

# Chatham County SWMP

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## ACRONYMS/DEFINITIONS

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BMPs	Best Management Practices
CEMA	Chatham Emergency Management Agency
CIP	Capital Improvement Project
E&S	Erosion & Sedimentation
EOC	Emergency Operations Center
EPD	Georgia Environmental Protection Division
ESCPs	Erosion & Sedimentation Control Plans
ESFs	Emergency Support Functions
GaDNR	Georgia Department of Natural Resources
GEMA	Georgia Emergency Management Agency
GESA	Georgia Erosion & Sedimentation Act
GSWCC	Georgia Soil & Water Conservation Commission
I&I	Inflow & Infiltration
IDDE	Illicit Discharge Detection & Elimination
L.E.P.C.	Local Emergency Planning Committee
LDA	Land Disturbing Activities
MOUs	Memorandums of Understanding
MPC	Chatham County – Savannah Metropolitan Planning Commission
MS4	Municipal Separate Storm Sewer System
MSDS	Materials Safety Data Sheet
NPDES	National Pollutant Discharge & Elimination System
NRCS	Natural Resources Conservation Service
QA/QC	Quality Assurance/Quality Control
SIC	Standard Industrial Classification
SOP	Standard Operating Procedure
SPLOST	Special Purpose Local Option Sales Tax
SPRPs	Spill Prevention & Response Plans
SWMPs	Stormwater Management Plans
SWP3	Stormwater Pollution Prevention Plan
UGA	University of Georgia
WQPP	Water Quality Protection Plan

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## EXECUTIVE SUMMARY

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Chatham County received coverage under the National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Separate Storm Sewer System (MS4) Permit issued on April 12, 2012 as required by provisions of the Georgia Water Quality Control Act and the Federal Clean Water Act. This permit, included in Appendix F, requires the development of a Stormwater Management Plan (SWMP), to address the following program elements, as stipulated in CFR 122.26(d)(2)(iv)(A) through 122.26(d)(2)(iv)(D):

- Structural and Source Control Measures
- Illicit Discharge Detection and Elimination
- Industrial Facility Stormwater Runoff Control; and
- Construction Site Runoff Management

The Georgia Environmental Protection Division (EPD) previously required Chatham County to expand its SWMP to include Best Management Practices (BMPs) to address the following required modifications:

- Impaired Waterways, i.e. 303(d) listed stream segments
- Highly Visible Pollutant Sources
- Public Education
- Public Involvement
- Pollution Prevention/Good Housekeeping
- Enforcement Response
- Post-Construction Stormwater Controls; and
- Green Infrastructure/Low Impact Development

More recently, Chatham County received a letter from the Georgia EPD, dated July 6, 2012, requiring the County to revise its SWMP to follow the format of the NPDES Permit. For that reason, this plan begins with Section 3, which is the section of the Permit that includes the Storm Water Management Program requirements.

Chatham County works with the other NPDES Phase I MS4 Permittees within the County to implement various elements of the SWMP including canal maintenance, public education, and TMDL Monitoring. The County currently tasks the Chatham County – Savannah Metropolitan Planning Commission (MPC) to perform dry weather screening, water quality monitoring and analysis, educational outreach, and drafting of the Annual Report. The County and MPC intend to continue this arrangement through the permit period. Should the County elect not to continue this arrangement, the EPD will be notified and the SWMP will be revised accordingly.

## 3. STORM WATER MANAGEMENT PROGRAM

### 3.3. SWMP Components

#### 3.3.1. Structural and Source Control Measures

##### 3.3.1.1. MS4 Control Structure Inventory Map

The County performed a GIS field inventory of the open and closed stormwater infrastructure components. This project included the digitizing of old as-built engineering plans, incorporation of new as-builts plans, and field mapping of drainage structures. Components are included in a GIS database, complete with available attribute information regarding each structure. While specific information for each structure may vary, the inventory generally includes: construction material, size, and general condition of the structure. Inventories of infrastructure, by their nature, are never 100% complete, because the MS4 is expanded as new development is completed. As such, the County will continue to update the MS4 inventory on an annual basis. The inventory as of the date of this document is summarized in the table below, and illustrated on the map in Appendix F. Please note that the inventory and map are working documents that change regularly as the inventory is updated due to changes to the system and improved inventory mapping. The Department of Engineering maintains the current inventory and makes it available to all employees using ArcGIS software. Detailed maps are provided, as needed.

**Table 1: Inventory of MS4 Structures**

MS4 INVENTORY		
	Number	Length
Storm Drains/Inlets	11,103	
Canals		49 miles
Storm Pipes	11,214	164 miles
Ditches		244 miles
Tide Gates	39	
Municipal Control Structures	4	
MS4 Outfalls (to Waters of the State)	394	



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## **3.3.1.2. MS4 Inspection and Maintenance Program**

Chatham County will visually inspect the facilities that comprise the MS4 within the established extent of service on a routine basis. County Public Works staff currently inspects the MS4 facilities as part of a preventive maintenance program, routine system inspections, and in response to citizen complaints. MS4 Inspection procedures are as follows:

- Inspections include a visual condition assessment of the various system facilities.
- Storm drain lines are visually inspected where they outfall into a catch basin or open drainage way unless access is obstructed.
- Upon completion of an inspection, County staff makes a determination of the need for maintenance based on the results of the inspection and the maintenance criteria listed herein.
- If maintenance is required, the County staff determine if the maintenance need is structural, i.e., the structure needs to be repaired or replaced; or if the maintenance need is routine, i.e. sediment needs to be cleared, debris removed, or vegetation trimmed back.
- If maintenance is needed, the staff person completes a work order for Public Works crew to address that maintenance need.
- If there is a structural issue, the County Department of Engineering is notified so that they can perform their review and analysis.
- The County maintains records of the inspections and a summary of these records are included in the Annual Report.

### **MS4 Inspection Schedule**

The County's goal is to annually inspect 20% of MS4 system facilities within five years of the issuance of this permit; however, such an inspection effort will require a substantial amount of County staff and monetary resources. In order to allow time for the County to develop the resources necessary to be able to accomplish this ambitious inspection schedule, the County will annually "ramp up" the percentage of MS4 system facilities inspected according to the schedule below:

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Table 2: Unincorporated Chatham County MS4 Inspection Schedule

Year	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
<b>Percent Inspection</b>	5%	5%	10%	15%	20%
<b>Number of Facilities Inspected Based on MS4 Inventory</b>					
<b>Storm Inlets</b>	555	555	1,110	1,666	2,221
<b>Canals</b>	2.5 miles	2.5 miles	4.9 miles	7.4 miles	9.8 miles
<b>Storm Pipes</b>	561	561	1,121	1,682	2,243
<b>Ditches</b>	12.2 miles	12.2 miles	24.4 miles	36.6 miles	48.8 miles
<b>Tide Gates</b>	2	2	4	6	8
<b>Municipal Controls</b>	1	1	1	1	1

## **Private Structural Control Inspection Program**

All new private structural controls will be inspected by the County prior to final approval by the Department of Engineering to ensure that construction is consistent with the developer's approved design. Upon initial inspection, Chatham County will determine whether the control structure discharges to the MS4. If it is determined that the private control structure does not discharge to the MS4 it will be removed from the inventory and will not be inspected again. As such, the County will continue to update the private control structure inventory on an annual basis.

It is the private property owner's responsibility to ensure that their privately-owned stormwater control(s) continues to function as designed. If it is determined at some point that maintenance is needed, the County will address new and existing private structural controls as follows.

- If maintenance is not performed in accordance with the agreement (if one exists), the County will notify the private owner within ten (10) business days of the inspection.
- The County will inform the owner of the nature of the deficiency, and provide a schedule for the recommended actions depending on the nature of the problem.
- The County will perform a follow up inspection to ensure that the owner has performed any necessary maintenance activities.
- If necessary, enforcement is dealt with on a case-by-case basis in accordance with the County's Stormwater Management Ordinance.

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- The County will perform maintenance responsibilities on an emergency basis only.
- A record of all inspection and enforcement activities will be maintained by the County and provided in the Annual Report.

## **MS4 Maintenance Procedures**

The County will perform maintenance of the unincorporated, public MS4 as specified in the Stormwater Maintenance Standard Operating Procedure (SSOP), included in Appendix F, and based upon inspection findings. During inspection, the County will determine if maintenance of the various elements is needed. The County will prioritize maintenance needs based on the potential impact to the functionality of the public MS4. Maintenance shall be prioritized and performed in general accordance with following standards:

- Sediment will be removed before 50% of the capacity of the structure is lost.
- Trash and debris will be removed from structures.
- Manmade and natural objects that are causing or could potentially cause a blockage to the system will be removed.
- Excess emergent vegetation will be removed.
- Bank side vegetation and vegetation in the maintenance right-of-way will be mowed or trimmed, but not removed to protect against erosion.
- Ditches not draining properly will be re-graded to the extent possible to match existing pipe invert grades.
- All structural stormwater management practices will be maintained such that they function in accordance with their design and the standards, criteria, and information presented in the latest edition of the Coastal Stormwater Supplement and the County's Engineering Policy.
- Polluted water and debris from line flushing will be captured and properly disposed of through the use of a jet-vac truck.
- Litter, sediment, and other pollutants removed from the MS4 will also be collected and disposed at a local landfill.

## **Stormwater Canals (Unincorporated Areas)**

Stormwater canals in unincorporated County will be inspected and maintained by Chatham County. Canals in unincorporated Chatham County are cleaned once per year, mowed and

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sprayed with herbicide. The County follows the herbicide application Standard Operating Procedure (SOP) when spraying canals, supervisors receive State Herbicide Applicator Certification, and staff is properly trained on application procedures. In the unincorporated County, there are approximately 49 miles of canals. Excess sediment, debris, and emergent and bank side vegetation will be removed from the canal at the time of inspection and disposed of properly. Any structural maintenance, such as bank stabilization, will be performed on an as needed basis. For more detailed description of canal maintenance procedures, see the SSOP in Appendix F.

## **Stormwater Canals (Incorporated Areas)**

Stormwater canals in the co-permittees' municipal boundaries will be inspected and maintained by Chatham County as detailed in their maintenance agreements with the County. Maintenance agreements are included in the Canal Maintenance Program section of Appendix F. A map of the canals maintained by the County is included with the SSOP in Appendix F. Canals in the municipalities are cleaned once per year, mowed and sprayed with herbicide. The County follows the herbicide application SOP when spraying canals, supervisors receive State Herbicide Applicator Certification, and staff is properly trained on application procedures. In the co-permittee municipalities, the County maintains approximately 85 miles of canals. Excess sediment, debris, and emergent and bank side vegetation will be removed from the canal at the time of inspection and disposed of properly. Any structural maintenance, such as bank stabilization, will be performed on an as needed basis. It is the responsibility of the co-permittees to provide adequate access for the County to perform maintenance described above.

## **Complaint Response Maintenance**

Complaint response is performed based on evidence of system impairment or failure identified through citizen complaints. This maintenance is performed on an as-needed basis and is logged as it is performed through the County's Cartograph Work Order System.

- Citizens may report complaints by calling either the County Department of Engineering or the Public Works Department at the numbers provided on the County website and in promotional material.
- Upon receipt of a complaint, the Public Works Department generates a work order for the individual project and follows up with the customer.
- A County representative will follow up within 3 business days to determine the nature of the drainage problem.
- Maintenance may be recommended, based on the inspection findings, and performed based on the maintenance standards established above.

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- Inspection results and maintenance performed is recorded in the work order database.
- If the nature of the drainage problem requires more specialized expertise, then the work order may be handled by Department of Department of Engineering or an outside entity specializing in that activity.
- The County will provide a summary of complaints received and the resulting inspections and maintenance in the Annual Report.

### **Private Structural Control Maintenance**

Chatham County has no maintenance responsibility for privately – owned stormwater control structures. If the private owner fails to maintain their structural control in accordance with County standards and failure of that structure could potentially impact the public system, then the County has the legal authority, per the Stormwater Management Ordinance, to compel the private owner to perform the necessary maintenance.

## **3.3.1.3. Planning Procedures**

### **Stormwater Management Ordinance**

Chatham County amended the Stormwater Management Ordinance in 2007 to include the post construction runoff control requirements recommended in the Georgia Stormwater Management Manual (GSMM), and any of its adopted addenda including the Coastal Stormwater Supplement (CSS). The ordinance is included in Appendix F. The Stormwater Management Ordinance requires a Stormwater Management Plan (SWMP) to be submitted and approved for all development activity that is required to have a permit for land disturbing under the provisions of the Land Disturbing Activities Ordinance, Flood Damage Prevention Ordinance, or Soil Erosion and Sedimentation Control Ordinance. The plans must include provisions that limit the post-development peak runoff rate to the peak pre-development runoff rate, unless discharges are direct to open tidal waters. The ordinance also dictates that SWMP must address the following minimum criteria:

- Better Site Design (As defined in the GSMM)
- Stormwater Runoff Quality
- Stream Channel Protection
- Overbank Flood Protection
- Extreme Flood Protection
- Upstream and Downstream Hydrologic Analysis
- Groundwater Recharge
- Post Construction Maintenance & Operation

If a development is to be completed in phases, a conceptual plan must be created for the overall development and a specific stormwater management plan must be created for each phase.

### **Design Criteria/Guidelines**

The County adopted, by reference in the Stormwater Management Ordinance, the GSMM, and any of its current or future addendums including the CSS. These manuals include 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 I MS4 Permit. The GSMM and CSS offer BMP recommendations specific to coastal drainage conditions including high water tables, large tidal ranges and unique terrestrial habitats of coastal Georgia. These

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manuals expand post-construction stormwater management efforts to include prevention, as opposed to just mitigation, of the negative impacts of the land development process. The County provides guidance, through adoption of this manual on an integrated green infrastructure based approach to natural resource protection, stormwater management and site design.

## **Comprehensive Plan**

The Chatham County Comprehensive Plan outlines goals and specific policies that are designed to protect the local quality of life. The Comprehensive Plan guides future land use and provides the framework for the Zoning Ordinance. Chatham County is required to submit a Short Term Work Program every five years, throughout the duration of the plan, which details the actions to be taken to achieve the goals listed in the Comprehensive Plan. The most recent Comprehensive Plan Update was completed in 2008. The Community Agenda of the Comprehensive Plan contains the following Goal and Objectives related to stormwater:

GOAL G: Reduce the quantity and improve the quality of stormwater runoff.

- Objective 1: Implement and expand stormwater management plans as required by local Municipal Separate Stormwater System National Pollution Discharge Elimination (NPDES) permits.
- Objective 2: Prevent seepage from septic systems.
- Objective 3: Develop riparian buffer regulations that are effective for stormwater control and pollutant removal and that are based on best management practices.
- Objective 4: Adopt stormwater system improvement and maintenance policies that protect water quality.
- Objective 5: Minimize future impervious surfaces.

The plan includes implementation strategies and a short-term work program to work towards accomplishing these goals during the 20 year planning horizon.

## **Zoning Ordinance and Environmental Planning Criteria**

Chatham County administers a Zoning Ordinance to regulate land use. The Zoning Ordinance allows Chatham County to guide development, manage urban sprawl, and protect valuable natural resources. The Zoning Ordinance is currently being updated and the County will ensure that this updated ordinance addresses water quality protection through the Green Infrastructure Review described in Section 3.3.10.

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## **Riparian Buffer Protection**

Protection of naturally vegetated riparian buffers provides a multitude of water quality benefits including, but not limited to:

- A reduction in stormwater runoff through the infiltration of stormwater prior to reaching the stream
- Reduction of the velocity of stormwater runoff to stream
- Treatment of stormwater quality through the filtering effects and uptake of the riparian fauna
- Stream bank stabilization
- Shading of the stream

Chatham County mandates preservation of riparian buffers through the Erosion and Sedimentation Control Ordinance, which mandates a 25-foot buffer along all perennial and intermittent streams. The County also adopted the *Islands and Southeast Chatham County Environmental Overlay District*, the purpose of which is “to establish supplemental standards to bolster those currently in the Chatham County Zoning Ordinance in order to: a) protect and enhance community character; and b) protect environmental quality, especially the estuarine system that surrounds the community.” Chatham County adopted this overlay district for the Islands area and the Southeast area of the unincorporated County. Additional measures that will serve to protect water quality and prevent polluted runoff from reaching the marsh and coastal waterways include a 35-foot naturally vegetated riparian buffer for all newly subdivided property and a 50-foot impervious surface setback for all newly subdivided property.

## **Land Disturbing Activities Ordinance**

The Department of Engineering administers the Land Disturbing Activities Ordinance. The following requirements must be satisfied by a proposed development before Chatham County will issue a LDA Permit (see Section 3.3.4.1 for more discussion on LDA Permits):

- *Greenspace Preservation* – The LDA Ordinance requires that all new multi-family, commercial and industrial developments preserve minimum of twenty percent (20%) of the total land area of the development as greenspace.
- *Landscaping and Tree Protection* – The LDA Ordinance requires developers to submit a landscape plan that details the preservation and/or replacement of trees and installation of landscaping. The plans are awarded points based on the practices employed and species used to preserve trees and install landscaping. Plans must receive a certain number of landscaping and tree quality points to receive a LDA permit. In order



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to encourage the preservation (rather than removal and replanting) of trees, the County has deemed that preserved trees are worth more tree quality points than replaced trees.

- *Wetlands Protection* – The County requires a current US Army Corps of Engineer jurisdictional wetland determination if land disturbing activities are located inside or within 100 feet of a Wetland Inventory Area. The delineation must be completed before a LDA Permit is issued.
- *Groundwater Recharge Area Protection* – This requirement is intended to protect groundwater quality by restricting land uses that generate, use, or store pollutants within groundwater recharge areas. It establishes standards that must be addressed in the site plans in order for a project to receive a LDA Permit.

## **3.3.1.4. Street Maintenance**

### **Roadway Maintenance**

To reduce polluted runoff originating from streets, roads, and highways from vehicle traffic, leaks and spills, and atmospheric deposition, the Public Works Department will continue to sweep 273.5 miles of curb and gutter roads in unincorporated Chatham County three times per year. Debris collected by the street sweeper is separated at the Public Works yard, organic material is mulched, and all other debris is disposed of at a licensed landfill.

### **Roadside Ditch Maintenance**

The County maintains roadside ditches, in the unincorporated County right-of-way (ROW), to ensure effective operation of the drainage system. The County currently maintains 153 miles of roadside ditches.

- Right-of-ways are mowed twice per month during the growing season, and as needed during winter months.
- Litter is pickup up by Public Works staff before the right-of-ways are mowed. All debris removed during roadside ditch maintenance will be disposed at a local landfill.
- Herbicide is applied at the time of inspection in accordance with procedures outlined in Section 3.3.1.8. Only those ditches with permanent water and evident emergent vegetation are sprayed.
- Roadside ditches are cleaned if accumulated sediment or other deposits exceed the functional depth.
- Roadside ditches are also re-graded and otherwise maintained by machinery on an as-needed basis.

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- For a more detailed description of inspection and maintenance/procedures please see the Stormwater SOP in Appendix F.

## **De-icing Procedures**

Public Works maintains a stockpile of sand to deice bridges in the event of a freeze. The sand is stored under cover or tarps to protect it from stormwater runoff. The County also keeps a small amount of road salt, which is contained in bags and stored in a building to protect it from moisture. In order to prevent the material from reaching local waterways after it is applied to the roads; Public Works will remove deicing material from the road using a street sweeper. Material removed will be stored and reused if possible, or disposed at a landfill.

## **Roadway Construction Erosion and Sedimentation Control**

Chatham County Department of Engineering maintains responsibility for ensuring that all minimum best management practices (BMPs), as required by the Georgia Erosion and Sedimentation Act (GESA), are implemented on all County roadway projects. County staff will design, install, and maintain the minimum E&S control measures (or contract privately for these services) throughout the duration of these projects as required by GESA and the County's E&S Control Ordinance. Where appropriate, the Department of Engineering will obtain the proper permits or notify the private owner of the need to obtain permits for roadway construction and repair, including NPDES Construction Permits and Section 404 permits. All County projects must comply with the requirements for Land Disturbing Activity permits, including the preparation of a Stormwater Management Plan that meets GSMM and CSS water quality standards.

## **Litter Pickup**

Chatham County Public Works crews pick up roadside litter in right-of-ways along all County-owned roads before mowing. Roadside right-of ways are picked up twice per month during the growing season (April – November) and as needed during the winter months.

The County has a Court-appointed community service worker program. As part of this program, community service workers are assigned to the Public Works Department to pick up litter on a weekly basis. All litter removed is disposed at a local landfill.

### **3.3.1.5. Flood Management Projects**

#### **Flood Management Capital Improvement Project (CIP) Water Quality Impact Assessment**

The County operates a Capital Improvement Program to address structural flood management and drainage issues. As part of this program, the County identifies the various drainage and flooding problems within the County and develops a proposed engineered solution to the problem in the form of a CIP. CIPs include the installation of new structures and the retrofit, upgrade, or replacement of existing, inadequate structures.

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The County, or a contracted consultant, will conduct a water quality impact assessment during the design phase of 100% of drainage and flooding related CIPs for both new and existing structures, as funding becomes available for their implementation. This assessment will be integrated with the County's current Capital Improvement Program such that as identified CIPs are funded for implementation, an assessment will be performed during the design phase. The assessment must be completed before the design of any drainage CIP has been completed. The assessment will ensure that the drainage or flood-related CIP address the following:

- A description of how the proposed CIP will improve water quality.
- A description of potential water quality impacts from the proposed CIP and recommendation for mitigation of any impacts.
- The feasibility and/or cost of incorporating water quality enhancements in the CIP.
- Identification of the regulatory permits needed to construct the project including, but not limited to: NPDES construction permit and a Section 404 permit.
- A statement stating that the project adheres to the Chatham County SWMP, Engineering Policy, CSS, and GSMM.

This assessment for each new CIP design will become a permanent part of the CIP file.

## **Flood Damage Prevention Ordinance**

Chatham County currently has a Flood Damage Prevention Ordinance that serves to protect water quality by limiting the impacts that floodwaters can have on the environment. The purpose of the Flood Damage Prevention Ordinance is to: restrict or prohibit land uses that result in increases in erosion, flood heights, or velocities; control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters; control filling, grading, dredging, and other development which may increase erosion or flood damage; and prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands. This ordinance is administered by the Department of Engineering and is required for participation in the National Flood Insurance Program.

## **Floodplain Mapping**

Chatham County Department of Engineering maintains the FEMA Digital Flood Insurance Rate Maps (DFIRMs). The County considers the impact to existing floodplains when reviewing and permitting new development per their Flood Damage Prevention Ordinance. County staff will utilize the flood maps for land use planning and site plan review and approval.

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## **Flood Management CIP Land Disturbing Activity Permit**

Chatham County has a program to implement CIP projects within the County to improve infrastructure so as to alleviate flooding and provide better service to citizens. County staff, or a contracted consultant, is required to meet the requirements for a Land Disturbing Activity Permit when designing and implementing CIP projects. These requirements include development of Erosion and Sedimentation Control Plans (ESCPs) and Stormwater Management Plans (SWMP) to protect water quality during construction and operation of the CIP. ESCPs will be designed to meet the minimum requirements of the County's E&S Control Ordinance and the GESA. SWMP will meet the requirements of the County's Stormwater Management Ordinance, Engineering Policy, GSMM, and CSS. The County Department of Engineering, or contracted consultant, will also inspect the CIP during construction to ensure that the ESCP and SWMP have been properly implemented. After the completion of the project, the Department of Engineering, or contracted consultant, will ensure that the site is properly stabilized.

### **3.3.1.6. Municipal Waste Facilities**

#### **County-Owned Landfills**

Chatham County currently monitors five County-owned and permitted landfills. The following table provides information on the monitoring performed at the landfills.

Table 4: Chatham County Owned and Permitted Landfills

<b>Name of Landfill</b>	<b>Location of Landfill</b>	<b>Operating Status (open/closed)</b>	<b>Type of sampling (groundwater, surface water, other)</b>
Sharon Park	Garden City	Closed*	Groundwater, Methane, Surface Water
Wilmington	Wilmington Island, Unincorporated County	Closed*	Groundwater, Methane, Surface Water
Thomas	Thomas Avenue, Unincorporated County	Closed	Groundwater, Methane, Surface Water
Dillon	DOT Barn Road, Unincorporated County	Closed	Groundwater, Methane, Surface Water
Chevis	Chevis Road, Unincorporated County	Closed	Groundwater, Methane, Surface Water

*\*Site currently used as a drop off point for recycling, yard debris, and bulk trash, but never accepted household waste.*

#### **County Facility Inspections**

The Department of Engineering will perform an annual stormwater site inspection to ensure that there is no stormwater pollution discharged from any of the following County facilities. Inspection reports will be included in the annual report.

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Table 5: Chatham County Municipal Waste Facilities

Facility Name	Type of Operation
Thomas Avenue Landfill	Landfill facility
Wilmington Island Drop-off Center	Recyclable goods facility
Chevis Road Drop-off Center	Recyclable goods facility
Sharon Road Drop-off Center	Recyclable goods facility
Eisenhower Resource Education Center	Recyclable goods facility
Old Mosquito Control Facility	Indoor equipment storage for Public Works

### 3.3.1.7. Municipal Facilities with the Potential to Cause Pollution

#### **Wastewater Treatment Plant Land Application System Monitoring**

Chatham County operates a land-application wastewater treatment plant for the Pine Barren development in the unincorporated County. Surface water quality monitoring is performed regularly. Stormwater inspections are also conducted annually, and inspection reports will be included in the Annual Report. Chatham County does not operate any additional waste handling, treatment, or disposal facilities.

#### **Facility Monitoring**

Chatham County does not operate any other facilities with the potential to cause pollution.

#### **Facility Inspections**

The Department of Engineering will perform an annual stormwater site inspection of the land application treatment plant to ensure that there is no stormwater pollution discharged from the facility. Inspection reports will be included in the annual report.

### 3.3.1.8. Pesticide, Fertilizer and Herbicide Application

#### **Public Works Herbicide Application Standard Operating Procedure**

Chatham County Public Works utilizes herbicide to control excess emergent vegetation in open drainage ways. By controlling vegetation in open drainage ways, County staff ensures that stormwater can flow unobstructed through the system thereby preventing flooding. In order to protect water quality during the application of herbicides, to the maximum extent possible, County staff follows the standard operating procedures described below:

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- Herbicide is not sprayed during breezy or windy conditions.
- Herbicide is not sprayed during or shortly before a rain event.
- Herbicide is not applied to the banks of drainage ways to prevent excess erosion from vegetation removal.
- Herbicide is not applied to ditches planted with turf grass.

Public Works has prepared an official Stormwater Standard Operating Procedure, which is included in Appendix F.

## **County Licensed Pesticide Applicators**

Chatham County Public Works requires all supervisors receive the appropriate training and their commercial pesticide applicators license from the Georgia Department of Agriculture.

## **Chatham County Mosquito Control Pesticide Discharge Management Plan**

Chatham County Mosquito Control is currently drafting a Pesticide Discharge Management Plan to reduce pesticide discharge through establishment of best management practices for pesticide storage, management, application, and training. This plan requires Chemical Spill Response OSHA Level II training for staff handling, loading or applying pesticides.

## **Commercial Pesticide Applicator Certification Program**

Chatham County relies on the Georgia Department of Agriculture (DoA) to address requirements for Pesticide Applicator Training and Certification. The DoA requires commercial applicators of pesticides (herbicides and insecticides) to obtain and retain a "Commercial Pesticide Applicators License." The DoA also requires that distributors of restricted pesticides obtain and retain "Distributor Licenses." Continuing education units are required each year to maintain the license.

## **Municipal/County Xeriscape Landscaping Program**

Chatham County utilizes the following Xeriscape principles in the maintenance of its parks and open spaces:

- Mulching
- Metering
- Efficient irrigation through hand watering and the use of rain sensors
- Drought tolerant plantings

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By utilizing Xeriscape principles when landscaping, the County reduces water use, reduces the need for landscaping chemicals, and reduces the runoff from excessive irrigation.

### **3.3.1.9. Municipal Employee Training**

All new County staff that work with potentially hazardous materials will be trained on proper use, storage and disposal of commonly used hazardous or potentially polluting materials. The SWP3s developed for sites in Chatham County require staff that work at these sites be trained on the procedures for spill prevention and response outlined in the plan. This training will take place after update of the SWP3 and for any new employee within twelve months of beginning work at a site covered by an SWP3.

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## **3.3.2. Illicit Discharge Detection & Elimination Program**

### **3.3.2.1. Legal Authority**

Chatham County currently regulates illicit discharges into the MS4 through its Stormwater Management Ordinance located in Appendix E. The following language addresses illicit discharges:

§24-709 Illicit Connections.

1. It is unlawful for any person, company, corporation, etc., to connect any pipe, open channel, or any other conveyance system that discharges anything except storm water or unpolluted water which is approved by the Director, based on the exemptions listed in §24-708.2 above, to the MS4.
2. Improper connections in violation of this code must be disconnected and redirected, if necessary, to the nearest sanitary sewer system upon approval by the Director.

### **3.3.2.2. Outfall Inventory/Map**

Chatham County has 394 known outfalls to Waters of the State. A copy of the map and list of the outfalls are included in Appendix A. Please note that the inventory and map are working documents that change regularly as the inventory is updated due to changes to the system and improved inventory mapping. The Department of Engineering maintains the current inventory and makes it available to all employees using ArcGIS software. Detailed maps are provided, as needed. Please refer to the current inventory.

### **3.3.2.3. Illicit Discharge Detection & Elimination Plan**

Chatham County has an Illicit Discharge Detection & Elimination (IDDE) Plan that includes an inspection program, dry weather screening procedures, investigative procedures for suspected illicit discharges, and procedures for source removal. The IDDE Plan is included in Appendix A.

### **3.3.2.4. Spill Response Procedures**

#### **Hazardous Material Spill Containment & Response Procedures**

Chatham County has a Stormwater Pollution Prevention Plan (SWP3s) for the Public Works/Fleet Maintenance Facility and is in the process of developing an SWP3 for Mosquito Control to address the following spill prevention and response procedures:

- BMPs for spill prevention;
- Materials needed and available for spill response;



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- Party responsible for plan implementation; and
- Numbers of agencies to call in the event of a spill.

In accordance with the requirements of the NPDES Industrial Stormwater General Permit, the County completes and submits an annual report on the status of SWP3 implementation to the GA EPD.

In the event of a hazardous material spill, CEMA is responsible for coordinating spill response between Chatham County, Savannah Fire Department HazMat, Chatham County Health Department, Local Emergency Preparedness Committee, GA EPD, US Coast Guard, and any other agencies responsible for spill mitigation. CEMA operates under an Emergency Operations Plan, which addresses local government responsibilities for spill mitigation.

## **Hazardous Material Spill Prevention Program**

### *County Staff Training*

All new County staff that work with potentially hazardous materials will be trained on proper use, storage and disposal of commonly used hazardous or potentially polluting materials. The SWP3s developed for sites in Chatham County require staff that work at these sites be trained on the procedures for spill prevention and response outlined in the plan. This training will take place after update of the SWP3 and for any new employee within twelve months of beginning work at a site covered by an SWP3.

### *Hazardous Material Record Keeping*

The County has a policy that it only purchases hazardous materials in small quantities that will be used immediately. This eliminates the need for any significant hazardous material storage. However, when hazardous materials are onsite, all departments within Chatham County are responsible for maintaining an inventory of all hazardous materials for which a MSDS is provided.

At a minimum the following information is recorded:

- Type of material;
- Amount of material brought into the facility;
- Amount currently being stored at the facility; and
- Amount currently being used at the facility

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## **Wellhead Protection Program**

Chatham County has a Wellhead Protection Ordinance that establishes protection zones with prohibited use around public water supply wells. Public water supply wells are those wells that are pumping greater than 0.1 million gallons per day or those wells that serve more than 15 connections or 25 customers. As part of this program Chatham County regulates land use within the protection zone. Some of the prohibited uses include the storage or use of hazardous substances and underground storage tanks. As part of this program, Chatham County will maintain an inventory of all public wells, and activities occurring within the associated protection zones.

### **3.3.2.5. Public Reporting Procedures**

#### **Citizen Complaint Program**

Chatham County has procedures for encouraging and addressing citizen complaints about water quality. As the program is currently implemented, both the Engineering and Public Works Departments receive complaint calls from Citizens regarding water quality concerns. Both departments are also responsible for responding to complaints depending on the nature of the complaint within three days. Generally, Public Works is responsible for responding to complaints that require system maintenance. If structural engineering may be required, the Department of Engineering will inspect the site, and oversee the complaint response. The Department of Engineering is also responsible for responding to E&S complaints.

The Public Works Department currently maintains a computerized database (Cartegraph) that is used to generate work orders related to the complaint and map the address where the problem was reported. Caller information, description of the complaint, and actions taken by the Public Works staff to address the complaint are recorded in this database. The Department of Engineering maintains its own log of complaints.

In order to promote the Citizen Complaint Response Program and to encourage citizens to report water quality violations, Chatham County advertises the appropriate complaint reporting numbers on the local cable access channel and in promotional materials. The Public Works web page has a link for reporting drainage issues and illegal dumping.

#### **Stormwater Management Webpage**

The MPC administers a public education program on behalf of Chatham County, which includes a website that provides information to promote, publicize and facilitate public reporting of illicit discharge.

The County Public Works Department also maintains a website where citizens can report all drainage system issues including illicit discharges <http://publicworks.chathamcounty.org/>. Once

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complaints are received by the Public Works department they are immediately investigated and logged into the work order system.

## **3.3.2.6. Proper Management & Disposal of Used Oil & Toxic Materials**

### **Recycle Rama**

The MPC coordinates an annual “amnesty day” for hazardous household materials for all citizens of Chatham County. Materials accepted at this event include paint, used oil, batteries, old computers, Goodwill items, cans, glass, newspaper, etc. The event is promoted through one or more of the following methods: local television commercials, radio advertisements, local newspaper advertisements, and posters. All materials collected are recycled or disposed of properly.

### **Household Hazardous Material Education Program**

The MPC maintains an inventory of local sites that will accept waste oil, household hazardous materials and recyclables from the general public on their public education website. Both the Chatham Emergency Management Agency (CEMA) and the Local Emergency Planning Committee (LEPC) also have information on their websites to help citizens of Chatham County dispose of hazardous household waste properly.

### **Recycling Centers**

Chatham County has a Resource Conservation Center with the following program goals:

- Implement public education and outreach programs related to resource conservation, solid waste, recycling, waste reduction, yard waste, and litter programs.
- Develop programs and initiatives which will reduce solid waste through advertising, Public Services Announcements, special promotional campaigns, brochures, and hand-outs in order to increase public awareness and participation in waste reduction and resource conservation initiatives.
- Plan events, programs, and special out-reach community workshops on a monthly basis in order to fully utilize the Resource Conservation Education Center and increase the community’s awareness of the Center and what it offers.

This Center is also the headquarters for recycling in Chatham County. The following items are accepted at the Resource Conservation Education Center:

- Cardboard
- Used Eye Glasses
- News Paper
- Used Motor Oil

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- Magazines
- Office Paper
- Scrap Metal
- Cans (Cleaned soup or food)
- Plastics 1 & 2 (clear bottle, Milk Jug, & Detergent bottle)
- Glass (Brown, Clear, Green) Sorted
- Used Cooking Oil
- Lead Acid Batteries
- Rechargeable Batteries
- Old CD's
- Used Ink & Toner Cartridges
- Electronics (NO TVs)
- Mobile phones

Chatham County operates and maintains two additional recycling centers where citizens of the County can bring aluminum cans, glass, cardboard, newspapers, junk mail, and yard debris to be recycled. The centers are open to all citizens of the County and operate six days per week. Chatham County advertises these centers through the County website, the local yellow pages, and the Chatham County government access channel.

## **Yard Waste Mulching Program**

Chatham County operates a yard waste recycling program for all residents in unincorporated Chatham County. Yard waste is picked-up curbside on a weekly basis. The yard waste is then brought to the recycling centers for mulching. The mulch is available free to all residents of the County six days per week.

## **Bulk Trash Pickup**

Chatham County operates a monthly pickup of bulk trash items. Items are disposed at local landfills according to the rules and regulations of those facilities.

### **3.3.2.7. Sanitary Sewer Infiltration Controls**

#### **Sanitary Sewer Spill Response Plan**

Chatham County operates only a small land application system for wastewater treatment at Pine Barren Subdivision. However, the County is responsible for maintaining the sanitary lines that deliver the vast majority of sanitary sewage to the City of Savannah for treatment. In order to prevent and respond to sanitary sewage spills, the County Public Works Department has developed a Sanitary Sewer Spill Response Plan. The response plan details the procedures for notifying the proper authorities and the public. The information to be reported is also detailed. For more detailed information, please see Appendix A.

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## **Sanitary Sewer Inspection & Maintenance Program**

The Public Works Department has a program to respond to complaints, inspect, and maintain the sanitary sewer distribution system as needed to prevent any sanitary sewerage from reaching the storm drainage system. Inspections of the sanitary sewer system are conducted and maintenance performed, as needed, based on the inspections. This program includes the following activities:

- Regular lift station inspections and maintenance;
- Sanitary sewer line inspection procedures, priorities, and schedule;
- Priority list of problem lines in need of structural maintenance including re-lining; and
- Complaint response procedures.

## **Septic System Education Program**

The MPC has educational materials developed by UGA Cooperative Extension Service designed to educate homeowners on proper septic system installation and maintenance. These materials are made available to the County for distribution at County buildings or to residents upon request. The Chatham County Health Department also has brochures to distribute as appropriate as they inspect new and failing septic systems in unincorporated Chatham County.

## **Septic System Inspection Program**

The Chatham County Health Department is legally responsible to inspect septic systems in unincorporated Chatham County during construction to ensure proper design. Chatham County Health Department will also inspect existing septic systems if there are any indications of failure including complaints, odor, high fecal coliform levels detected during dry weather screening or other sampling, etc. If the Health Department discovers a malfunctioning septic system, it will require the owner to have the system pumped and otherwise maintained as necessary.

### **3.3.2.8. IDDE Employee Training**

Chatham County staff involved in IDDE are properly trained and educated. Staff must receive training and education within twelve months of hire. In order to stay current on industry standards and practices, staff must receive professional development training each year thereafter.

## **3.3.3. Industrial Facility Storm Water Discharge Control**

Industrial facilities have the potential to severely impact receiving waters through a MS4. Consequently, an effective SWMP should include an organized program for monitoring and controlling pollutants originating from such facilities. This program includes a systematic approach, outlining the procedures for inspections and the controls to be implemented to prevent pollutants from contacting stormwater runoff.

### **3.3.3.1. Industrial Facility Inventory**

Chatham County maintains an inventory of industrial facilities that discharge to the MS4. This inventory is based on the Georgia Manufacturers Directory, EPD's NPDES Industrial Stormwater permittee list, and EPA's Toxic Release Inventory. This inventory is included in Appendix B. The inventory generally contains the following information: name of facility, street address, type of operation, and Standard Industrial Classification (SIC) code or North American Industrial Classification System (NAICS) code (where known). Chatham County will continue to modify and update this list as new facilities open, old facilities close or when inspection indicates the facility does not discharge to the MS4. Chatham County will submit any changes to the inventory in the following Annual Report.

### **3.3.3.2. Inspection Program**

The Department of Engineering is responsible for conducting stormwater inspections of industries on the industrial inventory list. Inspections are performed annually according to the following procedures:

- First determine whether the industrial facility discharges to the County MS4. If the facility does not discharge to the County MS4, remove it from the Industrial Facility Inventory.
- Check to ensure that the facility has submitted an NOI to be covered under the NPDES Industrial General Permit, if it is required.
- Perform a cursory review of the implementation status of the associated Stormwater Pollution Prevention Plan (SWP3).
- Inspect according to the Inspection Checklist.
- Should an inspection reveal a potential threat to water quality in the MS4, notify the industry or business, provide them with a copy of the inspection checklist, and perform a re-inspection to ensure that all necessary corrections were made.

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- Notify the EPD if assistance is needed for enforcement or if there is a threat to Waters of the State.

The County maintains records of inspections results, problems found, and actions taken. Documentation of these inspections will be submitted each year with the Annual Report. An inspection checklist is included in Appendix B. The County will perform inspections in accordance with the schedule shown below.

Table 7: Unincorporated Chatham County Industrial Inspection Schedule

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
<b>% Industrial Facilities Inspected Annually</b>	5%	5%	10%	15%	20%
	3	3	6	9	11

Note: The exact number of industries to be inspected will be based upon the most recent industrial inventory and is therefore subject to change.

### **Facility Monitoring Program**

In order to monitor industrial facilities discharging to the Chatham County MS4, County staff will continue to operate the Industrial Stormwater Inspections Program in accordance with Section 3.3.3.2. Chatham County may elect to perform priority pollutant sampling at the facility outfall, as described in the CFR 126.26.

### **3.3.3.3. Enforcement Procedures**

The County requires industrial developers to comply with the Stormwater Management Ordinance, which governs post-development stormwater management practices for new development and redevelopment. Stormwater must be managed on industrial project sites to address water quality and water quantity issues in accordance with the County's Stormwater Management Ordinance. The site plan for stormwater management must be reviewed by a Georgia-certified Professional Engineer and approved by the County before a Land Disturbing Activity (LDA) Permit is issued and construction can begin.

If evidence is found during the inspection process that activities on-site are contributing to pollution in the MS4, the site owners will be notified of the violation. Site owners/operators will be given a specific time period, proportional to the violation, in which to correct the problem. If the problem is not corrected, enforcement actions, as described in the Enforcement Response Plan (Section 3.3.6), will be taken.

### **3.3.3.4. Educational Activities**

Chatham County distributes written educational materials to facility operators during facility inspections. Such materials include information regarding BMPs and NOI requirements.

### **3.3.3.5. Industrial Facility Municipal Employee Training**

Chatham County staff involved in industrial facilities inspections is properly trained and educated. Staff must receive training and education within twelve months of hire. In order to stay current on industry standards and practices, staff must receive professional development training each year thereafter.



## **3.3.4. Construction Site Management Program**

### **3.3.4.1. Legal Authority**

Chatham County is a Local Issuing Authority for LDA Permits as defined by the GESA. The new model Soil Erosion and Sedimentation Ordinance, as written and distributed by EPD, was adopted July 2010. Accordingly, the County Department of Engineering administers the programs described below in accordance with the responsibilities related to being a Local Issuing Authority. EPD has taken the position that any program in compliance with the regulations of GESA will also be considered in compliance with those requirements of the NPDES MS4 program that relate to E&S.

### **3.3.4.2. Site Plan Review Procedures**

#### **Development Review Coordination**

The Chatham County Department of Engineering hosts weekly development review coordination meetings for appropriate County staff, MPC staff, and developers. These meetings bring together all parties who must approve site plans, stormwater management plans, landscaping plans, and E&S control plans before a LDA Permit is issued. Developers are invited to attend so that they can participate in the discussion and receive technical assistance regarding their site plan, if warranted. The coordination meeting is designed to streamline the development review process, and ensure that all applicable requirements and regulations are met including the E&S Control Ordinance, Stormwater Management Ordinance, Zoning Ordinance, LDA Ordinance, and Section 404 permit regulations.

#### **Plan Review**

Department of Engineering staff reviews ESCPs, stormwater management plans, and landscaping plans for compliance with the E&S Control, Stormwater Management, and LDA Ordinances to ensure the proposed sedimentation and erosion plan, post-construction stormwater control measures, and future landscaping will effectively reduce pollutants entering the MS4. Stormwater management site plans must also comply with the Engineering Policy. If necessary, staff makes site-specific recommendations on the type of control structures to use, depending on the location and impact the project would have on the surrounding area and receiving waters. Staff utilizes a checklist for plan review to ensure that all applicable regulations and requirements are satisfied. The checklist is included in Appendix F. ESCPs must be designed according to standards set forth in the Georgia Erosion and Sedimentation Control Manual. Post construction runoff controls must be designed in accordance with the Engineering Policy Manual. The Department of Engineering sets standards for landscaping plans in the LDA Manual. ESCPs are sent to Natural Resources Conservation Service (NRCS) who performs

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reviews locally for official approval. The ESCP must be approved by NRCS and returned to the County before the Department of Engineering issues a LDA Permit.

## **Land Disturbing Activities Permit**

All developers are required to comply with the Chatham County E&S Ordinance and obtain a Land Disturbing Activities (LDA) Permit prior to the start of any land disturbing activities that will disturb more than 2,500 square feet within the unincorporated County. The local ordinance includes a requirement that a County-approved ESCP and stormwater management and landscaping plan are included with the LDA application. For land disturbance activities equal to or greater than 1 acre or within 200 feet of state waters, NRCS approval of the ESCP is also required. These plans must meet the requirements of GESA and Chatham County's E&S Control, Stormwater, and LDA Ordinances, which include the requirement to control turbidity in the site runoff, control impacts on receiving streams, protect natural vegetation, and ensure the implementation of the minimum pollution control measures.

The Department of Engineering uses permitting database software, LDO, to track the number of plans reviewed and permits issued each year. A list of site plans received and the number of plans reviewed, approved and denied each year will be submitted with each annual report. The total number of LDA permits issued each year will also be submitted with each annual report.

### **3.3.4.3. Construction Site Inspection Program**

The Chatham County Department of Engineering is responsible for the inspection program that targets all construction projects within the unincorporated County. The inspections include checking all E&S control measures for compliance with the approved ESCP and LDA Permit. Post-construction controls under construction are also checked for compliance with approved stormwater plans. The E&S Control Ordinance provides authority for such inspections. If, upon inspection, a construction site is found to be in non-compliance with its approved E&S plan, LDA permit, and the minimum requirements of the E&S Control Ordinance, the Department of Engineering will be responsible for enforcing the provisions of the E&S Control Ordinance.

Inspections are conducted in accordance with the following procedure:

- The County must receive certification by the developer and then verify that all E&S BMPs are installed prior to issuance of an LDA Permit. Once a site is under construction monitor it on a regular basis until the site is stabilized. Inspections during the construction process are prioritized as follows:
  - Following a significant rain event
  - Evidence of poor housekeeping

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- History of poor compliance
- Evidence of absent or malfunctioning controls
- Proximity to local waterways
- Inspections will also address potential sources of pollutants other than sediment, including petroleum products, litter, and construction debris.
- If a site is found to be in violation of the County's E&S Ordinance, the County will notify the site operator. The site operator will then have five (5) days to correct said violation, unless an alternative schedule is agreed to by both parties. Perform a follow-up inspection to verify that corrective measures were taken for previously documented deficiencies. If the follow-up inspection indicates the violation is not corrected, take action in accordance with the Enforcement Response Plan (Section 3.3.6).
- Conduct a final site inspection at all LDA Permit sites after land disturbing activities have ceased to ensure that the site is adequately stabilized and that all excess materials were removed.
- Complete an E&S Inspection Checklist during each site inspection. A log of all inspections, violations, and enforcement actions are kept by the Department of Engineering.

### **3.3.4.4. Enforcement Procedures**

The Department of Engineering follows enforcement procedures described in the Enforcement Response Plan (Section 3.3.6), when necessary. The enforcement response procedures for E&S violations include:

- For the first and second violations the County will issue a written warning to the violator. The violator will have five (5) days, or an alternative schedule agreed to by both parties, to correct the violation. If the violation is not corrected within the allotted time period, the County will issue a Stop Work Order.
- For a third and each subsequent violation, the County will issue an immediate Stop Work Order.
- All Stop Work Orders are effective immediately upon issuance and remain in effect until the necessary corrective action or mitigation has occurred.

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- If final stabilization is not achieved to the satisfaction of the Department of Engineering, the following actions are taken: 1) the certificate of occupancy is put on hold; 2) the start of the site infrastructure warranty period is postponed; 3) the bond is forfeited; and/or 4) there are monetary penalties.

### **3.3.4.5. Educational/Training Activities**

GESA requires all municipal/County employees involved with plan review, site inspections, or E&S Ordinance enforcement, as well as construction site operators, to undergo a training seminar by the GSWCC. Chatham County requires all construction site operators to provide evidence in their LDA Permit application that they have received this training. Evidence of certification must also be produced during an E&S inspection. Chatham County requires all applicable staff to receive this training as soon as possible after the start of their employment.

## 3.3.5. Highly Visible Pollutant Sources (HVPS)

### 3.3.5.1. HVPS Facility Inventory

The County maintains an inventory of commercial businesses and facilities that are considered to be highly visible sources of pollutants (HVPs). The County considers the following types of businesses to be HVPs:

- Auto Repair/Maintenance Facilities
- Gas Stations
- Landscape and Garden Related Businesses
- Pest Control Companies
- Car Washes
- Vet Offices/Kennels

The current inventory is included in Appendix F, and is updated annually based on changes to the business license database.

### 3.3.5.2. HVPS Inspection Program

The Department of Engineering is responsible for conducting stormwater inspections onsite at facilities on the HVP inventory list in accordance with the schedule below.

Table 8: HVP Inspection Schedule

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
<b>% HVP Facilities Inspected Annually</b>	5%	5%	10%	15%	20%
<b>Estimate Number of Facilities Inspected</b>	8	8	15	23	30

Note: The exact number of HVPs to be inspection is based upon the most recent industrial inventory and is therefore subject to change.

The standardized Site Stormwater Inspection checklist is used to record the inspection results. A database is maintained on all inspections, problems found, and actions taken. Documentation of these inspections will be submitted each year with the Annual Report.

### 3.3.5.3. Enforcement Procedures

If a violation of the Stormwater Management Ordinance is identified, County staff will notify the industry or business, provide them with a copy of the inspection checklist, and perform a re-inspection (if necessary) to ensure that any mandatory corrections are made. If the violation

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is not corrected Chatham County will take enforcement action as described in the Enforcement Response Plan (Section 3.3.6).

### **3.3.5.4. Educational Activities**

Each year the MPC will facilitate an educational event for one selected type of Highly Visible Pollutant (HVP) Source. The events will be designed to provide the businesses/industries with the information necessary to prevent stormwater pollution on-site. The MPC will organize the event, including educational materials, speakers, demonstrations, etc. The County will assist the MPC with promotion of the event to the appropriate HVP sources within unincorporated County. A summary of the event and any educational materials developed will be included in the annual report.

### **3.3.5.5. HVPS Municipal Employee Training**

All employees are properly trained. Staff must receive training and education within twelve months of hire. In order to stay current on industry standards and practices, staff must receive professional development training each year thereafter.

## **3.3.6. Enforcement Response Plan**

The Storm Water Management Ordinance, the Erosion, Sedimentation and Pollution Control Ordinance, and the Land Disturbing Activities Ordinance provide Chatham County with enforcement against potential impacts the MS4. Each ordinance has unique enforcement mechanisms. The Enforcement Response Plan, included in Appendix C, describes how each ordinance is enforced.

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## 3.3.7. Impaired Waterbodies Monitoring and Implementation Plan

The Impaired Waterbodies Monitoring and Implementation (IWMI) Plan is included in Appendix D. Waterways in unincorporated Chatham County that appear on the 2010 303(d) list for not meeting the standards of their designated use include Hayner’s Creek, the Ogeechee River, and the Savannah Harbor. The current listings are summarized in the table below. Those segments that have approved TMDLs are indicated in the table below.

Table 9: Impaired Waterways in Unincorporated Chatham County

Waterway (As Described by EPD)	Water Use Classification	Criterion Violated	Potential Cause	TMDL
Savannah Harbor (South of US 17)	Coastal Fishing	Dissolved Oxygen (DO)	Urban Runoff;  Municipal Facility	DO – Under Review
Hayner’s Creek (South of Montgomery Crossroad)	Fishing	FC; DO	Urban Runoff	FC – Pending EPD Approval  DO - Yes
Ogeechee River (Black Creek to Richmond Hill)	Fishing	Fish Consumption Guidelines (Mercury)	Non-point Source/Unkn own	Yes
Little Ogeechee River (Ogeechee Run to Little Ogeechee Pond)	Fishing	DO	Urban Runoff	No
Little Ogeechee River (Little Ogeechee Pond to below US HWY17 near Burroughs)	Fishing	FC; DO	Urban Runoff	FC – Yes  DO - Yes
Pipemakers Canal (Dean Forrest Rd to Savannah River)	Fishing	FC	Urban Runoff	No



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Note: Savannah Harbor had a FC TMDL established in 1999, however this waterbody was removed from the Georgia 303 (d) List of Impaired Waters in 2006.

This SWMP includes a number of BMPs designed to address the impaired waterways within unincorporated Chatham County. While only certain waterways in Chatham County are listed as impaired, these BMPs will be implemented throughout the entire unincorporated area. The table below summarizes these BMPs.

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Table 10: BMPS to Address Impaired Waterways in Unincorporated Chatham County

BMP	Description	Water Quality Parameters Addressed
<b>3.3.4.3 Erosion &amp; Sedimentation Control Inspections</b>	Chatham County inspects all land disturbing activities to prevent erosion and sediment from entering local waterways.	Mercury, DO, FC, Dieldrin
<b>3.3.5 Highly Visible Pollutant Inspections</b>	Chatham County has added vet offices and dog kennels to its list of HVPs to be inspected.	FC, DO
<b>3.3.2.7 Sanitary Sewer Spill Response Plan</b>	Chatham County has developed a sanitary sewer spill response plan to address sanitary sewer overflows	FC, DO
<b>3.3.2.7 Sanitary Sewer Inspections</b>	Chatham County inspects and maintains its sanitary sewer system to prevent discharges to the MS4	FC, DO
<b>3.3.2.3 Dry Weather Screening</b>	Chatham County will perform stream walks to search for potential illicit discharges.	FC, DO, Mercury
<b>3.3.2.7 Septic Tank Inspections</b>	Chatham County Health Department performs inspection of septic systems prior to operation and when there is evidence of failure.	FC, DO
<b>3.3.1.4 Roadway Maintenance</b>	Chatham County operates a street sweeper to remove organic materials from the streets and drainage system.	DO
<b>3.3.10 Post Construction Stormwater Management Control Requirements</b>	Chatham County has requires all new development to meet the requirements of the GSMM and CSS.	Fecal, DO

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## **3.3.8. Public Education**

Chatham County contracts with MPC to implement a stormwater education program on behalf of the County. Should this contract not be renewed for any reason, the County shall be responsible for implementation of the educational programs (or their equivalent) as listed below.

### **MPC Natural Resources Website (Reviewed and Updated Annually)**

The MPC maintains a website devoted to educating the public about water resource issues including stormwater pollution impacts and prevention. The web address is [www.mpcnaturalresources.org](http://www.mpcnaturalresources.org). This site contains a wealth of information on various stormwater topics including:

- Erosion & Sedimentation Control/How to Conserve Natural Resources on Construction Sites Manual
- Green Infrastructure Practices/Coastal Stormwater Supplement
- Proper Disposal of Household Hazardous Waste
- Education on Illegal Dumping
- Contact number(s) to Report Water Quality Violations
- Proper application, storage, and disposal of landscape chemicals
- Tips on How to Prevent Stormwater Pollution
- Waterspout E-Newsletter Issues
- Stormwater Video/PSAs
- Educational Presentations on Stormwater Issues

The MPC will review the website for any necessary changes once per year.

### **Waterspout E-Newsletter (Produced Quarterly)**

The MPC produces a quarterly e-newsletter dealing with water resource issues and advertising local educational and outreach opportunities and events. Topics addressed within the newsletter include: proper disposal of household hazardous waste; contact number(s) for citizens to report water quality violations; proper application, storage, and disposal of landscape chemicals; impacts of stormwater pollution and tips for stormwater pollution

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prevention. MPC emails this newsletter to County staff and elected officials as well as local school representatives, and MPC makes it available on the website for easy public access.

The newsletter is produced quarterly. Chatham County will submit a copy of each quarterly newsletter in the annual report.

## **Stormwater Video/PSA**

The MPC created an educational video to educate the public about stormwater issues including flooding, runoff, pollution prevention, etc. This video and other videos about stormwater issues is played on Chatham County and City of Savannah Public Access channels which are regularly viewed by local residents. This video is also available on the MPC website. It was also distributed free of charge by the MPC to all schools & universities within Chatham County for their use in the classroom.

Chatham County will play the video on the Public Access Channel at least once per year. The annual report will include the date of the annual airing.

## **Household Hazardous Material Education Program**

The MPC maintains a list of locations where household hazardous materials can be disposed. This list is available on the MPC website. The MPC also provides educational materials on proper disposal of household hazardous waste materials at public outreach events, including the Earth Day Festival. Educational materials are available to the County for distribution at County facilities.

## **Septic System Education Program**

The MPC purchased a display and brochures from the UGA Cooperative Extension Service for the purpose of septic system education. This display is exhibited by MPC at outreach events, including the Earth Day Festival. Brochures are available at all outreach events are available for distribution at County facilities.

The MPC will exhibit the display during at least one public event each year. The annual report will include a description of the event each year.

## **Public Involvement**

Chatham County provides multiple opportunities for citizens to participate in stormwater management. Those opportunities include:

### **Recycle-RAMA**

The MPC works with the L.E.P.C. to coordinate an annual “amnesty day” for the proper disposal and/or recycling of hazardous household materials. Materials accepted at this event will generally include paint, used oil, batteries, electronics, Goodwill items, etc. MPC will promote

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this event through one or more of the following methods: local television commercials, radio advertisements and local newspaper advertisements.

The MPC will advertise for the event using at least one form of outreach (TV, posters, etc.) material each year. The annual report will include a description of the advertisement method each year.

### **Storm Drain Marking**

The MPC coordinates the Storm Drain Marking program where storm drains are marked with Duracast tiles containing the message, “No Dumping – Drains to Waterway.” In neighborhoods where drains are marked, a door hanger is placed on the front doors of houses to educate residents about the impacts of illegal dumping. This public information tool describes the program, provides tips to the public on steps they can take to prevent stormwater pollution, and lists the MPC Complaint Contact Number for any questions or water quality violations. The MPC provides the tiles, glue, and informational brochures to local volunteer groups or County staff who will be marking tiles. MPC advertises this program opportunity on their website, and will work with the County to mark new/ unmarked catch basins within the municipal jurisdiction.

The Chatham County Engineering Policy was revised to require all new inlets to be marked with “No Dumping- Drains to Waterway” tiles. All new inlets will be marked at the time of construction.

### **Adopt-A-Stream**

The MPC serves as the Chatham County contact for the Adopt-A-Stream (AAS) program and works to promote this volunteer monitoring program as well as Adopt-A-Wetland (AAW). MPC has information about both programs as well as contact information for citizens interested in participating. MPC advertises local AAS/AAW events and training workshops in the Waterspout newsletter. When funding is available, the MPC will continue to purchase monitoring kits and provide them to volunteer groups who adopt a local water body.

The MPC will advertise the training events at least once per year via email, website or newsletter and will report on this in the annual report.

## 3.3.9. Post-Construction

### **3.3.10 (a) Post-Construction Stormwater Control**

Chatham County amended its Stormwater Management Ordinance in 2007 to include the post construction runoff control requirements recommended in the Georgia Stormwater Management Manual (GSMM), and any of its adopted addenda including the Coastal Stormwater Supplement (CSS). The Stormwater Management Ordinance requires a Stormwater Management Plan (SWMP) to be submitted and approved for all development activity that is required to have a permit for land disturbing under the provisions of the Land Disturbing Activities Ordinance, Flood Damage Prevention Ordinance, or Soil Erosion and Sedimentation Control Ordinance. The ordinances are included in Appendix F. A permit is required if the total land disturbance will exceed 2,500 square feet. The plans must include provisions that limit the post-development peak runoff rate to the peak pre-development runoff rate, unless discharges are direct to open tidal waters. The ordinance also dictates that SWMP must address the following minimum criteria:

- Better Site Design (As defined in the GSMM)
- Stormwater Runoff Quality
- Stream Channel Protection
- Overbank Flood Protection
- Extreme Flood Protection
- Upstream and Downstream Hydrologic Analysis
- Groundwater Recharge
- Post Construction Maintenance & Operation

If a development is to be completed in phases, a conceptual plan must be created for the overall development and a specific stormwater management plan must be created for each phase.

The County adopted, by reference in the Stormwater Management Ordinance, the GSMM, and any of its current or future addendums including the CSS. These manuals include 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 I MS4 Permit. The GSMM and CSS offer BMP recommendations specific to coastal drainage conditions including high water tables, large tidal ranges and unique terrestrial habitats of coastal Georgia. These

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manuals expand post-construction stormwater management efforts to include prevention, as opposed to just mitigation, of the negative impacts of the land development process. The County provides guidance, through adoption of this manual on an integrated green infrastructure based approach to natural resource protection, stormwater management and site design.

### **3.3.10 (b) Green Infrastructure/Low Impact Development**

Chatham County performed an assessment of development related ordinances to determine if there are any obstacles to smart growth and a green infrastructure approach to stormwater management. The County utilized the checklist developed by the Center for Watershed Protection to perform the assessment. The completed checklist is included in Appendix E. Chatham County scored 65 of a possible 100 points, which means development rules are inadequate to protect local aquatic resources. Chatham County identified opportunities for improving ordinances and standards to protect aquatic resources. Table 11, below describes those opportunities. Chatham County noted opportunities to improve the score to 81, which means the development rules will be “pretty good”.

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Table 11: Green Infrastructure Code & Ordinance Review Opportunities for Improvement

Development Feature Identified as Deficient	Points Gained	Ordinance to Update
Are parking requirements set as maximum or median (rather than minimum)?	2	Zoning Ordinance
Are model shared parking agreements provided?	1	Zoning Ordinance
Are parking ratios reduced if shared parking arrangements are in place?	1	Zoning Ordinance
Is the parking ratio reduced if mass transit is provided nearby?	1	Zoning Ordinance
Are at least 30% of the spaces at larger commercial parking lots required to have smaller dimensions for compact cars?	1	Zoning Ordinance
Are there incentives for providing parking within garages rather than surface parking lots?	1	Zoning Ordinance
Can alternate pedestrian networks be substituted for sidewalks?	1	Zoning Ordinance
Are allowable and unallowable uses for open space in residential developments defined?	1	Zoning Ordinance
Is buffer expanded to include freshwater wetlands, steep slopes or the 100-year floodplain?	1	Soil Erosion and Sedimentation Control Ordinance
Are forests or specimen trees required to be preserved at residential development sites?	2	Land Disturbing Activities Ordinance
Are there incentives to conserve non-regulated land?	2	Land Disturbing Activities Ordinance
Is flexibility to meet regulatory or conservation restrictions offered?	2	Zoning Ordinance
<b>Total Points</b>	<b>16</b>	