (USEPA) to develop a comprehensive, phased program for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) permit program. In response, the USEPA instituted Phase I of the NPDES Stormwater Program in November 1990. The Phase I program required medium to large communities with populations of at least 100,000 people and with municipal separate storm sewer systems (MS4s) to develop programs to address the quality of their stormwater discharges. These amendments to the CWA also placed stormwater management requirements on many industries based upon standard industrial classification (SIC) codes, including stormwater permitting requirements on construction activities that disturbed five or more acres of land.

The NPDES Phase II Stormwater regulations were established in December 1999. The Phase II stormwater requirements affect smaller communities with MS4s serving populations of less than 100,000 people, as well as construction activities that disturb one or more acres of land. Only those small MS4s located in "urbanized areas", as defined by the U.S. Bureau of the Census, are required to apply for a stormwater NPDES permit and develop a Storm Water Management Program (SWMP). The designated Stormwater Phase II permitting authority in the State of Georgia is the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources.

The City of Brunswick was designated by the Georgia EPD as a City that must seek coverage under the NPDES Phase II regulations and, as required, prepared and submitted a Notice of Intent (NOI) and a SWMP. The City's SWMP was last reviewed and approved by the EPD in 2015. The Georgia EPD re-issued the NPDES Phase II MS4 permit on December 6, 2017 and the City of Brunswick submitted an NOI to continue coverage under the re-issued permit. A copy of the City's current permit and NOI is included in Appendix A.

The City of Brunswick has been designated as a permittee with a population exceeding 10,000 and therefore must meet certain minimum requirements and best management practices (BMPs). This Plan addresses six Minimum Control Measures (MCMs), with supporting documentation included in appendices:

- Public Education and Outreach
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management in New Development and Redevelopment (including a Green Infrastructure/Low Impact Development Program)
- Pollution Prevention/Good Housekeeping for Municipal Operations

The Georgia EPD has also required the City of Brunswick to expand its SWMP to include BMPs to address the following Plans and Programs, which are discussed in the SWMP and also included as appendices to the Plan:

- Enforcement Response Plan
- Impaired Waters Plan

A. PUBLIC EDUCATION AND OUTREACH

Regulatory Requirement, 40 CFR Part 122.34(b)(1):

The BMPs listed below address the requirements above in accordance with the guidelines included in Table 4.2.1(a) of the NPDES Phase II MS4 permit.

A.1 STORMWATER EDUCATION – PUBLIC PRESENTATIONS

A.1.1. Target Audience:

Civic organizations and the general public

A.1.2. Description of BMP:

The City has developed a comprehensive Public Education Program and routinely speaks to civic groups, schools, and to various other community groups. Many people do not realize that common actions such as washing their car, littering, or not picking up after pets can have adverse impacts on water quality, and the City has implemented a strong public education and outreach program to raise public awareness about stormwater pollution prevention measures. City staff have developed a PowerPoint presentation to be used as an educational aid during presentations and other educational tools are used as appropriate.

As part of their ongoing Public Education Program, City staff or an authorized designee will provide at least one public stormwater-related presentation during each reporting period. Additional presentations may be scheduled during different outreach events and/or if requested by the general public. Educational materials will be provided as appropriate (see BMP A.2). Presentations will include information about the impacts of stormwater pollution, steps the public can take to improve water quality, and how to prevent and report illicit discharges. Topics for different talks will be tailored towards the target audience, if applicable. For example, presentation to gardening centers and golf clubs may discuss the impacts of pesticide runoff on water quality, and presentations to school groups may discuss common stormwater pollution prevention techniques that children may be able to assist with such as litter prevention and picking up after pets.

A.1.3. Measurable Goal(s):

a. Provide at least one stormwater-related presentation to the community each reporting period, including civic organizations, schools, the library, etc.

A.1.4. Documentation For Annual Report:

a. Synopsis of each presentation and/or copy of presentation/educational handouts

b. Number of attendees and the date the presentation was given, as summarized in a summary tracking spreadsheet maintained by the KGIB – copy of spreadsheet and/or summary report from KGIB to be provided

A.1.5. Schedule:

a. Minimum of one (1) speaking engagement: Annually, 2018-2022

A.1.6. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

A.1.7. Rationale for choosing BMP and setting measurable goal(s):

Many groups and schools in the area already turn to the City to provide speakers for meetings. The City can improve public stormwater awareness by including stormwater pollution preventions-related topic in presentations.

A.1.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

As educational presentations are continuously provided within the community, the general public will become better educated on stormwater management issues and reduce their impacts on local waterways.

A.2. PASSIVE EDUCATION SIGNAGE

A.2.1. Target Audience:
General public

A.2.2. Description of BMP:
Passive educational signage that targets litter prevention and stormwater-related education exists all around the City. A map of locations where educational signage exists within the City will be created and will also include example photos. For example, the KGIB placed two unique sculptures in community public spaces between 2017-2019, each portraying a coastal creature and highlighting the effects litter has on its environment. These educational sculptures are listed at http://www.kgib.org/project/litter-prevention-sculptures/. The passive education signage locations include public parks, so they are visited by numerous residents and tourists each year.

A.2.3. Measurable Goal(s):
a. Annually update map with any new educational signage added.
b. Evaluate the educational signage condition and maintenance needs at least once per each permit period by taking photographs.

A.2.4. Documentation For Annual Report:
a. Map and table of locations of stormwater-related and litter prevention signage.
b. Photos of existing signage/art taken during inspection.

A.2.5. Schedule:
b. Annually, 2020-2022 (NEW in 2020)

A.2.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

A.2.7. Rationale for choosing BMP and setting measurable goal(s):
The BMP provides information to the general public on stormwater management related issues in a way that is visually appealing. Furthermore, passive educational signage is an ideal method of continuing stormwater education while maintaining the current COVID-19 safety precautions. The City believes education of the public is an effective means of developing long-term awareness of activities that can threaten water quality in local water ways. The City believes that this BMP will assist in the distribution of educational materials to residents and tourists that don't access the City's digital resources as described in other BMPs. Approximately 2.4 million tourists visit the Golden Isles' beaches and parks each year where passive educational signage is located.

A.2.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
As these educational signs/artworks are placed in commonly visited publicly-accessed areas within the community, the general public will become better educated on stormwater

management issues and reduce their impacts on local waterways. The City will report the number and location of educational signs as part of the City's annual report.

A.3. PUBLIC SERVICE ANNOUCEMENTS

A.3.1. Target Audience:
General public, businesses and industries

A.3.2. Description of BMP:
As part of a comprehensive Public Education Program, the City routinely airs radio announcements that discuss various measures that can be taken to prevent or reduce stormwater pollution and how to report stormwater-related issues to City staff. These announcements frequently feature animated marine characters ("Popcorn and Jumbo Shrimp") the City created to raise public awareness about stormwater-related issues.

As part of its ongoing educational program, the City will continue to air radio announcements that will include information about relevant stormwater-related topics to raise public awareness about the impacts of stormwater pollution and steps the public can take to improve water quality. The topics of the announcements will be changed on occasion to cover a variety of educational topics. PSAs will also be available on the City's website.

A.3.3. Measurable Goal(s):
a. A minimum of 10, 30-second radio announcements will be aired annually

A.3.4. Documentation For Annual Report:
a. Transcript of the radio commercial
b. Invoice from the local radio station showing the number of times the radio station played the commercial

A.3.5. Schedule:
a. Annually, 2018-2022

A.3.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

A.3.7. Rationale for choosing BMP and setting measurable goal(s):
The BMP provides information to the general public on stormwater management related issues and reaches a wide audience.

A.3.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
As educational message are continuously given via radio announcements to the community, the general public will become better educated on stormwater management issues and reduce their impacts on local waterways.

A.4. STORMWATER WEBSITE

A.4.1. Target Audience:
General public, businesses and industries

A.4.2. Description of BMP:
The City will maintain a stormwater management webpage that can be viewed at http://www.brunswickga.org/pw/new/stormwater.html .

The City webpage will include educational information about the City's stormwater programs and activities, including information about stormwater discharges, pollution prevention strategies, illicit discharge prevention (see BMP C.4 for additional information), and how to report illicit discharges verbally and electronically. Also, the City will establish links to other websites that have relevant information about storm water pollution prevention. The website will be updated annually.

A.4.3. Measurable Goal(s):
a. Update webpage annually
b. Record the number of webpage hits using a tracker, such as Google Analytics or other comparable counting mechanism

A.4.4. Documentation For Annual Report:
a. Number of webpage views
b. Screenshot of webpage or summary of webpage changes

A.4.5. Schedule:
a. Annually, 2018-2022

A.4.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

A.4.7. Rationale for choosing BMP and setting measurable goal(s):
The BMP provides information to the general public on stormwater management related issues in an easy, widely-accessibly format. Furthermore, because this information is updated annually, the City can keep the public up-to-date on new and developing issues related to stormwater management and water resources issues.

A.4.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
The City will track webpage hits using a tracker, such as Google Analytics, to determine if this BMP is reaching a wide audience.

B. PUBLIC INVOLVEMENT / PARTICIPATION

40 CFR Part 122.34(b)(2) Requirement: You must, at a minimum, comply with State, Tribal, and local public notice requirements when implementing a public involvement/ participation program.

The BMPs listed below address the requirements above in accordance with the guidelines included in Table 4.2.2(a) of the NPDES Phase II MS4 permit.

B.1. COMMUNITY LITTER PICK-UP PROGRAM

B.1.1. Target Audience:
General public

B.1.2. Description of BMP:
The City has an established littler pick-up program in partnership with KGIB, a local affiliate of Keep America Beautiful and Keep Georgia Beautiful Foundation. Volunteers pick up trash at dedicated outreach events in the community to prevents trash and other debris from washing into the City's stormwater system, marshes, and waterways. Debris and litter is collected and appropriately disposed of or recycled.

B.1.3. Measurable Goals:
a. 250 man-hours per year of volunteer labor for litter pick-up

B.1.4. Documentation For Annual Report:
a. Number of volunteer hours recorded during each reporting period based on the summary tracking spreadsheet (Excel file) maintained by the KGIB
b. Amount of litter and debris collected from litter pick-up event(s) based on total number of trash bags collected per the KGIB tracking spreadsheet
c. Copy of the summary tracking spreadsheet maintained by KGIB that includes information noted above

B.1.5. Schedule:
a. Annually, 2018-2022

B.1.6. Person (Position) Responsible for Overall BMP management and Implementation:
Public Works Director

B.1.7. Rationale for choosing BMP and setting measurable goal(s):
This BMP provides free assistance to the City and educates litterers.

B.1.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

Less litter in the streets, and therefore less litter entering the City's MS4 system, will indicate that the litter pick-up program is effective.

B.2. BRING ONE FOR THE CHIPPER

B.2.1. Target Audience:
General public

B.2.2. Description of BMP:
The City of Brunswick will continue to host a "Bring One for the Chipper" program to encourage people to properly dispose of their Christmas trees. This campaign is part of Keep Georgia Beautiful Foundation's official annual Christmas tree recycling program. Residents are encouraged to bring Christmas trees to be chipped and recycled into mulch at this annual event. The mulch is then used on City property and provided to residents at no charge, as well as used for biofuel. This event is advertised on the City's webpage and local media.

B.2.3. Measurable Goal(s):
a. Hold the Bring One for the Chipper event once per year
b. Advertise the event on the City's website and local media
c. Maintain records of the number of trees recycled

B.2.4. Documentation For Annual Report:
a. Number and/or amount of trees recycled
b. Copy of outreach/promotional material advertising the event

B.2.5. Schedule:
a. One event per year, 2018 – 2022

B.2.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

B.2.7. Rationale for choosing BMP and setting measurable goal(s):
The objective of this event is to facilitate public participation in stormwater program implementation while making the public aware of issues related to dumping of organic materials in the drainage system. Debris, such as discarded trees, can block streams causing flooding and also cause water quality impairments as they decay.

B.2.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
The City will keep records of the number or amount of trees collected and therefore prevent organic waste from entering the drainage system. This is a direct measurement of the effectiveness of this BMP in removing pollution.

B.3. CITIZEN COMPLAINT HOTLINE

B.3.1. Target Audience:
General public

B.3.2. Description of BMP:
The City will maintain a Citizen Complaint Hotline so the public can call and ask questions about stormwater issues and report stormwater complaints, including illicit discharge complaints, to the Stormwater Department. Stormwater questions and complaints may be called in to the Public Works 24-Hour Dispatch Service hotline at (912) 267-3703 or reported to the City's Code Enforcement Officers. Contact information for the Citizen Complaint hotline and City's Code Enforcement Officers is posted on the City's Stormwater and Public Works webpages. Stormwater questions, service requests, and complaints can also be reported electronically through the following webpage link: http://www.brunswickga.org/pw/new/contact.php. Each complaint is logged, investigated within at least 72 hours, and follow up activities are documented.

B.3.3. Measurable Goal(s):
a. Respond/address stormwater complaints within 72 hours of receipt
b. Advertise the Citizen Complaint Hotline on the City's stormwater webpage and during stormwater presentations
c. Document follow-up activities, including any enforcement actions

B.3.4. Documentation For Annual Report:
a. Provide a summary of the illicit discharge and other stormwater-related complaints received and follow-up performed (e.g. complaint date, type of complaint, complaint status) during the reporting period

B.3.5. Schedule:
a. Ongoing throughout the year, 2018 – 2022

B.3.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

B.3.7. Rationale for choosing BMP and setting measurable goal(s):
Stormwater issues may be more easily identified and corrected by providing the public a way to report complaints and ask questions.

B.3.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit
The City will maintain records of the number and types of questions and complaints investigated through this BMP.

B.4. CITY-WIDE CLEANUP/GREAT AMERICAN CLEANUP

B.4.1. Target Audience:
General public, businesses, and industries

B.4.2. Description of BMP:
The City of Brunswick partners with the Brunswick Downtown Development Authority and KGIB to sponsor an annual City-Wide Cleanup each Spring that is affiliated with the Great American Cleanup, a nationwide community improvement program to bring people together. This annual event seeks to encourage the general public and volunteers from civic groups, churches, youth groups and other organizations to participate. Volunteer "teams" can clean their neighborhoods or be assigned neighborhoods in need. Volunteers are encouraged to pre-register and a celebration cookout is held after the cleanup.

B.4.3. Measurable Goal(s):
a. Advertise event through social media and/or City webpage
b. Host annual City-Wide Cleanup Event
c. Properly dispose of litter and debris collected from cleanup

B.4.4. Documentation For Annual Report:
a. Copy of outreach/promotional material advertising the event
b. Number of volunteers that attended event as summarized in a summary tracking spreadsheet (Excel file) maintained by the KGIB – copy of spreadsheet to be provided.
c. Amount of debris and litter collected during cleanup based on number of trash bags collected and/or documentation of debris and litter disposal records from KGIB's tracking spreadsheet (Excel file)

B.4.5. Schedule:
a. Annually, 2018 – 2022

B.4.6. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

B.4.7. Rationale for choosing BMP and setting measurable goal(s):
Urban streams are often an unnoticed natural resource feature that only seems to garner the public's attention when flooding occurs or when a significant pollution event occurs. The objective of having a cleanup program is to facilitate public participation in the protection of urban streams such that people better understand their crucial role in local stormwater management. The intent is that people's participation in the cleanup will result in improved stream health as well as stream functionality. Once people interact more with these natural resource features, people will better understand how their behavior impacts local streams and creeks.

B.4.8. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City will keep records of the amount of trash removed. This is a direct measurement of the effectiveness of this BMP in removing trash, debris and pollution from the streams and creeks.

C. ILLICIT DISCHARGE DETECTION AND ELIMINATION

40 CFR Part 122.34(b)(3) Requirement: You must develop, implement and enforce a program to detect and eliminate illicit discharges into your small MS4. You must:
A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls;
B) Effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions;
C) Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to your system; and
D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The BMPs listed below address the requirements above in accordance with the guidelines included in Table 4.2.3(a) of the NPDES Phase II MS4 permit.

C.1. LEGAL AUTHORITY

C.1.1. Description of BMP:

The City has established adequate legal authority by adopting an Illicit Discharge Prohibition as part of their Stormwater Management Ordinance (Chapter 22A, Article II). A copy of the City's Stormwater Management Ordinance is included in Appendix B. The City's Stormwater Management Ordinance was approved in 2006. This ordinance prohibits the discharge of pollutants and other non-stormwater discharges into the City's storm sewer system and establishes appropriate enforcement procedures.

The City will review the Ordinance annually, and revise it as needed to ensure illicit discharges are prohibited and submit a copy of the Ordinance, if revised, to the Georgia EPD with the Annual Report.

C.1.2. Measurable Goal(s):

a. Prohibit illicit discharges through the City's Stormwater Management Ordinance
b. Review the ordinance annually to determine if any updates are needed

C.1.3. Documentation For Annual Report:

a. Copy of ordinance, if revised during the reporting period

C.1.4. Schedule:

a. Prohibit illicit discharges: Ongoing
b. Review ordinance for needed updates: Annually, 2018 – 2022

C.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

C.1.6. Rationale for choosing BMP and setting measurable goal(s):
An Illicit Discharge Ordinance is necessary to provide the City with the authority to prevent illicit discharges.

C.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
The stormwater management municipal code provides regulations that reduce illicit discharges and prevent illicit discharges from entering the MS4 and waters of the state.

C.2. MS4 OUTFALL MAP AND INVENTORY

C.2.1. Description of BMP

The City of Brunswick has developed a GIS-based inventory and a map showing the location of outfalls from the MS4 and the names and location of all Waters of the State that receive discharges from those outfalls. To view the map and inventory of the MS4 Outfalls, please see the IDDE Plan included in Appendix C.

Due to its coastal location, many stormwater outfalls in the City are tidally-influenced or surcharged, meaning that these outfalls are often wet for natural reasons and not because of an illicit discharge. During this upcoming reporting period, the City will conduct field assessments and review historical information on file to identify those outfalls that are continuously "wet" due to tidal activity or surcharge of the system, and those that are dry. A "wet" designation means that the invert of the outfall is below the mean high tide or static water level causing the drainage system to be flooded daily. Additional information about these outfall designations and the City's approach to field assessments for each type of MS4 outfall is discussed in the City's IDDE Plan (Appendix C).

Each year, the City will update the map and inventory to reflect "wet" and "dry" outfall designations, the addition of outfalls from new infrastructure projects or developments, and the removal of outfalls that have been reclassified or removed.

C.2.2. Measurable Goal(s):

a. Maintain and annually update an outfall inventory database and map showing the location of all outfalls from the MS4 and the names and location of all Waters of the State that receive discharges from those outfalls, including "wet" and "dry" outfall designations

C.2.3. Documentation For Annual Report:

a. Updated MS4 outfall inventory and map
b. Number of outfalls added/removed during the reporting period
c. Total number of outfalls

C.2.4. Schedule:

a. Annually, 2018 – 2022

C.2.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

C.2.6. Rationale for choosing BMP and setting measurable goal(s):

The City needs an accurate inventory of its MS4 outfalls to implement an effective dry weather screening program. Ensuring that outfalls screened are actual MS4 outfalls will make the most efficient use of City resources.

C.2.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City will maintain the records of the number and types of illicit discharges eliminated through implementation of the dry weather screening program.

C.3. ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

C.3.1. Description of BMP

The City of Brunswick has established an IDDE Plan to inspect MS4 outfalls to determine if upstream facilities/connections are discharging non-stormwater flows to the drainage system and to eliminate those illicit discharges. A copy of the IDDE Plan is included in Appendix C.

The City will perform inspections and/or dry weather screening of the MS4 outfalls within its current inventory, and investigate any potential illicit discharges, in accordance with the procedures outlined in the IDDE Plan. Suspect or obvious illicit discharges require follow-up actions and activities, as specified in the IDDE Plan to determine the specific source(s) of contamination. Should the City positively identify any illicit discharges, the City will perform enforcement actions as dictated by the Illicit Discharge Ordinance, the IDDE Plan, and the City's Enforcement Response Plan (ERP) to remove positively identified illicit discharges. The City's ERP is included in Appendix E.

The City has established 5 screening districts that make up roughly 20% of the land area of the City. The City will complete the screening of outfalls in one district per year so that 100% of the inventory of MS4 outfalls is screened over a five-year period.

C.3.2. Measurable Goal(s):

a. Inspect and/or dry weather screen all outfalls in one zone per year so that 100% of outfalls are inspected within 5 years
b. Conduct field assessment and designate all outfalls in one zone per year as "wet" or "dry"
c. Investigate and perform source tracing for 100% of all suspected illicit discharges
d. Enforce the Stormwater Management Ordinance (w/Illicit Discharge provision), IDDE Plan, and ERP for 100% of positively identified illicit discharges

C.3.3. Documentation For Annual Report:

a. Number of MS4 outfalls inspected during the reporting period
b. Map and completed dry weather screening forms (Outfall Reconnaissance Inventory Form) for all MS4 Outfalls screened within the reporting period
c. Records of any source tracing or enforcement activities conducted as a result of dry weather screening activities

C.3.4. Schedule:

a. December 31, 2018 – Complete inspections and dry weather screening of MS4 Outfalls in Zone 1
b. December 31, 2019 – Complete inspections and dry weather screening of MS4 Outfalls in Zone 2
c. December 31, 2020 – Complete inspections and dry weather screening of MS4 Outfalls in Zone 3

d. December 31, 2021 – Complete inspections and dry weather screening of MS4 Outfalls in Zone 4
e. December 31, 2022 – Complete inspections and dry weather screening of MS4 Outfalls in Zone 5
f. Ongoing, 2018–2022: Perform source tracing and enforce Illicit Discharge Prohibition and ERP, as needed

C.3.5. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

C.3.6. Rationale for choosing BMP and setting measurable goal(s):
Dry weather screenings are useful in identifying illicit discharges and sources. Appropriate corrective and enforcement actions will be taken if an illicit discharge is detected.

C.3.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
The City will maintain the records of the number and types of illicit discharges investigated and eliminated through implementation of this BMP.

C.4. ILLICIT DISCHARGE EDUCATION

C.4.1. Description of BMP

The City has developed an illicit discharge education program to inform the public, government employees, businesses and industrial facilities of the hazards associated with illegal discharges and how to prevent them in the household and/or workplace. The City will continue to implement an illicit discharge educational program by including education information on illicit discharges on the stormwater webpage and addressing illicit discharges in its outreach to the public at least once per year. The Stormwater Webpage will encourage residents to report illicit discharges and illicit dumping, include telephone numbers to facilitate reporting as well as include a link to allow residents to report illicit discharges/dumping through the City's website. This BMP is closely related to the Public Education BMPs A.1-A.4 and IDDE BMP C.5.

C.4.2. Measurable Goal(s):

a. Annually include illicit discharge education information, including information about how to report illicit discharges, on the City's Stormwater Webpage
b. Provide educational handouts annually that address illicit discharge prevention either through the City's website and/or as handouts at City Hall

C.4.3. Documentation For Annual Report:

a. Number of webpage views
b. Screenshot of webpage
c. Copy of educational handouts provided through the city's website and/or as handouts

C.4.4. Schedule:

a. Annually, 2018 – 2022

C.4.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

C.4.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will increase public awareness on the negative effects of illicit discharges into streams and how to prevent these occurrences.

C.4.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City will establish an internal tracking mechanism to count the number of visitors that view and click on the Stormwater Webpage. This data will allow the City to track the number of visitors who view educational materials.

C.5. COMPLAINT RESPONSE

C.5.1. Description of BMP

The City of Brunswick has implemented a program for receiving, investigating, and tracking the status of illicit discharge complaints. Complaints can be made by calling the City's Public Works 24-Hour Dispatch Service or Code Enforcement Officers. Contact information for these staff is listed on the City's webpage. Stormwater complaints can also be reported electronically through the City's webpage link:

http://www.brunswickga.org/pw/new/contact.php.

Each complaint is logged through the City's Work Order database, investigated, and follow up activities are documented within 72 hours. All complaints received, the City's response, records of any investigation activities performed, and enforcement actions undertaken are recorded and this information is kept on file.

C.5.2. Measurable Goal(s):

a. Promote, publicize and facilitate public reporting of illicit discharges through the City's website
b. Investigate and take appropriate action for illicit discharge complaints within three (3) business days (72 hours)
c. Record illicit discharge complaints and actions, including the complaint date, type of complaint, and complaint status

C.5.3. Documentation For Annual Report

a. Summary of the illicit discharge complaints received (e.g. complaint date, type of complaint, complaint status) during the reporting period

C.5.4. Schedule:

a. Ongoing throughout the year, 2018 – 2022

C.5.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

C.5.6. Rationale for choosing BMP and setting measurable goal(s):

Illicit discharges may be more easily identified and corrected by providing the public with a way to report complaints. Public complaints are often the first indicator of an illicit discharge.

C.5.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City will maintain records of the number and types of illicit discharge complaints investigated and the number of illicit discharges eliminated through this BMP.

D. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

40 CFR Part 122.34(b)(4) Requirement: You must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Your program must include:

A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance;

B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

E) Procedures for receipt and consideration of information submitted by the public; and

F) Procedures for site inspection and enforcement of control measures.

See Table 4.2.4(a) of the NPDES Phase II MS4 permit

NOTE: The City of Brunswick is **not** a Local Issuing Authority (LIA) for Land Disturbance Activity (LDA) Permits as defined by the Georgia Erosion and Sedimentation Act (GESA). The Georgia EPD has determined that those local governments that do not have issuing authority for LDA Permits are not required to implement requirements of the Construction Site Stormwater Runoff Control Minimum Control Measure (MCM). The EPD and its staff are responsible for regulating, permitting, and enforcing State law for LDA Permits and the associated E&S requirements for the City of Brunswick.

D.1. LEGAL AUTHORITY

D.1.1. Description of BMP

The City of Brunswick has adopted an Erosion, Sedimentation and Pollution Control Ordinance (E&S Ordinance) to reduce pollutants in stormwater runoff to the MS4 from construction activities. A copy of this ordinance is included in Appendix B. As noted above, the City of Brunswick is currently not an LIA for LDA Permits as defined by GESA and therefore is not required to update its E&S Ordinance to comply with GESA. The City will review the E&S Ordinance annually to determine if any updates may be beneficial to control erosion from construction site activities. In addition, the E&S ordinance or another appropriate City ordinance will be updated by December 31st, 2018, to include requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.

D.1.2. Measurable Goal(s):

a. Review the E&S ordinance annually to determine if the City wishes to make any updates related to GESA standards
b. Update an appropriate ordinance to include requirements for construction site operators to control wastes
c. Submit a copy of the ordinance(s), if revised as detailed above, to the Georgia EPD with the subsequent Annual Report

D.1.3. Documentation For Annual Report:

a. Copy of ordinance, if revised during the reporting period

D.1.4. Schedule:

a. Update an appropriate ordinance to include requirements for construction site operators to control wastes: December 31, 2020
b. Ordinance review: Annually, 2018 – 2022

D.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

D.1.6. Rationale for choosing BMP and setting measurable goal(s):

Ordinances are necessary to provide the City with the authority to reduce construction activity pollutants from entering the City's MS4 and Waters of the State.

D.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

Through enforcement of land disturbance activities, construction sites will handle and dispose of wastes properly.

D.2. SITE PLAN REVIEW PROCEDURES

D.2.1. Description of BMP

The EPD and Natural Resources Conservation Service (NRCS) are responsible for reviewing all Erosion, Sedimentation, and Pollution Control (ES&PC) Plans for qualifying and development projects. ES&PC plans will be reviewed by the EPD and NRCS for compliance with the Manual for Erosion and Sedimentation Control in Georgia "Green Book".

D.2.2. Measurable Goal(s):

a. All qualifying developments within the City of Brunswick will have their ES&PC plans reviewed by EPD and NRCS.

D.2.3. Documentation For Annual Report:

The City is not an issuing authority; therefore, they do not review and approve ES&PC Plans in conjunction with a proposed land development project. ES&PC plan review and approval is the responsibility of the EPD.

D.2.4. Schedule:

The City is not an issuing authority; therefore, they do not review and approve ES&PC Plans in conjunction with a proposed land development project. ES&PC plan review and approval is the responsibility of the EPD.

D.2.5. Person (Position) Responsible for Overall BMP Management and Implementation:

The City is not an issuing authority; therefore, they do not review and approve ES&PC Plans in conjunction with a proposed land development project. ES&PC plan review and approval is the responsibility of the EPD.

D.2.6. Rationale for choosing BMP and setting measurable goal(s):

The City is not an issuing authority; therefore, they do not review and approve ES&PC Plans in conjunction with a proposed land development project. ES&PC plan review and approval is the responsibility of the EPD.

D.2.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City is not an issuing authority; therefore, they do not review and approve ES&PC Plans in conjunction with a proposed land development project. ES&PC plan review and approval is the responsibility of the EPD.

D.3. INSPECTION PROGRAM

D.3.1. Description of BMP

The EPD is responsible for conducting inspections of construction sites and enforcing E&S requirements. All projects with active land disturbance activities will be periodically inspected for compliance with the Georgia Erosion and Sedimentation Control Act and in general accordance with the City's E&S Ordinance by EPD staff.

D.3.2. Measurable Goal(s):

a. 100% of active development sites with ongoing land disturbance activities will be periodically inspected by EPD staff

D.3.3. Documentation For Annual Report:

The City is not an issuing authority; therefore, they are not responsible for conducting E&S inspections. This is the responsibility of the EPD.

D.3.4. Schedule:

The City is not an issuing authority; therefore, they are not responsible for conducting E&S inspections. This is the responsibility of the EPD.

D.3.5. Person (Position) Responsible for Overall BMP Management and Implementation:

The City is not an issuing authority; therefore, they are not responsible for conducting E&S inspections. This is the responsibility of the EPD.

D.3.6. Rationale for choosing BMP and setting measurable goal(s):

The City is not an issuing authority; therefore, they are not responsible for conducting E&S inspections. This is the responsibility of the EPD.

D.3.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City is not an issuing authority; therefore, they are not responsible for conducting E&S inspections. This is the responsibility of the EPD.

D.4. ENFORCEMENT PROCEDURES

D.4.1. Description of BMP

Because the City is not an LIA, the EPD is responsible for conducting inspections of construction sites, enforcing E&S requirements, and addressing enforcement requirements for for E&S violations related to NPDES construction permits. If an E&S violation is found, the City relies on the EPD as the primary enforcement agency.

To supplement the enforcement efforts undertaken by the EPD, the City, at its discretion, may implement enforcement procedures for E&S violations documented at construction sites in accordance with the E&S Ordinance included in Appendix B and the escalating series of enforcement mechanisms available to the City staff that are outlined in the City's ERP in Appendix E. This may include verbal warnings, written notices of violation (NOVs), stop work orders, and civil or criminal penalties. Violations may be investigated by the City and/or referred to the EPD for further enforcement and investigations.

D.4.2. Measurable Goal(s):

a. E&S-related violations will be enforced by the EPD, the primary enforcement agency since the City is not an LIA.
b. At its discretion, the City may implement enforcement actions for identified violations in accordance with E&S ordinance

D.4.3. Documentation For Annual Report

a. Documentation of any enforcement actions taken during the reporting period

D.4.4. Schedule:

a. Ongoing throughout the year, 2018-2022

D.4.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

D.4.6. Rationale for choosing BMP and setting measurable goal(s):

Effective enforcement of the City's E&S Ordinance is necessary to ensure that the City properly regulates land disturbance activities that occur within the jurisdiction.

D.4.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

The City will maintain records of the number and nature of enforcement actions taken by the City in accordance with the ERP. Documentation regarding any enforcement actions undertaken will be submitted to EPD in the Annual Report each year.

D.5. COMPLAINT RESPONSE

D.5.1. Description of BMP

The City of Brunswick has implemented a program for receiving, investigating, and tracking the status of E&S-related complaints. Complaints can be made by calling the City's Public Works 24-Hour Dispatch Service or Code Enforcement Officers. Contact information for these staff is listed on the City's webpage. Stormwater complaints can also be reported electronically through the City's webpage link:

http://www.brunswickga.org/pw/new/contact.php.

Each complaint is logged through the City's Work Order database, investigated, and follow up activities are documented within 72 hours. All complaints received, the City's response, records of any investigation activities performed, and enforcement actions undertaken are recorded and this information is kept on file. Depending on the nature of the complaint, the City may contact the Georgia EPD for investigation and enforcement follow-up or the City may elect to investigate and follow-up with the complaint.

D.5.2. Measurable Goal(s):

a. Promote, publicize and facilitate public reporting of E&S-related complaints through the City's website
b. Investigate and take appropriate action for E&S-related complaints within three (3) business days (72 hours)
c. Record E&S complaints and actions, including the complaint date, type of complaint, and complaint status

D.5.3. Documentation For Annual Report:

a. Copy of the Stormwater Complaint database with all complaints received (e.g. complaint date, type of complaint, complaint status) during the reporting period

D.5.4. Schedule:

a. Ongoing throughout the year, 2018-2022

D.5.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

D.5.6. Rationale for choosing BMP and setting measurable goal(s):

E&S problems may be more easily identified and corrected by providing the public a way to report complaints.

D.5.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

The City will maintain records of the number and types of E&S complaints received and investigated through implementation of this BMP.

D.6. CERTIFICATION

D.6.1. Description of BMP

GESA now requires all local government employees involved with plan review, site inspections, or E&S Ordinance enforcement, as well as construction site operators to undergo the applicable training seminars developed by the Georgia Soil and Water Conservation Commission (GSWCC). The City of Brunswick requires all applicable staff to receive this training as soon as possible after the start of their employment.

D.6.2. Measurable Goal(s):

a. Applicable MS4 staff will receive E&S training

D.6.3. Documentation For Annual Report:

a. Proof of certification for applicable employees, including the number and type of current certifications will be provided, via printouts from the Georgia Soil and Water Conservation Commission website

D.6.4. Schedule:

a. Certifications will be renewed as needed based on certification expiration dates

D.6.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

D.6.6. Rationale for choosing BMP and setting measurable goal(s):

By requiring certification for City employees and construction site operators, the City will ensure that ES&PC Plans are correctly designed and implemented on each active construction site.

D.6.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

This BMP ensures that E&S BMPs are installed correctly to prevent sediment from leaving construction sites. State law mandates that discharges from developing sites cannot increase the TSS in the receiving stream by more than 25 NTUs so implementation of the approved ES&PC plan should help to achieve that water quality goal. The City will require that all personnel involved in E&S activities maintain their certifications and seek re-certification in accordance with the requirements of the GSWCC.

E. POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT & REDEVELOPMENT

40 CFR Part 122.34(b)(5) Requirement: You must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. You must:

A) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community;

B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development or redevelopment projects; and

C) Ensure adequate long-term operation and maintenance of BMPs.

The BMPs listed below address the requirements above in accordance with the guidelines included in Table 4.2.5(a) of the NPDES Phase II MS4 permit.

E.1. LEGAL AUTHORITY

E.1.1. Description of BMP

The City has established legal authority to enforce a program to address stormwater runoff into the MS4 from new development and redevelopment projects through the adoption of Post Construction Stormwater Runoff standards that are included in the City's Stormwater Management Ordinance (Chapter 22A, Article III). A copy of the City's Stormwater Management Ordinance is included in Appendix B.

This ordinance requires the use of post-construction stormwater management and site planning and design criteria to protect stormwater from negative impacts associated with land development, including the stormwater design criteria established in the Coastal Stormwater Supplement (CSS) to the Georgia Stormwater Management Manual (GSMM). The ordinance and design manual apply to new development and redevelopment that creates or adds more than 5,000 square feet of impervious surface or that involves land disturbing activities of 1 acre or more, including projects less than 1 acre if they are part of a larger common plan of development or sale.

The City will apply their adopted performance standards during the design of City-construction projects, with the possible exception of linear projects. If the City designs a linear construction project, for which it would be impossible to apply the performance standards, the City will develop a feasibility program which sets reasonable criteria for determining when implementing

performance standards for linear projects is infeasible. This will be submitted to EPD and applied to future linear construction projects only upon approval.

The City will review and update its current Stormwater Management Ordinance to ensure that its design criteria and performance standards are consistent with the latest version of the GSMM and the requirements of Section 4.2.5.1 of the permit by December 6, 2020.

After that update is complete, the City will continue to review its Stormwater Management Ordinance annually and revise it as needed to ensure appropriate post-construction stormwater controls are in place and submit a copy of the ordinance, if revised, to the Georgia EPD with the Annual Report.

E.1.2. Measurable Goal(s):

a. Enforce the use of the Post-Construction Standards in the City's Stormwater Management Ordinance for applicable development and redevelopment
b. Annually evaluate the City's Stormwater Management Ordinance for post-construction stormwater runoff requirements to determine if revisions are required
c. Update the ordinance, if required
d. If and when needed, develop linear project feasibility program to apply to future linear projects

E.1.3. Documentation For Annual Report:

a. Updated Post-Construction Standards / Stormwater Management Ordinance, if revised during the reporting period
b. If developed, linear project feasibility program

E.1.4. Schedule:

a. Enforce the use of the Stormwater Management Ordinance, Post-Construction Standards during plan review: Ongoing, 2018–2022
b. Review of Stormwater Management Ordinance, Post-Construction Standards: Annually, 2018–2022
c. If and when needed, develop linear project feasibility program, and submit to EPD for approval
d. Update ordinance no later than December 6, 2020

E.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

E.1.6. Rationale for choosing BMP and setting measurable goal(s):
Ordinances are an effective way to establish performance standards for runoff controls. In order to protect the environment from stormwater runoff impacts all new developments and redevelopment site plans have to address stormwater runoff quality and quantity impacts resulting from alteration of the landscape. The City's ordinance will promote the design and

construction of structural and non-structural BMPs that will control and reduce the impacts of stormwater runoff from newly constructed and redeveloped sites.

E.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit:

The legal authority provides the City with the tools to regulate, identify, address, and correct potential stormwater issues. By taking a better site design approach to stormwater management plan design, the City will ensure that new and re-development projects comply with applicable post construction stormwater management requirements related to water quality.

E.2. INVENTORY

E.2.1. Description of BMP

The City of Brunswick has developed a Post-Construction Stormwater Inspection and Maintenance Program that details the City's procedures for inventorying, inspecting, and maintaining public and private stormwater management structures, including detention/retention ponds and water quality vaults. A copy of this Program is provided in Appendix D.

The City maintains an inventory of stormwater detention/retention ponds and water quality vaults. The inventory includes the number and type of structures, and ownership information (whether the structures are publicly- or privately-owned). The inventory identifies all ponds and vaults owned and/or maintained by the City regardless of construction date. The inventory also lists privately-owned structures, and public structures owned by an entity other than City that were designed and constructed after December 9, 2008.

The inventory will be updated at least annually as new structures are completed or existing structures are identified in accordance with the City's Post-Construction Stormwater Inspection and Maintenance Program Procedures provided in Appendix D.

E.2.2. Measurable Goal(s):

a. Update inventory annually as new development and redevelopment occur, and existing structures are identified (detention/retention ponds and water quality vaults)

E.2.3. Documentation For Annual Report:

a. Updated inventory of post construction stormwater management structures, including structures added during the reporting year

E.2.4. Schedule:

a. Annually, 2018 – 2022

E.2.5. Person (position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.2.6. Rationale for choosing BMP and setting measurable goal(s):

Developing an inventory of stormwater detention/retention ponds and vaults is necessary to ensure continued maintenance and assist with inspection and maintenance procedures.

E.2.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit:

Routine inspection and required maintenance ensure that stormwater management structures continue to function to effectively treat stormwater runoff.

E.3. INSPECTION PROGRAM

E.3.1. Description of BMP

The City of Brunswick has developed inspection procedures for stormwater management structures, including detention/retention ponds and water quality vaults. A copy of these procedures is provided in Appendix D.

Once construction of the structure is complete, the City Public Works department will inspect each BMP to determine if they are still in place, and to determine if maintenance is required. The City will inspect 100% of the inventoried ponds over the five-year permit period (2018 – 2022) with at least 5% of the structures inspected annually. As the inventory is updated, the number of inspections will be modified to reflect the current number of facilities.

E.3.2. Measurable Goal(s):

a. Inspect 100% of public and private stormwater management structures on the City's inventory (detention/retention ponds and water quality vaults) during this permit period
b. Inspect at least 5% of the stormwater management structures on the inventory annually (at a minimum)

E.3.3. Documentation For Annual Report:

a. Copies of stormwater management structure inspection checklists

E.3.4. Schedule:

a. Annual inspections, 2018-2022

E.3.5. Person (position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.3.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP allows the City to ensure that stormwater management structures are operating effectively to remove pollutants.

E.3.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

Routine inspection and required maintenance ensure that stormwater management structures continue to function to effectively treat stormwater runoff.

E.4. MAINTENANCE PROGRAM

E.4.1. Description of BMP:

In order to compel the maintenance of privately-owned detention/retention ponds and stormwater water quality vaults, the City adopted Post-Construction Standards, as detailed in BMP E.1 above, that require private owners to maintain their structural controls. The ordinance requires development projects that include stormwater management structures to develop a Maintenance Covenant that must be approved with the Stormwater Management Site Plan. The Post-Construction Standards and the Maintenance Covenant provide the City with the authority to inspect private stormwater facilities to ensure that they are being maintained in accordance with the Covenant. Detailed inspection and maintenance procedures are outlined in the City's revised Post-Construction Stormwater Inspection and Maintenance Program provided in Appendix D. This applies to all privately-owned post-construction structures with construction completed after December 6, 2012. From 2012-2019 the City obtained maintenance agreements for approximately one-third of privately-owned post-construction structures. From this point forward the City will obtain maintenance agreements on all new post-construction structures.

When issues are identified from an inspection, the City will send a letter to the affected private or public/non-City property owners notifying them of the findings of the inspection along with a timeframe for completion of repairs. Where maintenance agreements exist, the City will enforce maintenance via its stormwater ordinance; otherwise, the City will complete the maintenance if the property owner does not act on the request.

Where feasible the City will also encourage other public entities that own/operate stormwater management controls to sign an Inspection and Maintenance Agreement and properly maintain stormwater structures in accordance with the procedures and timetable outlined in the City's Inspection and Maintenance Program Procedures.

The City of Brunswick also has the responsibility to inspect and maintain stormwater facilities/ponds that are either on City property, if any, or have been accepted by the City for maintenance (or have not obtained a maintenance agreement). The City will perform maintenance activities based on the results of the inspection and in accordance with its Inspection and Maintenance procedures.

E.4.2. Measurable Goal(s):

a. Implement the Post-Construction Stormwater Inspection and Maintenance Program included in Appendix D of this Plan
b. Maintain 100% of City-owned or maintained stormwater management structures (ponds and vaults) as needed and identified through inspections over a five-year period
c. Ensure that 100% of all private stormwater management structures, as well as structures owned by public entities other than the City (where feasible), are designed in accordance with the City's Post-Construction Standards and have a Maintenance and Inspection Agreement

d. Notify private owners (and public entities, where feasible/if applicable) with Maintenance Covenants of pond/vault maintenance needs identified through inspection

E.4.3. Documentation for Annual Report:

a. Documentation (via Excel spreadsheet summaries) of maintenance activities conducted by the City or their designated representative, including a list of structures maintained and type of maintenance
b. Documentation of communication with owners of privately-owned detention/retention ponds and stormwater water quality vaults (e.g., letters to owners)
c. Copy of Maintenance Covenants with Private or Public Entities (excluding the City) that own/operate/maintain stormwater management structures, including a summary list of these maintenance agreements

E.4.4. Schedule:

a. Implement Post-Construction Stormwater Inspection and Maintenance Program, including inspection and maintenance of structures: Ongoing, 2018–2022 (see Program in Appendix D for specific timelines and schedules)

E.4.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.4.6. Rationale for choosing BMP and setting measurable goal(s):

By requiring developers/property owners to develop plans for inspecting and maintaining their detention ponds or other stormwater facilities through a Maintenance Covenant, the City has the legal means to ensure that these facilities will be maintained and function properly after construction is complete.

E.4.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit:

Detention/retention ponds are supposed to be designed to remove 80% of TSS. Routine inspection and appropriate maintenance ensure that ponds continue to function to meet this water quality goal.

E.5 GREEN INFRASTRUCTURE / LOW IMPACT DEVELOPMENT (GI/LID) STRUCTURE INVENTORY

E.5.1. Description of BMP

The City of Brunswick maintains an inventory of GI/LID structures constructed after December 6, 2012 that are located within City limits. The inventory includes, at a minimum, the number, type, and general location of GI/LID structures such as bioswales, pervious pavements, rain gardens, cisterns, green roofs, and any other structure deemed appropriate by the City that are owned by the City of Brunswick, other public entities, and privately-owned non-residential GI/LID structures. The inventory will be updated at least annually as new GI/LID structures are constructed or existing structures are identified.

E.5.2. Measurable Goal(s):

a. Annually update inventory as new GI/LID structures are constructed or existing structures are identified

E.5.3 Documentation For Annual Report:

a. Updated inventory, including structures added during the reporting year

E.5.4. Schedule:

Annually, 2018 – 2022

E.5.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.5.6 Rationale for choosing BMP and setting measurable goal(s):

GI/LID BMPs are a way to manage stormwater in a natural environment and increase onsite infiltration to reduce runoff. Tracking GI/LID structures can help determine their effectiveness at improving water quality and help the City to promote GI/LID practices. Building codes, municipal code, or other regulations which prohibit the use of GI/LID BMPs could negatively affect water quality.

E.5.7 How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

Each type of GI/LID practice has an estimated pollutant removal efficiency. By encouraging the incorporation of these types of practices in new and redevelopment, the City can estimate the amount of pollutants being removed through these practices.

E.6. GI/LID PROGRAM

E.6.1. Description of BMP

The City of Brunswick has been designated as a permittee with a population exceeding 10,000 by the Georgia EPD and is therefore required to develop a GI/LID Program that meets the requirements specified in Table 4.2.5(a).6 of the facility's Phase II MS4 permit. To meet these requirements, the City will develop a GI/LID program that includes procedures for evaluating the feasibility and site applicability of different GI/LID techniques, allowable GI/LID structures, and procedures for the inspection and maintenance of the GI/LID structures. A copy of this program will be inserted into Appendix G of this Plan and submitted to the Georgia EPD for approval by February 15, 2020.

E.6.2. Measurable Goal(s):

a. Develop and implement a GI/LID Program that meets the requirements specified in Table 4.2.5(a).6 of the facility's Phase II MS4 permit
b. Include the GI/LID Program in the City's SWMP

E.6.3. Documentation For Annual Report:

a. Copy of GI/LID Program for review and approval by February 15, 2020
b. Thereafter, copy of the GI/LID Program if revised during the reporting period

E.6.4. Schedule:

a. Interim Milestone Dates: February 15, 2020
b. Implementation Date: 2020
c. Frequency of Actions: Ongoing after 2020
d. Month/Year of Each Action: Ongoing after 2020

E.6.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.6.6. Rationale for choosing BMP and setting measurable goal(s):

GI/LID BMPs are a way to manage stormwater in a natural environment and increase onsite infiltration to reduce runoff. Tracking GI/LID structures can help determine their effectiveness at improving water quality and help the City to promote GI/LID practices. Building codes, municipal code, or other regulations which prohibit the use of GI/LID BMPs could negatively affect water quality.

E.6.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit:

Each type of GI/LID practice has an estimated pollutant removal efficiency. By encouraging the incorporation of these types of practices in new and redevelopment, the City can estimate the amount of pollutants being removed through these practices

E.7. GI/LID INSPECTION AND MAINTENANCE PROGRAM

E.7.1. Description of BMP

The City of Brunswick has been designated as a permittee with a population exceeding 10,000 by the Georgia EPD and is therefore required to develop a GI/LID Program that meets the requirements specified in Table 4.2.5(a).6 of the facility's Phase II MS4 permit and described above in BMP E.6.

Beginning in 2020, the City of Brunswick will also implement inspection and maintenance procedures as part of its GI/LID program. This will include the following as specified in Table 4.2.5(a).7 of the facility's Phase II MS4 permit:

a) Conduct inspections and/or ensure inspections are conducted on 100% of the GI/LID inventory identified in BMP E.5 in accordance with the schedule specified by the GI/LID Program in BMP E.6
b) Conduct maintenance on the permittee-owned GI/LID structures as needed
c) Implement the maintenance procedures specified by the GI/LID Program in BMP E.6 to ensure publicly-owned structures owned by other entities and privately-owned non-residential GI/LID structures are maintained as needed

E.7.2. Measurable Goal(s):

a. Develop and implement GI/LID inspections and maintenance that meets the requirements specified in Table 4.2.5(a).7 of the facility's Phase II MS4 permit

E.7.3. Documentation For Annual Report:

a. Copy of GI/LID inspection checklists
b. The number of structures and percentage of the total structures maintained during the reporting period
c. Documentation of activities taken to ensure proper maintenance of publicly-owned GI/LID structures owned by other entities and privately-owned non-residential GI/LID structures

E.7.4. Schedule:

a. 2020 and annually thereafter as specified by the City's GI/LID Program

E.7.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

E.7.6. Rationale for choosing BMP and setting measurable goal(s):

GI/LID BMPs are a way to manage stormwater in a natural environment and increase onsite infiltration to reduce runoff. Tracking GI/LID structures can help determine their effectiveness at improving water quality and help the City to promote GI/LID practices. Building codes, municipal code, or other regulations which prohibit the use of GI/LID BMPs could negatively affect water quality.

E.7.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit:

Each type of GI/LID practice has an estimated pollutant removal efficiency. By encouraging the incorporation of these types of practices in new and redevelopment, the City can estimate the amount of pollutants being removed through these practices.

F. POLLUTION PREVENTION/ GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

40 CFR Part 122.34(b)(6) Requirement: You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials available from the USEPA and other organizations as guidance, the permittee must, as a part of this program, include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

The BMPs listed below address the requirements above in accordance with the guidelines included in Table 4.2.6(a) of the NPDES Phase II MS4 permit.

F.1. MS4 CONTROL STRUCTURE INVENTORY AND MAP

F.1.1. Description of BMP

The City's MS4 is made up of the structures and facilities that are used for collecting, conveying, storing and/or treating stormwater from the source drainage area to the point of final outlet. The City's NPDES Phase II Small MS4 Permit defines a MS4 as follows:

"Municipal Separate Storm Sewer System or an MS4 means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains, owned or operated by a municipality or other public body, designed or used for collecting or conveying storm water runoff and is not a combined sewer or part of a Publicly Owned Treatment Works."

The City has developed an inventory and map of the MS4 control structures within the City's permitted area. This inventory is in GIS format. Catch basins, ditches, detention/retention ponds, and storm drain lines are included in this inventory. The City's inventory of MS4 control structures is updated annually as new structures are added or identified, and submitted to EPD in the Annual Report.

F.1.2. Measurable Goal(s):

a. Maintain and annually update an inventory and map of the City's MS4 control structures, including catch basins, ditches, City-owned detention/retention ponds, and storm drain lines

F.1.3. Documentation For Annual Report:

a. Updated MS4 control structure inventory and map, at a minimum including catch basins, ditches, City-owned detention/retention ponds, and storm drain lines
b. Total number of MS4 structures added during the reporting period

c. Total number of MS4 structures

F.1.4. Schedule:

a. Annually, 2018-2022

F.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

F.1.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP provides the information necessary for the City of Brunswick to implement the MS4 Inspection and Maintenance Program.

F.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The MS4 must function as designed in order to reduce pollutants discharged from the system. Routine inspection and appropriate maintenance ensure that the MS4 continues to function to meet this water quality goal.

F.2. MS4 INSPECTION PROGRAM

F.2.1. Description of BMP

The City of Brunswick has adopted a five (5) zone approach to inspections of the MS4 that allows for these activities to address 100% of the MS4 over five (5) years. The City has divided the MS4 into five (5) operational zones to balance the MS4 structures across each zone. The City will perform inspections of the MS4 structures within one zone per year, rotating the zones each year, to ensure that 100% of the structures will be inspected within the five-year permit term. A map illustrating these zones is included in Appendix F. The City inspects and maintains the stormwater drainage systems within the right-of-way (ROW) as well as stormwater controls on property owned by the City or within an easement with an express acceptance by the City.

Inspections on inlets, pipes, and ditches will be documented through an electronic field collection application that is downloaded on an electronic device, such as a Tablet, and recorded within the City's GIS layer. The description of information collected in the GIS database for inlets, pipes, and ditches, as well as sample inspection forms are included in Appendix D.

F.2.2. Measurable Goal(s):

a. Inspect the MS4 structures (at a minimum, catch basins, ditches, City-owned detention/retention ponds, and storm drain lines) in one zone per year so that 100% of structures are inspected within 5 years, and at least one structure is inspected each year.

F.2.3. Documentation For Annual Report:

a. Copy of inspection records
b. The number and percentage of structures inspected during the reporting period

F.2.4. Schedule:

a. December 31, 2018 – Complete MS4 Inspections in Zone 1
b. December 31, 2019 – Complete MS4 Inspections in Zone 2
c. December 31, 2020 – Complete MS4 Inspections in Zone 3
d. December 31, 2021 – Complete MS4 Inspections in Zone 4
e. December 31, 2022 – Complete MS4 Inspections in Zone 5

F.2.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.2.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP allows the City of Brunswick to ensure that the MS4 is functioning properly and to reduce the pollutants discharged from the system.

F.2.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The MS4 must function as designed in order to reduce pollutants discharged from the system. Routine inspection and appropriate maintenance ensure that the MS4 continues to function to meet this water quality goal.

F.3. MS4 MAINTENANCE PROGRAM

F.3.1. Description of BMP

The City will perform maintenance activities based on the results of the MS4 control structure inspections. Maintenance may include debris removal, cleaning of inlet and outlet structures, sediment and vegetation removal, and earthwork activities. Maintenance activities will be recorded in maintenance logs.

F.3.2. Measurable Goal(s):

a. Maintain MS4 structures as needed, and as funding is available

F.3.3. Documentation For Annual Report:

a. Summary of maintenance activities and/or copy of maintenance logs
b. Number and type of each structure maintained during the reporting period

F.3.4. Schedule:

a. Ongoing as needed, 2018-2022

F.3.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.3.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP allows the City to ensure that the MS4 is functioning properly and to reduce the pollutants discharged from the system.

F.3.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The MS4 must function as designed in order to reduce pollutants discharged from the system. Routine inspections and appropriate maintenance ensure that the MS4 continues to function to meet this water quality goal.

F.4. STREET AND PARKING LOT CLEANING

F.4.1. Description of BMP

The City conducts street sweeping to keep leaves and debris from being washed into the City's MS4 structures from City streets and/or public parking lots. Street sweeping is conducted in accordance with the Street Sweeping Procedures included in Appendix D.

The City also has an established littler pick-up program in partnership with KGIB as detailed in BMP B.1 as part of the City's Public Involvement Program. Volunteers pick up trash at dedicated outreach events in the community to prevents trash and other debris from washing into the City's stormwater system, marshes, and waterways. Debris and litter is collected and appropriately disposed of or recycled.

F.4.2. Measurable Goal(s):

a. Sweep at least one mile of City streets
b. Sweep all public parking lots per year

F.4.3. Documentation For Annual Report:

a. Documentation of street sweeping activities, including the total number of miles swept during the reporting period, using work log sheets

F.4.4. Schedule:

a. Ongoing throughout the year, 2018-2022

F.4.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.4.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will reduce the amount of litter and other pollutants being discharged from City streets into the MS4.

F.4.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The removal of trash and debris from streets will indicate that this BMP is effective.

F.5. EMPLOYEE TRAINING

F.5.1. Description of BMP

The City of Brunswick will facilitate one (1) training session per year for City employees who are involved in implementation of the SWMP. The employee training will address topics such as good housekeeping for municipal operations and facilities, illicit discharge detection, and GI/LID practices. Alternatively, City staff may attend an established offsite training program that address stormwater issues.

F.5.2. Measurable Goal(s):

a. Provide annual training for employees
b. Document educational training events

F.5.3. Documentation For Annual Report:

a. Documentation of training activities, including a summary of training materials or training agenda, and sign-in sheets used for documenting employee participation
b. Name and number of training attendees and date of training

F.5.4. Schedule:

a. Annually, 2018-2022

F.5.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.5.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will help prevent water quality impacts due to activities undertaken by employees during municipal operations.

F.5.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

Good housekeeping improvements at municipal facilities will indicate that the training program is effective.

F.6. WASTE DISPOSAL

F.6.1. Description of BMP

The City of Brunswick will properly dispose of wastes including litter, debris, sediment, and other pollutants, removed from the drainage system during maintenance, street sweeping, litter pickup, or any other municipal activity. Waste collected from municipal sweeping and cleanup activities will be tracked will be disposed of properly in a permitted solid waste landfill. Uncontaminated soils and sediment will be used as needed as fill material; it will not be left unsecured to erode back into the storm drainage system.

F.6.2. Measurable Goal(s):

a. Properly dispose of 100% of wastes removed from the MS4

F.6.3. Documentation For Annual Report:

a. Records of the amount of waste disposed of at the landfill and/or removed from the MS4

F.6.4. Schedule:

a. Ongoing, 2018-2022

F.6.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.6.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP ensures wastes resulting from stormwater management activities are disposed of appropriately and prevented from re-entering MS4.

F.6.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The City will keep records of debris disposed of at the landfill.

F.7. NEW FLOOD MANAGEMENT PROJECTS

F.7.1. Description of BMP

The City will ensure that all new flood control projects are assessed for water quality impacts. For the purposes of this BMP, the City interprets "Flood Control Projects" to refer to stormwater management structures such as detention/retention ponds and water quality vaults. All new developments will be required to comply with the City's Post-Construction Stormwater Management Ordinance, which require that stormwater management controls address water quality as well as water quantity protection.

F.7.2. Measurable Goal(s):

a. Ensure 100% of new flood control projects comply with the City ordinance

F.7.3. Documentation For Annual Report:

a. Number of plans reviewed where flood management projects were assessed for water quality impacts during the reporting period

F.7.4. Schedule:

a. Ongoing, 2018-2022

F.7.5. Person (Position) Responsible for Overall Management and Implementation:

Public Works Director

F.7.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will improve the water quality treatment potential of flood control projects throughout the City.

F.7.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

The GSMM provides pollutant removal efficiencies for all types of detention/retention facilities constructed or retrofitted in accordance with the GSMM standards. The City will provide information in the annual report on the number of new stormwater management structures constructed in accordance with GSMM standards.

F.8. EXISTING FLOOD MANAGEMENT PROJECTS

F.8.1. Description of BMP

The City developed Water Quality Assessment Procedures to ensure that existing City flood management projects (i.e., detention and retention ponds) are assessed for potential retrofitting to address water quality impacts. These Procedures, which were approved by the Georgia EPD during the last permit period, have been revised to meet the requirements of the City's most recent MS4 Phase II permit. The City's revised Water Quality Assessment Procedures for Existing Flood Management Projects are provided in Appendix D.

The City will perform Water Quality Assessments for all City-owned detention and retention ponds during the 5-year permit period to assess the potential to retrofit these publicly-owned structures to incorporate additional control measures to improve water quality treatment. The assessment will also analyze the facility's compliance with the City's Post-Construction Stormwater Management Ordinance, which requires that stormwater management controls address specified water quality as well as water quantity criteria. Retrofitting activities will be conducted as specified in the Water Quality Assessment Procedures in Appendix D.

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F.8.2. Measurable Goal(s):

a. Perform Water Quality Assessment for 100% of City-owned detention and retention ponds within the 5-year permit period
b. Evaluate potential retrofitting, if applicable

F.8.3. Documentation For Annual Report:

a. Records of any assessment and/or retrofitting activities conducted during the reporting period

F.8.4. Schedule:

a. Complete 100% of assessments, 2018–2022

F.8.5. Person (position) responsible for overall management and implementation of the BMP:

Public Works Director

F.8.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will improve the water quality treatment potential of existing flood control projects undertaken and funded by the City.

F.8.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

The GSMM provides water quality BMP design criteria and pollutant removal efficiencies for all types of flood control projects constructed or retrofitted in accordance with the GSMM standards. The City will provide information in the annual report on the number of existing flood control projects assessed and the number of flood control projects retrofitted to meet GSMM standards.

F.9. MUNICIPAL FACILITIES

F.9.1. Description of BMP

The facility has developed an inventory of municipal facilities with the potential to cause pollution. This inventory will be updated at least annually. The City will inspect 100% of all municipal facilities with the potential to contribute pollutants to the MS4 within the 5-year permit and, at a minimum, inspect 5% of the municipal facilities annually. Inspections will be completed and documented using the Municipal Facility Inspection Form included in Appendix D.

F.9.2. Measurable Goal(s):

a. Update inventory of municipal facilities with the potential to cause pollution annually
b. Inspect 100% of identified municipal facilities during the 5-year permit period (minimum of 5% inspected each year)
c. Document inspections

F.9.3. Documentation For Annual Report:

a. Updated list of municipal sites (if any)
b. Copy of the Municipal Facility Inspection form for each site inspected during the reporting period

F.9.4. Schedule:

a. Annual inspections, 2018-2022

F.9.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

F.9.6. Rationale for choosing BMP and setting measurable goal(s):

This BMP will prevent or identify and remove illicit discharges from municipal facilities and improve general good housekeeping practices.

F.9.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit

Corrective actions made as a result of inspections will indicate that this BMP is effective.

G. ENFORCEMENT RESPONSE PLAN

G.1. ENFORCEMENT RESPONSE PLAN (ERP)

G.1.1. Description of BMP

The City of Brunswick has developed and will continue to implement its ERP, which specifies the types of enforcement mechanisms the City will undertake, escalation of enforcement, time frames for investigation, and an administrative fine schedule. The ERP, included in Appendix E, was approved by the Georgia EPD during the former permit cycle. The City will review the ERP annually and revise it as necessary. If the ERP is revised, the City will submit it to EPD for review.

G.1.2. Measurable Goal(s):

a. Implement enforcement actions as stipulated in the City's ERP
b. Review the ERP annually to determine if any updates are needed

G.1.3. Documentation for Annual Report:

a. Copy of ERP, if updated during the reporting period

G.1.4. Schedule:

a. Ongoing, 2018-2022: ERP implementation
b. Annually, 2018-2022: Review and update, if needed, of ERP

G.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:

Public Works Director

G.1.6. Rationale for choosing BMP and setting measurable goal(s):

Effective enforcement of the City ordinances is necessary to ensure that they appropriately regulate various aspects of the SWMP to protect water quality.

G.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?

As part of its annual review process, the City will evaluate enforcement actions taken throughout the year to determine to determine if these actions have successfully reduced stormwater pollution and/or reduced stormwater violations.

H. IMPAIRED WATERS MONITORING AND IMPLEMENTATION PLAN

H.1. MONITORING AND IMPLEMENTATION PLAN

H.1.1. Description of BMP

The City of Brunswick has developed a Waters Monitoring and Implementation Plan for all 305(b)/303(d) listed waters to reduce the pollutant of concern (POC) in each impaired segment, including water quality monitoring and BMP implementation. The City is still waiting for the Georgia EPD to review and approve the Impaired Waters Monitoring and Implementation Plan submitted during the former permit cycle. For more information regarding best management practices designed to address water quality impairments, please see the draft Impaired Water Body Monitoring and Implementation Plan in Appendix H. Upon approval of this plan by EPD, the City will begin implementation.

The City will annually review the latest 305(b)/303(d) list to determine if any new impaired waters have been added. If there are newly-listed impaired waters, or if the City changes its procedures, the City will revise the Impaired Waters Monitoring and Implementation Plan to address the POC and incorporate the information required by Section 4.4.2 of the Phase II MS4 permit.

H.1.2. Measurable Goal(s):

a. Approval by EPD of the Impaired Waters Monitoring Plan
b. Implement the Impaired Waters Monitoring and Implementation Plan
c. Review the Monitoring and Implementation Plan annually to determine if any updates are needed, including the latest 305(b)/303(d) list to determine if any new impaired waters have been added

H.1.3. Documentation for Annual Report:

a. Copy of Impaired Waters Monitoring and Implementation Plan, if updated during the reporting period
b. Monitoring Data
c. Assessment of data trends over time for each POC
d. Assessment to determine the effectiveness of the BMPs and if any additional BMPS are necessary

H.1.4. Schedule:

a. Ongoing, 2018-2022: Impaired Waters Monitoring and Implementation Plan
b. Annually, 2018-2022: Review and update, if needed, of Monitoring and Implementation Plan

H.1.5. Person (Position) Responsible for Overall BMP Management and Implementation:
Public Works Director

H.1.6. Rationale for choosing BMP and setting measurable goal(s):
Identifying and implementing BMPs targeted at the POC(s) will help to address known water quality impairments within local streams.

H.1.7. How will the City determine whether this BMP is effective in reducing pollution to stormwater in accordance with Part 5.1.4 of the Permit?
Prioritized implementation of BMPs targeted at the POC of listed waterways should improve water quality conditions within these waterways.

APPENDIX A

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334
404-463-1511

GEORGIA NOTICE OF INTENT (GaNOI)

General NPDES Permit No. GAG610000 for
Phase II Municipal Separate Storm Sewer Systems (MS4)

1. General Information

A. Name of small MS4: **City of Brunswick**

B. If the MS4 is a City, provide the County where located: **Glynn County**

C. Provide the river basin(s) to which your MS4 discharges: **_Brunswick River, East River**

D. Name of responsible official: **James Drumm**
Title: **City Manager**
Mailing Address: **PO Box 550**
City: **Brunswick** State: **Georgia** Zip Code: **31520**
Telephone Number: **912-267-5500**
Email Address: **jdrumm@cityofbrunswick-ga.gov**

E. Designated stormwater management program contact:
Name: **Rick Charnock**
Title: **Assistant Public Works Director**
Mailing Address: **525 Lakewood Ave**
City: **Brunswick** State: **Georgia** Zip Code: **31520**
Telephone Number: **912-267-5572**
Email Address: **rcharnock@cityofbrunswick-ga.gov**

2. Sharing Responsibility

A. Has another entity agreed to implement a control measure or BMP on your behalf?
Yes_____ No___**X**____ (If No, skip to Part 3)

Control Measure #1:

1. Name of entity_____

2. Control measure or component of control measure to be implemented by entity on your behalf:
_____
_____

B. Attach an additional page if necessary to list additional shared responsibilities. **It is mandatory that you submit a copy of a written agreement between your MS4 and the other entity demonstrating written acceptance of responsibility.**

3. Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: **James Drumm** Date: _____

Signature: _____ Title: **City Manager**

General NPDES
Stormwater Permit
No. GAG610000

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STORM WATER DISCHARGES ASSOCIATED WITH SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

In compliance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the "State Act," the Federal Clean Water Act, as amended (33 U.S.C. 1251 et seq.), hereinafter called the "Clean Water Act," and the Rules and Regulations promulgated pursuant to each of these Acts, all new and existing stormwater point sources associated with small municipal separate storm sewer systems, upon submittal of a Georgia Notice of Intent, are authorized to discharge stormwater to the waters of the State of Georgia in accordance with the limitations, monitoring requirements and other conditions set forth in Parts 1 through Appendix B hereof.

This permit shall become effective on December 6, 2017.

This permit and the authorization to discharge shall expire at midnight, December 5, 2022.

Signed this 15 **day of** Nov **2017.**

Director,
Environmental Protection Division

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PART 1. COVERAGE UNDER THIS PERMIT

1.1 Coverage

1.1.1 This permit covers all new and existing point source discharges of stormwater from a small municipal separate storm sewer system (MS4) as defined in Title 40 of the Code of Federal Regulations (CFR) Part 122.26 (b)(16) to the waters of the State of Georgia, except for those stormwater discharges identified under Part 1.1.4.

1.1.2 The permittee is authorized to discharge stormwater under the terms and conditions of this general permit if it:

1.1.2.1 Owns or operates an MS4 within the permitted area; and

1.1.2.2 Is not a "large" or "medium" MS4 as defined in 40 CFR Part 122.26(b)(4) or (7); and

1.1.2.3 Submits a Georgia Notice of Intent (NOI) in accordance with Part 3 of this permit; and

1.1.2.4 Is fully or partially located within an urbanized area as determined by the latest Decennial Census by the Bureau of the Census; or

1.1.2.5 Is designated for permit coverage by the State of Georgia pursuant to 40 CFR Part 122.32.

1.1.3 The permittee is liable for permit compliance within the permitted area for all discharges from the MS4 for which it is owner and/or operator.

1.1.4 The following discharges are not regulated by this permit:

1.1.4.1 NPDES permitted stormwater discharges associated with any of the industries covered by the Industrial General NPDES Permit No. GAR050000;

1.1.4.2 Conveyances that discharge stormwater runoff combined with municipal sewage;

1.1.4.3 Discharges from a Publicly Owned Treatment Works (POTW);

1.1.4.4 Stormwater discharges that enter the waters of the State other than from a point source;

1.1.4.5 Stormwater discharges from construction sites which result in a land disturbance of less than one acre unless part of a larger common plan of development or sale; and

1.1.4.6 NPDES permitted non-stormwater discharges, such as process and non-process wastewater.

1.2 Definitions – See Appendix A
All terms used in this permit shall be interpreted in accordance with the definitions as set forth in the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended, unless otherwise defined in Appendix A.

PART 2. CRITERIA FOR RECEIVING WATERS

The permittee shall implement controls to reduce pollutants to the maximum extent practicable in discharges from the MS4 to the waters of the State, so as not to cause the following criteria to be exceeded in the receiving waters:

2.1 All waters shall be free from materials associated with municipal or domestic sewage, industrial waste or any other waste which will settle to form sludge deposits that become putrescent, unsightly, or otherwise objectionable;

2.2 All waters shall be free from oil, scum and floating debris associated with municipal or domestic sewage, industrial waste or other discharges in amount sufficient to be unsightly or to interfere with legitimate water uses;

2.3 All waters shall be free from material related to municipal, industrial or other discharges which produce turbidity, color, odor, or other objectionable conditions which interfere with legitimate water uses;

2.4 All waters shall be free from turbidity which results in a substantial visual contrast in a water body due to a man-made activity. The upstream appearance of a body of water shall be as observed at a point immediately upstream of a turbidity-causing man-made activity. That upstream appearance shall be compared to a point which is located sufficiently downstream from the activity so as to provide an appropriate mixing zone. For land disturbing activities, proper design, installation, and maintenance of best management practices and compliance with issued permits shall constitute compliance with this criterion; and

2.5 All waters shall be free from toxic, corrosive, acidic and caustic substances discharged from municipalities, industries, or other sources, such as nonpoint sources, in amounts, concentrations, or combinations which are harmful to humans, animals or aquatic life.

PART 3. NOTICE OF INTENT

3.1 Obtaining Coverage

3.1.1 To be authorized to discharge stormwater from a small MS4, the permittee must submit an NOI. The NOI must be signed and dated in accordance with Part 6.10 of this permit.

3.1.2 Where the operator changes, or where a new operator is added after submittal of an NOI, a new NOI must be submitted.

3.1.3 The NOI form may be obtained on EPD's website at www.epd.georgia.gov/storm-water-forms.

3.1.4 The completed NOI and signed copies of all reports required herein shall be submitted to the following address:

Georgia Environmental Protection Division
Watershed Protection Branch
NonPoint Source Program, Stormwater Unit
2 Martin Luther King, Jr. Drive
Suite 1462, East Tower
Atlanta, Georgia 30334

An electronic method of reporting is being developed. Once the system is available for use, EPD will notify the permittee and all documents will be required to be filed electronically.

3.2 Submittal Deadline

3.2.1 If the permittee was covered under previous permit iterations due to meeting the criteria specified in 40 CFR Part 122.32(a)(1) or due to designation by EPD as specified in 40 CFR Part 122.32(a)(2), then they are required to submit a new NOI in accordance with Part 3.1 and Part 6.3 of the permit, and if notified by EPD, a new SWMP, within 180 days after the effective date of this permit. If designated under the previous permit iteration, then the permittee is considered an existing permittee, not a new permittee, under this permit iteration.

3.2.2 If the permittee is newly designated by EPD under 40 CFR Part 122.32(a)(2) after the issuance date of this permit, then they are considered a new permittee and are required to submit an NOI and SWMP within 180 days of written notification from EPD.

PART 4. STORMWATER MANAGEMENT PROGRAM

The permittee shall implement and enforce a program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable in order to protect water quality and to satisfy the appropriate water quality requirements of the State Act and Rules (Chapter 391-3-6-.16). The permittee must comply with the requirements of this Permit. The SWMP shall be considered a supplement to the Permit, containing the standard operating procedures, schedules,

inspection forms, and other documents needed to support the implementation of the Permit requirements (40 CFR Part 122.34(b)). EPD will review and approve the SWMP. The permittee must utilize the procedures and other supplemental documents contained in the SWMP during the activities performed to attain Permit compliance. The SWMP must include, at a minimum, the following information for each of the six minimum control measures:

4.1 Requirements

4.1.1 The best management practices (BMPs) that will be implemented for each of the six stormwater minimum control measures. The SWMP must include at least the BMPs listed in each minimum control measure section below.

4.1.2 The measurable goals set for each of the BMPs.

4.1.3 The method of documentation of activities performed during the reporting period in each annual report.

4.1.4 The implementation schedule for each BMP, including, as appropriate, the date of implementation, the months and years in which each specific required action will be undertaken, any interim milestone dates and/or the frequency of the action(s).

4.1.5 The office or position(s) responsible for implementing or coordinating each BMP.

4.2 Minimum Control Measures

4.2.1 Public Education and Outreach on Stormwater Impacts

The permittee must implement a Public Education Program to distribute educational materials to the community and/or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

The program should consider topics, such as litter control, illicit discharges, household hazardous waste disposal, residential pesticide, fertilizer, and herbicide application, Fats, Oils and Grease (FOG) and GI/LID techniques. Public education materials are available at numerous websites, including these suggested sites: U.S.EPA (www.epa.gov), Clean Water Campaign (www.cleanwatercampaign.org), and the Center for Watershed Protection (www.cwp.org).

For those permittees with a population less than 10,000 at the time of the permit issuance or at the time of designation, the public education program must contain a minimum of **two** BMPs. For those permittees with a population greater than 10,000 at the time of this permit issuance or at the time of designation, the public education program must contain a minimum of **four** BMPs.

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.1(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.1(a) Public Education - Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. Public Education Program	1.a. Evaluate your existing program to ensure that it meets the needs of your community. Continue to implement, and revise if necessary, the stormwater education program described in the SWMP. The Public Education Program must include BMPs chosen from the following list, or other BMPs proposed for EPD approval: • School presentations; • Brochures placed in public places; • Municipal website; • Presentations to government officials; • Newsletter; • Utility Bill Insert; • Ongoing Social Media program; • Promotional items/giveaways; • Booth at community event; • Local access channel educational postings. 1.b. The measurable goal must be specified for each BMP. Each BMP must be executed at least annually. 1.c. For newly added BMPs, implement the BMP in accordance with the implementation schedule specified for that BMP. Details on the implementation of each BMP must be provided in each annual report.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.1(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.1(b) Public Education – Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. Public Education Program	1.a. Develop a stormwater public education program. Describe the stormwater public education program in the SWMP and submit the program to EPD for review and

	approval, in accordance with Part 3.2.2 of this permit. The Public Education Program must include the minimum number of BMPs detailed in Part 4.2.1 and include BMPs chosen from the list in Table 4.2.1(a), BMP 1.a. 1.b. Implement the public education program in accordance with the implementation schedule specified for each BMP. The measurable goal must be specified for each BMP. Each BMP must be executed at least annually. 1.c. Details on the implementation of each BMP, including the status of implementation, must be provided in each annual report.

4.2.2 Public Involvement/Participation

The permittee must develop and implement a Public Involvement/Participation program. The permittee must, at a minimum, comply with State and local public notice requirements when implementing a public involvement/participation program. The program should address the need for the public to be included in developing, implementing, and/or reviewing the stormwater management program. The program must make efforts to reach out and engage all economic and ethnic groups.

If the permittee has a website, the SWMP, as well as any updates, must be posted on the website.

For those permittees with a population less than 10,000 at the time of the permit issuance or at the time of designation, the public involvement/participation program must contain a minimum of **two** BMPs. For those permittees with a population greater than 10,000 at the time of this permit issuance or at the time of designation, the public involvement/participation program must contain a minimum of **four** BMPs.

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.2(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.2(a) Public Involvement/Participation - Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. Public	1.a. Evaluate your existing program to ensure that it

Involvement/Participation Program	meets the needs of your community. Continue to implement, and revise if necessary, the public involvement/participation program described in the SWMP. The Public Involvement/Participation Program must include BMPs chosen from the following list, or other BMPs proposed for EPD approval: • Stream cleanup (e.g. Rivers Alive): • Great American Cleanup; • Citizen hotline; • Citizen science/volunteer monitoring (e.g. Adopt-A-Stream); • Adopt-A-Road; • Storm drain marking; • Household hazardous waste disposal event; • Recycling facility or event; • Local stormwater management panel; • Pet waste stations. 1.b. The measurable goal must be specified for each BMP. Each BMP must be executed at least annually. 1.c. Details on the implementation of each BMP must be provided in each annual report.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.2(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.2(b) Public Involvement/Participation - Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. Public Involvement/Participation Program	1.a. Develop a public involvement/participation program. Describe the program in the SWMP and submit the program to EPD for review and approval in accordance with Part 3.2.2 of this permit. The Public Involvement/Participation Program must include the minimum number of BMPs detailed in Part 4.2.2 and include BMPs chosen from the list in Table 4.2.2(a), BMP 1.a. 1.b. Implement the public involvement/participation program in accordance with the implementation

	schedule specified for each BMP in the SWMP. The measurable goal must be specified for each BMP. Each BMP must be executed at least annually. 1.c. Details on the implementation of each BMP, including the status of implementation, must be provided in each annual report.

4.2.3 Illicit Discharge Detection and Elimination (IDDE)

The permittee must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 40 CFR Part 122.26(b)(2)) into its MS4. The permittee must:

4.2.3.1 Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls;

4.2.3.2. Prohibit through ordinance, or other regulatory mechanisms, non-stormwater discharges into the MS4 and implement appropriate enforcement procedures and actions;

4.2.3.3 Develop and implement a plan to detect and address non-stormwater discharges including illegal dumping to the MS4;

4.2.3.4 Inform public employees, businesses, and the general public of the hazards associated with illegal discharges and improper disposal of wastes; and

4.2.3.5 Address the following categories of non-stormwater discharges or flows only if they are identified as significant contributors of pollutants to the MS4:

- water line flushing;
- landscape irrigation;
- diverted stream flows;
- rising ground waters;
- uncontaminated ground water infiltration (as defined in 40 CFR Part 35.2005(20));
- uncontaminated pumped ground water;
- discharges from potable water sources;
- foundation drains;
- air conditioning condensation;
- irrigation water;
- springs;

- water from crawl space pumps;
- footing drains;
- lawn watering;
- individual residential car washing;
- flows from riparian habitats and wetlands;
- swimming pool discharges;
- street wash water; and
- flows from fire fighting activities.

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.3(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.3(a) Illicit Discharge Detection and Elimination – Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Evaluate, and if necessary, modify the existing ordinance. If the ordinance is revised during the reporting period, submit a copy of the adopted ordinance with the annual report.
2. Outfall Map and Inventory	2.a. Maintain an updated map and an inventory showing the location of all outfalls from the MS4 and the names and locations of all waters of the State that receive discharges from those outfalls. The map and inventory must be submitted with each annual report. 2.b. Provide the number of outfalls added during the reporting period and the total number of outfalls in each annual report.
3. IDDE Plan	3. Implement the IDDE Plan below, following procedures described in the SWMP, to detect and address non-stormwater discharges to the MS4. The components of the IDDE Plan are as follows: 3.a. Conduct dry weather screening (DWS) inspections on 100% of the total outfalls within the 5-year permit term or use an alternate method approved by EPD. At a minimum, the permittee must conduct DWS inspections on 5% of the outfalls annually, or if the inspections are done by a geographical area, then one area or sector must be inspected each year, so that inspections are performed during each reporting period. If the permittee

	conducts stream walks of intermittent and perennial streams in conjunction with the DWS inspection, then 100% of the stream miles containing or downstream of an MS4 outfall must be inspected within the 5-year permit term. At a minimum, the permittee must conduct stream walks on 5% of the stream miles annually, or if walks are done by a geographical area, then streams within one area or sector must be walked each year. The permittee must document and report the number of stream miles walked, as well as the number of outfalls screened using each method (e.g. dry weather screening, stream walks, alternate approved method). Provide the number of outfall inspections conducted during the reporting period and documentation of the outfall inspections in each annual report. 3.b. Implement investigative and follow-up procedures when the results of the DWS indicate a potential for an illicit discharge, including the sampling and/or inspection procedures described in the IDDE Plan. If the source of the illicit discharge is identified as deriving from an adjacent MS4, the permittee must notify that MS4. Provide information on any illicit discharge detection activities performed during the reporting period in each annual report. 3.c. Ensure any identified illicit discharges are eliminated. If necessary, implement enforcement procedures described in the Enforcement Response Plan (ERP) in Part 4.3 of this permit. Provide information on any eliminated discharges or on any enforcement actions taken to eliminate illicit discharges, such as through a spreadsheet or table, during the reporting period in each annual report.
4. Education	4.a. Continue to implement a program to educate the public, businesses, and government employees about the hazards of illicit discharges as described in the SWMP. Conduct an educational activity for each target audience at least annually. Provide documentation of any activities conducted during the reporting period in each annual report.
5. Complaint Response	5.a. Implement the EPD approved procedures for receiving, investigating, and tracking the status of illicit discharge complaints. Provide a report on each illicit

	discharge related complaint received and investigated during the reporting period (e.g. complaint date, type of complaint, complaint status) in each annual report.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.3(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.3(b) Illicit Discharge Detection and Elimination – Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Develop and adopt an IDDE ordinance that prohibits non-stormwater discharges to the MS4. Submit a copy of the adopted ordinance to EPD within one year of designation with that year's annual report.
2. Outfall Map and Inventory	2.a. Develop or update a map and an inventory showing the location of all outfalls from the MS4 and the names and locations of all waters of the State that receive discharges from those outfalls. The SWMP must include a schedule for completing the map and inventory, with a final completion date of no later than four years following the date of designation. The completed map and inventory must be submitted to EPD with the first annual report following completion of the map and inventory. 2.b. Provide a status of the mapping and the inventory of identified outfalls in each annual report. 2.c. After completion of the initial outfall map and inventory, provide an updated map and inventory showing any outfalls added during the reporting period and the total number of outfalls on the MS4 in subsequent annual reports.
3. IDDE Plan	3.a. Develop an IDDE Plan, including field screening procedures, source tracing procedures, and discharge elimination procedures. The program must include example forms, such as an inspection form, example enforcement letters, etc. Submit the IDDE Plan to EPD for review and approval within one year following the date of designation with that year's annual report. 3.b. Implement the IDDE Plan by conducting DWS

	inspections on outfalls as the mapping occurs in Item 2.a. above. Provide documentation of the outfall inspections conducted during the reporting period with each annual report. 3.c. Upon completion of the mapping, conduct DWS inspections on 100% of the outfalls within a 5-year period, or use an alternate method approved by EPD, in accordance with the procedures contained in the SWMP. At a minimum, the permittee must conduct DWS inspections on 5% of the outfalls annually, or if inspections are done by a geographical area, then one area or sector must be inspected each year, so that inspections are performed during each reporting period. If the permittee conducts stream walks of intermittent and perennial streams in conjunction with the DWS inspections, then 100% of the stream miles containing or downstream of an MS4 outfall must be inspected within the 5-year period. At a minimum, the permittee must conduct stream walks on 5% of the stream miles annually, or if walks are done by a geographical area, then streams within one area or sector must be walked each year. The permittee must report the number of stream miles walked as well as the number of outfalls screened using each method (i.e. DWS, stream walks, alternate approved method). Provide the number of outfall inspections conducted during the reporting period and documentation of the outfall inspections in each annual report. 3.d. Implement investigative and follow-up procedures when the results of the DWS indicate a potential for an illicit discharge, including the sampling and/or inspection procedures described in the IDDE Plan. If the source of the illicit discharge is identified as deriving from an adjacent MS4, then the permittee must notify that MS4. Provide information on any investigative activities performed during the reporting period in each annual report. 3.e. Ensure any identified illicit discharges are eliminated. If necessary, implement enforcement procedures described in the ERP in Part 4.3 of this permit. Provide information on any eliminated

	discharges or on any enforcement actions taken to eliminate illicit discharges, such as through a spreadsheet or table, during the reporting period in each annual report.
4. Education	4.a. Develop a program to educate the public, businesses, and government employees about the hazards of illicit discharges. Conduct an educational activity for each target audience at least annually. Submit the program to EPD for review and approval within one year of designation with that year's annual report. 4.b. Implement the education program. Provide documentation of any activities conducted during the reporting period in each annual report.
5. Complaint Response	5.a. Develop procedures for receiving, investigating, and tracking the status of illicit discharge complaints and submit the procedures to EPD for review and approval within one year of designation with that year's annual report. 5.b. Implement the complaint response procedures. Provide a report on each illicit discharge related complaint received and investigated during the reporting period (e.g. complaint date, type of complaint, complaint status) in each annual report.

4.2.3.6 The inventory and inspection of industrial and commercial facilities can help identify illicit discharges and the potential for pollution in stormwater runoff from these facilities. EPD recommends that the permittee pursue a program addressing these types of facilities in the permitted area, including the development of an inventory, inspection of facilities, and possible enforcement. The permittee may establish its inventory of industrial facilities using EPD's Industrial General Permit (IGP) Notice of Intent and No Exposure Exclusion online listing. For commercial facilities, the permittee may use its business license list to identify facilities with the potential to have higher than normal levels of pollutants in stormwater runoff. If the permittee chooses to implement a program to address industrial and/or commercial facilities, the details may or may not be defined as a separate BMP in the SWMP. If a BMP is included in the SWMP, then the permittee must fully implement the activities associated with the BMP and report on these activities in each annual report. Failure to fully implement the additional BMP may be considered permit noncompliance.

4.2.4 Construction Site Stormwater Runoff Control

The permittee must develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Stormwater discharges from construction activity disturbing less than one acre must be included in the permittee's program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the permittee is certified as a Local Issuing Authority, then the program must be implemented by the permittee and detailed procedures must be specified in the SWMP. If the permittee is not a Local Issuing Authority, then the procedures in the SWMP must describe implementation of the program by EPD. The permittee must develop and implement a construction site stormwater runoff control program that contains the following elements:

4.2.4.1 An ordinance or other regulatory mechanism to require erosion and sediment (E&S) controls, as well as sanctions to ensure compliance, to the extent allowable, under State or local law;

4.2.4.2 Requirements for construction site operators to implement E&S control best management practices;

4.2.4.3 Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse water quality impacts;

4.2.4.4 Procedures for site plan review that incorporate consideration of potential water quality impacts;

4.2.4.5 Procedures for receipt and consideration of information submitted by the public; and

4.2.4.6 Procedures for site inspection and enforcement of control measures.

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.4(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.4(a) Construction Site Stormwater Runoff Control – Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Evaluate, and if necessary, modify the existing E&S ordinance for compliance with this permit. Ensure either

	the E&S or litter ordinance requires construction site operators to control waste at the construction site, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste. If the ordinance is revised during the reporting period, submit a copy of the adopted ordinance with the annual report.
2. Site Plan Review Procedures	2.a. Implement the site plan review procedures in accordance with the Georgia Soil and Water Conservation Commission (GSWCC) requirements. 2.b. Provide a list of the site plans received and the number of site plans reviewed, approved, or denied during the reporting period in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
3. Inspection Program	3.a. Implement the construction site inspection procedures in accordance with the GSWCC requirements. The purpose of the inspections is to ensure that structural and non-structural BMPs at construction sites are properly designed and maintained and that construction site waste is properly controlled. 3.b. Provide a list of active construction sites and any inspections conducted during the reporting period in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
4. Enforcement Procedures	4.a. Implement enforcement procedures for E&S violations documented at construction sites during the reporting period as described in the ERP required by Part 4.3 of this permit. Provide documentation of any enforcement actions taken during the reporting period in each annual report, including the number and type (e.g. Notice of Violation, Stop Work Order) and status (e.g. pending, resolved). If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
5. Complaint Response	5.a. Implement the EPD approved E&S complaint receipt, investigation, response, and tracking procedures developed as part of the SWMP. Provide information on complaints received and investigated during the reporting period (e.g. complaint date, type of complaint, complaint status) in each annual

	report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
6. Certification	6.a. Ensure that any MS4 staff involved in construction activities subject to the Construction General Permits (CGPs) are trained and certified in accordance with the rules adopted by the GSWCC. 6.b. Provide the number and type of current certifications held by MS4 staff in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.4(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.4(b) Construction Site Stormwater Runoff Control - Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Develop an ordinance(s) that requires construction site operators to implement E&S controls and control waste at the construction site, such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste. Submit the adopted ordinance(s) to EPD within one year of designation with that year's annual report. 1.b. After adoption, evaluate the ordinance annually. If necessary, modify the E&S ordinance for compliance with this permit. If the ordinance is revised during the reporting period, submit a copy of the adopted ordinance with that year's annual report.
2. Site Plan Review Procedures	2.a. Develop procedures for conducting site plan reviews in accordance with the GSWCC requirements. Submit the procedures to EPD for review and approval within one year of designation. If the permittee is not a Local Issuing Authority, the procedures must describe implementation of the BMP by EPD. 2.b. Implement the site plan review procedures upon approval by EPD. Submit a list of the site plans received and the number of site plans reviewed, approved, or

	denied during the reporting period in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
3. Inspection Program	3.a. Develop construction site inspection procedures in accordance with the GSWCC requirements. The purpose of the inspections is to ensure that structural and non-structural BMPs at construction sites are properly designed and maintained and that construction site waste is properly controlled. Submit the procedures to EPD for review and approval within one year of designation with that year's annual report. If the permittee is not a Local Issuing Authority, the procedures must describe implementation of the BMP by EPD. 3.b. Implement the inspection procedures. Provide a list of active construction sites and any E&S inspections conducted during the reporting period in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
4. Enforcement Procedures	4.a. Upon approval of the ERP (required by Part 4.3 of this permit) by EPD, implement enforcement procedures for E&S violations documented at construction sites during the reporting period. Provide documentation of any enforcement actions taken during the reporting period in each annual report, including the number and type (e.g. Notice of Violation, Stop Work Order) and status (e.g. pending, resolved). If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.
5. Complaint Response	5.a. Develop E&S complaint receipt, investigation, response, and tracking procedures. Submit the procedures to EPD for review and approval within one year of designation with that year's annual report. If the permittee is not a Local Issuing Authority, the procedures must describe implementation of the BMP by EPD. 5.b. Implement the E&S complaint response procedures. Provide information on complaints received and investigated during the reporting period (e.g. complaint date, type of complaint, complaint status) in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented

	by EPD.
6. Certification	6.a. Ensure that any MS4 staff involved in construction activities subject to the CGPs are trained and certified in accordance with the rules adopted by the GSWCC. 6.b. Provide the number and type of current certifications held by MS4 staff in each annual report. If the permittee is not a Local Issuing Authority, explain in the annual report that the BMP is implemented by EPD.

4.2.5 Post-Construction Stormwater Management in New Development and Redevelopment

The permittee must develop, implement and enforce a program to address stormwater runoff into the MS4 from new development and redevelopment projects, including projects less than one acre if they are part of a larger common plan of development or sale, as described in Parts 4.2.5.1 and 4.2.5.2. The program must ensure that controls are in place that will prevent or minimize water quality impacts. At a minimum, the Post-Construction Stormwater Management in New Development and Redevelopment Program must contain the following requirements:

- Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law; and
- Ensure adequate long-term operation and maintenance of the BMPs.

4.2.5.1 Stormwater Design Manual

The permittee must implement either the appropriate parts of the latest version of the Georgia Stormwater Management Manual (GSMM) (http://atlantaregional.org/georgia-stormwater-management-manual/) or an equivalent or more stringent local design manual. For those permittees located in the 11-county coastal management program service area (Bryan, Brantley, Camden, Charlton, Chatham, Effingham, Glynn, Liberty, Long, McIntosh, and Wayne), the adopted manual must include the applicable parts of the Coastal Stormwater Supplement (CSS) to the GSMM (http://documents.atlantaregional.com/gastormwater/Georgia-CSS-Final-Apr-09.pdf). All permittees must implement the GSMM and/or CSS to the maximum extent practicable. The permittee must provide documentation to EPD in the 2018 annual report to demonstrate the date of the adoption of the appropriate design manual(s).

For new permittees, the adoption of the GSMM or a local design manual and/or the CSS must be completed within one year of designation.

Documentation of the design manual adoption must be provided to EPD with that year's annual report. Implementation must begin upon adoption.

At a minimum, the permittee shall apply the standards for new development and redevelopment to any site that meets one or more of the following criteria:

- New development that creates or adds 5,000 square feet or greater of new impervious surface area, or that involves land disturbing activity of one acre of land or greater.
- Redevelopment 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, including projects less than 1 acre if they are part of a larger common plan of development or sale.

For sites meeting the above criteria, the permittee shall ensure that the minimum performance standards are applied during the site plan preparation and/ or review process. The performance standards must be implemented to the maximum extent practicable.

The performance standards to be implemented are as follows:

Stormwater Runoff Quality/Reduction:
Stormwater runoff shall be adequately treated prior to discharge.

1. From the issuance date of the Permit until December 6, 2020, the permittee must address stormwater runoff using either Option (a) or Option (b) below:

a) The stormwater management system shall be designed to retain the first 1.0 inch of rainfall on the site, to the maximum extent practicable. The determination by the MS4 that it is infeasible to apply the stormwater runoff quality/reduction standard, on part or all of a project, must be documented with the site plan review documents. If the first 1.0 inch of rainfall can be retained onsite using runoff reduction methods, then additional water quality treatment is not required. If the 1.0 inch cannot be retained onsite, the remaining runoff from a 1.2 inch rainfall event must be treated to remove at least 80% of the calculated average annual post-development total suspended solids (TSS) load or equivalent as defined in the GSMM or in the equivalent manual.

For those permittees located in the 11-county coastal management program service area and subject to the CSS, stormwater runoff shall be retained onsite or adequately treated prior to discharge. As identified in CSS, reducing the runoff generated by 1.2 inches of rainfall is a reasonable initial target. If the target cannot be met, the permittee must ensure that adequate documentation is provided to show that no additional runoff reducing green infrastructure practices can be used on the development site. At a minimum, appropriate green infrastructure practices must be used to reduce the stormwater runoff volume generated by the 0.6 inch rainfall event (and the first 0.6 inches of all larger rainfall events). Any of the stormwater runoff generated by the 1.2 inch storm event (and the first 1.2 inches of all larger rainfall events) that is not reduced on the development site should be intercepted and treated in one or more stormwater management practices that provide at least an 80% reduction in TSS loads and that reduce nitrogen and bacteria loads to maximum extent practicable.

b) The stormwater management system shall be designed to remove 80% of the average annual post-development TSS load or equivalent as defined in the GSMM or in the equivalent manual. Compliance with this performance standard is presumed to be met if the stormwater management system is sized to capture and treat the water quality treatment volume, which is defined as the runoff volume resulting from the first 1.2 inches of rainfall from a site.

No later than December 6, 2020, all permittees must be using approach 1(a) above to achieve compliance with this performance standard. This timeframe is to allow sufficient study, training, and planning on the part of the municipality. All site plan reviewers, construction site inspectors, and other personnel whose duties involve post construction stormwater runoff are encouraged to receive training in the new GSMM and the runoff quality/reduction standard during that implementation phase. Pilot projects, advisory committees, and other programs intended to study and implement the runoff quality/reduction requirement are recommended.

Stream Channel/Aquatic Resource Protection:

Stream channel and/or aquatic resource protection shall be provided by using the following approaches: 1) 24-hour extended detention storage of the 1-year, 24-hour return frequency storm event; 2)

erosion prevention measures such as energy dissipation and velocity control; and 3) preservation of the applicable stream buffer.

Overbank Flood Protection:
Downstream overbank flood protection shall be provided by controlling the post-development peak discharge rate to the predevelopment rate for the 25-year, 24-hour storm event.

Extreme Flood Protection:
Extreme flood protection shall be provided by controlling the 100-year, 24-hour storm event such that flooding is not exacerbated.

Trout Stream Protection
For receiving waters with a trout stream designation, which contain outfalls from the permittee's MS4, the permittee's SWMP must address the protection of trout waters from impacts from the MS4 outfalls due to elevated temperature.

4.2.5.2 Linear Transportation Projects

The performance standards in Part 4.2.5.1 must be applied during the design of all construction projects. However, the performance standards may be infeasible to apply, all or in part, for linear transportation projects being constructed by the permittee, local governments, or authorities. The permittee may develop a feasibility program which sets reasonable criteria for determining when implementing the performance standards in linear transportation projects is infeasible. The permittee may develop this feasibility program and submit it to EPD for review. Upon submittal to EPD, the permittee, local governments, and authorities may begin implementation of this feasibility program for linear transportation projects only.

4.2.5.3 Green Infrastructure/Low Impact Development (GI/LID)

The requirements of Part 4.2.5.3 of this permit only apply to those permittees with a population exceeding 10,000 at the time of this permit issuance or at the time of designation. Permittees with a population less than 10,000 are exempt from this requirement at this time (See Appendix B).

The permittee shall continue to review and revise, where necessary, building codes, ordinances, and other regulations to ensure they do not prohibit or impede the use of GI/LID practices, including infiltration,

reuse, and evapotranspiration. At a minimum, the permittee shall assess those regulations governing road design and parking requirements. During the review, the permittee should consider the inclusion of incentives for use of GI/LID practices into the regulatory documents. For existing permittees, the evaluation should have been completed, a written report submitted to EPD, and any necessary revisions completed and adopted ordinances submitted to EPD during the previous permit iteration (due by December 6, 2016). For new permittees, the evaluation must be completed within two years of designation and a written report submitted to EPD with the subsequent annual report. Any necessary revisions must be completed, and adopted ordinances submitted to EPD within four years after designation.

Design information on GI/LID practices can be found on the Atlanta Regional Commission's website (http://www.atlantaregional.com/) for the GSMM and the CSS. Additional information on GI/LID and better site design can be found on numerous websites, including these suggested sites: USEPA (www.epa.gov), Center for Watershed Protection (www.cwp.org), Georgia Coastal Resource Division's "Georgia's Green Growth Guidelines" (http://coastalgadnr.org/cm/green.guide)), and Green Infrastructure Center (www.gicinc.org). In addition, you may want to consult the following webpage on EPA's website: www.epa.gov/nps/lid.

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.5(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.5(a) Post-Construction Stormwater Management - Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Evaluate, and if necessary, modify the existing ordinance. If the ordinance is revised during the reporting period, submit a copy of the adopted ordinance with the annual report.
2. Inventory	2.a. Annually update an inventory of all publicly-owned post-construction stormwater management structures (e.g. detention/retention ponds, water quality vaults) and only those privately-owned structures designed after the December 9, 2008 deadline for adoption of the GSMM (i.e. new structures). The inventory shall include information on the number and type of structures, and ownership (i.e. publicly-owned, privately-owned). The

	inventory must be updated as new structures are completed or existing structures are identified. The permittee may choose to also include privately-owned structures designed prior to the December 9, 2008 deadline for adoption of the GSMM on the inventory. 2.b. Provide the updated inventory of post-construction stormwater management structures, including those structures added during the reporting period in each annual report.
3. Inspection Program	3.a. Conduct inspections of all post-construction stormwater management structures included on the inventory required in BMP #2 above, so that 100% of the structures are inspected within the 5-year permit term. At a minimum, the permittee must conduct inspections on 5% of the structures annually, or if inspections are done by geographical area, then one entire area or sector must be inspected each year. Provide documentation of the inspections conducted during the reporting period in each annual report.
4. Maintenance Program	4.a. Implement the long-term operation and maintenance program for post-construction stormwater management structures. Describe detailed procedures in the SWMP. At a minimum, the maintenance program must address all permittee-owned structures, those publicly-owned structures owned by other entities (e.g. Board of Education), and those privately-owned structures with construction completed after the effective date of the previous permit iteration (December 6, 2012). The permittee may choose to also address privately-owned structures constructed prior to the December 6, 2012 date. The maintenance may be performed by the permittee or by the owner/operator of the structure. Maintenance must be performed to the maximum extent practicable. 4.b. For permittee-owned structures, provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period with each annual report. 4.b.1. For publicly-owned structures owned by other entities and those privately-owned structures with

	construction completed after the December 6, 2012 date, the permittee must either conduct maintenance or require maintenance agreements. • If the permittee conducts the maintenance, provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period in each annual report. • If maintenance is to be performed by an owner/operator in accordance with a maintenance agreement, the permittee must retain copies of maintenance agreements finalized after December 6, 2012, and submit a summary list of these agreements with each annual report. Any maintenance agreements executed during subsequent reporting periods must be included on the summary list submitted with each annual report. The total number of executed maintenance agreements must be provided in each annual report. 4.b.2. If the permittee addresses privately-owned structures constructed prior to December 6, 2012, then provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period in each annual report.
5. GI/LID Structure Inventory	5.a. Annually update an inventory of water quality-related GI/LID structures located within the permitted area and at a minimum, constructed after December 6, 2012, including the total number of each type of structure (e.g. bioswales, pervious pavement, rain gardens, cisterns, and green roofs). The inventory must, at a minimum, include permittee-owned GI/LID structures, those publicly-owned structures owned by other entities, and privately-owned non-residential GI/LID structures. Track the addition of new water quality-related GI/LID structures through the plan review process and ensure the structures are added to the inventory.

	5.b. Provide an updated inventory, including those structures added during the reporting period, in each annual report.
6 GI/LID Program	6.a. For those permittees with a population exceeding 10,000 at the time of this permit issuance, develop a program describing the GI/LID practices (e.g. better site planning techniques, better site design techniques) to be implemented by the permittee. The program shall include: • procedures for evaluating the feasibility and site applicability of different GI/LID techniques and practices to be considered; • the GI/LID structures allowed to be constructed within the permittee's jurisdiction; • procedures for the inspection and maintenance of the GI/LID structures, including permittee-owned structures, publicly-owned structures owned by other entities, and privately-owned non-residential (e.g. who inspects, who maintains, inspection and maintenance schedule, method of documentation of inspection and maintenance activities). The GI/LID program must be submitted to EPD by February 15, 2020. The program must be included in the SWMP and must be implemented by the permittee. 6.b. For those permittees with a population less than 10,000 at the time of this permit issuance, develop a program for the inspection and maintenance of the GI/LID structures, including permittee-owned, publicly-owned structures owned by other entities, and privately-owned non-residential (e.g. who inspects, who maintains, inspection and maintenance schedule, method of documentation of the inspection and maintenance activities). The GI/LID inspection and maintenance program must be submitted to EPD by February 15, 2020. The program must be included in the SWMP and must be implemented by the permittee. 6.c. If the GI/LID program is revised during the reporting period, submit the revised program to EPD for review with the annual report.
7. GI/LID Inspection and Maintenance Program	7.a. Beginning in 2020, conduct inspections and/or ensure inspections are conducted on 100% of the GI/LID

	structures included in the inventory created in BMP 5.a above, within a 5-year period. The inspections must be completed in accordance with the schedule submitted in the GI/LID program submitted in BMP 6 above. Provide documentation of the inspections conducted during the reporting period in each annual report. 7.b. Conduct maintenance on the permittee-owned GI/LID structures, as needed. Provide the number of structures and percentage of the total structures maintained during the reporting period in each annual report. 7.c. Implement the maintenance procedures in accordance with the GI/LID program submitted in BMP 6 above for ensuring publicly-owned structures owned by other entities and privately-owned non-residential GI/LID structures are maintained as needed. Provide documentation of these activities in each annual report.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.5(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.5(b) Post-Construction Stormwater Management - Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. Legal Authority	1.a. Develop and adopt a post-construction ordinance that includes the adoption of the GSMM or a local design manual. Submit a copy of the adopted ordinance to EPD within one year of designation with that year's annual report.
2. Inventory	2.a. Develop an inventory of all publicly-owned post-construction stormwater management structures (e.g. detention/retention ponds, water quality vaults) and those privately-owned structures designed after the adoption of the GSMM or within one year of designation, whichever is later. The inventory shall include information on the number and type of structures, and ownership (i.e. publicly-owned, privately-owned). The permittee may choose to also include other privately-owned structures on the inventory. The SWMP must include a schedule for completing the inventory with a final completion date of

	no later than 3 years following designation. The completed inventory must be submitted to EPD with the first annual report following completion. 2.b. Provide the status of the inventory development and/or update of the inventory in each annual report. 2.c. After completion of the initial inventory, update the inventory as new structures are completed or additional structures are identified. Provide an updated inventory of post-construction stormwater management structures, including those structures added during the reporting period, in each subsequent annual report.
3. Inspection Program	3.a. Develop an inspection program. Describe the program details in the SWMP. The program must include a schedule for conducting inspections on all post-construction stormwater management structures included on the inventory required in BMP #2 above, so that 100% of the structures are inspected within a 5-year period. At a minimum, the permittee must conduct inspections on 5% of the structures annually, or if inspections are done by geographical area, then one entire area or sector must be inspected each year. Submit the program to EPD for review and approval no later than 3 years following designation with that year's annual report. 3.b. Conduct inspections in accordance with the approved program. Describe the program details in the SWMP. Provide documentation of the inspections conducted during the reporting period in each annual report.
4. Maintenance Program	4.a. Develop a long-term operation and maintenance program for post-construction stormwater management structures. At a minimum, the program must address all permittee-owned structures, publicly-owned structures owned by other entities (e.g. Board of Education), and those privately-owned structures with construction completed after the date of designation. The permittee may choose to also address privately-owned structures constructed prior to the date of designation. Submit the program to EPD for review and approval no later than 3 years following designation with that year's annual report.

	4.b. Upon approval by EPD, implement the long-term operation and maintenance program for post-construction stormwater management structures. The maintenance may be performed by the permittee or by the owner/operator of the structure. 4.b.1. For permittee-owned structures, provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period with each annual report. 4.b.2. For publicly-owned structures owned by other entities and those privately-owned structures with construction completed after the date of designation, the permittee must either conduct maintenance or require maintenance agreements. • If the permittee conducts the maintenance, provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period in each annual report. • If maintenance is to be performed by an owner/operator in accordance with a maintenance agreement, the permittee must submit a summary list of finalized maintenance agreements with the first annual report following program implementation. Any maintenance agreements executed during subsequent reporting periods must be added to the summary list and submitted with each annual report. The total number of executed maintenance agreements must be provided in each annual report. 4.b.3. If the permittee addresses privately-owned structures constructed prior to the date of designation in their program, then provide a list of structures maintained and the type of maintenance performed, including documentation of maintenance activities performed during the reporting period in each annual

	report.
5. GI/LID Structures	5.a. Develop an inventory of water quality-related GI/LID structures located within the permitted area and at a minimum, constructed after the date of designation, including the total number of each type of structure (e.g. bioswales, pervious pavement, rain gardens, cisterns, and green roofs). Provide the inventory within one year of designation with that year's annual report. 5.b. Track the addition of new water quality-related GI/LID structures through the plan review process and ensure the structures are added to the inventory. Provide an updated inventory, including those structures added during the reporting period, in subsequent annual reports.

4.2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

The permittee must develop and implement an operation and maintenance program that includes a training component with the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials available from the USEPA and other organizations as guidance, the permittee must, as a part of this program, include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The program shall, at a minimum, contain all the following requirements:

For existing permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.6(a) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.6(a) Pollution Prevention/Good Housekeeping for Municipal Operations - Best Management Practices (Existing Permittees)

BMPs	Measurable Goals
1. MS4 Control Structure Inventory and Map	1.a. Annually update an inventory and map of the MS4 control structures. At a minimum, the inventory and map must include catch basins, ditches (miles or linear feet), detention/retention ponds, and storm drain lines (miles or linear feet). 1.b. Provide the updated map and inventory, the number of structures added during the reporting period, and the total number of structures in each annual report.
2. MS4 Inspection Program	2.a. Conduct inspections on the MS4 control structures so that 100% of the structures are inspected within a 5-

	year period. All permittees must conduct at least one inspection per year. The MS4 must develop an inspection schedule and include the schedule in the SWMP. Provide the number and percentage of structures inspected during the reporting period in each annual report.
3. MS4 Maintenance Program	3.a. Conduct maintenance on the MS4 control structures as needed. Provide the number of each type of structure maintained during the reporting period in each annual report.
4. Street and Parking Lot Cleaning	4. Conduct street and parking lot cleaning using either of the following methods: 4.a. Conduct street sweeping at a frequency of at least 1 mile per year. Develop procedures and include the procedures in the SWMP. Provide documentation of any street sweeping activities conducted during the reporting period in each annual report. 4.b. If the MS4 does not engage in street sweeping, then implement an alternate method of street cleaning, such as trash/litter removal. Describe the procedures in the SWMP. Provide documentation of the litter removal activities conducted during the reporting period in each annual report.
5. Employee Training	5.a. Implement the employee training program described in the SWMP. At a minimum, employee training must occur annually. The training should include such topics as good housekeeping at municipal facilities, illicit discharge detection, construction site inspections, and green infrastructure. Provide documentation of the educational activities conducted during the reporting period in each annual report.
6. Waste Disposal	6.a. Implement procedures regarding the proper disposal of waste removed from the MS4 as described in the SWMP. Provide documentation of activities performed during the reporting period in each annual report.
7. New Flood Management Projects	7.a. Ensure proposed flood management projects (e.g. detention and retention ponds) are assessed for water quality impacts during the design phase. Provide the number of plans reviewed where flood management projects were assessed for water quality impacts during the reporting period in each annual report.
8. Existing Flood	8.a. Conduct an assessment of existing permittee-owned

Management Projects	flood management projects (e.g. detention and retention ponds) for potential retrofitting to address water quality impacts and conduct any retrofitting activities. Assess at least 1 structure annually or if the permittee has less than 5 structures, then assess 100% within a 5-year period. Provide information on any assessment and/or retrofitting activities conducted during the reporting period in each annual report.
9. Municipal Facilities	9.a. Annually update an inventory of municipal facilities with the potential to cause pollution. The inventory must be submitted with each annual report. 9.b. Conduct inspections on 100% of the municipal facilities within the 5-year period in accordance with the procedures described in the SWMP. At a minimum, the permittee must conduct inspections on 5% of the municipal facilities annually, or if inspections are done by geographical area, then one entire area or sector must be inspected. Provide documentation of the inspections conducted during the reporting period in each annual report.

For new permittees, the program shall, at a minimum, implement the requirements shown in Table 4.2.6(b) below and include descriptions of how they are implemented in the SWMP:

Table 4.2.6(b) Pollution Prevention/Good Housekeeping for Municipal Operations - Best Management Practices (New Permittees)

BMPs	Measurable Goals
1. MS4 Control Structure Inventory and Map	1.a. Develop an inventory and map of the MS4 control structures. At a minimum, the inventory and map must include catch basins, ditches (miles or linear feet), detention/retention ponds, and storm drain lines (miles or linear feet). The completion date for development of the inventory and map must not exceed 4 years from the date of designation. Submit the completed inventory and map with the annual report following inventory and map completion. 1.b. Upon completion of the inventory and map, update the inventory and map as necessary. Provide the number of structures added during the reporting period and the total number of structures in each annual report.
2. MS4 Inspection Program	2.a. Develop an inspection program. Describe the

	program details, including the method that will be used to document inspections (e.g. example inspection form), in the SWMP. The program must include a schedule for conducting inspections of the MS4 control structures so that 100% of the structures are inspected within a 5-year period. The permittee must conduct at least one inspection per year. Submit the program to EPD for review and approval with the SWMP. 2.b. Implement the inspection program. The MS4 inspections may be performed during mapping of the system or in accordance with the schedule contained in the approved inspection program. Provide the number and percentage of structures inspected during the reporting period in each annual report.
3. MS4 Maintenance Program	3.a. Develop a storm sewer system maintenance program specifying such things as prioritization, factors determining the need for maintenance, the method that will be used to document inspections (e.g. an example form), etc. Submit the program to EPD for review and approval with the first annual report following designation. 3.b. Implement the maintenance program for the MS4 control structures. Provide the number of each type of structure maintained during the reporting period in each annual report.
4. Street and Parking Lot Cleaning	4.a. Develop street and parking lot cleaning procedures. The procedures may address the use of a street sweeper, trash/litter removal, or another method. Submit the procedures to EPD for review and approval with the first annual report following designation. 4.b. Implement the street and parking lot cleaning procedures. Provide documentation of the litter removal activities conducted during the reporting period in each annual report.
5. Employee Training	5.a. Develop an employee training program and submit the program to EPD for review and approval with the SWMP. The training should include such topics as good housekeeping at municipal facilities, illicit discharge detection, construction site inspections, and green infrastructure. At a minimum, employee training must occur annually.

	5.b. Implement the employee training program. Provide documentation of the educational activities conducted during the reporting period in each annual report.
6. Waste Disposal	6.a. Develop procedures for the proper disposal of waste removed from the MS4. Submit the procedures to EPD for review and approval with the SWMP. 6.b. Implement procedures regarding the proper disposal of waste removed from the MS4. Provide documentation of activities performed during the reporting period in each annual report.
7. New Flood Management Projects	7.a. Develop procedures for ensuring proposed flood management projects (e.g. detention and retention ponds) are assessed for water quality impacts during the design phase. Submit the procedures to EPD for review and approval with the SWMP. 7.b. Implement the procedures. Provide the number of plans reviewed where flood management projects were assessed for water quality impacts during the reporting period in each annual report.
8. Existing Flood Management Projects	8.a. Develop procedures for assessing existing permittee-owned flood management projects (e.g. detention and retention ponds) for potential retrofitting to address water quality impacts. At least 1 structure must be assessed annually or if the permittee has less than 5 structures, assess 100% of the structures within a 5-year period. Submit the procedures to EPD for review and approval with the first annual report following designation. 8.b. Implement the approved procedures. Provide information on any assessment and/or retrofitting activities conducted during the reporting period in each annual report.
9. Municipal Facilities	9.a. Develop an inventory of municipal facilities with the potential to cause pollution. The inventory must be submitted to EPD within one year of designation with that year's annual report. The inventory must be updated annually and submitted with each subsequent annual report. 9.b. Develop inspection procedures, including an

	example inspection form. Submit the procedures to EPD for review and approval within one year of designation with that year's annual report. 9.c. Implement the inspection procedures. Conduct inspections on 100% of the municipal facilities within the 5-year period in accordance with the approved procedures. At a minimum, the permittee must conduct inspections on 5% of the municipal facilities annually, or if inspections are done by geographical area, then one entire area or sector must be inspected. Provide documentation of the inspections conducted during the reporting period in each annual report.

4.3 Enforcement Response Plan (ERP)

The permittee must develop and implement an ERP that describes the action to be taken for violations associated with the permittee's ordinances and other legal authorities. The ERP will detail the permittee's responses to any noted stormwater violations, including escalating enforcement responses to address repeat and continuing violations. The plan must detail:

- Names of ordinances providing the legal authority to undertake enforcement, including citation of specific ordinance sections;
- Types of enforcement mechanisms available for each area (e.g. IDDE, Construction, Post-Construction). The ERP must list the enforcement actions the permittee has the authority to use, including such actions as:
    - verbal warnings;
    - written notice of violations;
    - citations (with fines);
    - stop work orders;
    - withholding plan approval or other authorizations; and
    - any other available enforcement mechanisms.
- Description of when each enforcement mechanism will be employed, including the path of escalation;
- Time frames for each step, including investigation of noncompliance, sequence and use of enforcement mechanisms, corrective action by responsible party, re-inspection of site, etc.
- Description of the methods to be used to track, either manually or electronically, instances of noncompliance, including such items as:
    - name of owner/operator of facility and/or the location or address;
    - type of site (e.g. IDDE, construction);
    - description of noncompliance;
    - description of enforcement action(s) used;
    - time frames for each step (e.g. investigation, corrective action, re-inspection);

- documentation of inspection and enforcement actions taken;
- documentation of referral to other departments or agencies; and
- date of violation resolution.

For existing permittees, the ERP must be reviewed annually and revised as needed. If revised during the reporting period, submit the ERP to EPD for review. For permittees designated after the issuance date of the permit, the ERP must be submitted within one year, with that year's annual report. The ERP must be implemented within six (6) months of EPD approval. Once approved, the ERP will become an addendum to the permittee's SWMP.

4.4 Impaired Waters

4.4.1 The requirements of Part 4.4.1 of this permit apply to those permittees with a population less than 10,000 at the time of permit issuance (see Appendix B) or at the time of designation:

The permittee must identify any impaired waters located within its permitted area, using the latest approved 305(b)/303(d) List of Waters (http://www.epd.georgia-305b303d-list-documents), which contain MS4 outfalls or are within one (1) linear mile downstream of MS4 outfalls. Also, the pollutant(s) of concern must be identified. If a Total Maximum Daily Load (TMDL) containing a wasteload allocation specific to one or more of the permittee's outfalls is approved, then the wasteload allocation must be incorporated into the SWMP. All previous and newly approved TMDLs within the permitted areas must be included in either the proposed Impaired Waters Plan (Plan) or a revision to the existing Plan. The permittee must develop a Plan to reduce the pollutant of concern, including:

- A list of the impaired waters and pollutant(s) of concern;
- A map showing the location of the impaired waters and all identified MS4 outfalls located on the impaired waters or occurring within one linear mile upstream of the waters;
- BMPs that will be implemented to address each pollutant of concern; and
- A schedule for implementing the BMPs.

For existing permittees, the Plan must be reviewed annually and if revisions are needed, submit the Plan to EPD for review with the subsequent annual report. For permittees designated after the issuance date of the permit, the Plan must be submitted with the annual report due within 4 years of designation. Once approved, the Plan will become an addendum to the SWMP.

Upon EPD approval of the Plan, the permittee must implement the chosen BMPs. After BMP implementation, each annual report must include an evaluation of the effectiveness of the chosen BMPs, and if necessary, revisions to existing BMPs or implementation of additional BMPs to reduce the pollutant of concern.

Each year, the permittee must review the List of Waters to determine if additional impaired waters within the permitted area have been listed. If additional impaired waters are present, then the permittee must amend the Plan to include a map showing these impaired waters and the outfalls to these waters, identify BMPs to address the pollutant of concern and a BMP implementation schedule. Each subsequent annual report must address Plan activities related to all of the impaired waters.

4.4.2 The requirements of Part 4.4.2 of this permit apply to those permittees with a population exceeding 10,000 at the time of permit issuance (see Appendix B) or at the time of designation:

The permittee must identify any impaired waters located within its permitted area, using the latest approved 305(b)/303(d) List of Waters (http://www.georgia.gov/georgia-305b303d-list-documents), which contain MS4 outfalls or are within one (1) linear mile downstream of MS4 outfalls. Also, the pollutant(s) of concern must be identified. For those impaired waters, the permittee shall propose a Monitoring and Implementation Plan (Plan) addressing each pollutant of concern. The permittee must annually check whether an impaired water within its permitted area has been added to the latest 305(b)/303(d) list. Newly listed waters must be addressed in the Plan and the SWMP must be revised accordingly. The permittee must report on all monitoring activities in subsequent annual reports. If a TMDL containing a wasteload allocation specific to one or more of the permittee's outfalls is approved, then the wasteload allocation must be incorporated into the SWMP. All previous and newly approved TMDLs within the permitted areas must be included in either the proposed Plan or a revision to the existing Plan.

The Plan shall include:

- Sample location, whether samples are collected instream (i.e. upstream and downstream), from outfalls during wet weather events, or a combination of both locations. Bacteriological samples must be collected instream. If the permittee chooses to conduct outfall sampling and there are multiple outfalls located on an impaired stream, then the permittee may choose representative outfalls for sampling in place of sampling all outfalls;
- Sample type, frequency, and any seasonal considerations;
- Implementation schedule to start monitoring for each pollutant of concern;
- Map showing the location of the impaired waters, the monitoring location, and all identified MS4 outfalls located on the impaired waters or occurring within one linear mile upstream of these waters, or a schedule for confirming the location of these outfalls; and
- Description of proposed BMPs to be used to control and reduce the pollutant(s) of concern and a schedule for implementation of these BMPs.

Each Annual Report shall include:

- Any monitoring data collected during the reporting period;
- An assessment of the data trends over time for each pollutant of concern. The assessment shall initially include a characterization of baseline conditions. The data assessment must include a written evaluation of whether water quality is improving, declining, fluctuating, or remaining constant. This assessment can be provided in the method chosen by the permittee (e.g. line graphs, narrative). If monitoring identifies that an upstream MS4 is the source of the pollutant of concern, then the permittee must notify the immediately adjacent MS4.
- An assessment to determine the effectiveness of the BMPs employed and what, if any, additional adaptive BMP measures may be necessary to return the waters to compliance with State water quality standards. If BMP revisions and/or additional BMPs are necessary, then the revised Plan must be submitted to EPD for review.

For those waters where the permittee is conducting monitoring, the data must be made available to other MS4 permittees upon request. In the event that monitoring is performed in accordance with an EPD-approved Sampling Quality and Assurance Plan, and a water is removed from the 303(d) list of impaired waters, then monitoring conducted under the Plan may cease. Monitoring for the purpose of de-listing an impaired water will benefit the permittee through reduced expenses associated with long-term testing.

Existing permittees must submit a modified Plan for any newly listed waters with the subsequent annual report. For permittees designated after the issuance date of the permit, the Plan must be submitted with the annual report due within 4 years of designation. Following review and comment on the Plan by EPD, the permittee will incorporate necessary revisions into the Plan. Once approved, the Plan will become an addendum to the SWMP.

4.5 Sharing Responsibility

4.5.1 The permittee may share implementation of one or more of the minimum measures with another entity, or the entity may assume full responsibility for that measure. However, the permittee may rely on another entity only if:

4.5.1.1 The other entity is either implementing or will be implementing the control measure;

4.5.1.2 The particular control measure or component of that measure is at least as stringent as the corresponding permit requirement; and

4.5.1.3 The other entity agrees to implement the control measure on the permittee's behalf through a written agreement, memorandum of

understanding, memorandum of agreement, contract, or other signed document that establishes the obligations of each party.

4.5.1.4 Written acceptance of this obligation is mandatory and must be maintained as a part of the SWMP. Conducting maintenance on a structure does not imply that the entity conducting the maintenance is the owner or operator of that structure. Even though the permittee may contract with another entity for control measure implementation, it is the permittee's responsibility to submit all NOIs, Annual Reports, Certification Statements, or any other information requested by EPD.

4.5.2 If the other entity fails to implement the control measure on the permittee's behalf, the permittee remains liable for any enforcement actions due to the failure to implement and/or report.

4.6 Stormwater Management Program Modifications

4.6.1 The SWMP may be modified by the permittee at any time. Written notification of any modifications must be submitted and EPD approval of the SWMP modification received.

4.6.2 EPD may require the permittee to modify the SWMP as needed to comply with the goals and requirements of the State Act, but specifically for any of the following reasons:

4.6.2.1 A change has occurred which will significantly impact the potential for the discharge of pollutants to the waters of the State of Georgia;

4.6.2.2 The permittee's program proves ineffective in controlling pollutants from the MS4 to the maximum extent practicable;

4.6.2.3 An adverse impact to water quality has been documented as a result of discharges from the MS4; or

4.6.2.4 To include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements.

The Director shall notify the permittee of the required modifications in writing and set forth a schedule for the permittee to develop and implement the modification(s). The permittee may propose alternative SWMP modifications to EPD.

PART 5. MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

5.1 Annual Report

The permittee shall prepare and submit an annual report to EPD. The report shall cover the period from January 1 – December 31 and shall be submitted by February 15th following the reporting period. For new permittees designated after the issuance date of this permit, the first annual report is due upon notification by EPD and February 15th of each subsequent year. EPD is preparing an electronic method of reporting (eReporting). EPD will notify the permittee when the system is available for use. Upon notification, the permittee will be required to submit the annual report electronically. The report must include for each BMP, at a minimum, the following:

5.1.1 The activities conducted during the reporting period, progress towards achieving the measurable goal(s), and compliance with the implementation schedule;

5.1.2 Any information necessary to support documentation of the activities completed during the reporting period;

5.1.3 A summary of the stormwater activities proposed for the next reporting period, including implementation schedules;

5.1.4 An evaluation of the effectiveness of the BMPs for each minimum control measure. A summary of any proposed changes to a BMP, measurable goal, implementation schedule, or any other changes to any of the minimum control measure; and

5.1.5 Notice if the permittee is relying on another entity to satisfy some portion of the permit obligations (as applicable).

5.2 Monitoring Requirements

Water quality monitoring, except for illicit discharge detection screening specified in Section 4.2.3 and monitoring of impaired waters specified in Section 4.4.2, is not required by this permit. If, however, the permittee conducts water quality monitoring at its MS4, it is required to comply with the following:

5.2.1 Samples and measurements taken for the purpose of monitoring shall be representative. Monitoring must be conducted according to approved test procedures set forth in 40 CFR Part 136, unless other approved test procedures have been specified, excluding IDDE field screening procedures.

5.2.2 Parameters shall be analyzed to the detection limits specified by EPD. If a parameter is not detected at or above the detection limit, a value of "NOT DETECTED" will be reported for that sample and the detection limit will also be reported.

5.2.3 If the permittee monitors any parameter at the designated location(s) more frequently than required by this permit, the permittee shall analyze all samples using approved analytical methods specified in Part 5.2.1 of this permit. EPD may require more frequent monitoring or the monitoring of other parameters not specified in this permit or the SWMP by written notification to the permittee.

5.2.4 All monitoring data not prepared in situ shall be prepared by a laboratory accredited by the State of Georgia in accordance with EPD's Rules for Commercial Environmental Laboratories 391-3-26, or, where the permittee does their own analysis with their own personnel, by a Laboratory Analyst certified in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act. In situ means that the sample is analyzed at the point of collection and has not been transported any distance.

5.3 Retention of Records

5.3.1 The permittee shall retain copies of all reports required by this permit, all monitoring information and records of all other data required by or used to demonstrate compliance with this permit, including any additional monitoring performed which is not required by this permit, for a period of at least three years. These periods may be modified by the Director by written notification at any time.

5.3.2 Records of monitoring information shall include:

- The date, exact place, time of sampling or measurement;
- The individual(s) who performed the sampling or measurement;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used; and
- The results of the analyses.

5.3.3 The permittee must submit its records to EPD upon written request. The permittee must make its records, including the NOI and SWMP, available to the public as required by open records requirements.

PART 6. STANDARD PERMIT CONDITIONS

6.1 Duty to Comply

6.1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and/or the State Act and is grounds for:

- Enforcement action;
- Permit termination, revocation and reissuance, or modification; or
- Denial of a permit renewal application.

6.1.2 The Clean Water Act and the State Act both provide that any person who falsifies or tampers with, or knowingly renders inaccurate any monitoring device or method required under this permit, or who makes any false statement, representation, or certification in any record submitted or required by this permit, including monitoring reports or reports of compliance or noncompliance, shall, if convicted, be punished by a fine or by imprisonment, or by both. Both Acts include procedures for imposing civil penalties for violations or for negligent or intentional failure or refusal to comply with any final or emergency order of the Director.

6.1.3 If, for any reason, the permittee does not comply with, or will be unable to comply with any condition specified in this permit, the permittee shall provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances, followed by a written report within five days. The written submission shall contain:

- Description of the noncompliance and its cause;
- Exact dates and times of noncompliance or, if not corrected, the anticipated time the noncompliance is expected to continue; and
- Steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

6.1.4 The permittee shall give written notice to EPD at least ten days before any planned changes in the permitted activity, which may result in noncompliance with permit requirements.

6.2 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6.3 Duty to Reapply/Continuation of an Expired General Permit

6.3.1 If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit by submitting an NOI in accordance with the requirements of this permit, using an NOI form provided by EPD. The NOI must be submitted at least 30 days prior to the expiration date of this permit to remain covered under the continued permit.

6.3.2 If this permit is not reissued or replaced prior to the expiration date, it may be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until one of the following occurs:

- Reissuance or replacement of this permit, at which time the permittee must comply with the NOI conditions of the new permit to maintain authorization to discharge; or
- Issuance of an Individual permit for the permittee's discharge; or
- A formal permit decision by the Director not to reissue this general permit. At that time, the permittee must seek coverage under an alternative permit or an individual permit.

6.4 Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

6.5 Proper Operation and Maintenance

The permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances), owned or operated by the permittee to achieve compliance with the terms and conditions of this permit and with the requirements of the SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of adequate backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

6.6 Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for permit modification, revocation reissuance, or termination, a notification of planned changes or anticipated noncompliance does not negate any permit condition.

6.7 Property Rights

The issuance of this permit does not convey any property rights of either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws and regulations.

6.8 Duty to Provide Information

The permittee shall provide to EPD, within a reasonable time frame, any information which the Director may request to determine compliance with this permit. The permittee shall also provide EPD with any requested copies of records required by this permit.

6.9 Inspection and Entry

The permittee shall allow the Director, the Regional Administrator of USEPA, or their authorized representatives, agents, or employees, after presentation of credentials to:

6.9.1 Enter the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the terms and conditions of this permit;

6.9.2 Have access to and copy, at reasonable times, any records required under the terms and conditions of this permit;

6.9.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

6.9.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

6.10 Signatory Requirements

6.10.1 The NOI form or permit application submitted to EPD shall be signed by either a principal executive officer or ranking elected official.

6.10.2 All other information submitted to EPD shall be signed by either the person designated in 6.10.1 or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- The authorization is made in writing by the official person described in 6.10.1 and submitted to EPD.
- The authorization specifies either an individual or a position having responsibility for the overall operation of the SWMP such as the position of manager, operator, superintendent, or position of equivalent responsibility.
- If an authorization is no longer accurate because of a different individual or position having been authorized, then a new authorization must be submitted to EPD prior to or together with any report, information, or application signed by the authorized representative.

6.10.3 Any person signing documents under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.11 Other Information

If the permittee becomes aware of a failure to submit any relevant facts or of submission of incorrect information in the NOI, Annual Report, or any report to EPD, the permittee shall promptly submit the relevant facts or information.

6.12 Availability of Reports

Except for data determined by EPD to be confidential under Section 16 of the State Act or by the Regional Administrator of the USEPA under 40 CFR Part 2, all reports prepared according to the terms of this permit shall be available for public inspection at an office of EPD under the Georgia Open Records Act. All monitoring data, permit applications, permittees' names and addresses, and permits shall not be considered confidential.

6.13 Severability

The provisions of this permit are severable. If any permit provision or the application of any permit provision to any circumstance is held invalid, the provision does not affect other circumstances or the remainder of this permit.

6.14 Contested Hearings

Any person who is aggrieved or adversely affected by any action of the Director shall petition the Director for a hearing within 30 days of notice of this action.

6.15 Civil and Criminal Liability

The permittee is liable for civil and criminal penalties for noncompliance with this permit and must comply with applicable State and Federal laws. The permit cannot be interpreted to relieve the permittee of this liability even if it has not been modified to incorporate new requirements.

6.16 Transfer of Ownership

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

6.17 Previous Permits

The previous iteration of NPDES Permit No. GAG610000 is hereby revoked by the issuance of this permit.

Appendix A

Definitions

Annual Report - the document submitted by the permittee on an annual basis summarizing the SWMP activities conducted during the previous reporting period.

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

Construction Activity - the disturbance of soils associated with clearing, grading, excavating, filling of land, or other similar activities which may result in soil erosion.

Construction General Permits or **CGPs** - the Georgia NPDES Permit for Stormwater Discharges Associated with Construction Activity Nos. GAR100001, GAR100002, and GAR100003, which identify the Manual for Erosion and Sediment Control in Georgia (Green Book) and stream buffer requirements.

Control Measure - any BMP or other method used to prevent or reduce the discharge of pollutants to the waters of the State of Georgia.

Clean Water Act or **CWA** - the Federal Clean Water Act (formerly known as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972), as amended.

Director - the Director of the Environmental Protection Division of the Department of Natural Resources, State of Georgia.

Discharge - the discharge of a pollutant.

Discharge-related Activities - includes activities which cause, contribute to, or result in stormwater point source pollutant discharge; and measures to control stormwater discharges, including the siting, construction and operation of BMPs to control, reduce or prevent stormwater pollution.

EPA or **USEPA** - the United States Environmental Protection Agency.

EPD - the Environmental Protection Division of the Department of Natural Resources, State of Georgia.

Existing Permittee - a Phase II municipal separate storm sewer system designated by EPD for coverage under this permit prior to the issuance date of this permit.

Illicit Connection - any man-made conveyance connecting a non-stormwater discharge directly to a municipal separate storm sewer system.

Illicit Discharge - any direct or indirect non-stormwater discharge to a municipal separate storm sewer system, including, but not limited to, sewage, process wastewater, and washwater. The discharge may be continuous or intermittent in occurrence.

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

Maximum Extent Practicable - the controls necessary for the reduction of pollutants discharged from a municipal separate storm sewer system. These controls may consist of a combination of BMPs, control techniques, system design and engineering methods, and such other provisions for the reduction of pollutants discharged from an MS4 as described in the SWMP.

Municipal Separate Storm Sewer System or **MS4** - a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains, owned or operated by a municipality or other public body, designed or used for collecting or conveying stormwater runoff and is not a combined sewer or part of a Publicly Owned Treatment Works.

National Pollutant Discharge Elimination System or **NPDES** - the program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.

New Development - land disturbing activities, structural development (construction, installation or expansion of a building or other structure), and/or creation of impervious surfaces on a previously undeveloped site.

New Permittee - a Phase II MS4 designated by EPD for coverage under this permit based on the 2020 or subsequent decennial U.S. Census, or based on other State designation criteria.

Notice of Intent or **NOI** - the mechanism used to register for coverage under this general permit.

Outfall - the most downstream point (i.e. final discharge point) on an MS4 where it discharges to receiving waters of the State.

Owner or **Operator** - the owner or operator of any MS4 or any activity subject to regulation under the NPDES program.

Permitted Area - the area of a City or County that is covered by this General NPDES Stormwater Permit. For a City, it refers to the entire City limits; for a County, it refers only to

that part of the County contained within an "Urbanized Area" as defined by the latest Decennial Census by the Bureau of the Census.

Point Source - any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged into the waters of the State of Georgia. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant - dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

POTW - Publicly Owned Treatment Works.

Redevelopment - the structural development (construction, installation or expansion of a building or other structure), creation or addition of impervious surfaces, replacement of impervious surface not part of routine maintenance, and land disturbing activities associated with structural or impervious development. Redevelopment does not include such activities as exterior remodeling.

Small MS4 (defined in 40 CFR Part 122.26(b)(16)) - all separate storm sewers that are owned or operated by the United States, the State of Georgia, city, town, borough, county, parish, district, association, or other public body (either created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity or a designated and approved management agency under Section 208 of the CWA that discharges to the waters of the State of Georgia but is not defined as a "large" or "medium" MS4. This term includes systems similar to municipal MS4s, such as systems at military bases, large hospitals, universities, prison complexes, and highways and other thoroughfares. This definition does not include separate storm sewers in very discrete areas, such as individual buildings.

State Act - the Georgia Water Quality Control Act, as amended.

State Rules or **Rules** - the Georgia Rules and Regulations for Water Quality Control.

Stormwater - stormwater runoff, snow melt runoff, and surface runoff and drainage.

SWMP or **Program** - the Stormwater Management Program required to be developed and implemented under the terms and conditions of this permit and refers to a comprehensive program to manage the quality of stormwater discharged from a MS4.

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

Appendix B

Phase II MS4s by Population

Phase II MS4s with a population greater than 10,000

Counties

Athens-Clarke	Dougherty	Jackson	Oconee
Barrow	Douglas	Jones	Paulding
Bartow	Effingham	Lee	Peach
Carroll	Fayette	Liberty	Rockdale
Catoosa	Floyd	Long	Spalding
Cherokee	Glynn	Lowndes	Walker
Columbia	Hall	Madison	Walton
Coweta	Henry	Murray	Whitfield
Dawson	Houston	Newton	

Cities

Albany (Dougherty Co.)
Brookhaven (DeKalb Co.)
Brunswick (Glynn Co.)
Canton (Cherokee Co.)
Cartersville (Bartow Co.)
Conyers (Rockdale Co.)
Cordele (Crisp Co.)
Covington (Newton Co.)
Dallas (Paulding Co.)
Dalton (Whitfield Co.)
Douglasville (Douglas Co.)
Dunwoody (DeKalb Co.)
Fayetteville (Fayette Co.)
Gainesville (Hall Co.)
Griffin (Spalding Co.)
Grovetown (Columbia Co.)
Hinesville (Liberty Co.)
Johns Creek (Fulton Co.)
Loganville (Walton Co.)
McDonough (Henry Co.)
Milton (Fulton Co.)
Newnan (Coweta Co.)
Peachtree City (Fayette Co.)
Peachtree Corners (Gwinnett Co.)
Perry (Houston Co.)
Rome (Floyd Co.)
Sandy Springs (Fulton Co.)
Stockbridge (Henry Co.)
Valdosta (Lowndes Co.)
Villa Rica (Carroll Co.)
Warner Robins (Houston Co.)
Woodstock (Cherokee Co.)

Appendix B (Continued)

Phase II MS4s with a population less than 10,000

Cities

Allenhurst (Liberty Co.)
Auburn (Barrow Co.)
Bogart (Oconee Co.)
Braselton (Jackson Co.)
Byron (Peach Co.)
Centerville (Houston Co.)
Chatsworth (Murray Co.)
Chickamauga (Walker Co.)
Cumming (Forsyth Co.)
Emerson (Bartow Co.)
Eton (Murray Co.)
Euharlee (Bartow Co.)
Flemington (Liberty Co.)
Flowery Branch (Hall Co.)
Fort Oglethorpe (Catoosa Co.)
Hahira (Lowndes Co.)
Hampton (Henry Co.)
Hephzibah (Richmond Co.)
Hiram (Paulding Co.)
Holly Springs (Cherokee Co.)
Hoschton (Jackson Co.)
Leesburg (Lee Co.)
Locust Grove (Henry Co.)
Lookout Mountain (Walker Co.)
Mountain Park (Fulton Co.)
Oakwood (Hall Co.)
Oxford (Newton Co.)
Porterdale (Newton Co.)
Remerton (Lowndes Co.)
Richmond Hill (Bryan Co.)
Ringgold (Catoosa Co.)
Rossville (Walker Co.)
Senoia (Coweta Co.)
Temple (Carroll Co.)
Tunnel Hill (Whitfield Co.)
Tyrone (Fayette Co.)
Varnell (Whitfield Co.)
Walnut Grove (Walton Co.)
Walthourville (Liberty Co.)
Watkinsville (Oconee Co.)
Winterville (Clarke Co.)

APPENDIX B

Chapter 17 - SOIL EROSION AND SEDIMENTATION CONTROL[1]

Footnotes:

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Editor's note—Ord. No. 927, § 1, adopted Aug. 21, 1996, repealed provisions formerly set out as ch. 17 of the Code, which pertained to soil erosion and sedimentation control and derived from Ord. No. 889, §§ I—VIII, adopted Mar. 26, 1990. Section 2 of Ord. No. 927 enacted a new ch. 17 to read as herein set out.

Cross reference— Buildings and building regulations, ch. 5; flood damage prevention, ch. 11; housing, ch. 12; zoning, ch. 23; subdivision regulations, app. B.

State Law reference— Erosion and Sedimentation Act of 1975, O.C.G.A. § 12-7-1 et seq.; control of soil erosion and sedimentation, O.C.G.A. § 12-7-3 et seq.

Sec. 17-1. - Title.

This chapter will be known as the "City of Brunswick Soil Erosion and Sedimentation Control Ordinance."

(Ord. No. 927, § 2, 8-21-1996)

Sec. 17-2. - Definitions.

The following definitions shall apply in the interpretation of this chapter, unless otherwise specifically stated:

Board means the board of natural resources.

Buffer means an area along the course of any state waters to be maintained in an undisturbed natural condition.

Commission means the state soil and water conservation commission.

Cut means a portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to excavated surface; also known as excavation.

Department means the department of natural resources.

Director means the director of the environmental protection division of the department of natural resources.

District means the Satilla Soil and Water Conservation District.

Division means the environmental protection division of the department of natural resources.

Drainage structure means a device composed of a virtually nonerodible material such as concrete, steel, plastic or other such material that conveys water from one place to another by intercepting the flow and carrying it to a release point for stormwater management, drainage control or flood control purposes.

Erosion means the process by which land surface is worn away by the action of wind, water, ice or gravity.

Erosion and sedimentation control plan means a plan for the control of soil erosion and sedimentation resulting from land-disturbing activity; also known as the "plan."

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

Finished grade means the final elevation and contour of the ground after cutting or filling and conforming to the proposed design.

Grading means altering the shape of ground surfaces to a predetermined condition; this includes stripping, cutting, filling, stockpiling and shaping or any combination thereof and shall include the land in its cut or filled condition.

Ground elevation means the original elevation of the ground surface prior to cutting or filling.

Issuing authority means the office of the building official of the city, which has been certified by the director of the environmental protection division of the department of natural resources as an issuing authority, pursuant to the Erosion and Sedimentation Act of 1975, as amended, O.C.G.A. § 12-7-1 et seq., or the division in those instances where an application for a permit is submitted to the division.

Land disturbing activity means any activity which may result in soil erosion from water or wind and the movement of sediments into state waters or onto lands within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting and filling of land, but not including agricultural practices as described in subsection 17-3(5).

Natural ground surface means the ground surface in its original state before any grading, excavation or filling.

Nephelometric turbidity units (NTU) means numerical units of measure based upon photometric analytical techniques for measuring the light scattered by finely divided particles of a substance in suspension. This technique is used to measure the extent of turbidity in water in which colloidally dispersed particles are present.

Permit means the authorization necessary to conduct a land-disturbing activity under the provisions of this chapter.

Person means the individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, state agency, municipality or other political subdivision of this state, any interstate body or any other legal entity.

Project means the entire proposed development project regardless of the size of the area of land to be disturbed.

Roadway drainage structure means a device such as a bridge, culvert or ditch composed of a virtually nonerodible material such as concrete, steel, plastic or other such material that conveys water under a roadway by intercepting the flow on one side of a traveled way consisting of one or more defined lanes, with or without shoulder areas, and carrying water to a release point on the other side.

Sediment means solid material, both organic and inorganic, that is in suspension, is being transported, or has been removed from its site of origin by air, water, ice or gravity as a product of erosion.

Sedimentation means the process by which eroded material is transported and deposited by the action of water, wind, ice or gravity.

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

Stabilization means the process of establishing an enduring soil cover of vegetation by the installation of temporary or permanent structures for the purpose of reducing to a minimum the erosion process and the resultant transport of sediment by wind, water, ice or gravity.

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

Structural erosion and sedimentation control measures means measures for the stabilization of erodible or sediment-producing areas by utilizing the mechanical properties of matter for the purpose of

either changing the surface of the land or storing, regulating or disposing of runoff to prevent excessive sediment loss. Examples of structural erosion and sediment control practices are riprap, sediment basins, dikes, level spreaders, waterways or outlets, diversions, grade stabilization structures, sediment traps and land grading, etc. Such measures can be found in the publication Manual for Erosion and Sediment Control in Georgia.

Trout streams means all streams or portions of streams within the watershed as designated by the game and fish division of the state department of natural resources under the provisions of the Georgia Water Quality Control Act, O.C.G.A. § 12-5-20 et seq. Streams designated as primary trout waters are defined as water supporting a self-sustaining population of rainbow, brown, or brook trout. Streams designated as secondary trout waters are those in which there is no evidence of natural trout reproduction, but are capable of supporting trout throughout the year.

Vegetative erosion and sediment control practices means practices for the stabilization of erodible or sediment-producing areas by covering the soil with:

(1) Permanent seeding, sprigging or planting, producing long-term vegetative cover;

(2) Temporary seeding, producing short-term vegetative cover; or

(3) Sodding, covering areas with a turf of perennial sod-forming grass.

Such practices can be found in the publication Manual for Erosion and Sediment Control in Georgia.

Watercourse means any natural or artificial watercourse, stream, river, creek, channel, ditch, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows either continuously or intermittently and which has a definite channel, bed and banks, including any area adjacent thereto subject to inundation by reason of overflow or floodwater.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

(Ord. No. 927, § 2, 8-21-1996)

Cross reference— Definitions and rules of construction generally, § 1-2.

Sec. 17-3. - Exemptions.

This chapter shall apply to any land-disturbing activity undertaken by any person on any land except for the following:

(1) Surface mining, as the same is defined in O.C.G.A. § 12-4-72;

(2) Granite quarrying and land clearing for such quarrying;

(3) Such minor land-disturbing activities as home gardens and individual home landscaping, repairs and maintenance work and other related activities which result in minor soil erosion;

(4) The construction of single-family residences, when such are constructed by or under contract with the owner for his or her own occupancy or the construction of single-family residences not a part of a larger project and not otherwise exempted under this paragraph; provided, however, that construction of any such residence shall conform to the minimum requirements as set forth in O.C.G.A. § 12-7-6 and that such requirements shall be enforced by the city;

(5) Agricultural operations as defined in O.C.G.A. § 1-3-3;

(6) Any project carried out under the technical supervision of the Soil Conservation Service of the United States Department of Agriculture;

(7) Any project involving 11/10 acres or less; provided, however, that this exemption shall not apply to any land-disturbing activity within 200 feet of the bank of any state waters, and for purposes of this subsection, "state waters" excludes channels and drainageways which have water in them only during and immediately after rainfall events and intermittent streams which do not have water in them year-round; provided, however, that any person responsible for a project which involves 11/10 acres or less, which involves land-disturbing activity, and which is within 200 feet of any such excluded channel or drainageway, must prevent sediment from moving beyond the boundaries of the property on which such project is located and provided, further, that nothing contained herein shall prevent the issuing authority from regulating any such project which is not specifically exempted by subsections (1)—(6), (8), or (9) of this section;

(8) Construction or maintenance projects, or both, undertaken or financed in whole or in part by the department of transportation, the Georgia Highway Authority, or the Georgia Tollway Authority; or any road construction or maintenance project, or both, undertaken by the city or county; provided, however, that such projects shall conform to the minimum requirements set forth in subsection 17-4(b);

(9) Any land-disturbing activities conducted by any electric membership corporation or municipal electrical system or any public utility under the regulatory jurisdiction of the public service commission, provided that any such land-disturbing activity shall conform to the minimum requirements set forth in subsection 17-4(b);

(10) Where this section requires compliance with the minimum requirements set forth in subsection 17-4(b), issuing authorities shall enforce compliance with the minimum requirements as if a permit had been issued and violations shall be subject to the same penalties as violations by permit holders.

(Ord. No. 927, § 2, 8-21-1996)

Sec. 17-4. - Minimum requirements.

(a) *General provisions.* Excessive soil erosion and resulting sedimentation can take place during land-disturbing activities. Therefore, plans for those land-disturbing activities which are not excluded by this chapter shall contain provisions for application of soil erosion and sedimentation control measures and practices. The provisions shall be incorporated into the erosion and sedimentation control plans. Soil erosion and sedimentation control measures and practices shall conform to the minimum requirements of subsection 17-4(b) of this chapter. The application of measures and practices shall apply to all features of the site, including street and utility installations, drainage facilities and other temporary and permanent improvements. Measures shall be installed to prevent or control erosion and sedimentation pollution during all stages of any land-disturbing activity.

(b) *Minimum requirements enumerated.* The property owner and/or his agents shall follow sound conservation and engineering practices to prevent and minimize erosion and resulting sedimentation consistent with the following requirements:

(1) Stripping of vegetation, regrading and other development activities shall be conducted in a manner so as to minimize erosion.

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

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

(4) Whenever feasible, natural vegetation shall be retained, protected and supplemented.

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

(6) Disturbed soil shall be stabilized as quickly as practicable.

(7) Temporary vegetation or mulching shall be employed to protect exposed critical areas during development.

(8) Permanent vegetation and structural erosion control measures shall be installed as soon as practicable.

(9) To the extent necessary, sediment in runoff water must be trapped by the use of debris basins, sediment basins, silt traps or similar measures until the disturbed area is stabilized. As used in this subsection, a disturbed area is stabilized when it is brought to a condition of continuous compliance with the requirements of this section.

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

(11) Cuts and fills may not endanger adjoining property.

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

(13) Grading equipment must cross flowing streams by means of bridges or culverts except when such methods are not feasible, provided, in any case, that such crossings are kept to a minimum.

(14) Erosion and sedimentation control plans shall include provisions for treatment to control any source of sediments and adequate sedimentation control facilities to retain sediments on site or preclude sedimentation of adjacent streams beyond the levels specified in subsection (17) of this section.

(15) Land-disturbing activities shall not be conducted within 25 feet of the banks of any state waters, as measured from the point where vegetation has been wrested by normal stream flow or wave action, except where the director determines to allow a variance that is at least as protective of natural resources and the environment, where otherwise allowed by the director pursuant to O.C.G.A. § 12-2-8, or where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented; provided, however, that buffers of at least 25 feet established pursuant to O.C.G.A. § 12-5-440 et seq. title shall remain in force unless a variance is granted by the director as provided in this paragraph; and

(16) Land-disturbing activities shall not be conducted within 100 horizontal feet, as measured from the point where vegetation has been wrested by normal stream flow or wave action, of the banks of any state waters classified as "trout streams" pursuant to O.C.G.A. § 12-5-29 unless a variance for such activity is granted by the director except where a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented.

(17) a. 1.
Discharges of stormwater runoff from disturbed areas shall be controlled to the extent that turbidity of the stormwater runoff shall not exceed 100 nephelometric turbidity units (NTU) higher than the turbidity level of the receiving stream immediately upstream from the stormwater runoff discharge at the time of such discharge; provided, however, that for trout streams, such maximum allowable turbidity level shall be 50 nephelometric turbidity units (NTU) higher than the turbidity level of such stream immediately upstream from the stormwater runoff discharge at the time of such discharge. Due to the various soils and hydrological and water conditions throughout the state, the division shall have the discretion to vary from the aforesaid nephelometric turbidity units (NTU).

2. On or after July 1, 1994, the board of natural resources shall be authorized to establish the maximum allowable turbidity levels at higher or lower levels or establish an equivalent method of determining the amount of sedimentation with corresponding standards by rule or regulation, but only after the board has considered the results of a study of nephelometric turbidity unit levels and alternative stands done under the

auspices of the board of regents. Upon the adoption of such rule or regulation, the provisions of subsection 1. of this subsection a. shall be superseded by the provisions of this subsection 2.

b. Nothing contained in this chapter shall prevent an issuing authority from adopting rules and regulations, ordinances, or resolutions which contain requirements that exceed the minimum requirements in subsection 17-4(b).

1. If during a ten-year rainfall event or a rainfall event of greater magnitude, stormwater runoff turbidity exceeds the levels provided for in subsection 17-4(b)(17) or other turbidity requirements adopted by an issuing authority, such exceeding of such levels shall not constitute a violation of the requirements provided for or authorized under this Code section of all such requirements other than those relating to turbidity have been met.

2. This subsection shall cease to apply upon the adoption of a rule or regulation as provided for in subsection 17-4(b)(17).

(Ord. No. 927, § 2, 8-21-1996)

Sec. 17-5. - Application/permit process.

(a) *General.* The property owner, developer and designated planners and engineers shall review the general development plans and detailed plans of the issuing authority that affect the tract to be developed and the area surrounding it. They shall review the zoning ordinance, subdivision regulations, flood damage prevention ordinance, this chapter, and other ordinances which regulate the development of land within the jurisdictional boundaries of the issuing authority. However, the property owner is the only party that can obtain a permit.

(b) *Application requirements.*

(1) No person shall conduct any land-disturbing activity within the jurisdictional boundaries of the city without first obtaining a permit from the building official to perform such activity.

(2) The application for a permit shall be submitted to the issuing authority and must include the applicant's erosion and sedimentation control plan with supporting data, as necessary. Said plans shall include, as a minimum, the data specified in subsection 17-5(c). Soil erosion and sedimentation control plans shall conform to the provisions of subsection 17-4(b). Application for a permit will not be accepted unless accompanied by two copies of the applicant's soil erosion and sedimentation control plans.

(3) A fee, in an amount of $150.00 shall be charged for each acre of the project area or fraction thereof.

(4) Immediately upon receipt of an application and plan for a permit, the issuing authority shall refer the application and plan to the district for its review and approval or disapproval concerning the adequacy of the erosion and sedimentation control plan. The results of the district review shall be forwarded to the issuing authority. No permit will be issued unless the plan has been approved by the district, and any variances required by subsections 17-4(b)(16) and (17) and bonding, if required as per subsection 17-5(b)(5), have been obtained. Such review will not be required if the issuing authority and the district have entered into an agreement which allows the issuing authority to conduct such review and approval of the plan without referring the application and plan to the district.

(5) a. If a permit applicant has had two or more violations of previous permits, this section, or the Erosion and Sedimentation Act, as amended, within three years prior to the date of the filing of the application under consideration, the issuing authority may deny the permit application.

b. The issuing authority may require the permit applicant to post a bond in the form of government security, cash, irrevocable letter of credit, or any combination thereof up to, but not exceeding, $3,000.00 per acre or fraction thereof of the proposed land-disturbing activity, prior to issuing the permit. If the applicant does not comply with this chapter or with the conditions of the permit after issuance, the issuing authority may call the bond or any part thereof to be forfeited and may use the proceeds to hire contractor to stabilize the site of the land-disturbing activity and bring it into compliance. These provisions shall not apply unless there is in effect an ordinance or statute specifically providing for hearing and judicial review of any determination or order of the issuing authority with respect to alleged permit violations.

(c) *Plan requirements.*

(1) Plans must be prepared to meet the minimum requirements as contained in subsection 17-4(b) of this chapter. Conformance with the minimum requirements may be attained through the use of designed criteria in the current issue of the Manual for Erosion and Sediment Control in Georgia, published by the state soil and water conservation commission as a guide, or through the use of alternate design criteria which conform to sound conservation and engineering practices. The Manual for Erosion and Sediment Control in Georgia is hereby incorporated by reference into this chapter. The plan for the land-disturbing activity shall consider the interrelationship of the soil types, geological and hydrological characteristics, topography, watershed, vegetation, proposed permanent structures including roadways, constructed waterways, sediment control and stormwater management facilities, local ordinances and state laws.

(2) Data required for site plan:

a. Narrative or notes, and other information: Notes or narrative to be located on the site plan in general notes or in erosion and sediment control notes;

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

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

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

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

f. Activity schedule showing the anticipated starting and completion dates for the project. Include the statement in bold letters that: "The installation of erosion and sedimentation control measures and practices shall occur prior to or concurrent with land-disturbing activities";

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

h. Vegetative plan for all temporary and permanent vegetative practices, including species, planting dates and seeding, fertilizer, lime, and mulching rates. The vegetative plan should show options for year-round seeding;

i. Detail drawings for all structural practices. Specifications may follow guidelines set forth in the Manual for Erosion and Sediment Control in Georgia;

j. Maintenance statement - "Erosion and sedimentation control measures will be maintained at all times. Additional erosion and sedimentation control measures will be installed if deemed necessary by onsite inspection."

(3) Maps, drawings and supportive computations shall bear the signature/seal of a registered or certified professional in engineering, architecture, landscape architecture, land surveying or erosion and sedimentation control. The certified plans shall contain:

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

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

c. Boundary line survey;

d. Delineation of disturbed areas within project boundary;

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

Map Scale	Ground Slope (percent)	Contour Interval (feet)
1 inch = 100 ft. or larger scale	Flat (0—2)	0.5 or 1
	Rolling (2—8)	1 or 2
	Steep (8+)	2 or 5

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

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

h. Delineate the 25-foot buffer adjacent to state waters and the 35-foot buffer in MRPA areas;

i. Delineate the 100-foot horizontal buffer along designated trout streams, where applicable;

j. Location of erosion and sedimentation control measures and practices, using coding symbols from the Manual for Erosion and Sediment Control in Georgia, chapter 6.

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

(d) *Permits.*

(1) Permits shall be issued or denied as soon as practicable but in any event not later than 45 days after receipt by the issuing authority of a completed application, providing variances and bonding are obtained, where necessary.

(2) No permit shall be issued by the issuing authority unless the erosion and sedimentation control plan has been approved by the district and the issuing authority has affirmatively determined that the plan is in compliance with this chapter, any variances required by subsections 17-4(b)(16) and (17) are obtained, bonding requirements, if necessary, as per section 17-5, are met and all ordinances and rules and regulations in effect within the jurisdictional boundaries of the issuing authority are met. If the permit is denied, the reason for denial shall be furnished to the applicant.

(3) If the tract is to be developed in phases, then a separate permit shall be required for each phase.

(4) The permit may be suspended, revoked, or modified by the issuing authority, as to all or any portion of the land affected by the plan, upon finding that the holder or his successor in title is not in compliance with the approved erosion and sedimentation control plan or that the holder or his successor in title is in violation of this chapter. A holder of a permit shall notify any successor in title to him as to all or any portion of the land affected by the approved plan of the conditions contained in the permit.

(5) No permit shall be issued unless the applicant provides a statement by the finance director certifying that all ad valorem taxes levied against the property and due and owing have been paid.

(Ord. No. 927, § 2, 8-21-96)

Sec. 17-6. - Inspection and enforcement.

(a) The building official will periodically inspect the sites of land-disturbing activities for which permits have been issued to determine if the activities are being conducted in accordance with the plan and if the measures required in the plan are effective in controlling erosion and sedimentation. If, through inspection, it is deemed that a person engaged in land-disturbing activities as defined herein has failed to comply with the approved plan, with permit conditions, or with the provisions of this chapter, a written notice to comply shall be served upon that person. The notice shall set forth the measures necessary to achieve compliance and shall state the time within which such measures must be completed. If the person engaged in the land-disturbing activity fails to comply within the time specified, he shall be deemed in violation of this chapter.

(b) The building official shall have the power to conduct such investigations as he may reasonably deem necessary to carry out duties as prescribed in this chapter, and for this purpose to enter at reasonable times upon any property, public or private, for the purpose of investigation and inspecting the sites of land-disturbing activities.

(c) No person shall refuse entry or access to any authorized representative or agent of the issuing authority, the conservation commission, the district or division who requests entry for the purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out his official duties.

(Ord. No. 927, § 2, 8-21-1996)

Sec. 17-7. - Penalties and incentives.

(a) *Failure to obtain a permit for land-disturbing activity.* If a person commences any land-disturbing activity requiring a land-disturbing permit as prescribed in this chapter without first obtaining the permit, the person shall be subject to revocation of his business license, work permit or other authorization for the conduct of a business and associated work activities within the jurisdictional boundaries of the issuing authority.

(b) *Stop work orders.* Upon notice from the issuing authority, work on any project that is being done contrary to the provisions of this chapter or in a dangerous or unsafe manner shall be immediately stopped. Such notice shall be in writing and shall be given to the owner of the property, his authorized agent or the person or persons in charge of the activity on the property, and shall state the conditions under which work may be resumed. Where an emergency exists, no written notice shall be required.

(c) *Bond forfeiture.* If, through inspection, it is determined that a person engaged in land-disturbing activities has failed to comply with the approved plan, a written notice to comply shall be served upon that person. The notice shall set forth the measures necessary to achieve compliance with the plan and shall state the time within which such measures must be completed. If the person engaged in the land-disturbing activity fails to comply within the time specified, he shall be deemed in violation of this chapter and, in addition to other penalties, shall be deemed to have forfeited his performance bond, if required to post one under the provisions of subsection 17-5(b)(5). The issuing authority may call the bond or any part thereof to be forfeited and may use the proceeds to hire a contractor to stabilize the site of the land-disturbing activity and bring it into compliance.

(d) *Monetary penalties.* Any person violating any provision of this chapter, permitting conditions, or stop-work order shall be liable for a monetary penalty not to exceed $2,500.00 per day, by a sentence of

imprisonment not exceeding 60 days in jail or both fine and jail or work alternative. Each day during which the violation or failure or refusal to comply continues shall constitute a separate violation.

(e) *EPD enforcement action.* Upon written request made by this issuing authority, the director may determine that the public interest requires the initiation of an enforcement action by the division. Such request shall be accompanied by documentation that demonstrates to the director's satisfaction that local remedy has been exhausted and that compliance with local ordinances or resolutions has not been achieved. Where such a determination is made and this issuing authority has failed to secure compliance, the director may implement the board's rules and seek compliance under provision of O.C.G.A. § 12-7-12 through § 12-7-15. For the purposes of this subsection, enforcement actions taken by the division pursuant to O.C.G.A. § 12-7-12 through § 12-7-15 shall not require prior revocation of certification of this issuing authority.

(Ord. No. 927, § 2, 8-21-1996)

Sec. 17-8. - Administrative appeal; judicial review; and liability.

(a) *Administrative remedies.* The suspension, revocation, modification or grant with condition of a permit by the issuing authority upon finding that the holder is not in compliance with the approved erosion and sediment control plan; or that the holder is in violation of permit conditions; or that the holder is in violation of any ordinance; shall entitle the person submitting the plan or holding the permit to a hearing before the city manager within ten days after receipt by the issuing authority of written notice of appeal.

(b) *Judicial review.* Any person aggrieved by a decision or order of the issuing authority, after exhausting his administrative remedies, shall have the right to appeal de novo to the superior court of the county.

(c) *Liability.*

(1) Neither the approval of a plan under the provisions of this chapter, nor the compliance with provisions of this chapter shall relieve any person from responsibility for damage to any person or property otherwise imposed by law nor impose any liability upon the issuing authority or district for damage to any person or property.

(2) The fact that a land-disturbing activity for which a permit has been issued results in injury to the property of another shall neither constitute proof of nor create a presumption of a violation of the standards provided for in this chapter or the terms of the permit.

(Ord. No. 927, § 2, 8-21-1996)

Chapter 22A - STORMWATER MANAGEMENT

ARTICLE I. - GENERAL PROVISIONS

Sec. 22A-1. - Findings of fact.

It is hereby determined that:

a. Land development projects and associated changes in the landscape alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition;

b. This stormwater runoff contributes to increased quantities of water-borne pollutants; and

c. Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from existing and future development sites.

Therefore, the city establishes this set of water quality and quantity policies applicable to all surface waters to provide reasonable guidance for the regulation of stormwater runoff for the purpose of protecting local water resources from degradation. It is determined that the regulation of stormwater runoff discharges from land development projects and other construction activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will prevent threats to public health and safety.

(Ord. No. 984, § 1(22A-1), 12-13-2006)

Sec. 22A-2. - Purpose.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This article seeks to meet that purpose through regulation of activities that can through proper regulation improve and maintain those water resources that lie partially or wholly within the jurisdictional boundaries of the city.

(Ord. No. 984, § 1(22A-2), 12-13-2006)

Sec. 22A-3. - Compatibility with other permit and ordinance requirements.

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

(Ord. No. 984, § 1(22A-3), 12-13-2006)

Sec. 22A-4. - Responsibility for administration.

Unless otherwise stated, the city public works director (hereafter referred to as director) shall administer, implement, and enforce the provisions of this article. Any powers granted or duties imposed upon the director may be delegated in writing by the director of public works to persons or entities acting in the beneficial interest of or in the employ of the city.

(Ord. No. 984, § 1(22A-4), 12-13-2006)

Sec. 22A-5. - Ultimate responsibility.

The standards set forth herein and promulgated pursuant to this article unless otherwise noted are minimum standards; therefore this ordinance does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

(Ord. No. 984, § 1(22A-5), 12-13-2006)

Sec. 22A-6. - Definitions.

When used in this article, the following words and phrases shall have the meaning given in this section. Words not defined herein shall be construed to have a meaning given by common and ordinary use as defined by Webster's Third New International Dictionary, copyright 1970. The term "shall" is mandatory. When not inconsistent with the context, words used in the singular number include the plural and those used in the plural number include the singular. Words used in the present tense include the future. The following definitions shall apply in the interpretation and enforcement of this article, unless otherwise specifically stated:

As-built drawings. Amended site plans specifying the locations, dimensions, elevations, capacities and operational capabilities of road and drainage structures and facilities as they have been constructed.

Best management practices (BMPs). Structural devices to store or treat stormwater runoff or non-structural programs or practices both of which are designed to prevent or reduce the pollution of the waters of the State of Georgia and provide other amenities.

Buffer. An area along the course of any state waters or declared city waterway to be maintained in an undisturbed and natural condition.

Construction. Any alteration of land for the purpose of achieving its development of changing use, including particularly any preparation for, building of, or erection of a structure.

Cut. A portion of land surface or area from which earth has been removed or will be removed by excavation; the depth below original ground surface to excavated surface. Also known as excavation.

Design storm. The rainfall event of such size and frequency as described in the Georgia Stormwater Management Manual or local design manual, which is used for the design of stormwater facilities.

Developer. Any person who acts in his own behalf or as the agent of any owner of property and engages in alteration of land or vegetation in preparation for construction activity.

Development. Any action in preparation for construction activities which result in alteration of either land or vegetation other than such minor land disturbing activities as home gardens and individual home landscaping repairs or maintenance work which result in minor soil erosion.

Drainage. A general term applied to the removal of surface or subsurface water from a given area either by gravity or by pumping, commonly applied herein to surface water.

Drainage structure. Any stormwater conveyance structure as defined below, and any piping or ditching for stormwater management purposes.

Drainage system. The surface and subsurface system for the removal of water from the land, including both the natural elements of streams, marshes, and ponds, whether of an intermittent or continuous nature, and the manmade element which includes culverts, ditches, channels, retention facilities and the storm sewer system.

DRT. The group of departmental representatives assigned by the city manager to meet periodically and review construction, subdivision, and other plans, also referred to as the "development review team."

Erosion. The process by which land surface is worn away by the action of wind, water, ice or gravity.

Flood. A temporary rise in the level of rivers, streams, lakes, marshes and ocean, which results in inundation of areas not ordinarily covered by water.

Floodplain. Any land area susceptible to being inundated by flood waters from any source.

Grading. Altering ground surfaces to specified elevations, dimensions, and/or slopes; this includes stripping, cutting, filling, stockpiling and shaping or any combination thereof and shall include the land in its cut or filled condition.

Hazardous materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Hotspot. An area where the land use or activities generate or have the potential to generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

Illicit discharge. Any discharge as defined in 40 CFR Part 122.26(b)(2) to a MS4 that is not entirely composed of stormwater, except those discharges authorized under a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

Illicit connections. Any manmade conveyance connecting a discharge directly to a MS4.

Impervious surface. A manmade structure or surface which prevents the infiltration of stormwater into the ground below the structure or surface. Structures or surfaces which are constructed so as to only minimally affect the infiltration of stormwater are not considered impervious surfaces.

Industrial activity. Activities subject to NPDES industrial permits as defined in 40 CFR, Section 122.26 (b)(14).

Land disturbing activity. Any activity which results in changes in the volume or flow rates of rainfall runoff, soil erosion from water or wind; or the movement of sediments into state waters or onto land within the state, including, but not limited to, clearing, dredging, grading, excavating, transporting, and filling of land.

Live retention. That quantity of water capable of being effectively contained by a designated facility for stormwater storage for a specified period of time.

Lot. A tract, portion or parcel of land separated from other tracts, portions or parcels by description on a subdivision plat of record or survey map or described by metes and bounds, and intended to be used to facilitate transfer of ownership or for building development. For the purposes of this chapter, the term does not include any portion of a dedicated right-of-way.

Maintenance of stormwater facility. Preserving the enclosing walls or impounding embankment of the retention facility in good condition; ensuring structural soundness, functional adequacy and freedom from sediment; and rectifying any unforeseen erosion problems.

Municipal separate storm sewer system (MS4). A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, swales, manmade channels or storm drains, owned or operated by a municipality or other public, designed or used for collecting or conveying storm water runoff and is not a combined sewer or part of a publicly owned treatment works.

National pollutant discharge elimination system (NPDES) stormwater discharge permit. A permit issued by the U.S. Environmental Protection Agency (or by the State of Georgia under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Natural ground surface. The ground surface in its original state before any grading, excavation or filling.

Nephelometric turbidity units (NTU). Numerical units of measure based upon photometric analytical techniques for measuring the light scattered by finely divided particles of a substance in suspension. This

technique is used to estimate the extent of turbidity in water in which colloidally dispersed particles are present.

Non-stormwater discharge. Any discharge to the storm drain system that is not composed entirely of stormwater.

Permit. The authorization necessary to conduct a land-disturbing activity under the provisions of this article.

Person. Any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, state agency, municipality, or other political subdivision of this state, any interstate body or any other legal entity.

Pollution. The contamination or other significant alteration of any water's physical, chemical or biological properties, including, but not limited to, a change in temperature, taste, color, turbidity, or odor of such waters or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to render such waters harmful, detrimental or injurious to the public health, safety or welfare or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Pollutant. Any impurity or waste material that degrades the physical, chemical, biological or radiological integrity of surface or subsurface waters.

Pretreatment. The onsite reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in stormwater prior to or in lieu of discharging or otherwise introducing such pollutants into the publicly owned drainage system.

Project. The entire proposed development project regardless of the size of the area of land to be disturbed.

Stormwater facility. A facility which provides for storage of stormwater runoff and controlled release of this runoff during and after a flood storm.

Right-of-way. "Right-of-way" shall mean a strip or parcel of land occupied by or intended to be occupied by a street, crosswalk, pedestrian path, cart path, utility system, water main, sanitary sewer or storm drain sewer main, drainage ditches and watercourses or any other valid public use. The usage of the term "right-of-way" for land platting purposes shall mean that every right-of-way hereafter established and shown on a record or final plat is to be separate and distinct from the lots or parcels adjoining such right-of-way, and not included within the dimensions or areas of such other lots or parcels. Rights-of-way intended for streets, crosswalks, water mains, sanitary sewers, storm drains or other use involving maintenance by a public [agency, shall be dedicated or deeded to public] use by the maker of the plat on which such right-of-way is established.

Sediment. Solid material, both organic and inorganic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, ice, or gravity as a product of erosion.

Sedimentation. The action or process of forming or depositing sediment.

Stormwater. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation

Stormwater runoff. The portion of a precipitation on the land which reaches the drainage system.

Stream. Natural, running water flowing continuously or intermittently in a channel on or below the surface of the ground.

Structure. Anything constructed or erected, the use of which requires a location on the ground, or attached to something having a location on the ground, including, but not limited to, tennis courts, fences, swimming pools, and buildings.

Subdivision. Subdivision includes all divisions of a tract or parcel of land into two or more lots, building sites, or other divisions for the purposes, whether immediate or future, of sale, gift, or building development and includes all divisions or development of land involving a new street or a change in an existing street. It shall also include resubdivision, the process of subdividing and the land or area

subdivided; provided, however, divisions of land into parcels of five acres or more where no new street is involved are not included in this definition.

Watercourse. Any natural or man-made conveyance channel, stream, river, creek, channel, ditch, swale, canal, conduit, culvert, drain, waterway, gully, ravine, or wash in which stormwater flows either continuously or intermittently and which has a definite channel, bed and banks, and including any areas adjacent thereto subject to inundation by reason of overflow or floodwater.

(Ord. No. 984, § 1(22A-6), 12-13-2006)

Secs. 22A-7—22A-20. - Reserved.

ARTICLE II. - ILLICIT DISCHARGE PROHIBITION

Sec. 22A-21. - Purpose.

The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the city through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable. The objectives of this article are:

a. To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user.

b. To prohibit illicit connections and discharges to the MS4.

c. To establish legal authority to carry out all inspection; surveillance and monitoring; and enforcement procedures as necessary to ensure compliance with this article.

(Ord. No. 984, § 1(22A-7), 12-13-2006)

Sec. 22A-22. - Applicability.

This article shall apply to all non-stormwater discharges entering the storm drain system generated on any developed or undeveloped lands unless explicitly exempted by the city.

(Ord. No. 984, § 1(22A-8), 12-13-2006)

Sec. 22A-23. - Prohibition of illegal discharges.

No person shall discharge or cause to be discharged into the MS4 or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

a. The following discharges are exempt from discharge prohibitions established by this article: water line flushing or other potable water sources, landscape irrigation or lawn watering, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated - less than one PPM chlorine), fire fighting activities, and any other water source not containing pollutants.

b. Discharges specified in writing by the director as being necessary to protect public health and safety.

c. Dye testing is an allowable discharge, but requires a verbal notification to the director prior to the time of the test followed by written notice within ten days.

d. Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that approval has been granted for any discharge to the storm drain system.

e. Any stormwater discharge regulated under an NPDES stormwater discharge permit for industrial activities provided that the discharger is in full compliance with all requirements of the permit. Proof of compliance with said permit may be required in a form acceptable to the director prior to the allowing of discharges to the MS4.

f. Any stormwater discharge regulated under an NPDES stormwater discharge permit for construction activities or other local land disturbance permit provided that the discharger is in full compliance with all requirements of the permit. Proof of compliance with said permit may be required in a form acceptable to the director prior to the allowing of discharges to the MS4.

(Ord. No. 984, § 1(22A-9), 12-13-2006)

Sec. 22A-24. - Prohibition of illicit connections.

The construction, use, maintenance or continued existence of illicit connections to the MS4 or watercourses is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. A person is considered to be in violation of this article if a person connects a line conveying any material to the MS4, allows such a connection to continue without a permit from the city, or alters the existing flow of any watercourse.

(Ord. No. 984, § 1(22A-10), 12-13-2006)

Sec. 22A-25. - Suspension due to illicit discharges in emergency situations.

The director may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the director may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.

(Ord. No. 984, § 1(22A-11), 12-13-2006)

Sec. 22A-26. - Suspension due to the detection of illicit discharge.

Any person discharging to the MS4 or watercourses in violation of this article may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The director will notify a violator of the proposed termination of its MS4 access. The violator may petition the director for a reconsideration and hearing. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the public works director.

(Ord. No. 984, § 1(22A-12), 12-13-2006)

Sec. 22A-27. - [Facilities to which this section applies.]

This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity.

a. The director or designated representatives shall be permitted to enter and inspect facilities subject to regulation under this article as often as may be necessary to determine compliance with this article. If a discharger has security measures in force, which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the city.

b. Facility operators shall allow city personnel ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.

c. The director shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the director to conduct monitoring and/or sampling of the facility's stormwater discharge.

d. The director has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

e. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the director and shall not be replaced. The costs of clearing such access shall be borne by the operator.

f. Unreasonable delays in allowing City of Brunswick personnel access to a permitted facility are a violation of a stormwater discharge permit and of this article. A person who is the operator of a facility with a NPDES permit to discharge stormwater associated with industrial activity commits a violation if the person denies city personnel reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this article.

g. If city personnel are refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this article, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the director may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 984, § 1(22A-13), 12-13-2006)

Sec. 22A-28. - Specification of best management practices (BMPs).

The city may adopt requirements identifying best management practices for any activity, operation, or facility, which may cause or contribute to pollution or contamination of stormwater, the MS4 or watercourses, or waters of the United States.

(Ord. No. 984, § 1(22A-14), 12-13-2006)

Sec. 22A-29. - Pollution prevention in new facilities.

The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the MS4 or watercourses through the use of these structural and non-structural BMPs.

(Ord. No. 984, § 1(22A-15), 12-13-2006)

Sec. 22A-30. - Pollution prevention in existing facilities.

Any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4 or watercourses.

(Ord. No. 984, § 1(22A-16), 12-13-2006)

Sec. 22A-31. - Discharge permits from regulatory agencies other than the City of Brunswick.

Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this article. BMPs designated for compliance with the NPDES permit or BMPs implemented as a result of action taken in compliance of this article shall be included in a stormwater pollution prevention plan (SWPP) as necessary for compliance with requirements of the NPDES permit.

(Ord. No. 984, § 1(22A-17), 12-13-2006)

Sec. 22A-32. - Watercourse protection.

Every person or persons owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse. Those persons owning property on either side (abutting) of a watercourse, or their lessee, are responsible from their property line to the center of the watercourse and are subject to the same rules and regulations applicable to those persons having a watercourse flow through their property.

(Ord. No. 984, § 1(22A-18), 12-13-2006)

Sec. 22A-33. - Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the MS4 or watercourses, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the public works department in person, by phone, facsimile or email no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the director of public works within three business days of the verbal notice. The notification of the discharge of materials to the director shall be in addition to notification of other applicable agencies, regional, state and federal authorities. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

(Ord. No. 984, § 1(22A-19), 12-13-2006)

Sec. 22A-34. - Enforcement.

(a) Whenever the director finds that a person has violated a prohibition or failed to meet a requirement of this article, the director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

(1) The performance of monitoring, analyses, and reporting;

(2) The elimination of illicit connections or discharges;

(3) That violating discharges, practices, or operations shall cease and desist;

(4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(5) Payment of a fine to cover administrative and remediation costs; and

(6) The implementation of source control or treatment BMPs.

(b) If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work may be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

(c) Any person receiving a notice of violation may appeal the determination of the director. The notice of appeal must be received within ten days from the date of the notice of violation. Hearing on the appeal before the appropriate authority or his/her designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the reviewing authority or their designee shall be final.

(d) If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within ten days of the decision of the reviewing authority upholding the decision of the director, then representatives of the director shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow city personnel or designated contractor to enter upon the premises for the purposes set forth above.

(e) Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within 30 days. If the amount due is not paid within a timely manner as determined by the decision of the reviewing authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

(f) It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this article. If a person has violated or continues to violate the provisions of this article, the director may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

(g) In lieu of enforcement proceedings, penalties, and remedies authorized by this article, the city may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

(h) In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the

violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

(i) Any person that has violated or continues to violate this article shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty in Brunswick Municipal Court in accordance with chapter 15 of the Municipal Code of Brunswick; each day a violation continues shall constitute a separate offense. The city may recover all attorneys' fees court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

(j) The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

(Ord. No. 984, § 1(22A-20), 12-13-2006)

Secs. 22A-35—22A-50. - Reserved.

ARTICLE III. - POST CONSTRUCTION STORMWATER RUNOFF

Sec. 22A-51. - Purpose.

The purpose of this article is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This article seeks to meet that purpose through the following objectives:

a) Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of stream and drainage channels;

b) Minimize increases in nonpoint source pollution caused by stormwater runoff from development which would otherwise degrade local water quality;

c) Minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and

d) Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

(Ord. No. 984, § 1(22A-21), 12-13-2006)

Sec. 22A-52. - Applicability.

This article shall be applicable to all subdivision or site plan applications, unless eligible for an exemption or granted a waiver by the director under the specifications of section [22A-54] of this article. This article also applies to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development that meets the following applicability criteria, even though multiple separate and distinct land development activities may take place at different times on different schedules.

a. New development that involves the creation of 5,000 square feet or more of impervious cover, or that disturbs one acre or more of land;

b. Redevelopment that includes the creation, addition or replacement of 5,000 square feet or more of impervious cover, or that involves other land development activity of one acre or more;

c. Any new development or redevelopment, regardless of size, that is defined by the development review team (DRT) to be a hotspot land use; or,

d. Land development activities that are smaller than the minimum applicability criteria set forth in items a. and b. above if such activities are part of a larger common plan of development, even though multiple, separate and distinct land development activities may take place at different times on different schedules.

(Ord. No. 984, § 1(22A-22), 12-13-2006)

Sec. 22A-53. - Exempt activities.

The following activities are exempt from this article:

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

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

c. Agricultural or silvicultural land management activities within areas zoned for these activities; and,

d. Repairs to any stormwater management facility or practice deemed necessary by the DRT.

(Ord. No. 984, § 1(22A-23), 12-13-2006)

Sec. 22A-54. - Development of a local stormwater design manual.

The city may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this chapter and may provide such information in the form of a Local Stormwater Design Manual (LDM). If such a LDM is developed, the requirements outlined within the LDM shall take precedence.

(Ord. No. 984, § 1(22A-24), 12-13-2006)

Sec. 22A-55. - Permit required.

No land owner or land operator shall receive any of the building, grading or other land development permits required for land disturbance activities without first meeting the requirements of this article prior to commencing the proposed activity.

(Ord. No. 984, § 1(22A-25), 12-13-2006)

Sec. 22A-56. - Application requirements.

Unless specifically excluded by this article, any land owner or operator desiring a permit for a land disturbance activity shall submit to the city a permit application on a form provided for that purpose. Unless otherwise excepted by this article, a permit application must include the minimum requirements as defined in this article or local stormwater design manual in order for the permit application to be considered.

(Ord. No. 984, § 1(22A-26), 12-13-2006)

Sec. 22A-57. - Application review fees.

The city may require the submittal of a review fee for review of the stormwater management plan. This review fee shall be based on the amount of land to be disturbed at the site, and the fee structure shall be established by the DRT. All of the monetary contributions shall be credited to a local budgetary category to support local plan review, inspection and program administration, and shall be made prior to the issuance of any building permit for the development.

(Ord. No. 984, § 1(22A-27), 12-13-2006)

Sec. 22A-58. - Permit duration.

Permits issued under this section shall be valid from the date of issuance through the date the DRT notifies the permit holder that all stormwater management practices have passed the final inspection required under permit condition.

(Ord. No. 984, § 1(22A-28), 12-13-2006)

Sec. 22A-59. - Waivers for providing stormwater management.

Every applicant shall provide for stormwater management as required by this article, unless a written request is filed to waive this requirement. Requests to waive the stormwater management plan requirements shall be submitted to the DRT for approval. The minimum requirements for stormwater management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies:

a. It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this article.

b. Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the DRT and local ordinance or legal developer agreement requires the implementation of the plan.

c. Provisions are made to manage stormwater by an off-site facility. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by on-site practices and there is a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

d. The DRT finds that meeting the minimum on-site management requirements is not feasible due to the natural or existing physical characteristics of a site.

e. Non-structural practices may be used on the site that reduce: a) the generation of stormwater from the site, b) the size and cost of stormwater storage; and c) the pollutants generated at the site. These non-structural practices shall be explained in detail in the local or state design manual and the amount of credit available for using such practices shall be determined by the DRT if the city provides for stormwater credits in the review process.

(Ord. No. 984, § 1(22A-29), 12-13-2006)

Sec. 22A-60. - Conditions of waiver.

In instances where one of the conditions above applies, the DRT may grant a waiver from strict compliance with these stormwater management provisions, as long as acceptable mitigation measures are provided. However, to be eligible for a variance, the applicant must demonstrate to the satisfaction of the DRT that the waiver will not result in the following impacts to downstream waterways:

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

b. Degradation of biological functions or habitat;

c. Accelerated streambank or streambed erosion or siltation; and

d. Increased threat of flood damage to public health, life, or property.

(Ord. No. 984, § 1(22A-30), 12-13-2006)

Sec. 22A-61. - Mitigation requirements for waivers.

Where compliance with minimum requirements for stormwater management is waived, the applicant will satisfy the minimum requirements by meeting one of the mitigation measures selected by the DRT. Mitigation measures may include, but are not limited to, the following:

a. The purchase and donation of privately owned lands, or the grant of an easement to be dedicated for preservation and/or reforestation. These lands should be located adjacent to the stream corridor in order to provide permanent buffer areas to protect water quality and aquatic habitat; and

b. The creation of a stormwater management facility or other drainage improvements on previously developed properties, public or private, that currently lack stormwater management facilities designed and constructed in accordance with the purposes and standards of this article; and

c. Monetary contributions (fee-in-lieu) to fund stormwater management activities such as research and studies (e.g., regional wetland delineation studies, stream monitoring studies for water quality and macroinvertebrates, stream flow monitoring, threatened and endangered species studies, hydrologic studies, and monitoring of stormwater management practices, etc.).

(Ord. No. 984, § 1(22A-31), 12-13-2006)

Sec. 22A-62. - Fee in lieu of stormwater management practices.

Where the DRT waives all or part of the minimum stormwater management requirements, or where the waiver is based on the provision of adequate stormwater facilities provided downstream of the proposed development, the applicant may be required to pay a fee in an amount as determined by the DRT.

When an applicant obtains a waiver of the required stormwater management, the monetary contribution required shall be in accordance with a fee schedule (unless the developer and city agree on a greater alternate contribution) established by the DRT. All of the monetary contributions shall be credited to an appropriate capital improvements program project, and shall be made by the developer prior to the issuance of any permit for the development.

(Ord. No. 984, § 1(22A-32), 12-13-2006)

Sec. 22A-63. - Dedication of land.

In lieu of a monetary contribution, an applicant may obtain a waiver of the required stormwater management by entering into an agreement with the city for the granting of an easement or the dedication of land by the applicant, to be used for the construction of an off-site stormwater management facility. The agreement shall be entered into by the applicant and the city prior to the recording of plats or, if no record plat is required, prior to the issuance of the building permit.

(Ord. No. 984, § 1(22A-33), 12-13-2006)

Sec. 22A-64. - Performance criteria.

Unless judged by the DRT to be exempt or granted a waiver, the following performance criteria shall be addressed for stormwater management at all sites.

(Ord. No. 984, § 1(22A-34), 12-13-2006)

Sec. 22A-65. - Peak runoff rate control.

The applicant shall control all stormwater discharges from the proposed project such that post development peak runoff rates do not exceed pre-development peak runoff rates for the two-year, five-year, ten-year, 25-year, 50-year and 100-year frequency storms, unless otherwise specified or the DRT grants the applicant a waiver or the applicant is exempt from such requirements. In addition, if hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the DRT reserves the right to impose any and all additional requirements deemed necessary to control the volume, timing, and rate of runoff.

a. An emergency overflow device (which does not include the throttling device) for a detention pond shall be designed to pass the 100-year peak developed inflow without overtopping the dam.

b. The steepest fill slopes shall be 2.5:1, and cut slopes shall be no steeper than 2:1.

c. An eight-foot-wide access road which runs on top of the dam shall be required around the circumference of the pond.

d. If a pond is deeper than four feet, a chain link fence shall be required.

    1. The fence shall be six feet high.

    2. Fence posts shall be set in concrete ten feet on centers.

    3. There shall be a minimum ten-foot-wide gate for access.

    4. The fence shall not be installed across the slope of a dam or dike, but installed completely around the pond and containing the dike and access road.

    5. The DRT may require a planted vegetation buffer around all or part of the pond.

(Ord. No. 984, § 1(22A-35), 12-13-2006)

Sec. 22A-66. - Channel protection.

To protect stream channels from degradation, a specific channel protection criteria shall be provided. The channel protection criteria may be waived by the DRT for sites that discharge directly into larger streams, rivers, wetlands, lakes, estuaries, or tidal waters where the reduction in smaller flows will not have an impact on stream bank or channel integrity. Additionally, the DRT may waive the channel protection criteria if the post development peak runoff rate for the channel protection criteria is less than two cubic feet per second (cfs) for the one-year 24-hour storm in a post-development state.

Channel protection shall be provided through 24-hour extended detention of the one-year 24-hour rainfall event, unless the DRT grants the applicant a waiver or the applicant is exempt from such requirements. If the applicant provides for channel protection, the applicant shall not be required to provide detention as specified in section 22A-65 for the two-year, five-year and ten-year frequency storms.

(Ord. No. 984, § 1(22A-36), 12-13-2006)

Sec. 22A-67. - Water quality control.

For new development, stormwater treatment practices shall be designed to remove pollutants to levels prescribed. It is presumed that a BMP complies with this performance standard if it is:

1. Sized to capture the prescribed water quality volume (WQ_v).
2. Designed according to the specific performance criteria applied to the treatment practice.
3. Constructed properly, and maintained regularly.

This article follows the philosophy of removing pollutants to the "maximum extent practicable" through the use of a percentage removal performance goal. The approach to be taken is to treat a water quality volume of runoff equal to that generated by 1.2 inches of rainfall (WQ_v) to remove 80 percent of the annual total suspended solids (TSS) loading commonly found in urban stormwater runoff, unless the DRT grants the applicant a waiver or the applicant is exempt from such requirements. The applicant shall reference section 2.1.7 of the Georgia Stormwater Management Manual (GSMM) Volume 2, First Edition for the approved methodology for calculating the WQ_v.

All stormwater runoff generated from new development shall not discharge untreated stormwater directly into a wetland or local water body without adequate treatment. Stormwater management practices for a site shall be chosen based on the physical conditions of the site. Additionally, stormwater management practices that utilize vegetation as part of the functional treatment process (e.g. constructed wetlands, etc.) must submit a separate landscaping plan detailing both the vegetation to be in the practice and how and who will manage and maintain this vegetation.

(Ord. No. 984, § 1(22A-37), 12-13-2006)

Sec. 22A-68. - Conveyance issues.

All conveyances including pipes and open channels except those associated with detention facilities shall be designed for the 25-year frequency storm. Inlets for conveyances shall be designed for an equal frequency storm (i.e. 25-year storm design pipe system shall have all inlets sized for the 25-year storm). The DRT reserves the right to increase the requirements outlined herein where deemed necessary. All pipes placed within an easement or on public right-of-way for maintenance by the city shall be reinforced concrete pipe (RCP).

(Ord. No. 984, § 1(22A-38), 12-13-2006)

Sec. 22A-69. - Sensitive resources.

Stormwater discharges to critical areas with sensitive resources (i.e., fisheries, shellfish beds, swimming beaches, recharge areas, etc.) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.

(Ord. No. 984, § 1(22A-39), 12-13-2006)

Sec. 22A-70. - Hot spots.

Stormwater discharges from land uses or activities with higher potential pollutant loadings, known as "hotspots", may require the use of specific BMPs and pollution prevention practices.

(Ord. No. 984, § 1(22A-40), 12-13-2006)

Sec. 22A-71. - Stormwater management plan required for all developments.

No application for development will be approved unless it includes a stormwater management plan detailing in concept how runoff and associated water quality impacts resulting from the development will be controlled or managed. This plan must indicate whether stormwater will be managed on-site or off-site and, if on-site, the general location and type of practices.

The stormwater management plan(s) shall be referred for comment to all other interested agencies, and any comments must be addressed in a final stormwater management plan. This final plan must be signed by a licensed professional engineer (PE). No development related permits shall be issued until a satisfactory final stormwater management plan, or a waiver thereof, shall have undergone a review and been approved by the DRT after determining that the plan or waiver is consistent with the requirements of this article.

(Ord. No. 984, § 1(22A-41), 12-13-2006)

Sec. 22A-72. - Stormwater management plan requirements.

A stormwater management plan shall be required with all permit applications and will include sufficient information (e.g., maps, hydrologic calculations, etc) to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated at the project site. The intent of this planning process is to determine the type of stormwater management measures necessary for the proposed project, and ensure adequate planning for management of stormwater runoff from future development. To accomplish this goal the applicant will prepare a design report, which shall include elements sufficient to ensure compliance with this article. These reports shall include at a minimum: a narrative description of the proposed development project and its changes to the site, predevelopment drainage maps, post development drainage maps, predevelopment runoff rates, post development rates, lists of assumptions used in calculating drainage impacts, and calculations of drainage impacts. The DRT reserves the right to extend these requirements to ensure compliance with this article. However, in these cases, the DRT must provide a written explanation of the additional elements needed to the applicant.

(Ord. No. 984, § 1(22A-42), 12-13-2006)

Sec. 22A-73. - Performance bond/security.

The city may, at its discretion, require the submittal of a performance security or bond prior to issuance of a permit in order to ensure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan. The amount of the installation performance security shall be the total estimated construction cost of the stormwater management practices approved under the permit, plus 25 percent as agreed to by the applicant and the city. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan.

The installation performance security shall be released in full only upon submission of "as built plans" and written certification by a registered professional engineer that the stormwater practice has been installed in accordance with the approved plan and other applicable provisions of this article. The DRT will make a final inspection of the stormwater practice to ensure that it is in compliance with the approved plan and the provisions of this article. Provisions for a partial pro-rata release of the performance security based on the completion of various development stages can be done at the discretion of the DRT.

(Ord. No. 984, § 1(22A-43), 12-13-2006)

Sec. 22A-74. - Notice of construction commencement.

The applicant must notify the DRT in advance before the commencement of construction so as to provide for scheduling of inspections. If any violations are found, the property owner shall be notified in writing of the nature of the violation and the required corrective actions. The DRT may issue a "stop work order" if the DRT determines that the corrective actions will need to be made prior to continuance of other development activities on the site to ensure compliance with this article. In these cases, no added work shall proceed until any violations are corrected and all work previously completed has received approval by the DRT.

(Ord. No. 984, § 1(22A-44), 12-13-2006)

Sec. 22A-75. - As built plans.

All applicants are required to submit actual "as built" plans for any stormwater management practices located on-site after final construction is completed in a format specified by the DRT. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer. A final inspection by the DRT is required before the release of any performance securities can occur.

(Ord. No. 984, § 1(22A-45), 12-13-2006)

Sec. 22A-76. - Maintenance easement.

Prior to the issuance of any permit that has a stormwater management facility as one of the requirements of the permit, the applicant or owner of the site must execute a maintenance easement agreement that shall be binding on all subsequent owners of land served by the stormwater management facility. The agreement shall provide for access to the facility at reasonable times for periodic inspection by the DRT or their contractor or agent, and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this article. The easement agreement shall be recorded by the applicant in the land records. The minimum width of an easement for pipe systems shall be 20 feet, however the [review authority] may increase this requirement for systems that are deeper than six feet in depth. Minimum width of an easement for an open channel shall be the width of the channel at the top of slope plus ten feet either side of the channel. All other easements for structures including but not limited to detention ponds, etc. shall be ten feet beyond the facilities footprint.

(Ord. No. 984, § 1(22A-46), 12-13-2006)

Sec. 22A-77. - Maintenance covenants.

Maintenance of all stormwater management facilities shall be ensured through the creation of a formal maintenance covenant that must be approved by the DRT and recorded into the land record prior to final plan approval. As part of the covenant, a schedule shall be developed for when and how often maintenance will occur to ensure proper function of the stormwater management facility. Stormwater management facilities may be required to undergo annual inspections to document maintenance and repair needs and ensure compliance with the requirements of this article and accomplishment of its purposes. These needs may include; removal of silt, litter and other debris from all catch basins, inlets and drainage pipes, grass cutting and vegetation removal, and necessary replacement of landscape vegetation. Any maintenance needs found must be addressed in a timely manner and the inspection and maintenance requirement may be increased as deemed necessary to ensure proper functioning of the stormwater management facility. The requirement for such inspections shall be outlined in the maintenance covenant.

The city in lieu of a maintenance covenant, may accept dedication of any existing or future stormwater management facility for maintenance, provided such facility meets all the requirements of this

article and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

(Ord. No. 984, § 1(22A-47), 12-13-2006)

Sec. 22A-78. - Records of installation and maintenance activities.

Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least three years. These records shall be made available to the DRT during inspection of the facility and at other reasonable times upon request.

(Ord. No. 984, § 1(22A-48), 12-13-2006)

Sec. 22A-79. - Failure to maintain practices.

If a responsible party fails or refuses to meet the requirements of the maintenance covenant, the city after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the DRT shall notify the party responsible for maintenance of the stormwater management facility in writing. Upon receipt of that notice, the responsible person shall affect maintenance and repair of the facility in an approved manner and within the established deadline. After proper notice, the city may assess the owner(s) of the facility for the cost of repair work and any penalties; and the cost of the work shall be a lien on the property, or prorated against the beneficial users of the property.

(Ord. No. 984, § 1(22A-49), 12-13-2006)

Secs. 22A-80—22A-100. - Reserved.

ARTICLE IV. - ENFORCEMENT AND PENALTIES

Sec. 22A-101. - Injuction.

Any development activity that is commenced or is conducted contrary to this article may be restrained by injunction or otherwise abated in a manner provided by law.

(Ord. No. 984, § 1(22A-50), 12-13-2006)

Sec. 22A-102. - Notice of violation.

When the DRT determines that an activity is not being carried out in accordance with the requirements of this article, the DRT shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

1) The name and address of the owner or applicant;
2) The address when available or a description of the building, structure or land upon which the violation is occurring;
3) A statement specifying the nature of the violation;
4) A description of potential remedial measures necessary to bring the development activity into compliance with this article and a time schedule for the completion of such remedial action;

5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;

6) A statement that the determination of violation may be appealed to the city by filing a written notice of appeal within fifteen days of service of notice of violation.

(Ord. No. 984, § 1(22A-51), 12-13-2006)

Sec. 22A-103. - Stop work orders.

Persons receiving a notice of violation may be required to halt all construction activities. This "stop work order" will be in effect until the DRT confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this article.

(Ord. No. 984, § 1(22A-52), 12-13-2006)

Sec. 22A-104. - Civil and criminal penalties.

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this article shall be punished by a fine in Brunswick Municipal Court in accordance with chapter 15 of the Municipal Code of Brunswick and applicable Georgia law. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

(Ord. No. 984, § 1(22A-53), 12-13-2006)

Sec. 22A-105. - Restoration of lands.

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the city may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

(Ord. No. 984, § 1(22A-54), 12-13-2006)

Sec. 22A-106. - Holds on occupation permits.

Occupation permits will not be granted until all corrections to all stormwater practices have been made and accepted by the DRT. A provisional occupation permit may be issued for a specified period of time not to exceed 90 days in the event the DRT determines there is an urgent need for such provisional occupancy. Provisional permits may be conditioned according to such terms as the DRT deems reasonable, and may be revoked at any time upon determination by the DRT that revocation is an appropriate means to protect the public interest in light of violation of the conditions of the provisional permit, violation of this or other ordinance of the city, or such other grounds as the DRT deems justify a revocation.

(Ord. No. 984, § 1(22A-55), 12-13-2006)

APPENDIX C

Illicit Discharge Detection & Elimination (IDDE) Plan

1. Background

The City's drainage system is unique to the lower coastal plain of Georgia and the Southeastern United States in that the system is tidally influenced and designed to discharge to large drainage canals or ponds that in turn discharge to local streams, rivers and tidal water bodies. This makes the actual point where the MS4 discharges to "Waters of the State" somewhat difficult to identify with any certainty. Furthermore, because many of the MS4 invert elevations are at or below groundwater and tidal elevations, the MS4 is often partially and sometimes completely submerged, and often has flowing water at the MS4 outfalls even in dry weather. These coastal conditions can make a traditional dry weather screening program difficult to implement.

The Center for Watershed Protection worked with Dr. Robert Pitt of to develop the manual, "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments" in 2004. This manual specifically references this potential issue and states that dry weather screening "*can be problematic in coastal communities where outfalls are located along the waterfront and may be submerged at high tide. The ORI [Outfall Reconnaissance Inventory] methods need to be significantly changed to address these constraints*." This manual presents an approach based on an evaluation of physical parameters that form the basis of our approach to dry weather screening.

Florida, which sits largely in the same geographic province and is also in EPA Region 4 and presumably subject to the same federal regulatory standards as Georgia, has similar conditions, which were recognized by the Florida Department of Environmental Protection (DEP) in their NPDES Stormwater Program guidance manual, dated January 31, 2013. This manual includes the following statement,

> *"Florida's hydrologic and water table conditions make dry weather field screening impossible in many areas. Instead, the Department has concluded that more environmental benefits can be achieved through the implementation of a proactive illicit discharge detection program, which is set forth in the remaining sections of Part III.A.7 of this permit. During the MS4 Part 1 application process, permittees were required to conduct 'dry weather field screening' to evaluate the possible occurrence of illicit connections and improper dumping. The theory is that dry weather flows should not be occurring in the stormwater system and are indicative of non-stormwater discharges. However, in Florida, where high water tables and tidally influenced stormwater conveyance systems are very common, dry weather screening did not prove useful. Accordingly, dry weather field screening is not required in Florida. Instead, permittees are required to implement both a "proactive" and a "reactive" program to identify and eliminate illicit discharges from the MS4 as described below."*

The Florida Department of Transportation (FDOT) designed a proactive IDDE program based upon visual inspections made by field crews during the normal course of their daily activities. Training is provided to all field crews to ensure that they can identify field conditions that could be

indicative of illicit discharges and illicit dumping. If field crews identify a suspicious condition in the field, they notify NDPES staff who will then perform field screening, sampling or other appropriate source tracing activity. The FDOT Proactive IDDE plan also includes responding to citizen complaints about illicit discharges and illegal dumping.

The EPA Guide to MS4 Permits acknowledges that there are these types of unique situations and permits an acceptable modification as follows:

> *"For those areas that have ponding or flow during dry weather, permit writers may consider allowing permittees the flexibility to look for indicators of an illicit discharge before conducting water quality tests due to baseline flow (e.g. baseflow, groundwater flow, irrigation return flows) in certain areas. In these cases, permit writers could require that sensory indicators (i.e. odor, color, turbidity, and floatables) be evaluated."*

Based on the limited guidance and successful examples for IDDE in coastal areas, and EPD's "Coastal IDDE Plan Guidelines," which was provided to the City of Brunswick in a comment letter dated March 9, 2020, the City has developed the following procedures to identify and eliminate illicit discharges and illegal dumping.

2. Wet & Dry MS4 Outfall Inventory and Map

Over the course of the 5-year permit period, City staff will inspect 100% of all identified MS4 outfalls. City staff or their designee will inspect all outfalls within one zone each reporting period to field assess each outfall and identify which MS4 outfalls routinely have flowing or static water (i.e., "wet" outfall) due to one or more of the following conditions:

a. **Tidal:** MS4 outfall is subject to tidal activity, i.e., the MS4 outfalls experiences ebb and flood tidal flows twice per day.
b. **Groundwater/Wetland**: MS4 outfall is surcharged due to groundwater elevations resulting in a freshwater wetland.
c. **Pond/Surcharged**: Design of a stormwater system that discharges to a canal, pond or similar structure results in a surcharged condition due to water elevations in those structures.

In many situations, the system that flows to the MS4 outfall is experiencing the same condition.

Information about the field assessments will be entered into a Geographic Information System (GIS) application that was designed for use with a handheld tablet computer. Photographs will be taken to document current site conditions if there is evidence of tidal influence or surcharged systems and linked to the GIS application. The City will also review historical information for the outfalls, including previous dry weather screening investigations, maintenance activities, and photographs taken to document site conditions in the past to assist with this determination.

The City previously completed a comprehensive GIS inventory of its stormwater outfalls. As the City completes its outfall inspections each year, the City will update the MS4 Outfall Inventory and MS4 Outfall Map to identify "wet" and "dry" outfalls for the outfalls that were field assessed

during the reporting period. The City will also update its MS4 Outfall Map and Outfall Inventory at least annually based on new development as-built maps as well as field inspections.

The City has identified which MS4 outfalls routinely have flowing or static water due to one or more of the conditions described above for outfalls inspected during the previous two reporting periods. The City's current map and inventory of MS4 outfalls includes 37 outfalls, of which 15 (40.5%) have currently been designated as "wet" and none (0%) as "dry." Additional outfalls will be designated as "wet" or "dry" when inspected during future field investigations; as noted above, historical information may also be used to assist with this determination. A copy of the map showing wet and dry outfalls and a listing of the MS4 outfalls with their field designation as wet or dry, and the reason for the designation, have been included in Appendix A of this document. This document is produced directly from the GIS database that was developed during field collection.

2.1 Secondary Field Screening Structure (FSS)

Per EPD's "Coastal IDDE Plan Guidelines": "For each "wet" outfall, the permittee must identify a potential secondary structure determined to be "dry" (i.e. not influenced by tidal flow or submerged conditions)." This guidance allows for permittees to establish a potential secondary field screening structure within a "reasonable" distance over the course of time during regular dry weather screening activities.

Accordingly, the City will work to identify secondary field screening locations over the next five-year period (beginning upon approval of this IDDE Plan), as the City performs dry weather screening on 100% of the MS4 outfalls.

During dry weather inspections, the inspector will walk the system upstream for approximately 100 feet to identify any upstream structures and perform an inspection to determine if they are "wet" per the definitions described above. If the inspector is able to identify a "dry" structure within 100 feet upstream of a "wet" MS4 outfall, that structure will be identified as the secondary FSS associated with that MS4 outfall. Dry weather screening will then be performed on that secondary FSS instead of the "wet" MS4 outfall. The secondary FSS will be included in the MS4 outfall inventory and map (with a notation regarding the corresponding MS4 outfall), which will be provided to EPD in the next annual report.

If no "dry" secondary FSS can be identified within 100 feet of the wet "MS4" outfall, then the inspector will continue to follow the procedures for dry weather screening of "wet" outfalls at the MS4 outfall, per the procedures described herein.

3. Outfall Reconnaissance Inventory & Screening

Outfall reconnaissance procedures described in the following subsections have been developed using the Center for Watershed Protection Illicit Discharge Detection and Tracking Guide, dated December 2011; Illicit Discharge Detection and Elimination: A Guidance Manual for Program

Development and Technical Assessments, dated 2004*;* and the EPA's *Guide for MS4 Permits*. Procedures included below are deemed to be the most appropriate for coastal waters as well as most likely to identify an illicit connection or illegal dumping.

3.1 Field Screening Procedures

Field screening will be conducted at all MS4 Outfalls or FSSs within the MS4 Inventory over the five-year period of this permit, with at least 5% of the MS4 Outfalls being screened in each given year. Physically inaccessible outfalls will be screened by identifying an upstream field screening point, where the inspection can occur. Field screening will take place during dry weather conditions (i.e., no rain event for 72 hours prior to sample event). Field screening at wet outfalls will be conducted during ebb tide, as close to low-tide as possible. The results of the observations will be recorded on the Outfall Reconnaissance Inventory (ORI) form or within a GIS database by City staff. A sample ORI form is provided in Appendix B to illustrate what information will be recorded on the paper form or within the GIS database.

City staff will visit the MS4 outfalls or FSSs in the field and record background data on the screening location as listed in Section 1 of the ORI form.

Section 1: Background Data					
Waters to which the MS4 Outfall discharges:			□ MS4 Outfall □ Secondary Field Screening Site		
Today's date:			Outfall or Secondary Field Screening ID:		
Time:			Form Completed by:		
Temperature (F):		Rainfall last 72 hours (in.):			
Latitude:		Longitude:		GPS Unit:	
Land Use in Drainage Area (Check all that apply):			Photo ID #s:		
□ Industrial	□ Urban Res	□ Commercial	□ Open Space	□ Suburban Res	□ Institutional
Potential Pollutant Sources:			Known Industries:		
Notes:					

City staff will also identify the physical condition of the MS4 outfall or FSS and will complete a description of the outfall as shown in Section 2 of the ORI form. City staff will record the presence of flowing or static water and follow the procedures outlined above in Section 2 of this Plan to designate outfalls as "wet" or "dry" on the ORI form.

Section 2: Outfall Description				
LOCATION	**MATERIAL**	**SHAPE**	**DIMENSIONS (IN.)**	**STRUCTURAL DAMAGE**
□ Closed Pipe	□ RCP □ CMP	□ Circular □ Single	Diameter, circular: _____	□ Cracking or Chipping
	□ PVC □ HDPE	□ Elliptical □ Double	Box: h - _____ w - _____	□ Peeling Paint
				□ Corrosion
□ Manhole	□ Steel	□ Box □ Triple	Elliptical: h - _____ w - _____	□ Collapsing
	□ Other: _____	□ Other:_____		□ Missing parts
				□ Good condition
□ Open drainage	□ Concrete □ rip-rap	Trapezoid □ Parabolic	Depth: _____	Bottom Width: _____
	□ Earthen	□ Other:_____	Top Width: _____	
Submerged or surcharged	□ Fully □ Partially	□ No	MS4 Outfall is identified as □ Wet □ Dry	
Flow Present?	□ Yes □ No		Flow Description: □ Trickle □ Moderate □ Substantial	
Tidal?	□ Yes □ No		Tidal Stage: □ Ebb □ Flood	

For all wet and dry MS4 outfalls or FSSs, City staff will perform the visual assessment of physical indicators included in Section 3 of the ORI Form.

Section 3: Physical Indicators for Both Flowing and Non-Flowing Outfalls		
INDICATOR (CHECK if Present)	**DESCRIPTION**	**COMMENTS**
□ Sediment	□ None □ < 50% full □ > 50% full □ Completely full	
□ Deposits/Stains	□ Oily □ Flow Line □ Paint □ Other:	
□ Abnormal Vegetation	□ Excessive □ Inhibited	
□ Poor pool quality	□ Odors □ Colors □ Floatables □ Oil Sheen □ Suds □ Excessive Algae □ Other:	
□ Pipe benthic growth	□ Brown □ Orange □ Green □ Other:	

For wet and dry MS4 outfalls or FSSs with dry-weather flow, City staff will perform the additional visual assessment of physical indicators included in Section 4 of the ORI form:

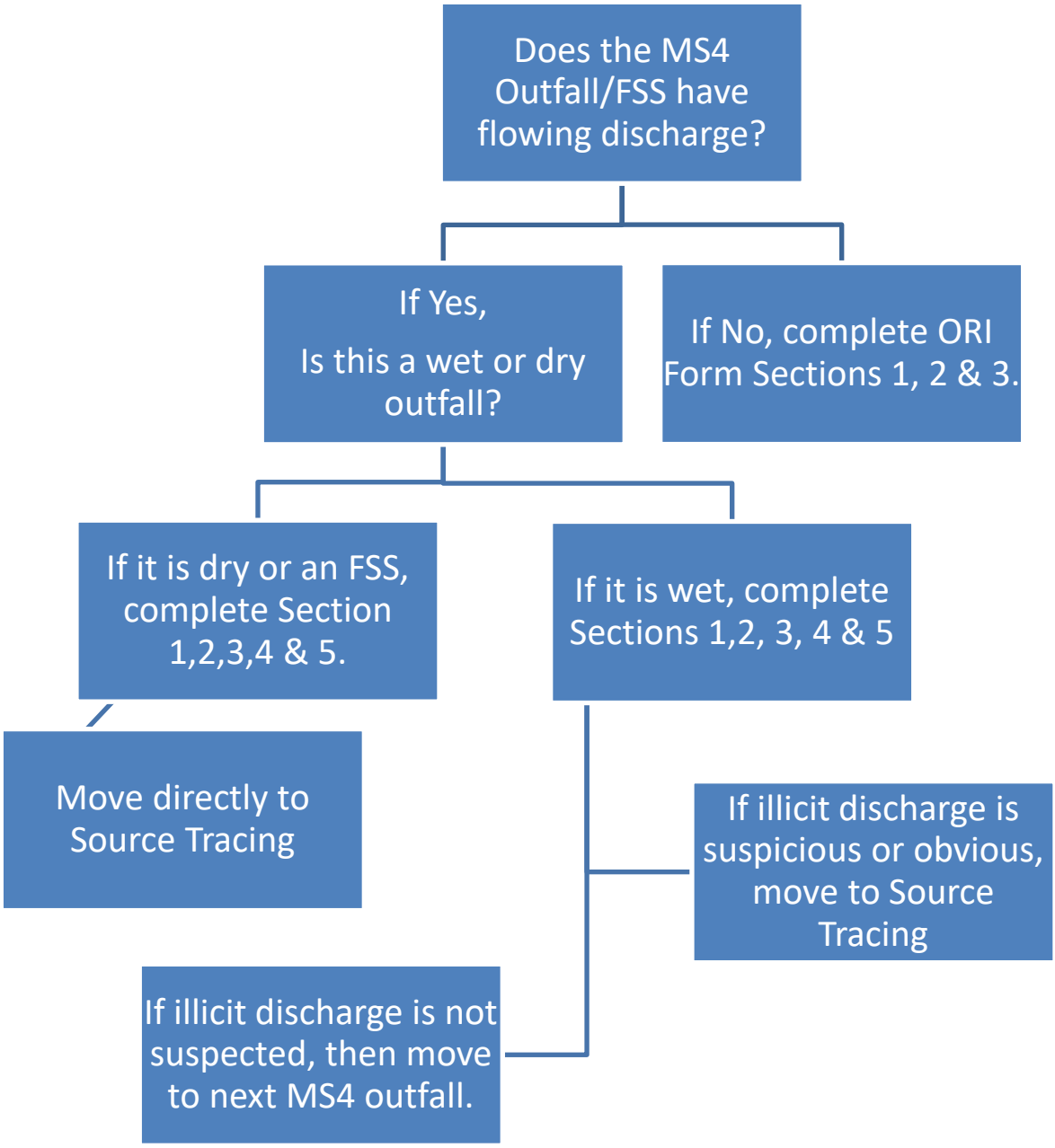
INDICATOR (Check if Present)	**DESCRIPTION**	**RELATIVE SEVERITY INDEX (1-2)**	
□ Odor	□ Sewage □ Rancid/sour □ Petroleum/gas □ Sulfide □ Other	□ 1 - Detected at outfall	□ 2 - Noticeable from a distance
□ Color	□ Gray □ Yellow □ White □ Red □ Other:	□ 1 - Clearly visible in sample bottle	□ 2 - Clearly visible in outfall flow
□ Turbidity	□ Not normal organics □ Due to Windy Conditions/Turbid Water	□ 1 - Cloudy	□ 2 - Opaque
□ Floatables (Does not include trash!)	□ Sewage (Toilet Paper, etc.) □ Suds □ Petroleum (oil sheen) □ Other	□ 1 - Some	□ 2 - A lot; origin clear (e.g., floating sanitary materials)

Based on the results of these physical assessments, City staff will identify the possibility of an illicit discharge at Wet and Dry MS4 outfalls or FSSs. If a Dry MS4 Outfall or FSS has any dry-weather flow, an illicit discharge should be suspected and field screening and source tracing must be conducted. If a Wet MS4 Outfall with dry-weather flow has one of the physical indicators listed above, then City staff will initiate source tracing for that MS4 outfall. In some cases, the illicit discharge and its potential source may be considered obvious, i.e., if sanitary floatables are present, then there is obviously a sanitary sewer discharge or connection to the MS4. Staff will complete Section 5 on the outfall reconnaisance inventory form, based on the assessment of the inspection results.

Section 5: Overall Outfall Characterization		
□ Not Suspected	□ Suspect (Presence of one indicator at a Wet Outfall, or dry weather flow at a Dry Outfall or FSS)	□ Obvious

If a Wet MS4 outfall has flow that is considered suspect or obvious or if a Dry MS4 outfall or FSS has any dry weather flow at all, City staff will proceed directly to source tracing, including field sampling, as described in Section 5.1. A flow chart of the ORI process is presented in Figure 1.

Figure 1: Flow Chart of ORI Process



4. Proactive IDDE Inspection Program

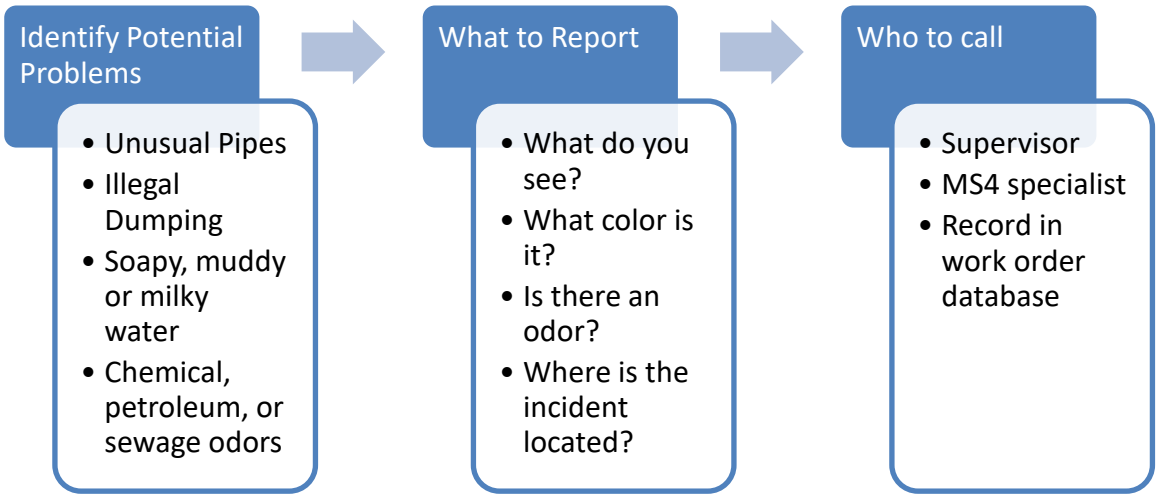
The City will formalize ongoing activities to create a proactive IDDE inspection program. The City has several different departments, many of which have responsibilities that result in their staff being out in the field on a daily basis. For example, the City's Public Works crews perform maintenance activities in the open and closed drainage systems on a daily basis. The Fire Department and Police Department are also engaged in daily activities throughout the City.

Historical SWMP documentation indicates that many illicit discharges and illegal dumping incidents have been identified first by field crews, and then subsequently reported to MS4-specfic staff, who then investigate and address any illegal activities.

In recognition of the resource that these field crews represent, the City will provide training to field personnel from various departments such that they will be able to identify potential illicit discharges in the field, and effectively report these findings to the correct personnel.

The diagram in Figure 2 shows the basic concept behind this approach, and the main focus of the annual training.

Figure 2: Annual Training Process



The City will provide this training to field staff on an annual basis, and will keep records of the training including a sign-in sheet and the training materials. Potential illicit discharges and illegal dumping identified in the field will be recorded in the City's work order database. The results of the inspection by MS4 staff and any source tracing work completed will also be recorded using the checklists included in the IDDE Plan.

5. Source Tracing

Once an illicit discharge is suspected or obvious, the City will attempt to trace the source of the illicit discharge as soon as possible. Illicit discharges are considered suspect under the following conditions:

- Dry MS4 Outfall or FSS that has dry-weather flow
- Wet MS4 Outfall that has one (1) physical indicator

City staff will utilize the Source Tracing form in Appendix B to record the results of any source tracing activities. Depending on the type of illicit discharge detected and access to the storm sewer system, City staff may employ one or more of the following methods:

5.1 Field Sampling

If dry-weather flow is observed from a dry MS4 outfall or an FSS, or if a Wet MS4 outfall has flow that is considered suspect or obvious, City staff will perform field sampling of the discharge as noted below. If the source of the potential illicit discharge is obvious based on the field screening, then the City may opt to perform alternative source tracing techniques.

- Measure the discharge for the following parameters: pH, temperature, conductivity, salinity, chorine, and turbidity.
- Collect grab samples for fecal coliform if the field results above indicate potential sewage or when there is visual evidence including milky white or gray color and floatables, a sewage odor, or other applicable evidence of potential sanitary sewer discharge. Fecal grab samples will be cooled with ice and taken to an accredited laboratory for fecal coliform analysis within six hours of sample event. Fecal samples will only be performed as needed due to cost considerations.
- City staff will complete Section 6 of the ORI form:

Section 6: Water Quality Monitoring					
1. Field water quality monitoring? □ Yes □ No					
2. Sample(s) collected from: □ Flow □ Pool					
3. Results					
Temp:_____	Salinity:_____	pH:_____	Conductivity: _____		Turbidity_____
Chlorine:_____					
4. Sterile sample for bacteria analysis? □ Yes □ No					
5. Bacterial Results: _____		*Lab:* □ External lab □ City lab			

- Please note, if the MS4 Outfall or FSS was dry but contained evidence of illegal dumping, City staff may elect to choose one of the other source tracing procedures listed herein.

Baseline Limits for Field Sampling Parameters

The following parameters were chosen to address the potential contaminates most likely to be found in the area, including wastewater, wash water, construction site runoff, and industrial contaminants. Results from field sampling can be used to identify potential sources, as described in Table 1, and to trace the potential illicit discharge upstream to its source.

Table 1: Field Sampling Baseline Limits

Parameter	Baseline Limit	Considerations	Potential Source Of Contamination
pH	< 5.0 or > 9.0		Low pH – Industries including textile mills, pharmaceuticals, metal finishers/fabricators, companies dealing in resins, fertilizers, or pesticides.
			High pH – Detergents, industrial discharges including soap, metal plating, concrete, lime, and rubber or plastic.
Turbidity	> 100 NTU	Waters in coastal Georgia are generally slow moving and have a lot of naturally occurring suspended sediment.	Construction site runoff.
Conductivity	See conversion table in Appendix C	Saline waters will have high conductivity associated with salt content.	Presence of contaminating ions from wastewater (sanitary or industrial).
Fecal Coliform*	>10,000 CFU/100 ml (grab sample) (CWP)	Fecal coliform well in excess of standards may indicate the presence of sanitary sewage.	Animal waste or sanitary sewage.
Total Chlorine	> 1 PPM	EPA requires water suppliers to maintain a level of chlorine at 4 PPM. Once treated water enters a waterway, chlorine levels will be diluted.	Cross connections with water supply or sanitary wastewater lines.

*Center for Watershed Protection recommends fecal coliform standards for the purposes of ORI.

Quality Assurance/Quality Control (QA/QC) Procedures

- Field tests must be performed twice during each sampling event to confirm results.
- Probes used to measure temperature, turbidity, conductivity, salinity, chlorine, and pH must be calibrated at the start of each day when sampling will take place. Readings should be taken directly in outfall flow, if possible. If in-flow sampling is not possible, then a container or bucket should be used to collect a sample to take readings. The bucket should be rinsed twice with flow from outfall and readings taken on the third fill.

- Fecal coliform samples must be taken directly in the outfall flow in a sterilized container to avoid contamination. Samples will be stored in a cooler with ice. Samples will be processed within six hours of the event.

5.2 Visual Inspections

City staff will walk the stormwater system upstream from the MS4 outfall or FSS to inspect for evidence of an illicit discharge such as land disturbing activities near the stormwater system, water color associated with illicit discharge, or stains and deposits showing the path of a discharge or spill.

5.3 Site Inspections

When a specific private site is suspected as the source of an illicit discharge, City staff may elect to perform a stormwater inspection on-site at that facility, business, or residence. The inspection will search for the potential source including improperly stored material and floor drains connected to the storm sewer system. Staff will keep a record of the inspection and the findings. The City has created a checklist that will be used to document the site inspection if the site is a commercial business or industry.

5.4 Upstream Sampling

The City may sample upstream from the field-sampling site for the parameter that was above baseline limits. A sample will be taken above each pipe/connection to the system. When a sample is taken, and the parameter is no longer detectable, any pipes/connections to the system between the last detectable sample and the clean sample is likely to lead to an illicit discharge.

5.5 Dye Testing

If dry weather screening results indicate a possible illicit discharge of sewage, City staff may conduct dye testing at residences and facilities near the outfall. Dye testing uses a brightly colored fluorescent substance to detect illicit connections to the MS4, trace cross connections, or to determine the functionality of septic systems. During an on-site inspection of a residence or facility, dye is flushed down a toilet or poured down a sink. If there is an illicit connection between the sanitary sewer and the storm sewer, the dye will appear in the MS4 downstream of this connection. This method is relatively inexpensive and only requires the ability to get on-site to put the dye in the sanitary system.

5.6 Smoke Testing

When a sanitary sewer illicit connection to the storm sewer system is suspected, and dye testing does not give a definitive result or is not the preferred method, the City may elect to perform smoke testing. Smoke testing involves equipment that forces smoke into the storm sewer lines.

If the smoke is seen rising from either a sanitary sewer manhole or a sanitary sewer vent in a building, then a cross connection has been identified.

5.7 Line Televising

The City staff may also decide to video the lines to investigate possible cross-connections with the sanitary sewer. Evidence of potential illicit connections includes small gauge pipes tied into the storm sewer system, cracked or caved pipes, discoloration of the water, foam and floatables. Line televising does not always provide definitive proof of an illicit connection and may need to be coupled with one of the other methods listed above.

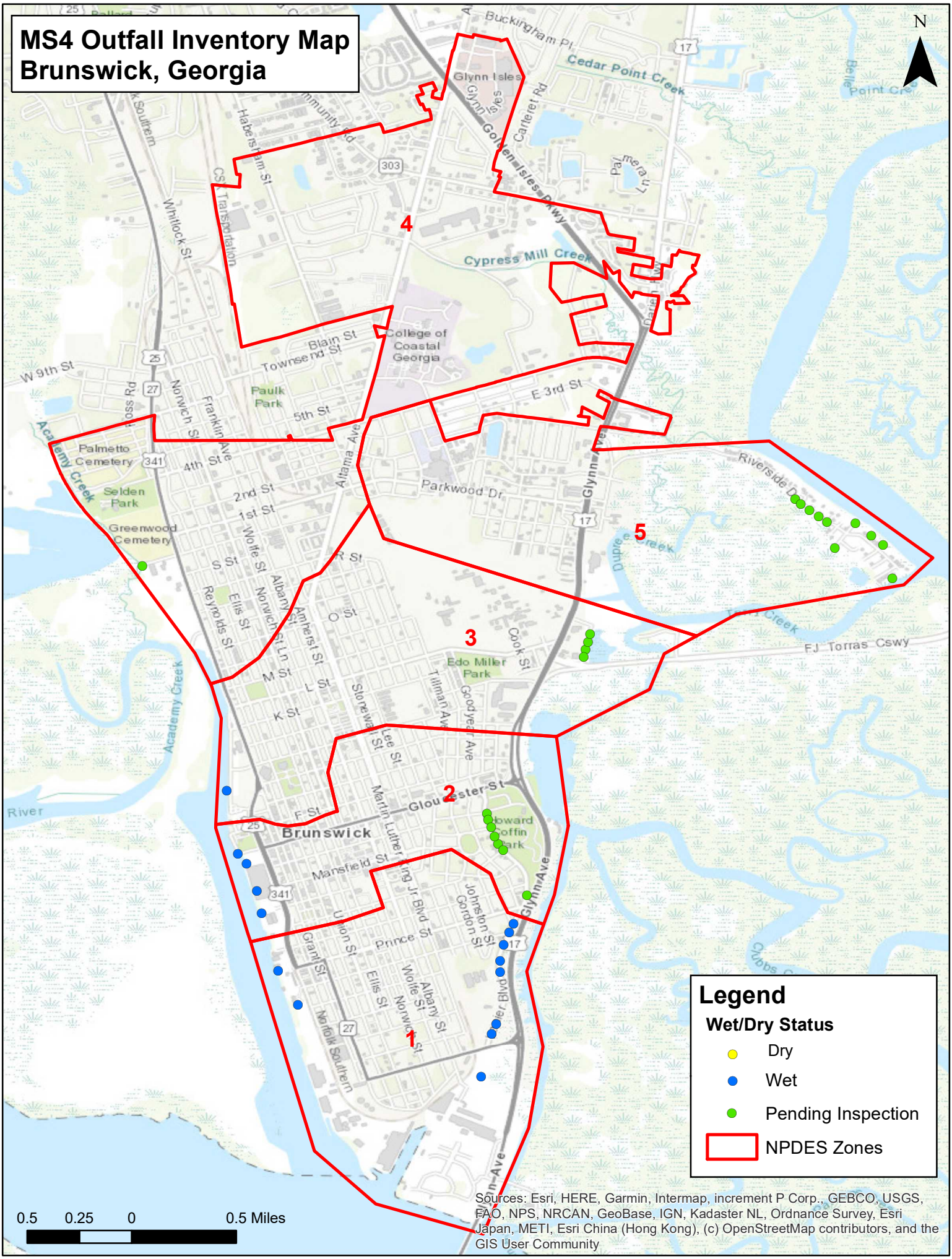
6. Source Removal

Once City staff have traced a source and they have informed the Code Enforcement Officer or his designee, it shall be the Code Enforcement Officers responsibility to enforce the applicable provisions of the Illicit Discharge Ordinance and the ERP. This ordinance gives representatives of the City the authority to enter the property from which the illicit discharge is suspected, and to require the responsible party to remove the source and pay for related costs. The City may also choose to require the responsible party to pay fines or suffer other penalties as outlined within their Stormwater Management Ordinance. Enforcement shall be conducted in accordance with the City's approved Enforcement Response Plan (ERP).

7. Data Collection and Reporting

The City will maintain records of Wet and Dry MS4 outfall screening, any source tracing activities, and documentation of any enforcement actions taken. This information will be maintained in a database and included in the Annual Report transmitted to EPD.

Appendix A: MS4 Outfall Inventory and Map


MS4 Outfall Inventory Map
Brunswick, Georgia
N
Legend
Wet/Dry Status
Dry
Wet
Pending Inspection
NPDES Zones
1
2
3
4
5
Brunswick
Glynn Isles
College of Coastal Georgia
Cypress Mill Creek
Cedar Point Creek
Academy Creek
Palmetto Cemetery
Selden Park
Greenwood Cemetery
Paulk Park
Edo Miller Park
Howard Coffin Park
Parkwood Dr
Riverside Dr
F.J. Torras Cswy
Glynn Ave
Gloucester St
Norfolk Southern
0.5 0.25 0 0.5 Miles
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

MS4 Outfall Inventory
City of Brunswick, GA
October 2020

Object ID #1	Object ID #2	Zone	Structure Type	Wet/Dry Status[a]	Reason
580	3176	5	5 - HEADWALL	Pending	N/A
581	3177	5	5 - HEADWALL / OPEN PIPE	Pending	N/A
582	3178	5	5 - HEADWALL	Pending	N/A
583	3179	5	5 - HEADWALL	Pending	N/A
584	3180	5	5 - HEADWALL	Pending	N/A
585	3181	5	5 - FLARED END SECTION	Pending	N/A
587	3183	5	5 - FLARED END SECTION	Pending	N/A
588	3184	5	5 - FLARED END SECTION	Pending	N/A
590	3186	5	5 - FLARED END SECTION	Pending	N/A
591	3187	5	5 - HEADWALL	Pending	N/A
713	121	4	4 - Headwall	Pending	N/A
1777	838	3	3 - Open Pipe	Wet	Tidal
2314	3251	3	3 - FLUME	Pending	N/A
2315	3252	3	3 - CATCH BASIN	Pending	N/A
2316	3253	3	3 - FLUME	Pending	N/A
2332	3269	3	3 - FLUME	Pending	N/A
2469	1130	2	2 - Headwall	Pending	N/A
2673	1436	2	2 - Open Pipe	Wet	Tidal
2678	1441	2	2 - Open Pipe	Wet	Tidal
2919	1697	1	1 - Headwall	Wet	Tidal
2925	1703	1	1 - Open Pipe	Wet	Tidal
2934	1712	2	2 - Open Pipe	Pending	N/A
3033	1811	2	2 - Headwall	Pending	N/A
3050	1828	2	2 - Headwall	Pending	N/A
3052	1830	2	2 - Open Pipe	Pending	N/A
3054	1832	2	2 - Open Pipe	Pending	N/A
3055	1833	2	2 - Open Pipe	Pending	N/A
3160	2003	1	1 - Open Pipe	Wet	Tidal
3245	1962	1	1 - Open Pipe	Wet	Tidal
3260	2016	1	1 - Open Pipe	Wet	Tidal

Object ID #1	Object ID #2	Zone	Structure Type	Wet/Dry Status[a]	Reason
3262	2018	1	1 - Open Pipe	Wet	Tidal
3273	2029	1	1 - Headwall	Wet	Tidal
3278	2034	1	1 - Open Pipe	Wet	Tidal
3281	2037	1	1 - Open Pipe	Wet	Tidal
3564	2334	1	1 - Ditch	Wet	Tidal
3639	0	2	2 -	Wet	Tidal
3640	0	2	2 -	Wet	Tidal

a/Outfalls marked as "pending" will be designated as wet or dry outfalls when they are next inspected based on observed field conditions and additional investigations, if necessary.

Appendix B: ORI and Source Tracing Forms

Outfall Reconnaissance Inventory (ORI) Form

Section 1: Background Data

Waters to which the MS4 Outfall discharges:			□ MS4 Outfall □ Secondary Field Screening Site		
Today's date:			Outfall or Secondary Field Screening ID:		
Time:			Form Completed by:		
Temperature (F):		Rainfall last 72 hours (in.):			
Latitude:		Longitude:		GPS Unit:	
Land Use in Drainage Area (Check all that apply):			Photo ID #s:		
□ Industrial	□ Urban Res	□ Commercial	□ Open Space	□ Suburban Res	□ Institutional
Potential Pollutant Sources:			Known Industries:		
Notes:					

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	STRUCTURAL DAMAGE
□ Closed Pipe □ Next Upstream Structure _____	□ RCP □ CMP □ PVC □ HDPE □ Steel □ Other: _____	□ Circular □ Single □ Elliptical □ Double □ Box □ Triple □ Other:_____	Diameter, circular: _____ Box: h - _____ w - _____ Elliptical: h - _____ w - _____	□ Cracking or Chipping □ Peeling Paint □ Corrosion □ Collapsing □ Missing parts □ Good condition
□ Open drainage	□ Concrete □ rip-rap □ Earthen	□ Trapezoid □ Parabolic □ Other:_____	Depth: _____ Top Width: _____	Bottom Width: _____
Submerged or surcharged?	□ Fully □ Partially	□ No	MS4 Outfall is identified as	□ Wet □ Dry
Flow Present?	□ Yes □ No		Flow Description:	□ Trickle □ Moderate □ Substantial
Tidal?	□ Yes □ No		Tidal Stage:	□ Ebb □ Flood

Section 3: Attributes for Both Flowing and Non-Flowing Outfalls

INDICATOR (CHECK if Present)	DESCRIPTION	COMMENTS
□ Sediment	□ None □ < 50% full □ > 50% full □ Completely full	
□ Deposits/Stains	□ Oily □ Flow Line □ Paint □ Other:	
□ Abnormal Vegetation	□ Excessive □ Inhibited	
□ Poor pool quality	□ Odors □ Colors □ Floatables □ Oil Sheen □ Suds □ Excessive Algae □ Other:	
□ Pipe benthic growth	□ Brown □ Orange □ Green □ Other:	

Section 4: Physical Indicators for Flowing Outfalls Only

Is this MS4 Outfall flowing? □ Yes □ No (If Yes, complete Section 4. If No, skip to Section 5.)

INDICATOR (Check if Present)	DESCRIPTION	RELATIVE SEVERITY INDEX (1-2)	
□ Odor	□ Sewage □ Rancid/sour □ Petroleum/gas □ Sulfide □ Other	□ 1 - Detected at outfall	□ 2 - Noticeable from a distance
□ Color	□ Gray □ Yellow □ White □ Red □ Other:	□ 1 - Clearly visible in sample bottle	□ 2 - Clearly visible in outfall flow
□ Turbidity	□ Not normal organics □ Due to Windy Conditions/Turbid Water	□ 1 - Cloudy	□ 2 - Opaque
□ Floatables (Does not include trash!)	□ Sewage (Toilet Paper, etc.) □ Suds □ Petroleum (oil sheen) □ Other	□ 1 - Some	□ 2 - A lot; origin clear (e.g., floating sanitary materials)

Section 5: Overall Outfall Characterization

□ Not Suspected □ Suspect (Presence of one indicator at a Wet Outfall, or dry weather flow at a Dry Outfall or FSS) □ Obvious

Section 6: Water Quality Monitoring

1. Field water quality monitoring? □ Yes □ No
2. Sample(s) collected from: □ Flow □ Pool
3. Results

Temp:_____ Salinity:_____ pH:_____ Conductivity: _____ Turbidity_____

Chlorine:_____

4. Sterile sample for bacteria analysis? □ Yes □ No
5. Bacterial Results: _____ *Lab:* □ External lab □ City lab

Source Tracing Form

Outfall ID:	
Employee Conducting Source Tracing:	
1) Suspected illicit discharge/dumping discovered through which method?	☐ Citizen Complaint ☐ ORI ☐ Field Inspection
Describe the nature of the suspicious discharge?	
2) Are there known industrial stormwater discharges in the drainage basin of the outfall?	☐ Yes ☐ No
3) What source tracing actions are being taken? (Describe source tracing activities.)	☐ MS4 outfall field sampling ☐ Visual Inspection ☐ Site Inspection ☐ Upstream Sampling ☐ Dye Testing ☐ Line Video ☐ Other
4) Was the source of the illicit discharge/dumping identified?	☐ Yes ☐ No
5) Was the responsible party contacted?	☐ Yes ☐ No
6) Was an enforcement action taken? (Describe enforcement actions)	☐ Yes ☐ No
7) Was the source removed? (Describe actions taken)	☐ Yes ☐ No
Date:	
Signature:	

Appendix C: Salinity to Conductivity Conversion Table

Conversion Table for Changing Conductivity into Salinity

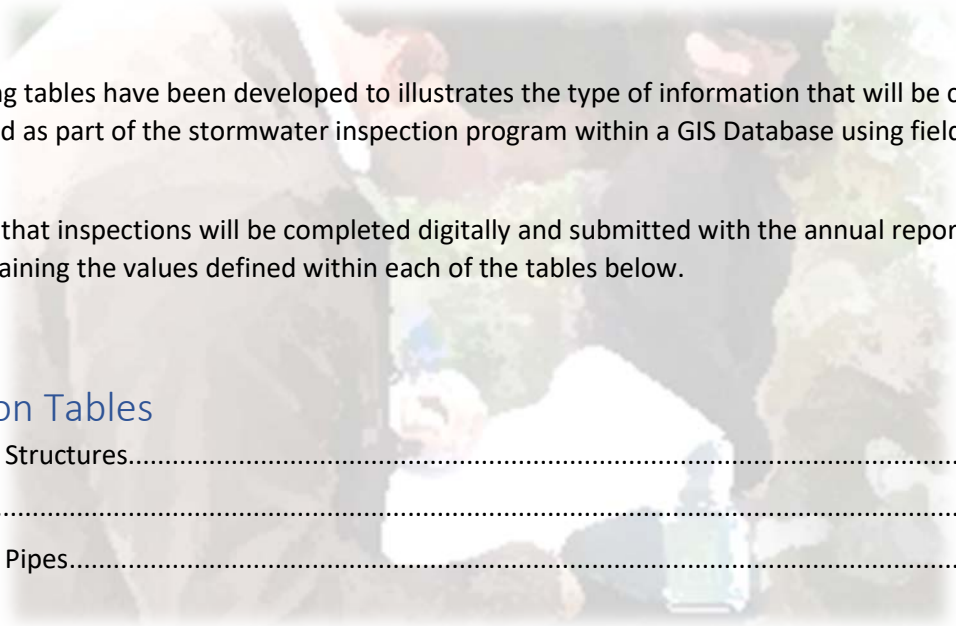
Conductivity*							Salinity
0°C	5°C	10°C	15°C	20°C	25°C	30°C	ppt
1.200	1.400	1.500	1.700	2.000	2.200	2.400	1
2.220	2.500	2.900	3.300	3.700	4.100	4.500	2
3.200	3.700	4.200	4.700	5.300	5.900	6.500	3
4.100	4.700	5.400	6.100	6.900	7.600	8.400	4
5.000	5.800	6.600	7.500	8.400	9.300	10.300	5
5.900	6.800	7.900	8.800	9.900	11.000	12.100	6
6.700	7.800	8.900	10.100	11.300	12.600	13.900	7
7.600	8.800	10.100	11.400	12.800	14.200	15.700	8
8.500	9.800	11.200	12.700	14.200	15.800	17.400	9
9.300	10.800	12.300	13.900	15.600	17.300	19.100	10
10.200	11.800	13.400	15.200	17.000	18.900	20.800	11
11.000	12.800	14.500	16.500	18.900	20.400	22.500	12
11.900	13.700	15.600	17.600	19.700	21.900	24.100	13
12.600	14.600	16.700	18.700	21.100	23.400	25.800	14
13.400	15.600	17.800	20.100	22.400	24.900	27.400	15
14.200	16.400	18.800	21.200	23.800	26.400	29.100	16
15.000	17.400	19.800	22.400	25.100	27.800	30.700	17
15.800	18.300	20.900	23.600	26.400	29.300	32.300	18
16.600	14.200	21.900	24.800	27.700	30.700	33.900	19
17.400	20.100	23.000	25.900	29.000	32.200	35.500	20
18.200	21.100	24.000	27.100	30.300	33.600	37.000	21
19.000	22.000	25.100	28.300	31.600	35.000	38.600	22
19.800	22.900	26.100	29.400	32.900	36.500	40.100	23
20.600	23.800	27.100	30.600	34.200	37.900	41.700	24
21.400	24.700	28.100	31.700	35.400	39.300	43.200	25
22.100	25.500	29.100	32.800	36.700	40.700	44.800	26
22.800	26.400	30.100	33.900	37.900	42.100	46.300	27
23.600	27.300	31.100	35.100	39.200	43.500	47.800	28
24.400	28.100	32.100	36.200	40.400	44.800	49.400	29
25.200	29.000	33.100	37.300	41.700	46.200	50.900	30
26.000	30.000	34.100	38.500	43.000	47.600	52.400	31
26.800	30.900	35.100	39.600	44.200	49.000	53.900	32
27.500	31.700	36.100	40.700	45.400	50.300	55.400	33
28.300	32.600	37.100	41.800	46.700	51.700	56.800	34
29.100	33.500	38.100	42.900	47.900	53.000	58.300	35
29.700	34.200	39.000	44.000	49.100	54.400	59.800	36
30.500	35.100	40.000	45.100	50.300	55.700	61.300	37
31.200	36.000	41.000	46.200	51.500	57.100	62.800	38
32.000	36.800	41.900	47.200	52.700	58.400	64.200	39
32.700	37.700	42.900	48.300	53.900	59.700	65.700	40

* Conductivity values are given in millisiemens/cm

Data derived from the equation of P.K. Weyl, Limnology and Oceanography; 9,75 (1964).

APPENDIX D

MS4 Inspection Forms



The following tables have been developed to illustrates the type of information that will be collected and recorded as part of the stormwater inspection program within a GIS Database using field GPS equipment.

Please note that inspections will be completed digitally and submitted with the annual report in a table format containing the values defined within each of the tables below.

Inspection Tables

Stormwater Structures

Stormwater Structures	Values	Description
Inspection Status	Complete, Partial Evaluation, Cannot Access, Cannot Locate, Cannot Open, None	
Inspection Date	Date	Date of the most recent inspection
Is there a Stormwater Marker	Yes, No	Indicates whether there is a stormwater marker
Collection Status	Inlet, Outlet, Junction, Unknown	States whether the structure is an inlet, outfall, or junction
Structure Type	Catch Basin, Drop Inlet, Yard Inlet, Curb Inlet, End of Pipe, Flared End Section, Headwall, Junction, Box Culvert, Other, Unknown	Identifies the type of stormwater structure
Structure Material	CMP, HDPE, PVC, Concrete, Brick, Metal, Terra Cotta, Other, Unknown	Defines the structure materials
Pipe Material	CMP, HDPE, PVC, Concrete, Metal, Terra Cotta, Other, Unknown	Identifies the pipe material at the structure
Pipe Size	Number	Size of the pipe in inches
Ownership	City, State, County, Unknown, Private - Residential, Private - Commercial	Identifies ownership and maintenance responsibility
MS4 Outfall	Yes, No	Indicates whether the structure is an MS4 outfall
Drains to	Name of State Water	Lists the name of the State Water where the structure eventually drains
Inspection Zone	Zone 1, Zone 2, Zone 3, Zone 4, Zone 5	Identifies the maintenance zone
Sediment	None, 1-25%, 26-50%, 51-75%, 76-100%	Indicates the amount of sediment present in the structure at the time of inspection
Debris	None, Minor, Moderate, Severe	Indicates the amount of debris present in the structure at the time of inspection
Erosion	None, Minor, Moderate, Severe	Defines the severity of erosion at the type of inspection
Vegetation	Natural, Overgrown Access, Overgrown Flow	Identifies the type of vegetation present at the time of inspection
Water	None, Standing, Flowing, Sump, Submerged, Unknown	Defines the presence of water at the time of inspection
Water Quality	Normal, Discoloration, Algae, Multiple, Litter/Floatables, Sheen, Foam, Precipitates, Unknown, N/A	Water quality observations
Structural Damage	No Damage, Low Priority, Damage Requiring Repair, Major Damage	Identifies the severity of damage present at the structure
Maintenance	Maintenance Needed, Routine, Priority Maintenance Needed, Structural Damage and Maintenance	Lists the type of maintenance recommended based on the inspection
Notes	General notes / observations	General notes / observations
Inspection Score	Numeric	Scores the overall condition of the structure based on the information gathered
X Coordinate	Longitude	Geographic Coordinates
Y Coordinate	Latitude	Geographic Coordinates

Ditches

Ditches	Values	Description
Inspection Status	Complete, Partial Evaluation, Cannot Access, Cannot Locate, None	
Inspection Date	Date	Date of the most recent inspection
Channel Material	Earthen, Rip Rap, Concrete, Other, Unknown,	Defines the general type of material that forms the channel of the ditch
Grading	None, Partial Length, Full Length	Indicates whether any grading has taken place along the ditch
Debris	None, Minor, Moderate, Severe	Indicates the amount of debris present in the structure at the time of inspection
Erosion	None, Minor, Moderate, Severe	Defines the severity of erosion at the type of inspection
Vegetation	Natural, Overgrown Access, Overgrown Flow	Identifies the type of vegetation present at the time of inspection
Water	None, Standing, Flowing, Sump, Submerged, Unknown	Defines the presence of water at the time of inspection
Water Quality	Normal, Discoloration, Algae, Multiple, Litter/Floatables, Sheen, Foam, Precipitates, Unknown, N/A	Water quality observations
Maintenance	Routine, Maintenance Needed, Unknown	Lists the type of maintenance recommended based on the inspection
Ownership	City, State, County, Unknown, Private - Residential, Private - Commercial	Identifies ownership and maintenance responsibility
Notes	General notes / observations	General notes / observations
Inspection Zone	Zone 1, Zone 2, Zone 3, Zone 4, Zone 5	Identifies the maintenance zone
Inspection Year	Year	Lists a year within the 5-year permit cycle when the ditch needs to be inspected

Stormwater Pipes

Stormwater Pipes	Values	Description
Inspection Date	Date	Date of the most recent inspection
Pipe Material	CMP, HDPE, PVC, Concrete, Metal, Terra Cotta, Other, Unknown	Identifies the pipe material at the structure
Pipe Size	Number	Size of the pipe in inches
Sediment	None, 1-25%, 26-50%, 51-75%, 76-100%	Indicates the amount of sediment present in the pipe at the time of inspection
Debris	None, Minor, Moderate, Severe	Indicates the amount of debris present in the pipe at the time of inspection
Observations		
Ownership	City, State, County, Unknown, Private - Residential, Private - Commercial	Identifies ownership and maintenance responsibility
Notes	General notes / observations	General notes / observations
Inspection Zone	Zone 1, Zone 2, Zone 3, Zone 4, Zone 5	Identifies the maintenance zone
Inspection Year	Year	Lists a year within the 5-year permit cycle when the ditch needs to be inspected

Stormwater Structure Inspection Form (Paper Copy) Name: Date:

Site/ID # Location	SW Marker	Collection Status	Structure Type & Material	Pipe Size & Material	Sediment	Debris	Erosion	Vegetation	Water	Water Quality	Structural Damage	Maintenance	General Notes
	Yes No	Inlet Outlet Junction Unknown	Type: Material:	Size: Material:	None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	No Damage Low Priority Damage Requiring Repair Major Damage	Maintenance Needed Routine Priority Maintenance Needed Structural Damage and Maintenance	
	Yes No	Inlet Outlet Junction Unknown	Type: Material:	Size: Material:	None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	No Damage Low Priority Damage Requiring Repair Major Damage	Maintenance Needed Routine Priority Maintenance Needed Structural Damage and Maintenance	
	Yes No	Inlet Outlet Junction Unknown	Type: Material:	Size: Material:	None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	No Damage Low Priority Damage Requiring Repair Major Damage	Maintenance Needed Routine Priority Maintenance Needed Structural Damage and Maintenance	

Structure Types: Catch Basin, Drop Inlet, Yard Inlet, Curb Inlet, End of Pipe, Flared End Section, Headwall, Junction, Box Culvert, Other, Unknown
Materials: CMP, HDPE, PVC, Concrete, Brick, Metal, Terra Cotta, Other, Unknown

Ditch Inspection Form (Paper Copy) Name: Date:

Site/ID # Location	**Channel Material**	**Grading**	**Debris**	**Erosion**	**Vegetation**	**Water**	**Water Quality**	**Maintenance**	**Ownership**	**General Notes**
	Earthen Rip Rap Concrete Other Unknown	None Partial Length Full Length	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	Routine Maintenance Needed Unknown	City State County Unknown Private-Res Private-Comm	
	Earthen Rip Rap Concrete Other Unknown	None Partial Length Full Length	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	Routine Maintenance Needed Unknown	City State County Unknown Private-Res Private-Comm	
	Earthen Rip Rap Concrete Other Unknown	None Partial Length Full Length	None Minor Moderate Severe	None Minor Moderate Severe	Natural Overgrown Access Overgrown Flow	None Standing Flowing Sump Submerged Unknown	Normal Discoloration Algae Multiple Litter/ Floatables Sheen Foam Precipitates Unknown N/A	Routine Maintenance Needed Unknown	City State County Unknown Private-Res Private-Comm	

Stormwater Pipe Inspection Form (Paper Copy) Name: Date:

Site/ID # Location	Pipe Material	Pipe Size	Sediment	Debris	General Notes/Observations
			None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	
			None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	
			None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	
			None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	
			None 1-25% 26-50% 51-75% 76-100%	None Minor Moderate Severe	

Materials: CMP, HDPE, PVC, Concrete, Metal, Terra Cotta, Other, Unknown

Municipal Facility Stormwater Inspection Checklist

Facility:	
Facility Location:	
Date of Inspection:	
Reason for Inspection:	
Weather:	

Is there evidence of stormwater pollutants leaving site? (If YES, explain below) Describe pollutants:

Were stormwater issues discussed with on-site representative?	**YES**	**NO**
If YES, what is name and position of representative?	Name:	
	Position:	
Other comments/summary:		

Inspector Name:	
Company:	
Signature:	

Inspection Results:

Inspection Completed For:	YES/ NO/NA	PASS/ FAIL	Deficiencies Found	PHOTO #
Current Industrial NOI				
Stormwater Pollution Prevention Plan				
Areas around machinery and/or equipment				
Areas prone to leaks and spills				
Outdoor storage and handling areas				
Waste generation, storage, treatment and disposal areas				
Vehicle wash-down areas				
Fueling areas				
Loading and unloading areas				
Other:				

Inspect for the following:	
Stains, spots or puddles of oils, grease, or chemicals on concrete or around drains.	Torn bags of dry chemicals or bags exposed to rain
Leaking or corroded equipment, pipes, containers, or lines.	Broken or cracked dikes, walls, or other physical barriers
Improperly labeled or leaking drums	Improper outdoor storage of potential stormwater pollutants
Inadequate or inaccessible spill response equipment	Oily rags improperly discarded

Updated: June 2017

Stormwater Detention/Retention Pond Inspection Checklist

Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Area around the inlet structure is mowed and grass clippings are removed.					
No evidence of gullies, rills, or excessive erosion around the inlet structure.					
Inlet pipe is in good condition, and water is going through the structure (i.e. no evidence of water going around the structure).					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Pretreatment (choose one)					
Forebay – area is free of trash, debris, and sediment.					
Filter Strip or Grass Channels – area is free of trash debris and sediment. Area has been mowed and grass clippings are removed. No evidence of erosion.					
Rock Lined Plunge Pools – area is free of trash debris and sediment. Rock thickness in pool is adequate.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Erosion protection is present on site (i.e. turf reinforcement mats). Comment on types of erosion protection and evaluate condition.					
No algal growth along or within the pond.					
Native plants were used in the practice according to the planting plan. No undesirable vegetation.					
Practice seems to be working properly. No settling around the stormwater pond.					

Stormwater Pond

Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
Comment on overall condition of stormwater pond.					
Vegetation within and around practice is maintained per landscaping plan. Grass clippings are removed.					
No significant sediment accumulation within the practice.					
No evidence of use of fertilizer on plants (fertilizer crusting on the surface of the soil, tips of leaves turning brown or yellow, blackened roots, etc.).					
Plants seem to be healthy and in good condition. Comment on condition of plants.					
Emergency Overflow					
Emergency overflow is free of trash, debris, and sediment.					
No evidence of erosion, scour, flooding, or animal activity around the structure.					
No evidence of erosion, scour, or flooding around the structure.					
Outlet Structure					
Outlet structure is free of trash, debris, and sediment.					
No evidence of erosion, scour, or flooding around the structure.					
Outlet structure does not appear to be blocked.					
No evidence of animal activity.					
No evidence of seepage on the downstream face.					
Results					
Overall condition of Stormwater Pond:					
Additional Comments					

Notes: * If a specific maintenance item was not checked, please check N/A and explain why in the appropriate comment box.

Stormwater Water Quality Vault Inspection Checklist

Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet Structure and Pretreatment					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Inlet structure is in good condition. No signs of cracks or leaks.					
Diversion structure (high flow bypass structure or other) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Inlet pipe fits tightly to the underground detention.					
Inlet has protection to prevent clogging with leaves or other debris and has fine mesh for mosquito control.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
Structure seems to be working properly. No signs of settling, leaking, or cracking. Comment on overall condition of structure.					
Emergency Overflow and Outlet Structure					
Area is free of trash, debris, and sediment.					
Overflow valve appears to be in good condition and show no signs of leaking.					
Results					
Overall condition of Underground Detention:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

Water Quality Assessment Checklist for City-Owned Flood Control Structures

Dry Detention Basins and Stormwater Ponds

Project Name and Address: _____ Inspector: _____

_____ Date of Inspection: _____

BMP Type: _____

Inspection Items	Yes	No	N/A	Comments and Potential Retrofits
Is there evidence of erosion or sediment along the banks or at the outfall?				
Has the contributing drainage area been fully stabilized?				
Does the site have proper maintenance and inspection access?				
Is the slope of the embankments consistent with GSMM Recommendations? (i.e. 3 to 1 horizontal to vertical)				
Is the BMP installed to the proper depth as recommended by the GSMM (i.e. less than 10 feet for dry detention and less than 8 feet for the permanent pool on a stormwater pond?)				
Is suitable fill material used for the embankment/berm?				
Is the embankment properly compacted?				
Is there a forebay or another pretreatment feature?				
Are inlets, flow paths, and underdrains (if called for) properly installed and at the correctelevations?				
Has the outfall been constructed with adequate erosion protection?				
Is an emergency spillway provided?				
If so, has the r outflow structure been properly installed and at the correct elevations?				
Does the vegetation meet City requirements, and is it in good health?				
Is the BMP fully functional?				

APPENDIX E

Enforcement Response Plan

City of Brunswick, Georgia

Submitted & Approved: 2014
Resubmitted June 4, 2018
Revised ERP October 20, 2020 based on comments in EPD Letter dated 03/09/2020

TABLE OF CONTENTS

1. Introduction

1.1 Enforcement Response Plan

The City of Brunswick has prepared an Enforcement Response Plan (ERP) as required by the City's National Pollutant Discharge Elimination System (NPDES) Phase II Municipal System Storm Sewer System (MS4) Permit. The ERP is an addendum to the City's Stormwater Management Plan (SWMP). This document outlines the actions and procedures that will be used by City staff when illicit discharges, post-construction stormwater quality violations, and other stormwater quality violations occur that violate the City's Stormwater Management Ordinance. The ERP provides a regulatory framework and timeline for enforcement actions, including an escalating series of actions that will be employed for Illicit discharges and other stormwater violations.

1.2 Enforcement Authority

The City of Brunswick has established adequate legal authority through the Brunswick Code of Ordinances to comply with the City's NPDES Phase II MS4 Permit. Under Chapter 22A of the City's Code Stormwater Management Ordinance, the City has codified its illicit discharge and post-construction stormwater management regulations which were most recently amended on December 13, 2006. Chapter 22A, Article II includes the illicit discharge detection & elimination (IDDE) code provisions, and Article III includes the post-construction stormwater management code provisions. Chapter 22A, Article IV, "Enforcement and Penalties," outlines procedures to address non-compliance with Chapter 22A, including Articles II and III as described above.

2. Illicit Discharges

2.1 Purpose [22A-21.]

The City of Brunswick, through the Illicit Discharge Prohibition Provision of the City's Stormwater Management Ordinance (Article II), and through implementation of this ERP, seeks to protect the health, safety, and general welfare of the citizens of the City of Brunswick through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable. The purpose of Illicit Discharge Prohibition is:

a) To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user;
b) To prohibit illicit connections and discharges to the MS4; and
c) To establish legal authority to carry out all inspection; surveillance and monitoring; and enforcement procedures as necessary to ensure compliance with this article.

2.2 Verbal Warning

Upon identification of a non-egregious illicit discharge from private property to the City's stormwater system and when the property owner takes steps immediately to eliminate and to clean-up the discharge, a verbal warning to the responsible party may be deemed sufficient enforcement by the City. The City takes multiple factors into consideration when making the determination to issue a verbal warning, such as the compliance history of the site/operator (i.e., first time offense versus repeat offense), the severity of the issue (whether the illicit discharge has entered and contaminated the City's stormwater system), whether the illicit discharge was accidental/unintentional, and the general good faith of the violator, as well as how easily and quickly the illicit discharge or potential illicit discharge can be remedied while at the site. The City will take steps, when issuing a verbal warning, to educate the responsible party about stormwater pollution and how to prevent future re-occurrences. Recurring or repeated violations, flagrant and/or intentional violations, or failure to properly and immediately eliminate and remediate the illicit discharge as instructed, will escalate the violation to the written notice procedures described below.

The City may also issue a verbal warning when a potential stormwater issue is identified that has not resulted in an illicit discharge or illegal connection, such as poor housekeeping practices, and inform the responsible party of corrective actions/best management practice(s) that should be implemented and a timeframe for completion. The City may also use a verbal warning in advance of a forthcoming, formal Notice of Violation (NOV) to give the property owner or responsible party advance notice.

The City staff or their designee may issue a verbal warning that may consist of a direct conversation while onsite, a phone call, or an email to notify the responsible person/property owner of a minor violation (as described above) or potential stormwater violation. The City will keep records of all verbal warnings issued. The City may require, at its discretion, the responsible person/property owner to submit documentation of the corrective actions completed and/or the City may conduct a follow-up inspection to verify compliance.

2.3 Notice of Violation [22A-102.]

When the DRT (the group of departmental representatives assigned by the City Manager to meet periodically and review construction, subdivision, and other plans, also referred to as the "development review team") determines that an activity is not being carried out in accordance with the requirements of this article, the DRT shall issue a written notice of violation to the owner of the property. Enforcement responses to initial storm water violations will be initiated within **ten (10) days** of discovery, or at the discretion of the City of Brunswick. In cases where a Notice of Violation (NOV) is issued, immediate action is allowed. If necessary, follow-up inspections or site visits will occur within **ten (10) days** of the due date specified in the NOV. The notice of violation shall contain:

1) The name and address of the owner or applicant;
2) The address when available or a description of the building, structure or land upon which the violation is occurring;
3) A statement specifying the nature of the violation;
4) A description of potential remedial measures necessary to bring the development activity into compliance with this article and a time schedule for the completion of such remedial action;
5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
6) A statement that the determination of violation may be appealed to the City by filing a written notice of appeal within **15 days** of service of notice of violation.

Follow-up action for repeat or recurring offenses will be taken within **ten (10) days** of discovery of the repeal/recurring offense, and may include additional enforcement including Administrative Orders, Fines, and Judicial Enforcement. In the event of an emergency situation caused by storm water violations, including imminent danger to the public health or safety, or danger to City personnel, or the environment, the City may initiate enforcement responses including:

i) Issuance of cease and desist orders;
ii) Revocation or termination of any permits issued by the Public Works Department;
iii) Termination of permits issued by any other City departments (at the recommendation of the Public Works Department).

2.4 Enforcement [22A-34.]

Violations, Enforcement and Appeals

(a) Whenever the City Public Works Director (hereafter referred to as "director") finds that a person has violated a prohibition or failed to meet a requirement of this article, the director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

1) The performance of monitoring, analyses, and reporting;
2) The elimination of illicit connections or discharges;
3) That violating discharges, practices, or operations shall cease and desist;

4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
5) Payment of a fine to cover administrative and remediation costs; and
6) The implementation of source control or treatment BMPs.

(b) If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work may be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

Appeal of Notice of Violation

(c) Any person receiving a notice of violation may appeal the determination of the director. The notice of appeal must be received within **ten (10) days** from the date of the notice of violation. Hearing on the appeal before the appropriate authority or his/her designee shall take place within **15 days** from the date of receipt of the notice of appeal. The decision of the reviewing authority or their designee shall be final.

Enforcement Measures After Appeal

(d) If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within **ten (10) days** of the decision of the reviewing authority upholding the decision of the director, then representatives of the director shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow City personnel or designated contractor to enter upon the premises for the purposes set forth above.

Cost of Abatement of the Violation

(e) Within **30 days** after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within **30 days**. If the amount due is not paid within a timely manner as determined by the decision of the reviewing authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Injunctive Relief

(f) It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this article. If a person has violated or continues to violate the provisions of this article, the director may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Alternative Compensatory Actions

(g) In lieu of enforcement proceedings, penalties, and remedies authorized by this article, the City may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Violations Deemed a Public Nuisance

(h) In addition to the enforcement processes and penalties provided in this section and those specified in Section 2.3 of this ERP, the City Attorney may deem certain violations to be a public nuisance if there is a threat to public health, safety, and welfare. If the violation is declared and deemed a nuisance, the City Attorney may take civil action to abate, enjoin, or otherwise compel the cessation of such nuisance.

Civil and Criminal Penalties

(i) Any person that has violated or continues to violate this article shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty in Brunswick Municipal Court in accordance with Chapter 15 of the Municipal Code of Brunswick; each day a violation continues shall constitute a separate offense. The City may recover all attorneys' fees court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

Per Chapter 15, "Municipal Court," Section 15-9, "Punishment Authority," the judge of the municipal court shall be authorized to impose any punishment up to the maximum specified by general state law. Notwithstanding any provision of any other ordinance heretofore providing for the maximum punishment for any violation of an ordinance of the City, the judge of the municipal court shall be authorized to impose, for violation of any ordinance of this City, a sentence of confinement up to six months, a fine up to $1,000.00 or both or such alternative punishment as permitted by law.

Remedies Not Exclusive

(j) The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

2.5 Suspension due to illicit discharges in emergency situations [22A-25.]

The director may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the director may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to persons.

2.6 Suspension due to the detection of illicit discharge [22A-26.]

Any person discharging to the MS4 or watercourses in violation of this article may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The director will notify a violator of the proposed termination of its MS4 access. The violator may petition the director for a reconsideration and hearing. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the public works director.

2.7 Citizen Complaints

Members of the public can greatly assist the City by being the eyes and ears of the City. Citizens are encouraged to contact the City if they see illegal dumping or illicit discharge activities. The City of Brunswick's Public Works website (http://www.brunswickga.org/pw/new/index.html) provides contact information and an email address for citizens wishing to report illicit discharges or illegal dumping. The City will maintain a Citizen Complaint Hotline so the public can call and ask questions about stormwater issues and report stormwater complaints, including illicit discharge complaints, to the Public Works Department. Stormwater questions and complaints may be called in to the Public Works 24-Hour Dispatch Service hotline at (912) 267-3703 or reported to the City's Code Enforcement Officers. Contact information for the Citizen Complaint hotline and City's Code Enforcement Officers is posted on the City's Stormwater and Public Works webpages. Each complaint is logged, investigated within at least 72 hours, and follow up activities are documented. Brunswick takes each complaint seriously and follows the procedures listed below to follow up on every complaint or tip.

1. When a complaint is received, all possible known information is recorded in the citizen database.
2. Inspection or investigation of the complaint is scheduled within **three (3) days** of receiving a complaint (note - an immediate inspection may occur based on the severity of the violation).
3. Property or site is inspected.
4. Any and all violations are documented and photographed.
5. Attempt is made to have an in-person meeting with owner, operator, tenant, and/or Manager of property.
6. Case file is opened if violation has occurred.
7. The database is reviewed to check for previous violations at the same site.
8. Enforcement strategy is established (see enforcement mechanisms / actions).
9. The City may re-inspect the site to confirm compliance.
10. Case file closed out when property is in compliance with date of final inspection and compliance recorded.

2.8 Tracking

The City will maintain a database of citizen complaints and case files and will utilize this information to track violations, document issuance of enforcement actions, deadlines for compliance, and other information about the violation(s). This database will be used as the basis for annual reporting to the Georgia EPD in accordance with applicable requirements of the City's NPDES Phase II MS4 Permit. Each violation will be tracked with a unique identifier such that the inspection, oversight and escalation of enforcement activities can be documented for each

specific violation. The tracking system will document the details associated with the initial complaint and/or violation and then show the process followed by the City to resolve the violation through an escalation of enforcement. The tracking system will include pertinent information including:

- Facility Information
    - Name of owner/operator
    - Address
    - Type of site or issue (citizen complaint, IDDE, etc.)
- Date of complaint and site investigation
- Description of violation
- Enforcement actions used
- Timeframe for
    - Investigation
    - Corrective action
    - Re-inspection
- Documentation of all actions taken
    - Inspection photos, notes, etc.
    - Enforcement actions taken
    - Referrals to other departments or agencies
- Date of violation resolution
- Notice of violations provided to violators as well as any other correspondence will be maintained on file.

2.9 Enforcement Mechanism Summary

The City evaluates each case individually to determine the type of appropriate actions / enforcement responses that are outlined above. These factors include a determination of the severity of the problem, potential danger to public health or safety, duration of non-compliance, effects on State waters, effects on the MS4, compliance history of the violator, and general good faith of the violator.

The City may elect to issue a verbal warning in some cases as outlined above in Section 2.2. If an active violation is discovered and an NOV is issued, the City may determine if this is an isolated incident and a NOV sent to the violator may be sufficient, assuming the violation is adequately corrected within the specified timeframe. Severe violations would be addressed with more severe enforcement actions. If a violation has occurred over a long period of time, enforcement actions will be escalated appropriately. If the violation has resulted in environmental harm to the water quality of State waters or poses danger to public health or safety, then the City shall respond with severe and prompt enforcement actions, including remediating the violation and recouping costs from the violator. If the violator has damaged the MS4 or has caused such an action that will require additional costs, the City may assess the recovery of these costs as part of the assessment of penalties.

Examples of specific Illicit Discharge and Illegal Connection violations that may occur and the enforcement mechanisms that may be used to address the violations thru the City's Stormwater Management Ordinance & Illicit Discharge Prohibition are provided in Table 2.1. A flow chart (Figure 2.1) is also provided to visually illustrate enforcement procedures for violations of the City of Brunswick's Stormwater Management Ordinance and Illicit Discharge Prohibition.

Table 2.1: Illicit Discharge / Illegal Connections Enforcement Procedures

Violation	Examples	Action Required by Site / Violator	Enforcement Action	Timeframe to Complete Remediation	Ordinance Citation(s)
Illicit Discharge	▪ Discharge of residential and/or commercial pool water to the street or stormwater system (where chlorine is greater than 1 ppm or expected to be present, if concentration is unknown) ▪ Auto maintenance activities or other automobile-related mechanical issues that inadvertently result in minor oil-stained soils or minor fluid leaks (i.e., oil changes, oil pan leak, 1st offense) ▪ Minor amount of litter and debris in a parking lot or from open trash can that is or could wash into MS4 (i.e., not intentional dumping of wastes)	Responsible party takes steps immediately to eliminate the non-egregious illicit discharge and to clean-up the discharge	Issue Verbal Warning, followed by NOV if discharge (or litter) is not immediately eliminated/ remediated	Remediation must be completed immediately. If not, City will proceed with NOV and escalating enforcement actions as needed.	N/A
Illicit Discharge	▪ Improper disposal/illegal dumping of household/ commercial/industrial chemicals and wastes to the MS4 (e.g., grease, oils, paint, etc.) ▪ Dumping of landscaping debris ▪ Sewage overflow ▪ Fuel spill ▪ Discharge of process wastewater	Elimination or cessation of violating discharges, practices, and/or operations	Issue NOV [a]	10 days or less (unless an Appeal is approved that additional time is necessary)	Sections 22A-25 and 22A-34.
Illegal Connection	Illegal connection of pipes/conveyances that allow illicit discharges to enter the MS4 (e.g., connection from septic tank system, restrooms, floor drains)	Elimination of illegal connection	Issue NOV [a]	10 days or less (unless an Appeal is approved that additional time is necessary)	Section 22A-24.
Poor Housekeeping	Household/cleaning chemicals are stored outside or unlidded (not resulting in an illicit discharge to the MS4)	Improve housekeeping practices	Issue Verbal Warning	30 days or less	N/A

[a] After issuance of NOV, escalating enforcement actions will be taken and penalties may be assessed if the violation is not corrected. The City will take any and all measures to correct the violation and impose appropriate penalties. In situations where there is imminent and substantial danger to the environment, humans, MS4 and/or waters of the United States, the City may suspend MS4 discharge access. See Sections 2.2 - 2.4 for more information.

Figure 2.1: Illicit Discharge/Illegal Connections Enforcement Flow Chart

Enforcement Procedures for Violations of the City of Brunswick Stormwater Management Ordinance

3. Construction Stormwater Management

The City of Brunswick is currently not a Local Issuing Authority (LIA) for land disturbance activity (LDA) Permits as defined by the Georgia Erosion & Sedimentation Act (GESA). The Georgia Environmental Protection Division (EPD) has determined that those local governments that do not have issuing authority for LDA Permits are not required to implement the requirements of Section 4.2.4 of the Phase II MS4 Permit, titled "Construction Site Stormwater Runoff Control" which requires construction site structural and non-structural controls to reduce pollutants in stormwater runoff from construction sites. In these locations, EPD is responsible for regulating, permitting, and enforcing State law for land disturbing activities. If Brunswick receives a citizen complaint or is otherwise made aware of a potential Erosion and Sedimentation (E&S) violation that requires enforcement, the City will notify the EPD of said potential violations within 72 hours.

3.1 Site Inspections

The EPD is responsible for conducting inspections of construction sites and enforce E&S requirements. See Section D.3 of the City's SWMP.

3.2 Violations, Enforcement and Appeals

The City of Brunswick is not an LIA and is therefore not responsible for enforcing NPDES Construction Permits or GESA on qualifying sites in Brunswick. If Brunswick receives a citizen complaint or is otherwise made aware of a potential E&S violation that requires enforcement, the City will notify the EPD of said potential violations within 72 hours.

4. Post-Construction Stormwater Management

4.1 Purpose [Article III. Sec. 22A-51.]

The purpose of this article is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This article seeks to meet that purpose through the following objectives:

a) Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation, and streambank erosion and maintain the integrity of stream and drainage channels;
b) Minimize increases in nonpoint source pollution caused by stormwater runoff from development which would otherwise degrade local water quality;
c) Minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable; and
d) Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

The City of Brunswick has developed and implemented a separate Green Infrastructure/Low Impact Development (GI/LID) Plan, included as Appendix G of the City's SWMP, that the City uses to address the inspection and management of post-construction structures.

4.2 Stormwater Management Manual

Before December 6, 2020, the City of Brunswick will update Article III of the Stormwater Management Ordinance to utilize the standards, criteria, and information presented in the latest edition of the Coastal Stormwater Supplement (CSS) and the Georgia Stormwater Management Manual (GSMM).

4.2.1 **Development of a Local Stormwater Design Manual** [22A-54]
The City may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this chapter and may provide such information in the form of a Local Stormwater Design Manual (LDM). If such a LDM is developed, the requirements outlined within the LDM shall take precedence.

4.2.2 **Performance Criteria** [22A-64]
Unless judged by the DRT to be exempt or granted a waiver, the following performance criteria shall be addressed for stormwater management at all sites

- Peak Runoff Rate Control [22A-65]
- Channel Protection [22A-66]
- Water Quality Control [22A-67]

4.3 Failure to Maintain Practices [22A-79.]

If a responsible party fails or refuses to meet the requirements of the maintenance covenant, the City after reasonable notice, may correct a violation of the design standards or maintenance

needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the DRT shall notify the party responsible for maintenance of the stormwater management facility in writing. Upon receipt of that notice, the responsible person shall affect maintenance and repair of the facility in an approved manner and within the established deadline. After proper notice, the City may assess the owner(s) of the facility for the cost of repair work and any penalties; and the cost of the work shall be a lien on the property, or prorated against the beneficial users of the property.

4.4 Verbal Warning

The City may issue a warning when minor post-construction issues are identified and the property owner or operator takes immediate steps to address the issue. Warnings should only be used for minor issues that are easy to rectify and have not caused serious and negative impact to the City's stormwater system or egregiously violated the stormwater inspection and maintenance agreement. In some cases, the stormwater issue may be addressed while the City inspector is onsite. Otherwise, the verbal/written warning will set forth an established deadline for corrective actions to be completed. All corrective actions shall be completed within **ten (10) days**. The City takes multiple factors into consideration when making the determination to issue a verbal warning, such as the compliance history of the site/operator (i.e., first-time offense versus repeat offense), the severity of the issue, whether the violation was accidental/unintentional, and the general good faith of the violator. The City will take steps, when issuing a verbal warning, to educate the responsible party about proper post-construction design and how to prevent future re-occurrences. Recurring or repeated violations, flagrant and/or intentional violations, or failure to properly and immediately eliminate and remediate the violation as instructed, will escalate the violation to the written notice described below. The City may also use a verbal warning in advance of a forthcoming, formal NOV to give the property owner or responsible party advance notice.

The City staff or their designee may issue a verbal warning that may consist of a direct conversation while onsite, a phone call, or an email to notify the responsible person/property owner of a minor violation (as described above) or potential stormwater violation. The City will keep records of all verbal warnings issued. The City may require, at its discretion, the responsible person/property owner to submit documentation of the corrective actions completed and/or the City may conduct a follow-up inspection to verify compliance.

4.5 Enforcement and Penalties [Article IV]

4.5.1 Notice of Violation [22A-102.]

When the DRT determines that an activity is not being carried out in accordance with the requirements of this article, the DRT shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

1) The name and address of the owner or applicant;
2) The address when available or a description of the building, structure or land upon which the violation is occurring;
3) A statement specifying the nature of the violation;

4) A description of potential remedial measures necessary to bring the development activity into compliance with this article and a time schedule for the completion of such remedial action;
5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
6) A statement that the determination of violation may be appealed to the City by filing a written notice of appeal within **15 days** of service of notice of violation

4.5.2 Stop Work Orders [22A-103.]

Persons receiving a notice of violation may be required to halt all construction activities. This "stop work order" will be in effect until the DRT confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this article.

4.5.3 Injunction [22A-101.]

Any development activity that is commenced or is conducted contrary to this article may be restrained by injunction or otherwise abated in a manner provided by law.

4.5.4 Civil and Criminal Penalties [22A-104.]

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this article shall be punished by a fine in Brunswick Municipal Court in accordance with Chapter 15 of the Municipal Code of Brunswick and applicable Georgia law. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

Per Chapter 15, "Municipal Court," Section 15-9, "Punishment Authority," the judge of the municipal court shall be authorized to impose any punishment up to the maximum specified by general state law. Notwithstanding any provision of any other ordinance heretofore providing for the maximum punishment for any violation of an ordinance of the City, the judge of the municipal court shall be authorized to impose, for violation of any ordinance of this City, a sentence of confinement up to six months, a fine up to $1,000.00 or both or such alternative punishment as permitted by law.

4.5.5 Restoration of Lands [22A-105.]

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

4.5.6 Holds of Occupation Permits [22A-106.]

Occupation permits will not be granted until all corrections to all stormwater practices have been made and accepted by the DRT. A provisional occupation permit may be issued for a specified period of time not to exceed **90 days** in the event the DRT determines there is an urgent need for such provisional occupancy. Provisional permits may be conditioned according to such terms as

the DRT deems reasonable, and may be revoked at any time upon determination by the DRT that revocation is an appropriate means to protect the public interest in light of violation of the conditions of the provisional permit, violation of this or other ordinance of the City, or such other grounds as the DRT deems justify a revocation.

4.6 Citizen Complaints

Members of the public can greatly assist the City by being the eyes and ears of the City. Citizens are encouraged to contact the City if they see post-construction violations or related stormwater issues. The City of Brunswick's Public Works website provides contact information and an email address for citizens wishing to report post-construction violations or related stormwater issues (http://www.brunswickga.org/pw/new/index.html). The City will maintain a Citizen Complaint Hotline so the public can call and ask questions about stormwater issues and report stormwater complaints to the Public Works Department. Stormwater questions and complaints may be called in to the Public Works 24-Hour Dispatch Service hotline at (912) 267-3703 or reported to the City's Code Enforcement Officers. Contact information for the Citizen Complaint hotline and City's Code Enforcement Officers is posted on the City's Stormwater and Public Works webpages. Each complaint is logged, investigated within at least 72 hours, and follow up activities are documented. Brunswick takes each complaint seriously and follows the procedures listed below to follow up on every complaint or tip.

1) When a complaint is received, all possible known information is recorded in the citizen database.
2) Inspection or investigation of the complaint is scheduled within **three (3) days** of receiving a complaint (note - an immediate inspection may occur based on the severity of the violation).
3) Property or site is inspected.
4) Any and all violations are documented and photographed.
5) Attempt is made to have an in-person meeting with owner, operator, tenant, and/or Manager of property.
6) Case file is opened if violation has occurred.
7) The database is reviewed to check for previous violations at the same site.
8) Enforcement strategy is established (see enforcement mechanisms / actions).
9) The City may re-inspect the site to confirm compliance.
10) Case file closed out when property is in compliance with date of final inspection and compliance recorded.

4.7 Tracking

The City will maintain a database of citizen complaints and case files and will utilize this information to track violations, document issuance of enforcement actions, deadlines for compliance, and other information about the violation(s). This database will be used as the basis for annual reporting to the Georgia EPD in accordance with applicable requirements of the City's NPDES Phase II MS4 Permit. Each violation will be tracked with a unique identifier such that the inspection, oversight and escalation of enforcement activities can be documented for each specific violation. The tracking system will document the details associated with the initial complaint and/or violation and then show the process followed by the City to resolve the

violation through an escalation of enforcement. The tracking system will include pertinent information including:

- Facility Information
    - Name of owner/operator
    - Address
    - Type of site or issue (citizen complaint, site inspection, etc.)
- Date of complaint and site investigation
- Description of violation
- Enforcement actions used
- Timeframe for
    - Investigation
    - Corrective action
    - Re-inspection
- Documentation of all actions taken
    - Inspection photos, notes, etc.
    - Enforcement actions taken
    - Referrals to other departments or agencies
- Date of violation resolution
- Notice of violations provided to violators as well as any other correspondence will be maintained on file.

4.8 Enforcement Mechanism Summary

The City evaluates each case individually to determine the type of appropriate actions / enforcement responses that are outlined above. These factors include a determination of the severity of the problem, potential danger to public health or safety, duration of non-compliance, effects on State waters, effects on the MS4, compliance history of the violator, and general good faith of the violator.

In a scenario in which a stormwater issue has occurred that is not actively violating the Stormwater Management Ordinance, the City will issue a verbal or written warning. If an active violation is discovered, the City may determine if this is an isolated incident and a NOV sent to the violator may be sufficient, assuming the violation is corrected within the specified timeframe. Severe violations would be addressed with more severe enforcement actions. If a violation has occurred over a long period of time, enforcement actions will be escalated appropriately. If the violation has resulted in environmental harm to the water quality of State waters or poses danger to public health or safety, then the City shall respond with severe and prompt enforcement and actions, including remediating the violation and recouping costs from the violator. If the violator has damaged the MS4 or has caused such an action that will require additional costs, the City may assess the recovery of these costs as part of the assessment of penalties.

Examples of post-construction violations and enforcement mechanisms are provided in Table 4.1. A flow chart (Figure 4.1) is also provided to visually illustrate enforcement procedures for post-construction violations of the City of Brunswick's Stormwater Management Ordinance.

Table 4.1: Post Construction Stormwater Management Enforcement Procedures

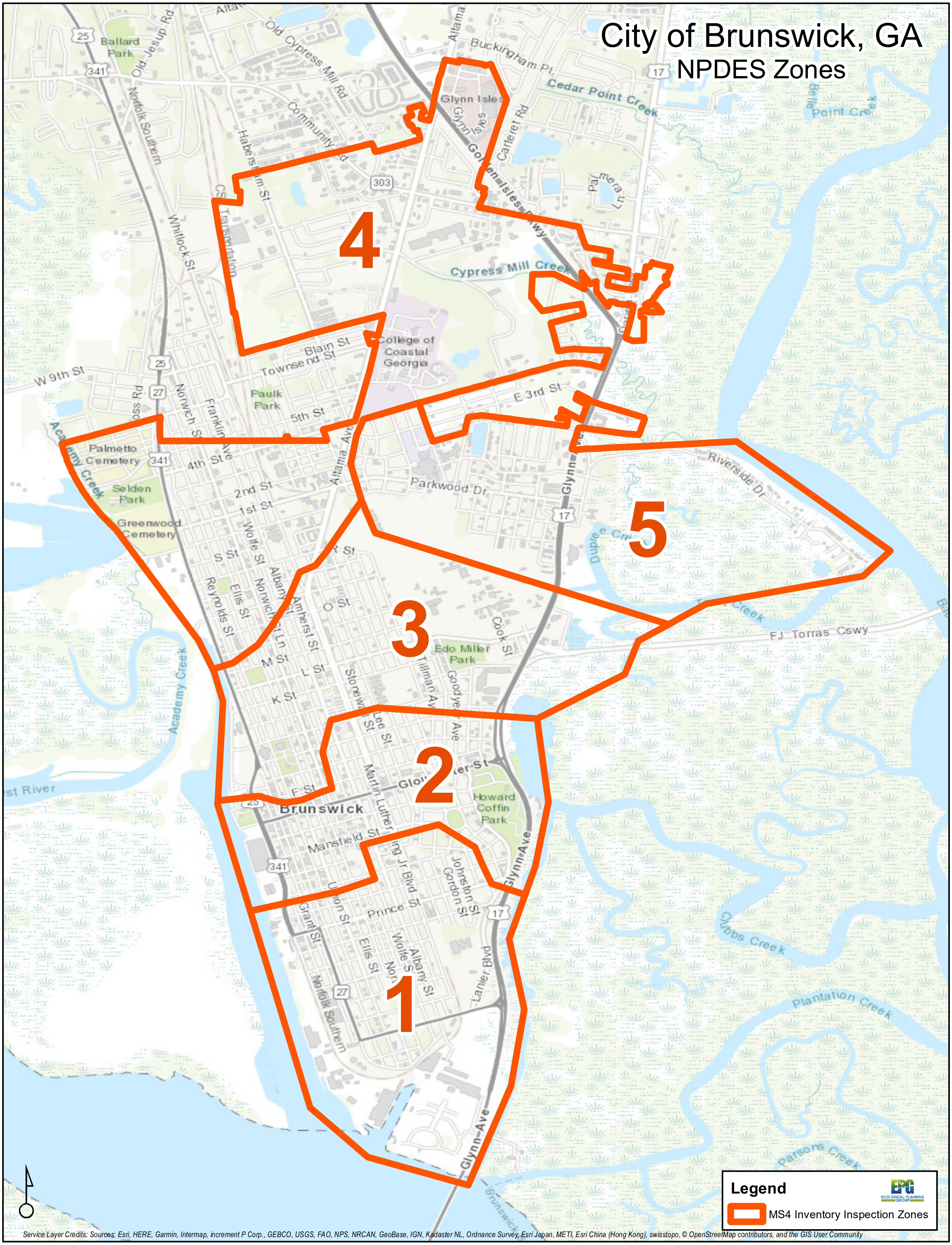
Violation Example	Action Required by Site / Violator	Enforcement Action	Timeframe to Complete Remediation	Ordinance Citation(s)
▪ Minor erosion around inlet/outlet of a bioretention cell ▪ Minor sediment accumulation on pervious pavers	Immediate correction of deficiency noted	Issue Verbal Warning, followed by NOV if issue is not immediately eliminated/ remediated	Remediation must be completed within 10 days. If not, City will proceed with NOV and escalating enforcement actions as needed.	N/A
Dam, Side Slopes, Pond Floor, Outlet Structure, Emergency Spillway, Outfalls into Detention Pond, Significant Sediment Accumulation, Significant Trash and Debris	Correction of deficiency noted	Issue NOV [a]	24 hours if violation poses an immediate danger to public health & safety; otherwise, 10 days or less as specified in NOV (unless an Appeal is approved that additional time is necessary)	22A-77 to 22A-79

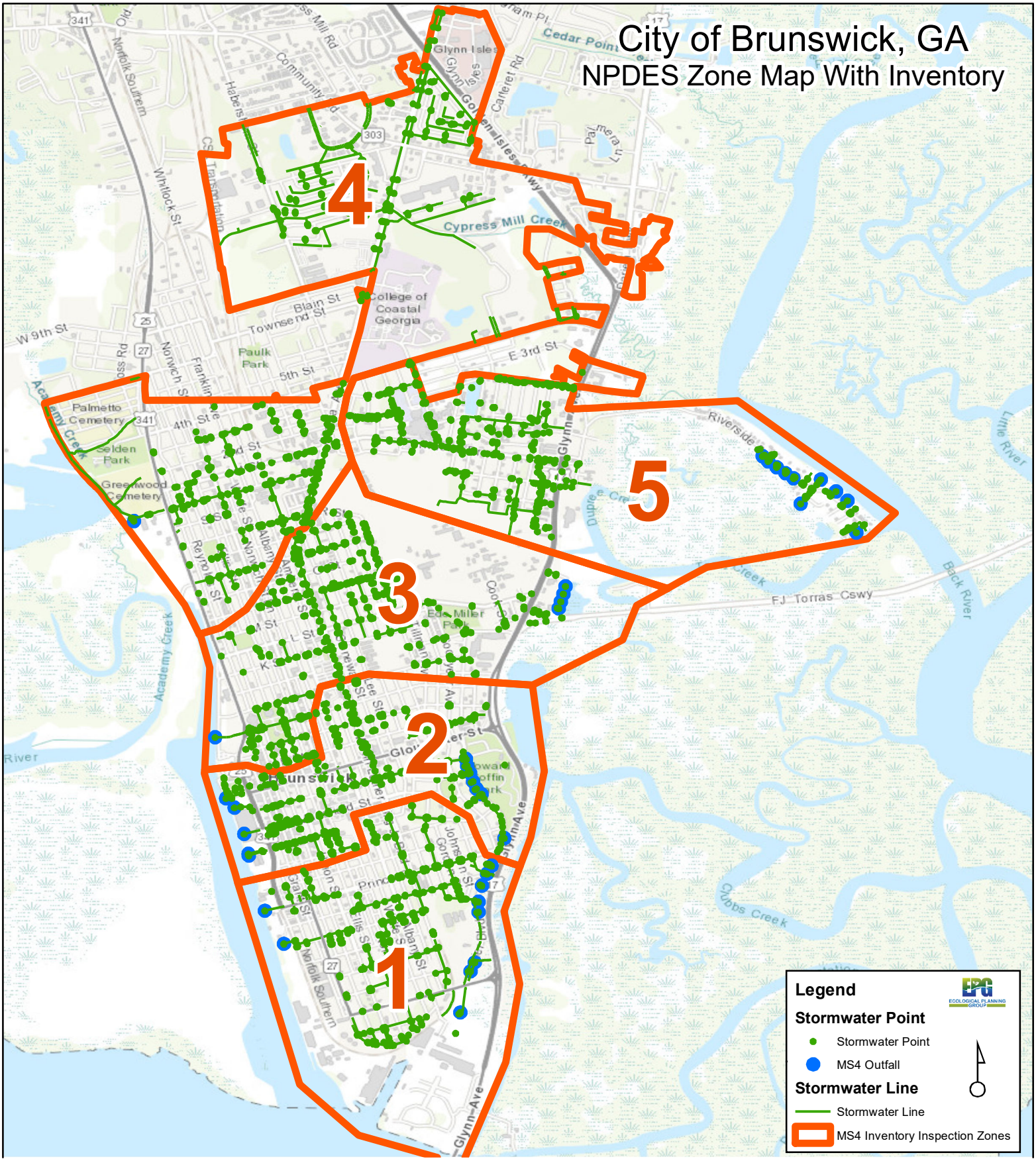
[a] After issuance of NOV, escalating enforcement actions will be taken and penalties may be assessed if the violation is not corrected. The City will take any and all measures to correct the violation and impose appropriate penalties. This may include the issuance of a stop work order, permit revocation, withholding a certificate of occupancy, or issuing penalties. See Section 4.4-4.5 for more information.

Figure 4.1: Post Construction Stormwater Management Enforcement Procedure Flow Chart

Enforcement Procedures for Violations of Post-Construction Standards in the City's Stormwater Management Ordinance

APPENDIX F


City of Brunswick, GA
NPDES Zones
4
5
3
2
1
Legend
MS4 Inventory Inspection Zones
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community


City of Brunswick, GA
NPDES Zone Map With Inventory
4
5
3
2
1
Cypress Mill Creek
College of Coastal Georgia
Paulk Park
Selden Park
Palmetto Cemetery
Greenwood Cemetery
Ed Miller Park
FJ Torras Cswy
Riverside
Academy Creek
Back River
Little River
Clubs Creek
Glynn Ave
Legend
Stormwater Point
Stormwater Point
MS4 Outfall
Stormwater Line
Stormwater Line
MS4 Inventory Inspection Zones

APPENDIX G

GREEN INFRASTRUCTURE/LOW IMPACT DEVELOPMENT (GI/LID) PLAN

City of Brunswick
NPDES permit #: GAG610000

February 15, 2020

Introduction

Green Infrastructure (GI) uses vegetation, soils, and natural processes to manage water and create healthier built environments with fewer negative impacts on surrounding green space and wildlife habitat. At the scale of a large city or region, green infrastructure refers to the overall network of natural areas that provide habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water. These site-specific techniques are collectively described as Low Impact Development (LID), an approach to development that works with nature to manage stormwater as close to its source as possible. LID employs site design priorities such as preserving and recreating natural landscape features, minimizing impervious surfaces, and incorporating stormwater as an on-site resource rather than a waste product.

Specific to coastal Georgia, the Coastal Stormwater Supplement (CSS) to the Georgia Stormwater Management Manual (GSMM) describes GI as natural areas that provide ecological benefits in urban areas as well as post-construction stormwater management practices that are designed to be "green" (source control with natural systems) rather than "gray" (offsite disposal or treatment with conventional storm sewers, etc.). The CSS specifies that LID practices disconnect impervious and disturbed pervious surfaces from the storm drain system and reduce post-construction stormwater runoff rates, volumes and pollutant loads. Examples of LID include soil restoration, site reforestation/vegetation, green roofs, vegetated filter strips, enhanced swales, permeable pavement, and bioretention.

The CSS goes on to state that *GI planning requires the support of federal, state and local policies, programs and regulations encouraging the use of innovative watershed and stormwater management tools*. The innovative techniques that can be found in this "toolbox" include:

1. Using comprehensive land use planning and zoning to direct growth away from sensitive aquatic and terrestrial resources;
2. Using land acquisition and better site planning techniques to protect and conserve valuable natural resources:
3. Using better site design techniques to minimize land disturbance; and
4. Using small-scale stormwater management practices (LID) to reduce post-construction stormwater runoff rates, volumes and pollutant loads.

GI planning, design, and intergovernmental coordination together with LID techniques can not only help protect valuable terrestrial and aquatic resources from the direct impacts of land development, but also provide additional benefits such as reduced sanitary sewer overflow, reduced energy demand, urban heat island mitigation, improved air quality, and improved health for Georgia's coastal communities.

MS4 Background

The City of Brunswick is a small coastal community with a population of 16,357 (U.S. Census Bureau, 2018). According to the US Census Bureau, the City has a total area of 25.3 square miles, with 17.1 square miles being land and 8.2 square miles water. Brunswick is located in the Lower Coastal Plain subregion of Georgia, and all of the receiving water bodies are tidally-influenced. Based on the USDA-NRCS Web Soil Survey, approximately 65% of the land area is not suitable for infiltration-based green infrastructure practices. This includes approximately 61% classified as "Bohicket-Capers Association (BO)," which is mostly undeveloped (and open-space) tidal marsh and marine deposits that have a hydrologic soil group (HSG) rating of "D" and depth to water table of 0 inches. Approximately 4% of the land is classified as Rutledge fine sand (Ru) and Pelham loamy sand (Pe), which have HSG ratings of "B/D" and "A/D," meaning that depth to the water table for these is less than 12 inches. The two soil types most suitable for infiltration and GI/LID practices are Mandarin fine sand (Ma) and Mandarin-Urban land complex (Mb), and these comprise 7% and 28%, respectively. "Ma" has an HSG of "A", meaning it has the highest potential for infiltration, and the general depth to water table ranges from 1.5-2.5 feet. "Mb" has an HSG of "C", meaning slower potential infiltration rates, but it has a slightly deeper water table of 1.5-3.5 feet. In general, "Ma" is present in the northern section of the City Limits, north of 4th Street, and "Mb" is present in the developed parcels located in the middle and southern sections of the City.

GI/LID Program Minimum Elements

The City of Brunswick completed the necessary GI/LID Program elements based on the permit issued in 2012 for the period 2012-2017. This included a GI/LID Structure Inventory and GI/LID Ordinance Review. The updated GI/LID requirements for the City of Brunswick's NPDES Phase II MS4 Permit, issued in 2017 for the period 2017-2022 are described in the table and sections below:

GI/LID Program Elements	Measurable Goal	Activity
Legal Authority *Table 4.2.5(a), BMP #1*	1.a. Evaluate, and if necessary, modify the existing ordinance. If the ordinance is revised during the reporting period, submit a copy of the adopted ordinance with the annual report.	Annual review of City ordinances, building codes, and other regulations related to impeding GI/LID approaches.

GI/LID Program Elements	Measurable Goal	Activity
GI/LID Structure Inventory *Table 4.2.5(a), BMP #5*	5.a. Annually update an inventory of water quality related GI/LID structures located within the permitted area and at a minimum, constructed after December 6, 2012, including the total number of each type of structure (e.g. bioswales, pervious pavement, rain gardens, cisterns, and green roofs). The inventory must, at a minimum, include permittee-owned GI/LID structures, those publicly-owned structures owned by other entities, and privately-owned non-residential GI/LID structures. Track the addition of new water quality related GI/LID structures through the plan review process and ensure the structures are added to the inventory. 5.b. Provide an updated inventory, including those structures added during the reporting period, in each annual report.	Update the inventory with new GI/LID structures and submit the updated inventory in each annual report.
GI/LID Program *Table 4.2.5(a), BMP #6*	6.a. For those permittees with a population exceeding 10,000 at the time of this permit issuance, develop a program describing the GI/LID practices (e.g. better site planning techniques, better site design techniques) to be implemented by the permittee. The program shall include: • Procedures for evaluating the feasibility and site applicability of different GI/LID techniques and practices to be considered; • The GI/LID structures allowed to be constructed within the permittee's jurisdiction; • Procedures for the inspection and maintenance of the GI/LID structures, including permittee owned structures, publicly-owned structures owned by other entities, and privately-owned non-residential (e.g. who inspects, who maintains, inspection and maintenance	New GI/LID Program to be submitted with 2019 Annual Report. Annual review of GI/LID Program.

GI/LID Program Elements	Measurable Goal	Activity
	schedule, method of documentation of inspection and maintenance activities). The GI/LID program must be submitted to EPD by February 15, 2020. The program must be included in the SWMP and must be implemented by the permittee. 6.b. N/A 6.c. If the GI/LID program is revised during the reporting period, submit the revised program to EPD for review with the annual report.	
Inspection and Maintenance Program *Table 4.2.5(a), BMP #7*	7.a. Beginning in 2020, conduct inspections and/or ensure inspections are conducted on 100% of the GI/LID structures included in the inventory created in BMP 5.a above, within a 5-year period. The inspections must be completed in accordance with the schedule submitted in the GI/LID program submitted in BMP 6 above. Provide documentation of the inspections conducted during the reporting period in each annual report.	Inspect 100% of the privately-owned non-residential and publicly-owned GI/LID structures within a five-year period. Provide inspection documentation for structures inspected during the reporting period in each annual report.
	7.b. Conduct maintenance on the permittee-owned GI/LID structures, as needed. Provide the number of structures and percentage of the total structures maintained during the reporting period in each annual report.	Conduct maintenance on all City-owned GI/LID structures, in accordance with the procedures included in the GI/LID Program.
	7.c. Implement the maintenance procedures in accordance with the GI/LID program submitted in BMP 6 above for ensuring publicly-owned structures owned by other entities and privately-owned non-residential GI/LID structures are maintained as needed. Provide documentation of these activities in each annual report.	Ensure that private owners are maintaining privately-owned non-residential GI/LID structures in accordance with the procedures included in the GI/LID Program.

1. Legal Authority

The City of Brunswick will adopt and implement the Coastal Stormwater Supplement to the Georgia Stormwater Management Manual by December 6, 2020, in accordance with the above NPDES permit.

In the previous permit cycle, the City performed an assessment of its existing codes to determine if there are any codes that present an obstacle to GI/LID approach to stormwater management. The City utilized the Code and Ordinance Worksheet developed by the Center for Watershed Protection. After reviewing the City's codes, no revisions were required. There have not been any major changes since this worksheet was last completed.

The City will continue to review and revise, where necessary, building codes, ordinances, and other regulations to ensure they do not prohibit or impede the use of GI/LID structures, including infiltration, reuse, and evapotranspiration. The City will assess those regulations governing residential and commercial development, road design, land use, and parking requirements. During the regulatory review, they should also consider the inclusion of incentives for use of GI/LID structures into the ordinance.

2. GI/LID Structure Inventory

Definition of GI/LID Structure:

The City of Brunswick considers the following structures to be GI/LID structures, and will be included in this inventory. These GI/LID structures are recommended for City of Brunswick, and are permitted under current regulations. Standards and specifications are included in Chapter 7 of the CSS and Chapter 4 of the GSMM, Volume 2. For inventory purposes, City of Brunswick only recognizes GI/LID structures specifically designed, engineered and approved for stormwater management through the City of Brunswick process. As additional GI/LID structures become recognized and generally accepted by stormwater practitioners, they may be added to this plan. Additional structure types are allowed upon request.

Types of GI/LID Structures

• Bioretention Areas / Rain Gardens • Dry Enhanced Swale (Bioswale) • Green Roofs • Rainwater Harvesting • Vegetated Filter Strip	• Permeable pavement (pervious concrete, porous asphalt, concrete grid pavers, permeable interlocking pavers, plastic grid pavers, etc.)

Note: Additional structure types are allowed upon request.

Exclusion: This inventory does not include, nor will this plan cover, any structures on privately-owned, residential parcels, or other BMPs already addressed through other NPDES Phase II MS4 permit requirements or programs, including, but not limited to: grassed ditches, detention and retention ponds, and the structural controls within the storm sewer system.

GI/LID Inventory Collection and Maintenance:

The City will maintain an inventory of: (1) permittee-owned GI/LID structures, (2) those publicly-owned structures owned by other entities, and (3) privately-owned non-residential GI/LID structures, that are within the City Limits and constructed after December 6, 2012. The inventory is maintained in an Excel database and will be updated on an annual basis and included in the Annual Report. New GI/LID structures will be identified through the plan review process.

The current inventory is included in a table in Appendix B. After each site is inspected and field-verified, it will be updated with the following information:

- Unique ID
- GI/LID Type
- Location (Lat/Long or physical address)
- Owner
- Land Use Type: Public/municipal, commercial, industrial, etc.
- Installation Date (or date added to the inventory)
- Inspection History

3. GI/LID Program

City of Brunswick will implement a program to encourage the use of GI/LID techniques in new development, redevelopment and through retrofitting of previously developed property.

a. New Development and Redevelopment:

City of Brunswick will adopt the CSS as its guide and technical reference for both post-construction stormwater management design and construction for new development and redevelopment projects, both public and private, creating or replacing more than 5,000 square feet of impervious surface. The design criteria require newly designed stormwater drainage systems to reduce stormwater runoff volume and treat water quality through implementation of GI/LID techniques including infiltration, better site design, and better site planning. Preservation of natural resources may also be afforded GI/LID credits. Applicable GI/LID techniques and implementation methodology are described in Chapter 7 of the CSS manual titled, "Green Infrastructure Practices." Additional information on the design specifications for specific stormwater control practices is included in Chapter 8: Stormwater Management Practices.

The City will adopt and implement, by reference in the proposed amendment to the Stormwater Ordinance, the CSS and the GSMM, by December 6, 2020, which includes design

criteria/guidelines to assist developers in designing a site plan that will manage post-construction runoff quality and quantity as required by the NPDES Phase II MS4 Permit. The CSS was created to offer stormwater BMP recommendations specific to coastal drainage conditions including high water tables, large tidal ranges and unique terrestrial habitats of coastal Georgia. This manual expands post-construction stormwater management efforts to include prevention, as opposed to just mitigation, of the negative impacts of the land development process. The City will provide guidance, through adoption of this manual on an integrated green infrastructure-based approach to natural resource protection, stormwater management, and site design.

b. Criteria to Determine Site Feasibility and Applicability:

Based on guidance from the 2016 GSMM, a summary table is provided below on implementation considerations (land requirement, construction cost, and maintenance burden), runoff reduction credit, and pollutant removal percentages for TSS and nutrients for GI/LID structures that the City will focus on.

Site Feasibility and Credits for Selected GI/LID Structures

GI/LID Structure Type	Land Requirement	Construction Cost	Maintenance Burden	Runoff Reduction	TSS/TP/TN
Bioretention	Low	Mod/High	Moderate	50/75/100%[a]	85/80/60%
Dry Enhanced Swales	Moderate	Moderate	Low	50/100%[b]	80/50/50%
Wet Enhanced Swales	Moderate	Moderate	Low	0%	80/25/40%
Green Roofs	Low	High	Low	60%	80/50/50%
Permeable Pavement	Low	High	High	50/75/100%[a]	80/50/50%
Rainwater Harvesting Systems	Low	Moderate	High	Varies based on demand	Varies based on demand
Vegetated Filter Strips	Low	High	Low	50% (A&B) 25% (C&D)	60/20/20%

[a] 50% with conventional underdrain, 75% with internal water storage, and 100% for no underdrain.

[b] 50% with an underdrain and 100% without an underdrain

In addition to the criteria listed in the table above, Brunswick considers other factors when reviewing site plans for GI/LID structures. The following guidance is provided in the GSMM:

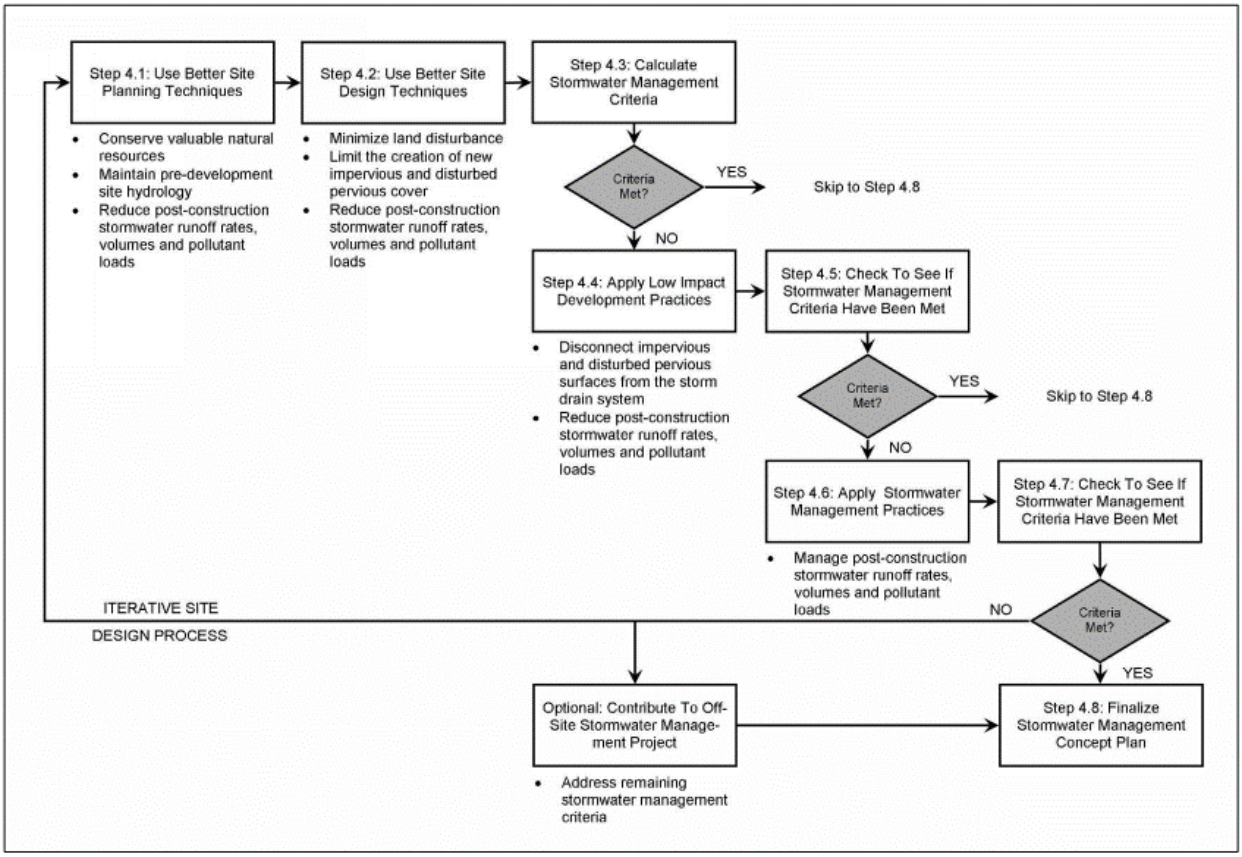
- A separation distance of 2 feet is required between the bottom of structure and the elevation of the seasonally high-water table.
- Pretreatment measures should be used to prevent clogging of the basin bottom if runoff is expected to contain heavy sediment loads.
- Minimum setback requirements for most GI/LID structures can include many of the following, depending on the structure type:
    - 10 feet from building foundations/property lines

- 100 feet from private wells
- 200 feet from public water supply reservoirs
- 1,200 feet from public wells

Considering the criteria described above, site characteristics can limit the application of GI/LID and require design modifications or alternative practices to maximize runoff reduction and water quality benefits to reduce the effective impervious area. A few examples include use of underdrains (conventional or internal water storage) if infiltration rates are too slow, and utilizing GI/LID structures with shallower profiles in areas with high water tables (permeable pavement instead of bioretention). During the plan review process, Brunswick will consider the following conditions when determining if GI/LID structures are feasible for a specific site:

- Minimum clearance of the seasonally high-water table cannot be achieved.
- Minimum land area requirements for the proposed structure cannot be achieved.
- Minimum setbacks to property lines, building foundations, wells, septic systems, or surface waters cannot be achieved.
- Minimum space requirements for necessary pretreatment measures cannot be achieved.
- Utility conflicts cannot be resolved.
- Contaminants that cannot be remediated are present.

Stormwater management concept plan. Prior to the submittal of a stormwater management design plan, inspection and maintenance agreement and plan, and permit application, the landowner or developer shall submit to the City of Brunswick, a preliminary concept plan describing, in general, how stormwater runoff through and from the development will be conveyed and managed. The stormwater management concept plan shall utilize, to the maximum extent practical, better site planning and design techniques and low impact development practices to reduce stormwater runoff rates, volumes, and pollutant loads and reduce the site's impact on the watershed. A copy of the Stormwater Management Concept Plan Flowchart that is presented in the CSS and suggested for use by the City is shown in the figure below (Center for Watershed Protection).



Developing a Stormwater Management Concept Plan (CSS, Center for Watershed Protection)

Consultation meeting. All applicants are encouraged to attend a consultation meeting with the City to discuss the proposed development project, the stormwater management concept plan and the approach that will be used to satisfy the post-construction stormwater management and site planning and design criteria that apply to the development site. This consultation meeting should take place in advance of submittal of the stormwater management concept plan, for the purposes of verifying site conditions and the feasibility of the stormwater management concept plan.

Stormwater management design plan. Subsequent to approval of the stormwater management concept plan and prior to completion of formal site design, the owner or developer shall submit to the City for review and approval, a stormwater management design plan that details how stormwater runoff through and downstream from the development will be conveyed and managed. The stormwater management design plan shall detail how post-development stormwater runoff will be controlled or managed and how the proposed project will meet the requirements of this chapter, including the post-construction stormwater management criteria set forth in the City's Stormwater Management Ordinance (Chapter 22A, Article III). The stormwater management design plan must be approved prior to approval of the preliminary plat and

commencement of land disturbing activities.

c. Allowed GI/LID Structures:

See "Section 2: GI/LID Structure Inventory."

d. GI/LID Inspection and Maintenance Procedures:

See "Section 4: Inspection and Maintenance Program." The City will inspect all structures in the GI/LID Structure Inventory before the end of the current permit period (2017-2022).

4. Inspection and Maintenance Program

Inspections

The inspection program will begin during the 2020 Reporting Period, per the 2017-2022 permit requirements. The inspection program is described below.

The City will ensure that inspections are conducted on 100% of the GI/LID structures included in the inventory created in BMP 5.a above, within a 5-year period. The City intends to evaluate all GI/LID structures according to the Coastal Stormwater Supplement (CSS) and other available local resources.

Inspections will be conducted to ensure that all GI/LID structures are maintained in accordance with their design, the City of Brunswick Stormwater Management Ordinance and the recommendations of the CSS and other available local resources. General procedures for inspecting the various GI/LID structures are included below, but detailed inspection forms for each GI/LID structure are included in Appendix C.

Basic Inspection Procedures for GI/LID Structures

GI/LID Structure	Inspection Procedures
Bioretention Cell / Rain Garden	Inspect inflow area for sediment accumulation.
	Inspect for erosion and the formation of rills and gullies.
	Inspect for dead or dying vegetation.
Dry Enhanced Swale (Bioswale)	Inspect following rainfall events for presence of trash and debris.
	Inspect for sediment accumulation. Sediment should not fill more than 25% of the original channel cross-section.
	Inspect for the formation of rills and gullies.
	Inspect for dead or dying vegetation.
Green Roof	Inspect waterproof membrane for leaks.
	Inspect outflow and overflow areas for sediment accumulation.
	Inspect for dead or dying vegetation.

GI/LID Structure	Inspection Procedures
Permeable Pavement System	Inspect to ensure that the permeable pavement surface is clear of sediment and debris.
	Check the permeable pavement system for excessive ponding.
	Inspect permeable pavement system for drawdown following rainfall events. (Failure to drawdown within 72 hours after the end of a rainfall event may indicate permeable pavement system failure.)
	Inspect permeable pavement surface for deterioration or raveling.
Rainwater Harvesting / Rain Barrel	Inspect gutters and downspouts for accumulated leaves or debris.
	Inspect storage tank screens.
	Inspect pretreatment devices for sediment accumulation.
	Inspect storage tank for algal blooms.
	Inspect overflow areas for erosion and the formation of rills and gullies.
Vegetated Filter Strip (VFS)	Inspect following rainfall events for erosion, trash, or debris.
	Inspect level spreader for clogging and sediment accumulation.
	Inspect for dead or dying vegetation.

City of Brunswick staff will utilize the checklists included in Appendix C to inspect the GI/LID structures and will include the results of the inspection in the GI/LID Inventory Database. A summary of inspections conducted will be included in the Annual Report. If inspections indicate that a City of Brunswick-owned GI/LID structure is in need of maintenance, the City of Brunswick will perform that maintenance as outlined below. If an inspection indicates that (1) a non-residential, privately-owned structure or (2) a publicly-owned structures owned by other entities requires maintenance, the City of Brunswick will notify the owner of the inspection results and recommended actions. The City will keep an open file and follow up with the owner to ensure the maintenance need is addressed. If the deficiency noted during the inspection is not adequately addressed, the City's Stormwater Management Ordinance includes a provision for the City to collect fees from the private property owner if the City performs any necessary maintenance activities.

Maintenance:

When the inspection indicates that a City-owned GI/LID structure is in need of maintenance, the City will perform that maintenance, as appropriate, in accordance with the recommendations set forth in Chapter 7 of the CSS. A summary of maintenance activities completed will be included in the Annual Report.

In order to ensure that private, non-residential GI/LID structures and publicly-owned structures owned by other entities are maintained by their owner in accordance with the CSS, the City has updated a *Stormwater Facility Inspection and Maintenance Agreement* to include GI/LID structures designed as part of the site's stormwater management system. This maintenance

agreement, included in Appendix A, requires the developer of the site to develop a maintenance program and identify a responsible party for implementation of the prescribed maintenance activities. This agreement must be executed prior to approval of the Stormwater Site Plan, per City of Brunswick's Stormwater Management Ordinance. This agreement will allow City of Brunswick to enforce maintenance standards on private, non-residential GI/LID structures and publicly-owned structures owned by other entities. If deficiencies noted during inspections are not adequately addressed, the City's Stormwater Management Ordinance includes a provision for the City to collect fees from the private property owner if the City performs any necessary maintenance activities.

Appendix A: Inspection and Maintenance Agreement

Stormwater Management System Inspection & Maintenance Agreement

This AGREEMENT, made and entered into this ___day of _____, 20_____, by and between (*Insert Full Name of Owner*)_____his/her successors and assigns, including but not limited to any homeowners association, commercial developer, holder of any portion of the below described property, and/or similar (hereinafter called the "Landowner"), and City of Brunswick, Georgia; hereinafter called the "City".

WITNESSETH, that WHEREAS, the Landowner is the owner of certain real property described as (*City of Brunswick Tax Map/Parcel Identification Number*)_____ and recorded by deed in the land records of City of Brunswick, Georgia, Deed Book_____ Page_____, hereinafter called the "Property".

WHEREAS, the Landowner is proceeding to develop the property and/or build upon the property; and

WHEREAS, the Stormwater Management and Operations and Maintenance (O&M) Plan; hereinafter called "the Plan", which is expressly made a part hereof, as approved or to be approved by the City, provides for management of stormwater runoff for the property; and

WHEREAS, the City and the Landowner, its successors and assigns, agree that the health, safety, and welfare of the residents of City of Brunswick, Georgia, require that stormwater management facilities be constructed and maintained on the Property and in accordance with the Plan; and

WHEREAS, the City requires that stormwater management facilities as shown within the Plan be constructed and adequately maintained by the Landowner, its successors and assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The stormwater management facilities shall be constructed and/or upgraded as well as maintained by the Landowner, its successors and assigns, in accordance with the specifications identified in the Plan.

2. The Landowner, its successors and assigns, shall adequately maintain the stormwater management facilities and perform the work necessary to keep those facilities in good working order at all times, as described in the Plan. This includes all pipes, channels or other conveyances built to convey stormwater to the facility; as well as all structures, improvements, and vegetation provided to control the quantity and quality of the stormwater runoff; and all green infrastructure/low impact development facilities included in the stormwater management plan for the site. Adequate maintenance is herein defined as good working condition so that these facilities are performing their approved design functions.

3. The Landowner, its successors and assigns, shall inspect the stormwater management facility and submit an inspection report annually to the City Manager (or his designee). The purpose of the inspection is to ensure safe and proper functioning of the stipulated facilities. The inspection shall cover all applicable stormwater management facilities, including but not limited to, conveyance measures, berms, outlet structures, pond areas, etc. Deficiencies shall be noted in the inspection report along with a schedule for repair.

The inspection procedures, frequency and report shall follow the procedures established and approved in the Plan.

4. The Landowner, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the stormwater management facilities whenever the City deems necessary and with reasonable notice having been given to the Landowner. The City shall provide the Landowner, its successors and assigns, copies of the inspection findings and a directive to commence with the repairs if necessary.

5. In the event the Landowner, its successors and assigns, fails to maintain the stormwater management facilities in good working condition acceptable to the City, the City may issue citations to the Landowner for resulting, continuing ordinance violations (as set forth in the City of Brunswick Code of Ordinances), until such time as the issues are satisfactorily resolved. Additionally, the City may enter upon the Property and implement the necessary measures to correct deficiencies identified in the inspection report and to recover the costs of such repairs from the Landowner, its successors and assigns through the appropriate means. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this AGREEMENT be construed to impose any such obligation on the City.

6. Landowner, its successors and assigns, will perform the work necessary to keep these facilities in good working order as appropriate. In the event a maintenance schedule for the stormwater management facilities (including sediment removal) is outlined on the approved plan, the schedule will be followed.

7. In the event the City, pursuant to this AGREEMENT, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City hereunder.

8. This Agreement imposes no liability of any kind whatsoever on the City and the Landowner agrees to hold the City harmless from any liability in the event the stormwater management facilities fail to operate properly.

9. This AGREEMENT shall be recorded among the land records of City of Brunswick, Georgia, and shall constitute a covenant running with the land, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowner's association.

CERTIFICATION

OWNER:

WITNESS the following signatures and seals:

_____
Company/Corporation/Partnership Name (Seal)

By: _____

_____
(Type Name and Title)

CITY OF BRUNSWICK, GEORGIA:

By: _____

_____
(Type Name and Title)

Date:_____

The foregoing AGREEMENT was acknowledged before me this ____day of _____, 20___, by

_____.

_____
NOTARY PUBLIC

My Commission Expires: _____

Appendix B: GI/LID Inventory

CITY OF BRUNSWICK, GEORGIA

GI / LID INVENTORY

2019 Annual Report

Location	Type of Practice	Location (Lat. / Long.)		Ownership
1. Howard Coffin Park - Bioretention	Infiltration Basin (Bioretention)	31.149164	-81.480135	City
2. SGHS Permeable Parking Lot (Shrine Rd)	Permeable Pavement (Pervious Concrete)	31.174602	-81.481644	Private, SGHS
3. SGHS Permeable Parking Lot (Parkwood/Kemble)	Permeable Pavement (Pervious Concrete)	31.174307	-81.485952	Private, SGHS
4. Fresenius Kidney Care Dialysis Center	Infiltration Basin (Bioretention)	31.174266	-81.473416	Private, FRE Georgia II, LLC

Appendix C: Inspection Forms for GI/LID Structures

University of Georgia Marine Extension and Georgia Sea Grant, and Goodwyn Mills and Cawood Inc., recently (in February 2020) developed visual-based inspection forms for the most common GI/LID structures in Coastal Georgia. The content on these forms are based on criteria in "Appendix E: Best Management Practice Operations & Maintenance" of the *Georgia Stormwater Management Manual (GSMM), Volume 2 Technical Handbook, 2016 Edition*, but they were enhanced with photos of good examples and potential issues and maintenance needs. Inspection forms for three separate GI/LID structure groups, and two are applicable to more than one GI/LID structure. The specific page numbers for each inspection form are noted below (each of these forms are available to City staff in 11" x 17" format and electronically to view photos on a larger scale):

- Bioretention/Bioinfiltration/Rain Garden/Enhanced Dry Swale (Bioswale) – Pg. 20-21
- Permeable Pavement – Permeable Interlocking Concrete Pavement (PICP) – pg. 22-23
- Permeable Pavement – Pervious Concrete & Porous Asphalt – pg. 24-25

The inspection forms for other relevant GI/LID structures that could be installed in this region were extracted from "Appendix E: Best Management Practice Operations & Maintenance" of the *GSMM*. The page numbers for these inspection forms are noted below:

- Green Roof – pg. 26
- Rainwater Harvesting – pg. 27
- Vegetated Filter Strip – pg. 28-29

Site ID/Name: _____ Location: _____ Inspector: _____ Date: _____

BIORETENTION

Applies to Bioinfiltration, Bioswales (Dry Enhanced Swales) and Rain Gardens.

GOOD EXAMPLES

GENERAL INSPECTION QUESTIONS

Note: 'Yes' indicates a maintenance need and action

General:

1. Is access to the site inadequately maintained for inspection and maintenance? **YES / NO**
2. Are grass clippings present in the drainage area or within the system [inlet structure, pretreatment (filter strip and grass channel), main treatment, or outlet/overflow structure]? *(Note: grass clippings should be removed)* **YES / NO**

Drainage Area: *(pertains to the surrounding landscape that will contribute runoff to the practice)*

3. Is there any exposed or unstable soil that could cause sediment accumulation within the practice? **YES / NO**
4. Do the drainage ways (overland flow or pipes) to the practice have trash, debris, grass clippings, large branches, etc. present? **YES / NO**

Inlet Structure / Pretreatment: (Choose One)

A. *Forebay* B. *Weir* C. *Filter Strip / Grass Channels* D. *Rock-Lined Plunge Pools*

5. Does this area have trash, debris, or sediment present? **YES / NO**
6. Condition of A–D listed above:
   - A/C: Is there any undesirable vegetation or unhealthy grass *(bare or dying)?* **YES / NO**
   - B: Is the sediment more than 25% of the total depth of the weir? **YES / NO**
   - D: Is the rock thickness in the pool inadequate? **YES / NO**
7. Is there evidence of runoff short-circuiting (going around) the inlet structure? **YES / NO**
8. Is there evidence of gullies, rills, or erosion around the inlet or pre-treatment structure? **YES / NO**

COMMENTS: _____

_____

9. Does the area around the inlet structure (including filter strip and grass channels) need to be mowed? **YES / NO**
10. If a diversion structure (high flow bypass structure or underdrain) is present, is there presence of trash, debris, on sediment? **YES / NO**

Main Treatment:

11. Is there evidence of long-term ponding or standing water in the practice (more than 48 hours after a rain event)? (e.g., stains, odors, mosquito larvae, etc.) **YES / NO**
12. Is there any evidence of fertilizer use on plants? (e.g., fertilizer crusting on surface of soil, tips of leaves turning brown or yellow, blackened roots, etc.) **YES / NO**
13. For practices with internal check dams to allow for surface ponding on a slope, is there erosion present around the side of the check dams? **YES / NO**
14. Is the mulch depth inadequate or too deep? Note: target depth is 2 to 4 inches **YES / NO**

Underdrain: (if installed)

15. If cleanouts are included, are caps missing? **YES / NO**
16. Are cleanout caps in poor condition? (e.g., inadequately sealed or set below maximum ponding depth) **YES / NO**
17. Are there any signs of the underdrain being clogged or a blockage? **YES / NO**

Emergency Overflow / Outlet Structure:

18. Do these structures have trash, debris, sediment or structural damage present? **YES / NO**
19. Is there evidence of erosion, scour, or flooding around the structure? **YES / NO**

QUALITATIVE INSPECTION QUESTIONS (GOOD/MARGINAL/POOR)

Note: 'Poor' indicates a maintenance need and action

20. Rate the presence of sediment accumulation in the bioretention surface area.	**GOOD** (<25% of area)	**MARGINAL** (25–50%)	**POOR** (>50%)
21. Rate the presence of debris (e.g., leaves, trash, grass clippings) in the bioretention surface area.	**GOOD** (<25% of area)	**MARGINAL** (25–50%)	**POOR** (>50%)
22. Rate the presence of undesirable vegetation.	**GOOD** (<25% of area)	**MARGINAL** (25–50%)	**POOR** (>50%)
23. Rate the condition of plant health per landscaping plan and site objectives.*	**GOOD** (<25% dying/stressed)	**MARGINAL** (25%–50% dying/stressed)	**POOR** (>50% dying/stressed)
24. Rate the condition of plant density per landscaping plan and site objectives.*	**GOOD** (>50% vegetation coverage)	**MARGINAL** (25%–50% vegetation)	**POOR** (overgrown or <25% vegetation)

** General percentages provided if landscaping plan and site objectives are not available*

EXAMPLES OF POTENTIAL ISSUES:

5 **INLET SEDIMENT**

5 **INLET STRUCTURE DEBRIS & SEDIMENT**

8 **INLET EROSION** (GRASS CHANNEL)

8 **INLET EROSION** (ROCK PLUNGE POOL)

8 **PRETREATMENT EROSION** (FILTER STRIPS), 14 **MULCH** (NONE), & 24 **PLANT DENSITY** (POOR)

8 **PRETREATMENT EROSION** (SLIDE SLOPES) & 22 **UNDESIRABLE VEGETATION** (POOR)

11 **EXCESSIVE PONDING** (CATTAILS & STAINING)

14 **MULCH** (NONE), 18 **OUTLET DEBRIS,** & 22 **UNDESIRABLE VEGETATION** (MARGINAL)

14 **MULCH** (NONE) & 22 **UNDESIRABLE VEGETATION** (POOR)

14 **MULCH** (NONE) & 24 **PLANT DENSITY** (POOR)

14 **MULCH** (<2"), 22 **UNDESIRABLE VEGETATION** (MARGINAL) & 24 **PLANT DENSITY** (MARGINAL)

18 **OUTLET DEBRIS**

19 **OUTLET STRUCTURE EROSION**

23 **PLANT HEALTH** (POOR - EXPOSED ROOTS AND UNSTABLE)

23 **PLANT HEALTH** (GOOD) & 24 **PLANT DENSITY** (POOR - OVERGROWN)

Site ID/Name: _____ Location: _____ Inspector: _____ Date: _____

PERMEABLE PAVEMENT

Permeable Interlocking Concrete Pavement (PICP)





GOOD EXAMPLES

GENERAL INSPECTION QUESTIONS

Note: 'Yes' indicates a maintenance need and action

General:

1. Is access to the site inadequately maintained for inspection and maintenance? **YES / NO**
2. Is there evidence of runoff short-circuiting (going around) the practice? **YES / NO**
3. Is there evidence of gullies, rills, or erosion around the practice? **YES / NO**

Drainage Area: *(pertains to the surrounding landscape that will contribute runoff to the practice)*

4. Does the vegetation around the practice need to be pruned/mowed? Is vegetation unhealthy? (e.g., signs of bare/dead grass) **YES / NO**
   Note: grass clippings should be removed.
5. Is there any exposed or unstable soil around the practice that could cause sediment accumulation within the practice? **YES / NO**

Permeable Pavement Surface:

6. Is there evidence of long-term ponding or standing water in the practice? **YES / NO**
7. Are there signs of the bricks/pavers settling? **YES / NO**
8. Do the bricks/pavers show signs of cracks, splitting or structural damage? **YES / NO**
9. Is there aggregate missing between the bricks/pavers? **YES / NO**

Inlets/Outlets:

10. Do drainage ways (overland flow or pipes) to the practice have trash, debris, large branches, etc. present? **YES / NO**
11. If cleanouts are included, are caps missing? **YES / NO**
12. If an underdrain system is included, are there signs of it clogging or a blockage? **YES / NO**
13. Does the emergency overflow have trash, debris, sediment or structural damage present? **YES / NO**

Special Scenario (Concrete Grid Pavers with Vegetation):

A. Is the grass in the concrete grid unhealthy? (e.g., dead grass or bare spots) **YES / NO**
B. Is the grass in the concrete grid unmowed or are grass clippings present? **YES / NO**

QUALITATIVE INSPECTION QUESTIONS (GOOD/MARGINAL/POOR)

Note: 'Poor' indicates a maintenance need and action

14. Rate the presence of undesirable vegetation. **GOOD (<25% OF AREA)** **MARGINAL (25-50%)** **POOR (>50%)**
15. Rate the presence of sediment accumulation in pore spaces/aggregate between pavers. **GOOD (<25% OF AREA)** **MARGINAL (25-50%)** **POOR (>50%)**
16. Rate the presence of debris (e.g., leaves, trash, grass clippings) on the permeable pavement surface. **GOOD (<25% OF AREA)** **MARGINAL (25-50%)** **POOR (>50%)**

COMMENTS: _____

_____

EXAMPLES OF POTENTIAL ISSUES:

5 UNSTABLE DRAINAGE AREA

5 UNSTABLE DRAINAGE AREA

7 SETTLING & 15 SEDIMENT

7 SETTLING

8 STRUCTURAL

8 STRUCTURAL &
15 SEDIMENT (POOR)

9 AGGREGATE

9 AGGREGATE

14 VEGETATION (POOR)

14 VEGETATION (POOR)

14 VEGETATION (MARGINAL)

15 SEDIMENT (POOR)

15 SEDIMENT (POOR)

16 DEBRIS (POOR)

16 DEBRIS (POOR)

Site ID/Name: _____ Location: _____ Inspector: _____ Date: _____

PERMEABLE PAVEMENT

Pervious Concrete (PC)
(applicable to Porous Asphalt)

GOOD EXAMPLES

GENERAL INSPECTION QUESTIONS

Note: 'Yes' indicates a maintenance need and action

General:

1. Is access to the site inadequately maintained for inspection and maintenance? **YES / NO**
2. Is there evidence of runoff short-circuiting (going around) the practice? **YES / NO**
3. Is there evidence of gullies, rills, or erosion around the practice? **YES / NO**

Drainage Area: *(pertains to the surrounding landscape that will contribute runoff to the practice)*

4. Does the vegetation around the practice need to be pruned/mowed? Is vegetation unhealthy? (e.g., signs of bare/dead grass) **YES / NO**
   Note: grass clippings should be removed.
5. Is there any exposed or unstable soil around the practice that could cause sediment accumulation within the practice? **YES / NO**

Permeable Pavement Surface:

6. Is there evidence of long-term ponding or standing water in the practice? **YES / NO**
7. Are there signs of the pervious concrete settling or cracking? **YES / NO**

Inlets/Outlets:

8. Do drainage ways (overland flow or pipes) to the practice have trash, debris, large branches, etc. present? **YES / NO**
9. If cleanouts are included, are caps missing? **YES / NO**
10. If an underdrain system is included, are there signs of it clogging or a blockage? **YES / NO**
11. Does the emergency overflow have trash, debris, sediment or structural damage present? **YES / NO**

QUALITATIVE INSPECTION QUESTIONS (GOOD/MARGINAL/POOR)

Note: 'Poor' indicates a maintenance need and action

12. Rate the presence of undesirable vegetation.	**GOOD (<25% of area)**	**MARGINAL (25-50%)**	**POOR (>50%)**
13. Rate the presence of sediment accumulation in pore spaces.	**GOOD (<25% of area)**	**MARGINAL (25-50%)**	**POOR (>50%)**
14. Rate the presence of debris (e.g., leaves, trash, grass clippings) on the permeable pavement surface.	**GOOD (<25% of area)**	**MARGINAL (25-50%)**	**POOR (>50%)**
15. Rate the presence of concrete raveling. (e.g., aggregate becoming loose)	**GOOD (<25% of area)**	**MARGINAL (25-50%)**	**POOR (>50%)**
16. Is there visible smearing of pervious concrete? (e.g., no visible pore space)	**GOOD (<25% of area)**	**MARGINAL (25-50%)**	**POOR (>50%)**

COMMENTS: _____

_____

EXAMPLES OF POTENTIAL ISSUES:

5 UNSTABLE DRAINAGE AREA & 13 SEDIMENT (POOR)

5 UNSTABLE DRAINAGE AREA & 14 DEBRIS (MARGINAL)

6 STANDING WATER, 12 VEGETATION (POOR) & 13 SEDIMENT (POOR)

6 PONDING / STANDING WATER

7 CRACKING-STRUCTURAL

7 CRACKING & 15 RAVELING (POOR)

7 CRACKING-STRUCTURAL

13 SEDIMENT (POOR)

13 SEDIMENT (POOR)

14 DEBRIS (MARGINAL)

15 RAVELING (POOR)

15 RAVELING (MARGINAL)

16 SMEARING (POOR)

16 SMEARING (POOR)

16 SMEARING (POOR)
(COVERED WITH ASPHALT SEALER)

Inspector (*print & sign*): _____ **Date**: _____

Location (*facility/address*): _____

Green Roof					
Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet and outlet pipes are free of trash, debris, etc.					
Inspect waterproof membrane.					
No signs of structural deficiency or settling. Comment on overall condition of roof.					
Water can flow freely in the drainage routes, no obstructions.					
Native plants were used in the practice according to the landscaping plan. Plants seem to be in good condition. Comment on condition of plants.					
No unwanted vegetation in the practice.					
No evidence of use of fertilizer on plants (fertilizer crusting on the surface of the soil, tips of leaves turning brown or yellow, blackened roots, etc.).					
No evidence of long-term ponding or standing water (examples include: stains, odors, mosquito larvae, etc).					
Results					
Overall condition of Green Roof:					
Additional Comments					
Notes: *If a specific maintenance item was not checked, please check N/A and explain why in the appropriate comment box.					

Inspector (*print & sign*): _____ **Date**: _____

Location (*facility/address*): _____

Rainwater Harvesting					
Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Gutters and downspouts are free of trash, debris, etc.					
Leaf screens are clean and in good condition.					
First flush diverter is working properly and in good condition (if applicable).					
Roof washer is working properly and in good condition (if applicable).					
Cistern inlet and downspout fits tightly.					
Cistern tank is clean and free of sediment.					
Cistern is free of indication of algal blooms.					
Plants being watered from the rainwater harvesting system seem to be healthy and in good condition. Comment on condition of plants.					
No signs of the overflow valve leaking (stains, dampness).					
Cistern is in good condition structurally, no signs of cracking or leaking.					
Performance of pump matches pumping details (if applicable).					
Results					
Overall condition of Rainwater Harvesting:					
Additional Comments					

Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.

Inspector (*print & sign*): _____ **Date**: _____

Location (*facility/address*): _____ (*note 2 pages*)

Vegetated Filter Strip					
Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
General Inspection					
Access to the site is adequately maintained for inspection and maintenance.					
Area is clean (trash, debris, grass clippings, etc. removed).					
Inlet					
Drainage ways (overland flow or pipes) to the practice are free of trash, debris, large branches, etc.					
Area around the inlet is mowed and grass clippings are removed.					
No evidence of gullies, rills, or excessive erosion around the inlet.					
Water is going through the filter (i.e. no evidence of water going around the filter).					
Diversion structure (high flow bypass channel or overflow spillway) is free of trash, debris, or sediment. Comment on overall condition of diversion structure and list type.					
Pretreatment (choose one)					
Area is free of trash, debris, and sediment.					
No signs of erosion, rills, or gullies.					
Pea gravel diaphragm or other level or flow spreader – No cracks or structural damage in concrete trough.					
Main Treatment					
Main treatment area is free of trash, debris, and sediment.					
No signs of erosion, rills, or gullies.					
No evidence of long-term ponding or standing water in the ponding area of the practice (examples include: stains, odors, mosquito larvae, etc).					
Practice seems to be working properly.					
No areas of unhealthy grass or bare areas.					
No unwanted or invasive vegetation.					
No evidence of use of fertilizer on plants (fertilizer crusting on the surface of the soil, tips of leaves turning brown or yellow, blackened roots, etc.).					

Vegetated Filter Strip					
Maintenance Item	Condition				Comment
	Good	Marginal	Poor	N/A*	
Grass is kept at the proper mowing height, 3-12 inches and 6-15 inches along the roadway. Grass clippings are removed.					
No signs of accumulated sediment.					
Outlet Structure					
Outlet is free of trash, debris, and sediment.					
No evidence of erosion, scour, or flooding.					
Results					
Overall condition of Vegetated Filter Strip:					
Additional Comments					
Notes: *If a specific maintenance item was not checked, please explain why in the appropriate comment box.					

APPENDIX H

Impaired Waters Monitoring and Implementation Plan

City of Brunswick

October 20, 2020

Table of Contents

1. Introduction

Per the Georgia State General Permit GAG610000 Section 4.4.2, the City of Brunswick is required to prepare an Impaired Waters Monitoring and Implementation Plan. This document was prepared to satisfy the requirements of the permit relating to Section 4.4. The City's expectation is that the preparation and implementation of this plan as part of the City's overall stormwater management system will have a positive effect on the impaired waters in the City.

List of impaired waters and Pollutants of Concern (POC):

Table 1 lists the impaired waters that are within the City of Brunswick or are within one (1) linear mile downstream of a City MS4 outfall. Also listed are the pollutants of concern (POCs) that result in the impairment. The information in the list was obtained from the Georgia EPD via their website in the section titled *Georgia's 2020 305(b)/303(d) List Documents – Approved by U.S. EPA August 5, 2020.* The impaired waters are those not supporting their designated uses. Figure 1 depicts the locations of the impaired waters, and Figure 2 depicts the locations of impaired waters with close proximity to MS4 outfalls.

While not an impairment, there are a few coastal streams in the City of Brunswick permitted area that have an assessment pending for DO. In each, it notes that EPD needs to determine the "natural DO" for the area before a use assessment is made. A list of these reaches that are pending assessment for DO are listed below.

- Academy Creek, Downstream Brunswick Academy WPCP to the East River, 1 mile
- Brunswick River, South Brunswick River to the St. Simons Sound (Brunswick), 5 miles
- Terry and Dupree Creeks, Terry and Dupree Creeks North of Torras Causeway to confluence with Back River, Brunswick, 3 miles

Table 1. Impaired Waters in Urbanized Area of the City of Brunswick

Reach Name	Reach Location	Extent	Impaired By	Source	Category	Notes
Back River	One mile above confluence with Terry Creek to Torras Causeway	1 mile	Shellfishing Ban, Fish Tissue (Toxaphene like chlorinated camphenes)	I1 & I2	5	
	Little River to St. Simons Sound	1 mile	Fish Tissue (Toxaphene like chlorinated camphenes)	I1 & I2	5	
Terry and Dupree Creeks	Terry and Dupree Creeks North of Torras Causeway to confluence with Back River, Brunswick	3 miles	Shellfishing Ban, Fish Tissue (Toxaphene like chlorinated camphenes)	NP, I1, & I2	4a	TMDLs completed Fish Tissue (Toxaphene like chlorinated camphenes) (2001), Shellfishing Ban (2001), Fish Tissue (Mercury) (2001). DO Assessment Pending.
Terry Creek	South of Torras Causeway to Lanier Basin, Brunswick	1 mile	Fish Tissue (PCBs), Shellfishing Ban	I1 & I2	4a	TMDLs completed Fish Tissue (PCBs) (2001), Shellfishing Ban (2001), Fish Tissue (Toxaphene like chlorinated camphenes) (2001), Fish Tissue (Mercury).
Brunswick River	South Brunswick River to the St. Simons Sound (Brunswick)	5 miles	Se – Selenium As – Arsenic	NP & UR	5	TMDL completed DO (2019). DO Assessment Pending.

Note: All stream segments listed above are "*not supporting*" for the designated use of "*fishing*."

Cause Code Abbreviations:

- I1 = Industrial Point Source Discharge
- I2 = Industrial Site Runoff
- NP = Nonpoint Sources
- UR = Urban Runoff

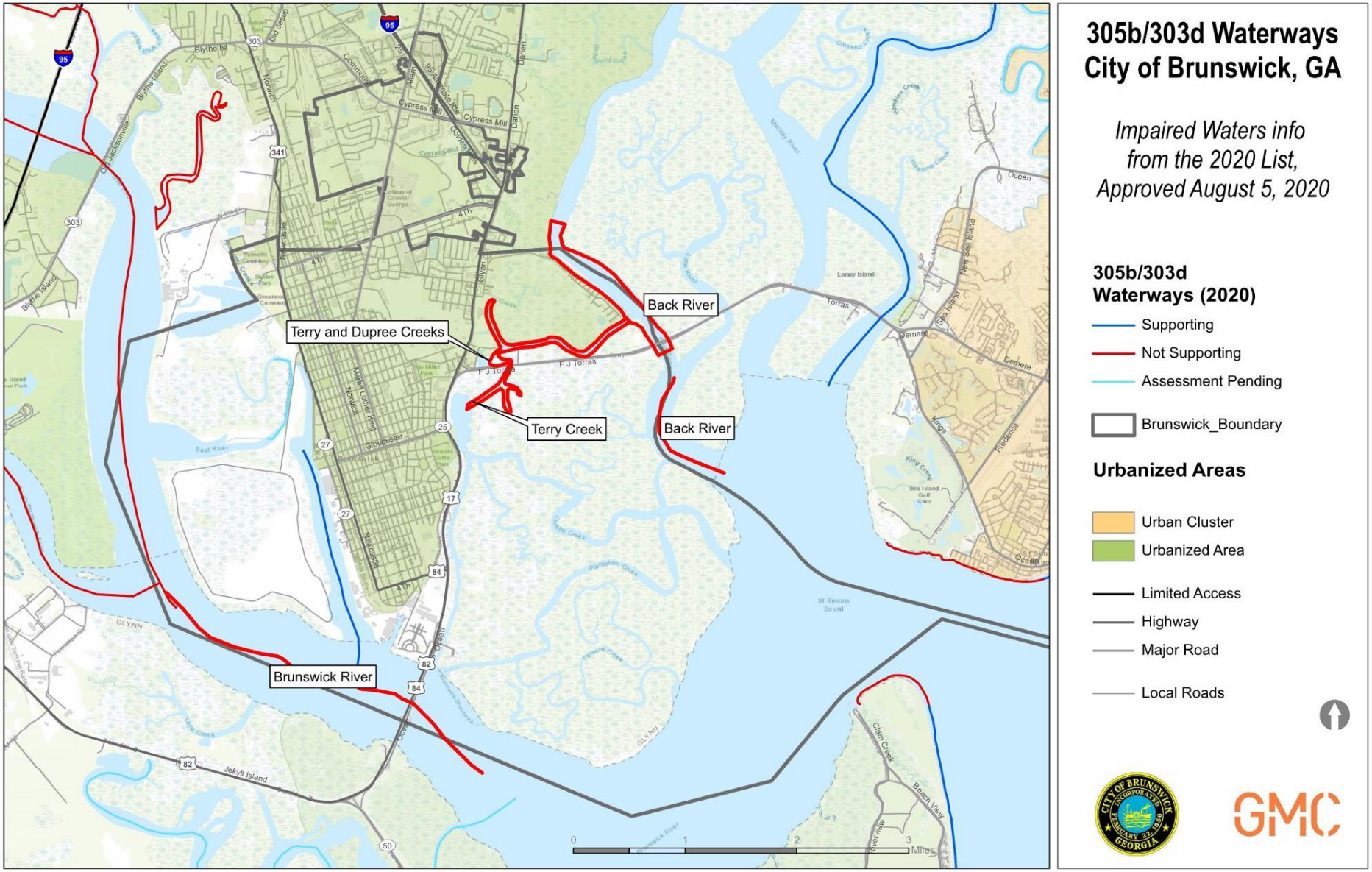


Figure 1: Map of Impaired Waters (2020) in Brunswick, GA

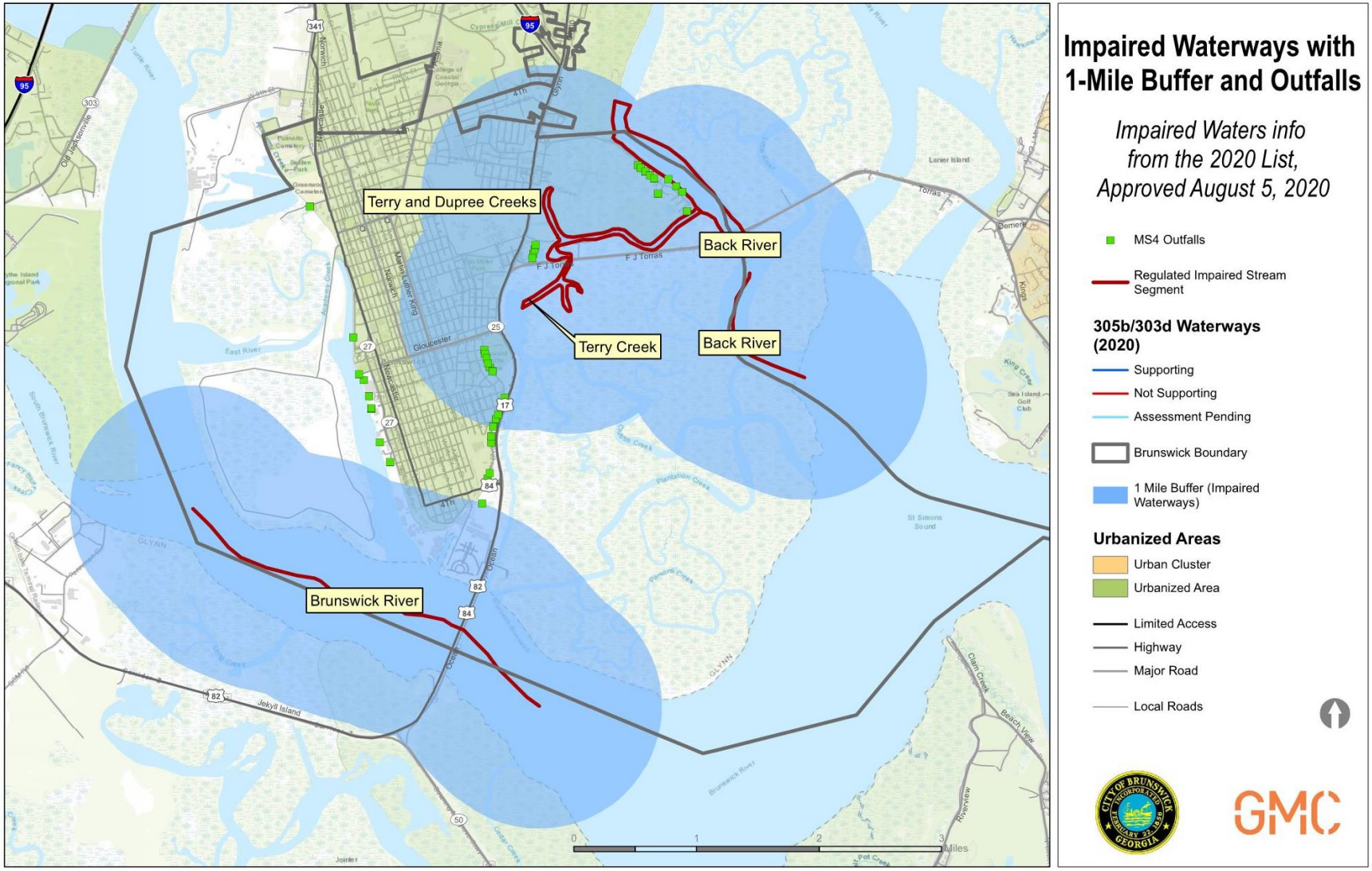


Figure 2: Map of Impaired Waters with Close Proximity to City MS4 Outfalls

2. POC Descriptions and BMPs

Below is a comprehensive list of the POCs that were identified as part of this plan. Below each POC is a list of the BMPs that the City will implement/continue in an effort to address the specific POC.

Selenium

Selenium is a naturally occurring, non-metallic element present in sedimentary rocks, shales, coal, phosphate deposits, and soils (EPA, 2016)[1]. There are around 40 known selenium-containing minerals but all are rare and generally occur together with sulfides of metals such as copper, zinc and lead. Selenium is an essential nutrient in small amounts for most animals including humans (EPA, 2016)[1]. It is required for growth and fertility in animals. The dietary range requirement in humans is narrow and can become toxic at higher levels. Toxic effects in humans include hair and nail loss, skin disorders, abdominal cramps, and nerve damage. Selenium poisoning can become so severe as to cause death (Saliminen, 2005)[2]. Selenium bioaccumulates in the aquatic food chain. Chronic exposure to fish and aquatic invertebrates can cause reproductive impairments, larval deformities, or mortality (EPA, 2016; Luoma and Presser, 2009)[3]. Selenium enters waterways by natural sources such as weathering of surface rocks and soils. Elevated concentrations in groundwater sometimes occur by leaching processes, especially where marine shales are present (Larry Walker Associates, 2006)[4].

Several anthropogenic sources have been identified to also elevate selenium concentrations in the environment, including atmospheric deposition and coal-ash from coal-fired power plants. Plant McManus, in Glynn County and approximately six miles upstream from the Brunswick River, is a former coal-fired power plant. Although Plant McManus' two steam units (used for its operation as a coal-fired plant in the 1960s and 1970s) were retired in 2015, coal-ash ponds remain on site; there is an Ash Pond Dewatering Plan currently being implemented for the removal of the 3-4 million gallons of water remaining in the ash pond. Industrial discharges, and to a lesser extent domestic wastewater treatment discharge are also identified as anthropogenic sources of selenium. From the 303d/305b List of Waters, the source of impairment for selenium in the Brunswick River is non-point sources and urban

[1] USEPA, 2016. Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater 2016. U.S. Environmental Protection Agency, Office of Water, EPA 822-R-16-006, June 1996.

[2] Saliminen, R., et. al., 2005. Geochemical Atlas of Europe. Part 1: Background Information, Methodology and Maps. Geologic Survey of Finland, Espoo, Finland.

[3] Luoma, S. and Presser, T. 2009. Emerging Opportunities in Management of Selenium Contamination. Environmental Science and Technology. Vol. 43.

[4] Walker Associates, L. (2006). Calleguas Creek Watershed Metals and Selenium TMDL. Retrieved 2020, from https://lwa.com/wp-content/uploads/2015/06/06-TMDL-Technical-Report-03-29-06.pdf

runoff; however, there is not currently a TMDL for this pollutant. The City suspects this impairment is due to industrial activities and not urban runoff, but the City will monitor this pollutant until more guidance is provided by a TMDL.

BMPs for this POC will include stormwater runoff preventative measures during construction. In an effort to reduce selenium in impaired waters influenced by runoff, the City will pursue the following:

- The City will continue to enforce its Soil Erosion and Sedimentation Control Ordinance. By reducing the amount of erosion that occurs on development sites, less sediment will be conveyed to the impaired waters via the stormwater flows. As soil disturbance from construction activities may release excess selenium-containing sediment, reduction in sediment transfer should result in a reduction in the selenium concentration in the system and therefore result in improved selenium levels in the impaired waters.
- On the City's Stormwater Website (BMP A.4), it will continue to include information regarding erosion and sedimentation control and highlight the importance of minimizing erosion and controlling sediment and debris that are dumped and/or washed into City MS4s. This webpage is located at: http://www.brunswickga.org/pw/new/stormwater.html.

Arsenic

Arsenic (As) is found in all living organisms, including those in aquatic systems. Arsenic compounds can cause acute and chronic effects in individuals, populations, and communities at concentrations ranging from a few micrograms to milligrams per liter, depending on species, time of exposure, and end-points measured. These effects include lethality, inhibition of growth, photosynthesis and reproduction, and behavioral effects (Gomez-Caminero et al., 2001)[5].

The chemistry of arsenic in water is complex, consisting of chemical, biochemical, and geochemical reactions which together control concentration, oxidation rate, and form of arsenic in the water (Gentile et al., 1984)[6]. Elevated concentrations of arsenic in surface

[5] Gomez-Caminero, A., Howe, P., Hughes, M., Kenyon, E., Lewis, D., Moore, M., . . . Becking, G. (2001). ARSENIC AND ARSENIC COMPOUNDS. Retrieved September 11, 2020, from http://www.inchem.org/documents/ehc/ehc/ehc224.htm#1.8 EHC 224, Chapter 1: Summary, section 8

[6] Gentile, J. H., Stephan, C. E., & Hansen, D. J. (1984). Ambient Water Quality Criteria for Arsenic - 1984 (pp. 1-2, Rep.). NW, Washington, D.C.: United States Environmental Protection Agency. Retrieved September 11, 2020, from https://www.epa.gov/sites/production/files/2019-02/documents/ambient-wqc-arsenic-1984.pdf (NTIS No. PB85-227445)

waters, due to geological anomalies or to pollution from industrial or mining activities, will generate a variety of complex interactions with biotic and abiotic factors which may affect the transport, bioavailability, metabolism and ecotoxicity of arsenic. Consequently, the ecotoxicity and hence the environmental risk of arsenic may be extremely variable depending on the natural factors existing in the water body being exposed to the elevated arsenic concentrations (Landner, 1998)[7]. Aquatic and terrestrial biota show a wide range of sensitivities to different arsenic species. Their sensitivity is modified by these biological and abiotic factors. Unlike selenium, arsenic is not biomagnified in the food chain but occurs in many different chemical forms that are not fully characterized from an ecotoxicological point of view. However, the predominant arsenic species in marine and brackish-water animals, including fish (and possibly also in freshwater fish) is arsenobetaine, which has been shown to have a relatively low toxicity, both to aquatic organisms and to higher predators (Landner, 1998).

Arsenic occurs naturally in the earth's crust and is present in more than 200 different minerals. About one-third of the arsenic in the Earth's atmosphere is of natural origin, while the rest comes from anthropogenic sources such as mining, treating timber for preservation, and burning fossil fuels for commercial purposes[8]. Like selenium, coal-ash is also a source of arsenic. It is suspected that some previous industrial activities in the City may be a source of arsenic as well. From the 303d/305b List of Waters, the source of impairment for arsenic in the Brunswick River is non-point sources and urban runoff; however, there is not currently a TMDL for this pollutant. While the City suspects this impairment is due to industrial activities and not urban runoff, the City will monitor this pollutant until more guidance is provided by a TMDL.

Though the Brunswick River is impaired for arsenic, this Plan will not include additional BMPs beyond those listed below due to the complexity of the pollutant and limited measures available for addressing arsenic concentration. Because the impaired waters are listed for sources of non-point source pollution and urban runoff, the City will utilize EPD's sampling efforts and supplement with their own if EPD stops monitoring.

BMPs for this POC will include stormwater runoff preventative measures during construction. In an effort to reduce arsenic in impaired waters influenced by runoff, the City will pursue the following:

[7] Landner, L. (1998). Arsenic in the aquatic environment - speciation and biological effects (pp. 1-5, Rep.). Solna, Sweden: Swedish National Chemicals Inspectorate©. Retrieved September 11, 2020, from https://www.osti.gov/etdeweb/servlets/purl/646184

[8] Arsenic. (n.d.). Retrieved September 21, 2020, from https://www.greenfacts.org/en/arsenic/l-2/arsenic-2.htm

- As beforementioned, the City will continue to enforce its Soil Erosion and Sedimentation Control Ordinance. By reducing the amount of erosion that occurs on development sites, less sediment, and arsenic-bound soil particles, will be conveyed to the impaired waters via the stormwater flows. As soil disturbance from construction activities may release excess arsenic-containing sediment, reduction in sediment transfer should result in a reduction in the arsenic concentration in the system and therefore result in improved arsenic levels in the impaired waters.

- On the City's Stormwater Website (BMP A.4), it will continue to include information regarding erosion and sedimentation control and highlight the importance of minimizing erosion and controlling sediment and debris that are dumped and/or washed into City MS4s, which potentially increase arsenic concentrations in the local waters. This webpage can be found at: http://www.brunswickga.org/pw/new/stormwater.html.

Shellfishing Ban & Fish Tissue Impairments

Shellfishing Ban
Fish Tissue (Toxaphene like chlorinated camphenes)
Fish Tissue (PCBs – polychlorinated biphenyl)

These bans and guidances are placed due to the presence of contaminants in the waterway that fish/shellfish uptake to levels that can be harmful to themselves or harmful to others if consumed too frequently. Reducing/removing the contaminant from the waterway will reduce the need for these bans and consumption guidance.

The *Gibson/Terry/Purvis Creeks and the Turtle River System Final PCB's TMDL* document dated July 2, 2001 indicated that "PCB contamination in the sediments and the water column is well documented by the EPA Superfund Program in Purvis Creek. The LCP Superfund site is responsible for extensive PCB contamination" that was done prior to the banning of PCBs and that "there exist no other known significant sources of PCBs in these listed segments."

Given the known source of the POC and the EPA's involvement in the superfund site, it does not seem that there would be an appreciable benefit to the City monitoring stormwater flows in this area for these POCs. The City will continue to require Water Quality measures for all new and redevelopment in this area. The inclusion of water quality measures will help reduce the possibility of additional PCB's being conveyed downstream via stormwater.

Furthermore, due to the costs related to monitoring these fish tissue contaminants, the Plan will focus only on the contaminants influenced by urban stormwater runoff. Therefore, Shellfishing Ban and Fish Tissue impairments will not be approached with this Plan.

Implementation Schedule

For the majority of the POCs, fish tissue guidance, and shellfishing bans, the City will not be implementing specific BMPs beyond sharing educational information and ordinance enforcement; however, the City will be monitoring activities occurring in the basin through its development review and business license processes. If the City identifies development or businesses that, through their normal operations, will increase the chance of the POC being introduced to the waterways via the City's stormwater system, the City will contact the appropriate state regulatory authority to make them aware of the use. The City will identify the development as a hot-spot development and require additional pre-treatment measures be implemented to address the POC concern.

The BMPs and monitoring schedule for selenium and arsenic will begin with this year's permit activities and will continue through the end of the permit cycle.

3. Water Quality Sampling & Monitoring Plan

Water quality sampling methods will conform to the guidance in the Water Protection Branch Quality Assurance Manual, June 1999 [Revised 2005] and the GAEPD Standard Operating Procedures for collection of water quality data from flowing waters (Driggers et al., 2020)[9]. More details on the methodology are described in the sections below.

Monitoring Location

The City will utilize EPD's current and historical long-term monitoring data in the Brunswick River for arsenic and selenium. Sampling data from EPD is publicly available through Georgia Environmental Monitoring and Assessment System (GOMAS) at https://gomaspublic.gaepd.org/. Details for the long-term monitoring location on the impaired segment of Brunswick River are described in Table 2 and Figure 3.

Table 2. EPD Sampling Location

Monitoring Location	EPD Site ID	Latitude	Longitude
Brunswick River (U.S. Hwy 17)	SH_07_3036	31.1164	-81.4858

[9] Driggers, N., Barton, C., & Booth, E. (2020, May 20). Protocols for Collection of Water Quality Data from Flowing Waters (Streams and Rivers) [PDF]. GA: Georgia Environmental Protection Division (GAEPD).

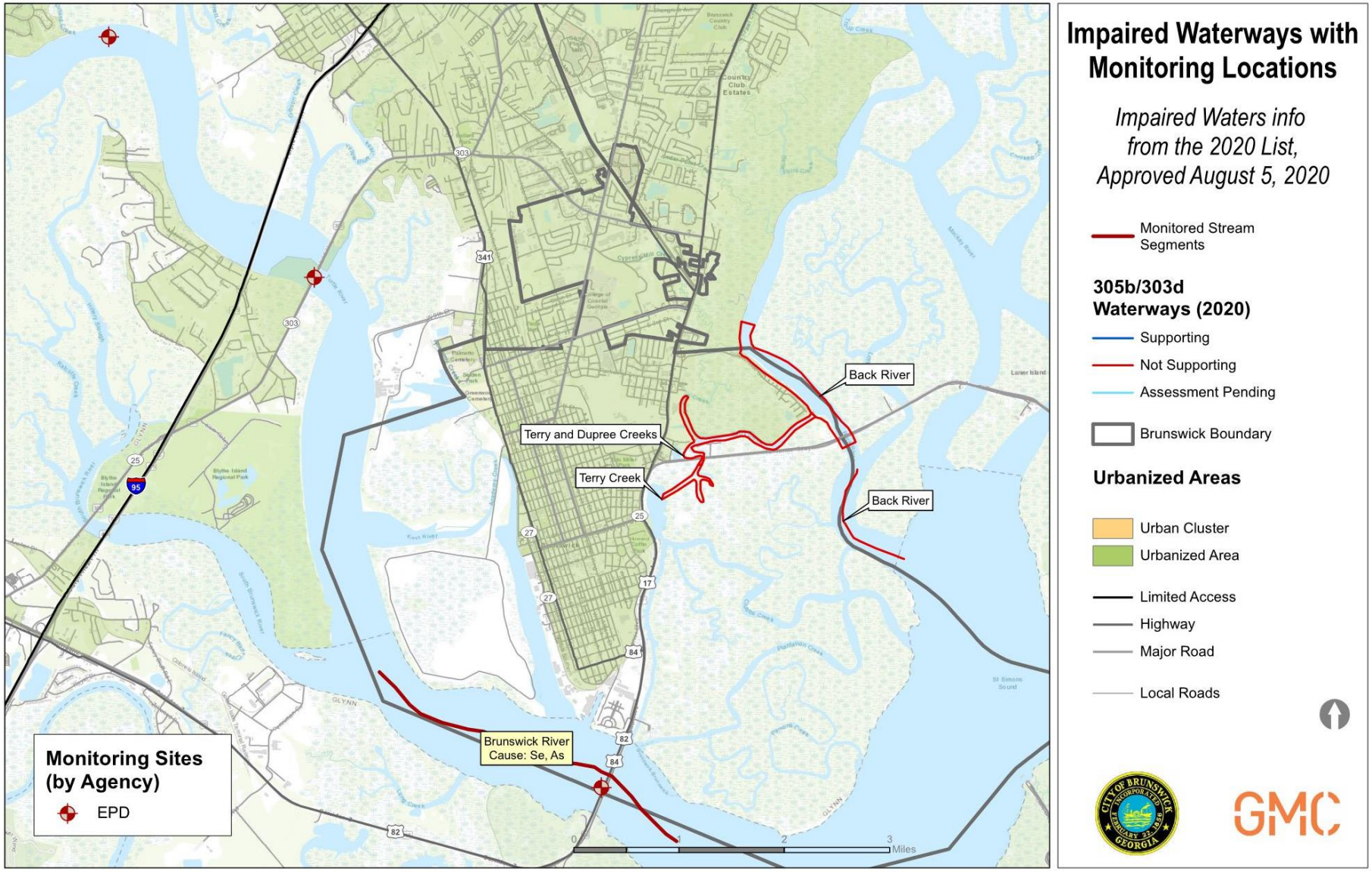


Figure 3: Monitoring Locations for Impaired Waters Plan

Frequency

Since 2010, EPD has been regularly sampling arsenic and selenium at the Brunswick River location on a quarterly basis, with the exception of 2016 and 2017. The City will communicate with the EPD South Monitoring Unit Manager to determine future sampling plans. If it is communicated that EPD will not be sampling on a given year, the City will conduct sampling twice per year using the methods described in the section below.

Sampling and Analytical Methods

Grab samples will be taken from the stream at a point as near to the centerline of the stream as possible. Where possible, the sample will be collected directly into the sample container, being careful to avoid loss of the preservative within the sample container. If direct access to the stream is not possible or wadeable, then supplemental sampling equipment (i.e. sampling rod with sterile collection bucket) will be utilized from a bridge or dock. Sampling will be performed on an outgoing tide without regard to antecedent weather conditions (dry or wet weather); however, total rainfall in the previous 72 hours will be noted.

Water quality samples will be analyzed for arsenic and selenium according to the analytical methods summarized in Table 3. After collection, sample handling will be minimized to ensure that samples are not contaminated. Water samples will be sealed and placed on ice inside a cooler for delivery to the laboratory to meet required holding times.

Table 3. Sampling Methods to be Utilized by the City.

Parameter	Detection Limit	Analytical Method[10]	Laboratory
As, Se	10.0 ug/L	200.7	SAS, Inc. (Pace)* (*if EPD does not monitor in a given year*)

Analytical standards must comply with the requirements of *Title 40, Code of Federal Regulations, Part 136*. Sample analyses shall be performed by an analyst certified in compliance with the Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Act, as amended, or by a laboratory facility accredited in compliance with the Georgia Rules for Commercial Environmental Laboratory Accreditation (O.C.G.A. 12-2-9).

[10] U.S. EPA. 1994. "Method 200.7: Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry," Revision 4.4. Cincinnati, OH

4. Annual Evaluation

Each year, the City will develop a brief water quality report for Brunswick River outlining the items listed below. A copy of this report and sampling results / data will be included in the City's annual report for its Phase II Stormwater Management Program, due February 15th of each year.

- Monitoring results from the current year
- Trend analysis of the water quality monitoring data compared to available historical monitoring data from EPD that began in 2010
- Documentation of any activities undertaken in that year pursuant to this plan
- Recommendations of any additional activities based on the evaluation

The analysis of each year's water quality data along with the aforementioned trend analysis will be utilized to determine the water quality data relative to state standards and if the trend is showing improvement or degradation relative to previous years. Additionally, the results of the various BMPs will be outlined to document the identification of pollution sources along with the mitigation actions taken each year for sources identified in these efforts. If the trend analysis indicates that water quality is worsening or not improving, then additional BMPs may be identified for sources located within the City.

EPD's water quality standards for these POCs in coastal and marine estuarine waters are:

- Arsenic
    - Acute: 69 μg/L
    - Chronic: 36 μg/l
- Selenium
    - Acute: 290 μg/L
    - Chronic: 71 μg/l