
Sanitary Sewer Overflow Contingency and Emergency Response Plan

Capacity, Management, Operations, and Maintenance Program

October 2018



DeKalb County
G E O R G I A



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Acronyms

APWA	American Public Works Association
AWWTF	Advanced Wastewater Treatment Facility
BMP	Best Management Practice
C&M	Construction and Maintenance
CCTV	Closed Circuit Television
CDPMT	Consent Decree Program Management Team
CERP	Contingency and Emergency Response Plan
CMMS	Computerized Maintenance Management System
CMOM	Capacity, Management, Operations, and Maintenance
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DWM	Department of Watershed Management
ECMS	Engineering and Construction Management Services
EPA	U.S. Environmental Protection Agency
EPD	Georgia Environmental Protection Division
FOG	Fats, Oil, and Grease
GAWP	Georgia Association of Water Professionals
GIS	Geographical Information System
GUPC	Georgia Utility Protection Center
GWEF	Georgia Water Environment Federation
I/I	Infiltration/Inflow
KPI	Key Performance Indicator
MNGWPD	Metropolitan North Georgia Water Planning District
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works
QA/QC	Quality Assurance/Quality Control

SOP	Standard Operating Procedure
SR	Service Request
SSO	Sanitary Sewer Overflow
WCTS	Wastewater Collection and Transmission System
WO	Work Order
WQC	Water Quality Control

Definitions

“Building Backup” shall mean a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the WCTS; provided, however, that a wastewater backup into a building that is caused by a blockage or other malfunction of a Private Lateral, or other piping or conveyance system that the County does not own or operate is not a Building Backup.

“Bypass” shall have the meaning set forth at 40 C.F.R. § 122.41(m).

“County” shall mean DeKalb County, Georgia.

“Downstream User” shall mean any county, municipality or other public agency whose public water supply is located within a distance of 20 miles downstream of a spill.

“EPA” shall mean the United States Environmental Protection Agency and any of its successor departments or agencies.

“EPD” shall mean the Georgia Department of Natural Resources, Environmental Protection Division.

“Excessive Infiltration/Inflow” or “Excessive I/I” as defined by 40 C.F.R. § 35.2005(b)(16) shall mean the quantities of infiltration/inflow which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow.

“Force Main” shall mean all sanitary sewer lines that operate under pressure due to pumping of sanitary wastewater at a lift station except for those sanitary sewer lines that serve a private lift station or a single structure or building.

“Gravity Sewer Line” shall mean a pipe that receives, contains and conveys wastewater not normally under pressure, or head, but is intended to flow unassisted under the influence of gravity.

“I/I” shall mean Infiltration and Inflow.

“Infiltration” as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a sanitary sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes.

“Inflow” as defined by 40 C.F.R. § 35.2005(b)(21) shall mean water other than wastewater that enters a sanitary sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, manhole covers, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm water, surface runoff, street wash waters, or drainage.

“Major Gravity Sewer Line” shall mean Gravity Sewer Lines which are eighteen (18) inches or greater in diameter.

“Major Lift Station” shall mean a lift station that has at least one mechanical pump with greater than 99 horsepower and a force main diameter of six (6) inches or greater.

“Major Spill” shall mean any discharges of raw sewage that is in excess of 10,000 gallons or results in water quality violations in the waters of the State such as a fish kill, etc., but not including other discharges from a point source that is specified in the NPDES Permits.

“NPDES Permits” shall mean the most recently issued National Pollutant Discharge Elimination System Permits issued to the County for the Pole Bridge AWWTF and the Snapfinger AWWTF.

“Overflow” shall mean a release of wastewater from the WCTS, or from an AWWTF caused by problems in the WCTS, that does not reach waters of the United States or the State.

“Private Lateral” shall mean that portion of a sanitary sewer conveyance pipe, including that portion in the public right of way, that extends from the wastewater main to the single-family, multi-family, apartment or other dwelling unit or commercial or industrial structure to which wastewater service is or has been provided.

“Private Spill” shall mean a spill that is from a private system not controlled, owned, or originating from County sewer line. This includes the portion of the individual building sewer connection from the property line cleanout or other authorized connection point typically located at the property line or easement.

“Public Document Repository” shall include the County’s Watershed Management Administration Building located at 1580 Roadhaven Drive, Stone Mountain, Georgia 30083; the County’s website (www.dekalbwatershed.com); or any other place agreed upon in writing by EPA/EPD.

“R’ Value” shall mean the fraction (sometimes reported as a percentage) of rainfall falling within a given sewershed area that enters a sanitary sewer collection system as rainfall dependent I/I.

“Sanitary Sewer Overflow” or “SSO” shall mean all Spills, Overflows, and Building Backups.

“Service Request” or “SR” shall mean the initial form generated in the County Computerized Maintenance Management System (CMMS) to capture caller details, problem address, problem description and problem resolution information.

“Sewershed” shall mean the subdivisions of the County’s WCTS containing sewers that are primarily hydraulically linked.

“Spill” shall mean a discharge of wastewater from the WCTS, or from an AWWTF caused by problems in the WCTS, which reaches waters of the United States or the State, including a prohibited Bypass, but not including other discharges from a point source that is specified in the NPDES Permits.

“State” shall mean the State of Georgia.

“Wastewater Collection and Transmission System” or “WCTS” shall mean all wastewater collection and transmission systems, including all pipes, lift stations, Force Mains, Gravity Sewer Lines, manholes and other appurtenances thereto which are owned or operated by the County, except for those portions of a system or systems for which another entity is legally responsible for maintenance.

“Advanced Wastewater Treatment Facility” or “AWWTF” shall mean devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage. For purposes of this Consent Decree, this definition includes the following facilities owned, managed, operated, and maintained by the County: the Pole Bridge Creek AWWTF and the Snapfinger AWWTF.

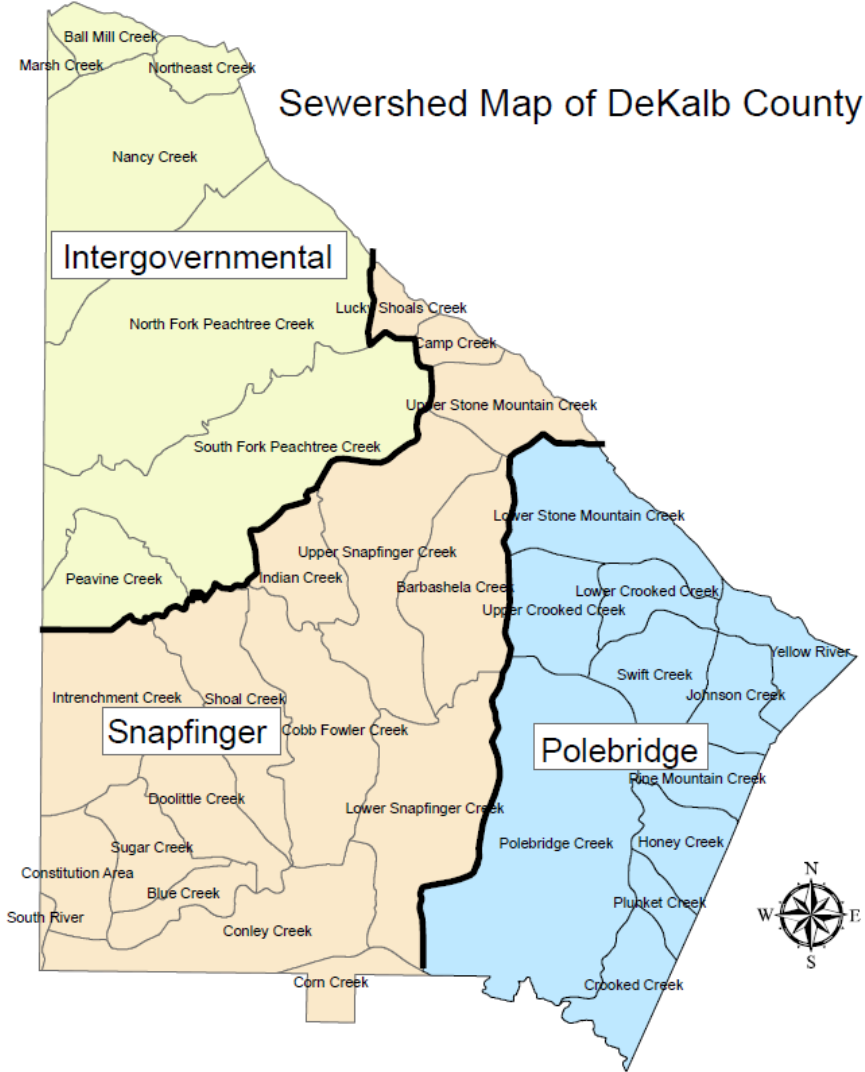
“Water” or “Waters of the State” shall mean any and all rivers, streams, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, and all other bodies of surface or subsurface water, natural or artificial, lying within or forming a part of the boundaries of the State which are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

1. Introduction

1.1 Overview

The DeKalb County Department of Watershed Management (DWM) wastewater collection and transmission system (WCTS) consists of two wastewater treatment plants [Snapfinger Advanced Wastewater Treatment Facility (AWWTF) and Pole Bridge AWWTF], approximately 2,600 miles of gravity lines, force mains, 63 lift stations, and 70,000 manholes. DeKalb County's WCTS is divided into three sewer basins: Inter-Governmental, Snapfinger, and Pole Bridge. Each of these sewer basins is further divided into multiple sewersheds. There are a total of 35 sewersheds within DeKalb County, as depicted in **Figure 1-1**.

FIGURE 1-1
DeKalb County's Sewersheds



This Sanitary Sewer Overflow (SSO) Contingency and Emergency Response Plan (CERP) presents a strategy for DeKalb County DWM to mobilize labor, materials, tools, and equipment to respond to and appropriately remedy any conditions which may cause or contribute to a SSO. DWM considered a wide range of potential system failures that could create an SSO to develop a plan that proposes a corresponding response to the system failures. A SSO receives the highest priority response within the DeKalb County DWM operations.

The SSO CERP is divided into six sections and includes procedures to expediently notify and protect the health and welfare of the potentially affected public and the environment and to comply with the Georgia Environmental Protection Division (EPD) Rules and Regulations for Water Quality Control Chapter 391-3-6-.05 (Appendix A). The following lists the six sections and summarizes the focus of each section:

1. Introduction
 - a. Purpose.
 - b. Regulatory Drivers.
 - c. Overview of DWM's roles and responsibilities.
 - d. Flowcharts detailing the types of SSOs and the response process.
2. Occurrence of SSO and Field Response Activities
 - a. How DWM becomes informed of a SSO.
 - b. Rapid dispatch of personnel and equipment to expediently respond to and cleanup all SSOs and for minimizing any further adverse impact to human health or the environment.
 - c. Gathering overflow and building backup information required to be included in Quarterly SSO Reports to Environmental Protection Division (EPA)/EPD.
 - d. Minimize, where feasible and appropriate, utilizing conventional wastewater bypass equipment and materials, the volume of untreated wastewater transmitted to the sewer pipe directly involved in a SSO.
3. Public Notifications and Agency Reporting
 - a. Expedient notice to the public potentially affected by a SSO.
 - b. Limiting public access to and contact with areas affected by a SSO.
 - c. Providing timely notice to EPD and other appropriate State and local agencies of the occurrence of SSOs, consistent with the State's Rules and Regulations for Water Quality Control and National Pollutant Discharge Elimination System (NPDES) Permits.
 - d. Reporting, where appropriate and if otherwise required by law, to appropriate federal agencies of the occurrence of SSOs.
4. Monitoring and Reporting
 - a. Monitoring, sampling and analysis, and program reporting consistent with the State's Rules and Regulations for Water Quality Control and the NPDES Permits, to determine the level of fecal coliform bacteria, pH, temperature, and dissolved oxygen in the receiving waters immediately following a spill.

5. Investigation, Assessment and Mitigation
 - a. An investigative approach for field personnel to determine the (1) the cause(s) of a SSO; (2) the extent of the problem through the inspection of the right-of-ways and manholes within a reasonable distance upgradient and downgradient for a minimum of one-eighth mile; and the likely recurrence of the problem at the location of the SSO through appropriate inspections to establish that repairs were effective.
 - b. Methods and procedure the County shall use to assess and mitigate (including appropriate training) where feasible the potential likelihood of the cause of a SSO to occur elsewhere.
6. Training/Preparedness
 - a. Preparedness, including responsiveness training, of the County's employees and/or contractors necessary for the effective implementation of the CERP in the event of a SSO.

1.1.1 Purpose

The purpose of this document is to provide appropriate guidelines to respond to and address SSOs so as to implement a SSO CERP that will protect public health and the environment.

Goals of the SSO CERP are to:

- Protect public health and safety
- Achieve timely and expeditious response to reports of all potential SSOs
- Provide prompt containment of SSOs and effective clean up and remediation.
- Prevent adverse impacts to the environment, waters of the State, and their beneficial uses
- Prevent the re-occurrence SSOs

Objectives of the SSO CERP are to:

- Minimize adverse impacts of SSOs
- Perform corrective action in a timely manner
- Identify and implement measures to prevent the occurrence of preventable SSOs
- Achieve compliance with current regulatory requirements and NPDES permits
- Document and define procedures to address SSO response and remediation

1.1.2 Regulatory Drivers

The SSO CERP is a major component of a series of programmatic improvements intended to establish that the County meets its regulatory obligations under the Clean Water Act (CWA), the Georgia Water Quality Control Act and implementing regulations, the County's

NPDES permits, the Consent Decree and, as appropriate, the guidance documents from the Metropolitan North Georgia Water Planning District (MNGWPD).

SSOs to waters of the State have the potential of polluting the water and affecting the aquatic communities that are essential to preserving and protecting the natural life of streams and rivers. In addition, pollution caused by SSOs can render public water bodies temporarily unsafe for human consumption and contact.

The DWM Operations and Engineering and Asset Management Divisions collaborate strategically to comply with EPD regulations and NPDES permit requirements to effectively respond to SSOs in conjunction with the Capacity, Management, Operations, and Maintenance (CMOM) Coordinator. The procedures outlined in this document apply to all operations involving SSOs throughout DWM and to any contractors employed by DWM.

The following regulations, guidance, and references were consulted in development of this SSO CERP:

- Consent Decree – DeKalb County, Civil Action File No. 1:10-cv-4039-WSD
- CWA, 33 U.S.C. §1251 et seq. (1972) and subsequent amendments
- Georgia Water Quality Control Act, OCGA 12-5-20
- Georgia Rules and Regulations for Water Quality Control (391-3-6-.05) Emergency Actions
- Georgia River Basin Management Planning Act, OCGA 12-5-520
- Georgia Erosion and Sedimentation Act [amended 2003], OCGA 12-7-1
- Georgia Erosion and Sedimentation Rules and Regulations (391-3-7)
- U.S. Environmental Protection Agency (EPA) *Guide for Evaluating Capacity, Management, Operations, and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems*, 2005; *EPA Region 4 Guide to Collection and Transmission System Management, Operation, and Maintenance Programs* 2003
- Georgia Association of Water Professionals (GAWP) and Georgia Water Environment Federation (GWEF), *Guidance for the Georgia EPD Zero Tolerance Strategy, CMOM Consent Agreement Guidance*, 2006
- MNGWPD *Wastewater Management Plan*, 2009
- American Public Works Association (APWA) guidance, *Preparing Sewer Overflow Response Plans: A Guide for Local Governments*
- Code of DeKalb County, as Revised 1988; *Ordinance Number 35, Article IV, Number 25 – Discharge Regulations, Division 5*
- DWM *Potable Water Main, Gravity Sanitary Sewer, and Sanitary Sewer and Force Main Design Standards* (2009 Edition Version 1.0)
- DWM NPDES permits for Pole Bridge AWWTF (NPDES - GA0026816) and Snapfinger AWWTF (NPDES - GA0024147)

- DWM *Safety Manual*
- Georgia Utilities Protection Center (GUPC) Rules and Regulations (<http://www.gaupc.com>)

1.2 Roles and Responsibilities

The SSO CERP management is coordinated between the DWM Consent Decree Administrator, CMOM Coordinator, Operations, Engineering, and Finance Divisions. Periodic reviews of the CERP are conducted by the DWM Deputy Directors and Managers along with relevant DWM personnel to confirm that programs are up to date with current practices and activities. As appropriate, this periodic review could lead to additional training of DWM personnel and contractors intended to reinforce the practices outlined in the CERP. In addition, the SSO CERP is reviewed and updated when the County's NPDES permits are issued or revised.

The roles and responsibilities within DWM for responding to SSOs are shown in **Figure 1-2**. The SSO CERP process detailing departmental and managerial responsibilities is summarized below.

1.2.1 Director, DWM

The Director is responsible for DWM's overall SSO Response Program, and promotes compliance, reviews programs, establishes various programs, and assigns staff as required to ensure safe and compliant DWM operations.

The Director makes any necessary SSO Response Program changes; takes appropriate disciplinary action; signs reports as needed; supervises the Deputy Directors; and reports to the County's Deputy Chief Operating Officer, as well as State and Federal agencies as required.

1.2.2 Operations

The Operations Division includes plant operations, lift station operations, warehousing, as well as construction and maintenance activities (C&M). The Deputy Director of Operations as well as the Assistant Directors, Managers, Superintendents, Supervisors, Crew Leaders, and employees play active roles in implementing the CERP.

The Deputy Director of Operations and Assistant Directors as well as the Consent Decree Administrator are responsible for the portion of the CERP that includes promotion of DWM responsibilities, program development, program review, program and staffing augmentation, and administration of the CERP. The General Foreman, Assistant Superintendent, Superintendent and CMOM Coordinator review the SSO reports and investigations, and make recommendations to the DWM Deputy Director for any specific action. The Assistant Directors act for the DWM Deputy Director in his or her absence to ensure timely and continuous response.

The Document Control Coordinator and the CMOM Coordinator are responsible for all CERP record maintenance and retention.

Superintendents, Supervisors, and Crew Leaders are responsible for employee training in the principles of first response to SSOs, implementing the CERP, and maintaining a

compliant system. Superintendents, Supervisors, and Crew Leaders are responsible for ensuring that employees are active participants in any SSO response that requires their assistance and that such assistance is rendered in a timely manner.

Superintendents, Supervisors, and Crew Leaders actively participate in the CERP by taking part in training; reviewing the program; making suggestions for improvement; administering the proper SSO response; reporting work practices; record keeping; scheduling employees; ensuring employee attendance in training; securing and maintaining adequate SSO response equipment; performing job site inspections; and carrying out other duties as required to administer the CERP.

Employees are responsible for:

- Practicing safe and compliant work methods.
- Properly wearing and maintaining safety equipment, tools, and equipment.
- Attending and learning from training sessions.
- Reporting all SSOs and incidents immediately, not to exceed 24 hours, to the Dispatch Office.
- Promptly making notifications of active SSOs, not to exceed 24 hours, by the Dispatch Office employees.
- Quickly responding to and controlling SSOs to minimize public health and environmental impacts, and documenting details of the SSO on the appropriate forms.
- Properly storing, maintaining, and operating SSO response-related equipment and vehicles.
- Following all County, Department, and Division safety and regulatory compliance requirements.
- Asking for directions if there is ever any question regarding a site-specific SSO issue or concern.

1.2.3 Engineering and Construction Management Services

The Engineering and Construction Management Services Division (ECMS) provides technical assistance with sewer mapping, equipment analysis, capacity analysis, modeling, and engineering system reviews.

The Compliance Manager is responsible for reviewing changes in the rules and regulations governing the program, reviewing the portion of the CERP that includes lab analysis and evaluation, reviewing environmental impacts, reporting to EPD/EPA as required, enforcing DWM codes, and providing regulatory quality analysis and quality control.

1.2.4 Finance

The Finance Division provides that recommendations for equipment and programs within the CERP are fully funded. The Finance Division works with both Operations and

Engineering in performing long term capital projections to provide a properly functioning DWM and thus reducing the risk of SSOs.

1.2.5 CMOM Coordinator

The CMOM Coordinator is responsible for the overall management of the CMOM programs and specifically the CERP reporting and compliance. The CMOM Coordinator reports directly to the Consent Decree Program Administrator. The CMOM Coordinator manages the overall process in conjunction with all Divisions and groups that are or could be required to ensure the CERP goals and objectives are met. The CMOM Coordinator acts for the Consent Decree Program Administrator in his or her absence to ensure timely and continuous response. The Coordinator reviews SSO report actions or recommendations and elevates to supervisors as necessary.

The CMOM Coordinator Assistants are responsible for the overall quality assurance / quality control (QA/QC) management of the CMOM programs and data tracking. This position may also act as CMOM Coordinator in his or her absence.

The CMOM Coordinator and CMOM Coordinator Assistants are responsible for training required to effectively implement the CERP. They document SSO and track follow up actions required to resolve SSO.

1.2.6 Consent Decree Program Administrator

The Consent Decree Administrator is responsible for the overall management of the Consent Decree Program and reports directly to the Director of DWM. The CMOM Coordinator, CMOM Coordinator Assistants, and Consent Decree Program Management Team report directly to the Consent Decree Administrator. All program areas are reviewed for the Consent Decree objectives; including reports, meetings, and communications.

The Consent Decree Administrator is responsible for investigating sewer system capacity issues that could potentially affect the occurrence of future SSOs and for recommending actions that could reduce the number or volume of future SSOs. This role drives the quality assurance/quality control portion of the CERP and ensures that best practices are implemented.

FIGURE 1-2
 Summary Flow Chart of DWM Roles and Responsibilities



FIGURE 1-3
Summary of Actions Based on SSO Type

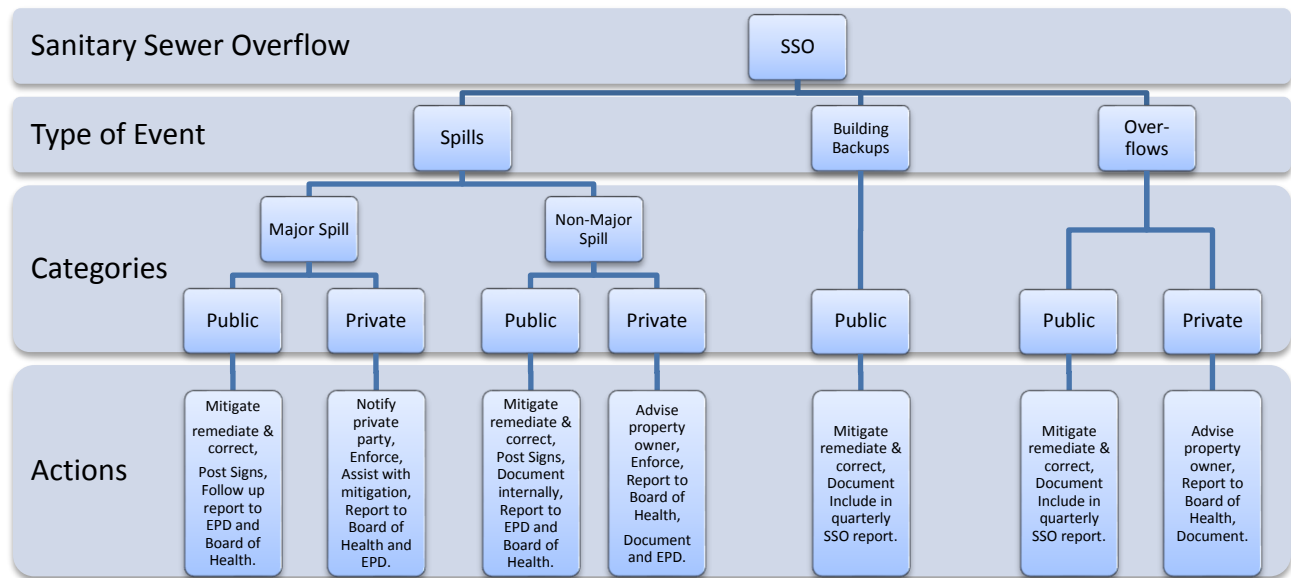


Figure 1-3 above provides a summary flow chart of response actions based on SSO type.

All “Private Property SSOs” sections are not considered to be a part of the Consent Decree and, as such, are not enforceable by EPA or EPD. These sections are only included in this document for the convenience of the County in maintaining one document for SSO CERP.

SSO types include the following:

- Overflows (a release of wastewater from the WCTS, or from an AWWTF caused by problems in the WCTS, that does not reach waters of the United States or the State)
- Building Backup (a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the WCTS; provided, however, that a wastewater backup into a building that is caused by a blockage or other malfunction of a Private Lateral, or other piping or conveyance system that the County does not own or operate is not a Building Backup)
- Private Spill (a spill that is from a private system not controlled, owned, or originating from County sewer line; this includes the portion of the individual building sewer connection from the property line cleanout or other authorized connection point typically located at the property line or easement)
- Major Spills (any discharges of raw sewage that is in excess of 10,000 gallons or results in water quality violations in the waters of the State such as a fish kill, etc., but not including other discharges from a point source that is specified in the NPDES Permits)

The County’s SSO notifications, as discussed in this CERP, are summarized in **Figure 1-4**. Dispatch and response procedures are shown in **Figure 1-5**.

FIGURE 1-4
 Overview of the SSO CERP - Notifications

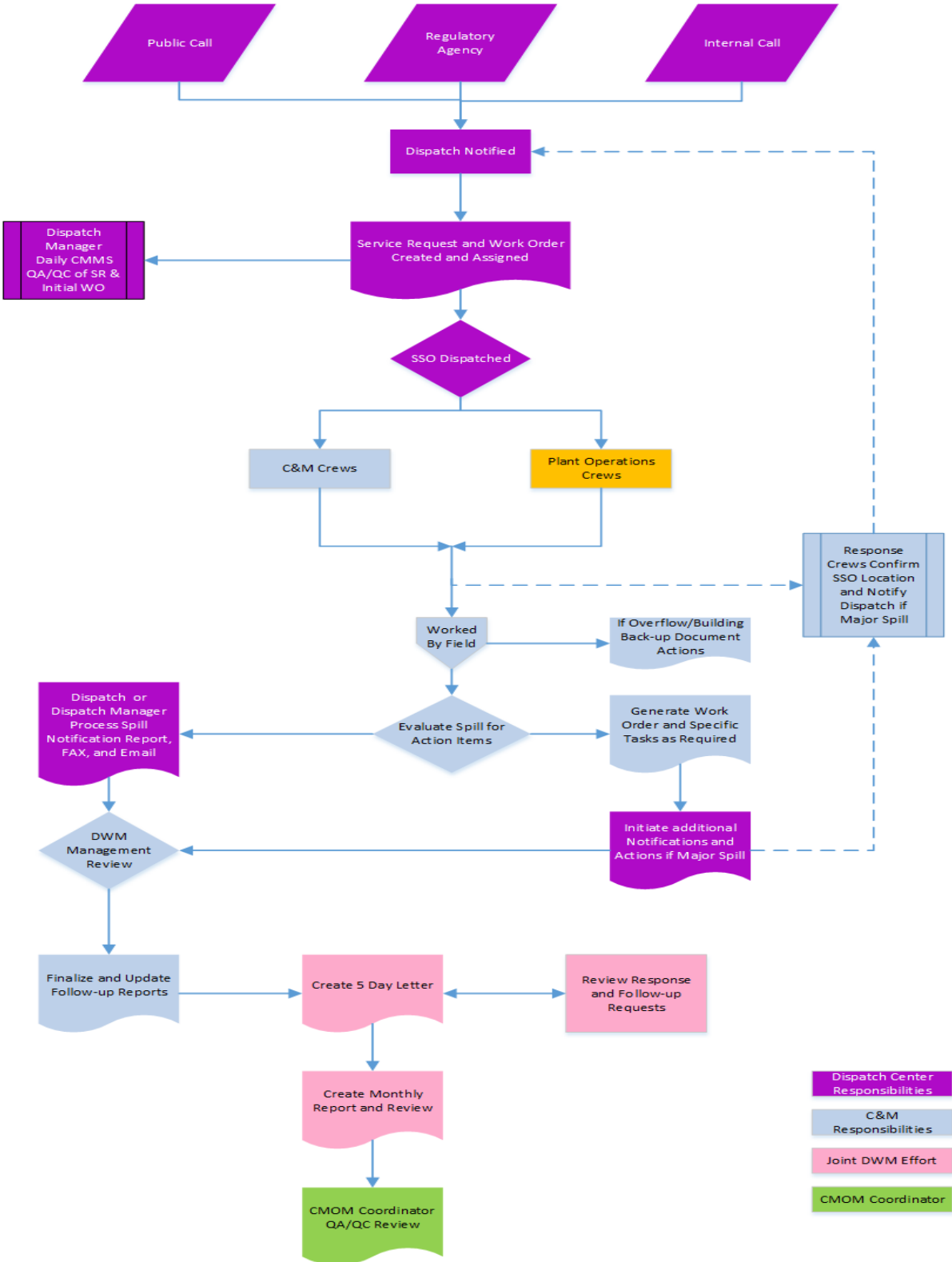
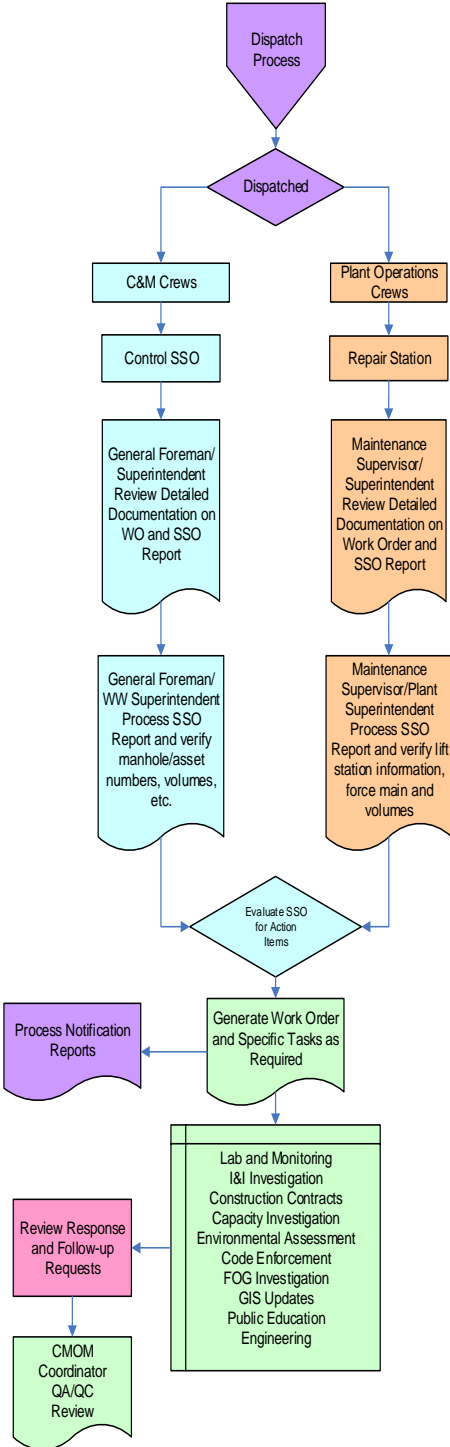


Figure 1-5 Overview of the SSO CERP - Dispatch



2. SSO Field Response Activities

2.1 Overview

This section describes how DWM becomes informed of an SSO and describes DWM's responses, including specific actions to be conducted by DWM crews. Initial SSO response actions, based on Dispatch-issued Service Requests (SRs), are the responsibility of Construction & Maintenance (C&M) field crews (collection system) or Plant Operations (lift station or treatment plants). Response actions are summarized in **Figure 2-1**.

2.2 SSO Occurrence and Crew Dispatch

2.2.1 Overview

This section describes how DWM learns of an SSO and the immediate actions taken by DWM Dispatch to engage the first response crew and DWM Management.

2.2.2 DWM is Informed of SSO Occurrence

- 1) Intake information regarding SSOs is routed to the DWM Dispatch Center.
 - a) SSOs are primarily initially reported to Dispatch through:
 - i) Public Communications (e.g., a resident/citizen/passers-by calls or emails DWM from the department's website regarding a possible SSO)
 - (1) Incoming SSO-related emails are forwarded to a unified email address (DekalbWaterOPS@dekalbcountyga.gov) that is monitored 24 hours per day by Customer Service Support and Dispatch staff.
 - ii) Internal Communications (e.g., a DWM employee discovers the SSO).
 - iii) Regulatory Agency Communications (e.g., EPD informs DWM of SSO).
- 2) Dispatch documents the following information in an SR for each SSO, as appropriate.
 - a) Time and date call was received
 - b) Specific location
 - c) Description of problem
 - d) Time and date possible SSO was observed by the caller, if known
 - e) Caller's name and phone number
 - f) Observations of the caller
 - g) Other relevant information that will enable DWM to quickly locate, assess, and stop the SSO

- 3) After obtaining initial information regarding an SSO, the Dispatch Center generates an SSO-related Service Request (SR) and SSO Investigation Work Order (WO), which is sent and dispatched to the first response crew for immediate action. This could be either the C&M field crews (for collection system SSOs) or Plant Operations (for lift station or treatment plant SSOs). Dispatch documents the following times in the SSO Investigation WO:
 - a) Time and date call was received
 - b) Time, date, and who was dispatched
 - c) Time, date, and who arrived onsite (may also be documented by the first response crew when they arrive onsite)
- 4) After arriving at the SSO site, the first response crew calls Dispatch to confirm they are at the site. If the existence of an SSO or evidence of an SSO is determined, the first response crew completes the SSO Investigation WO, which is the "parent" WO. The crew also creates a "child" SSO-related response WO to detail their actions. Both are sent electronically to the General Foreman for review. The General Foreman will submit the public SSO notification WO to Dispatch and the private SSO notification WO to the Dispatch Manager for notifications.
- 5) All Major Spills are reported by Dispatch to the EPD Emergency Response Hotline at 800-241-4113 (in some cases, DWM Management may decide to take the lead in informing EPD, as described in Section 3.3.2 of this document).
- 6) Also, upon being informed of a Major Spill, Dispatch informs the Water Quality Control (WQC) Laboratory and Monitoring Branch Supervisor via email (in some cases, DWM Management may decide to take the lead in informing the WQC Laboratory by phone, as described in Section 3.3.2).
- 7) The CMMS allows for daily QA/QC of all SSO SRs and WOs via email alerts, dynamic inbox queues, dashboards, and reports. All members of DWM Management have access to these new features and are responsible for reviewing them on a daily, weekly, or monthly basis.
- 8) Current SR types are:
 - a) Building Backup
 - b) Sewer Overflow/Spill
 - c) Sewer Odor
 - d) Lift Station Problem
 - e) Sewer Manhole Issue (for manhole surcharging reports)
 - f) Cave-In
 - g) Contractor/Plumber Assistance Request
 - h) Information Call

i) Sewer Service Issue

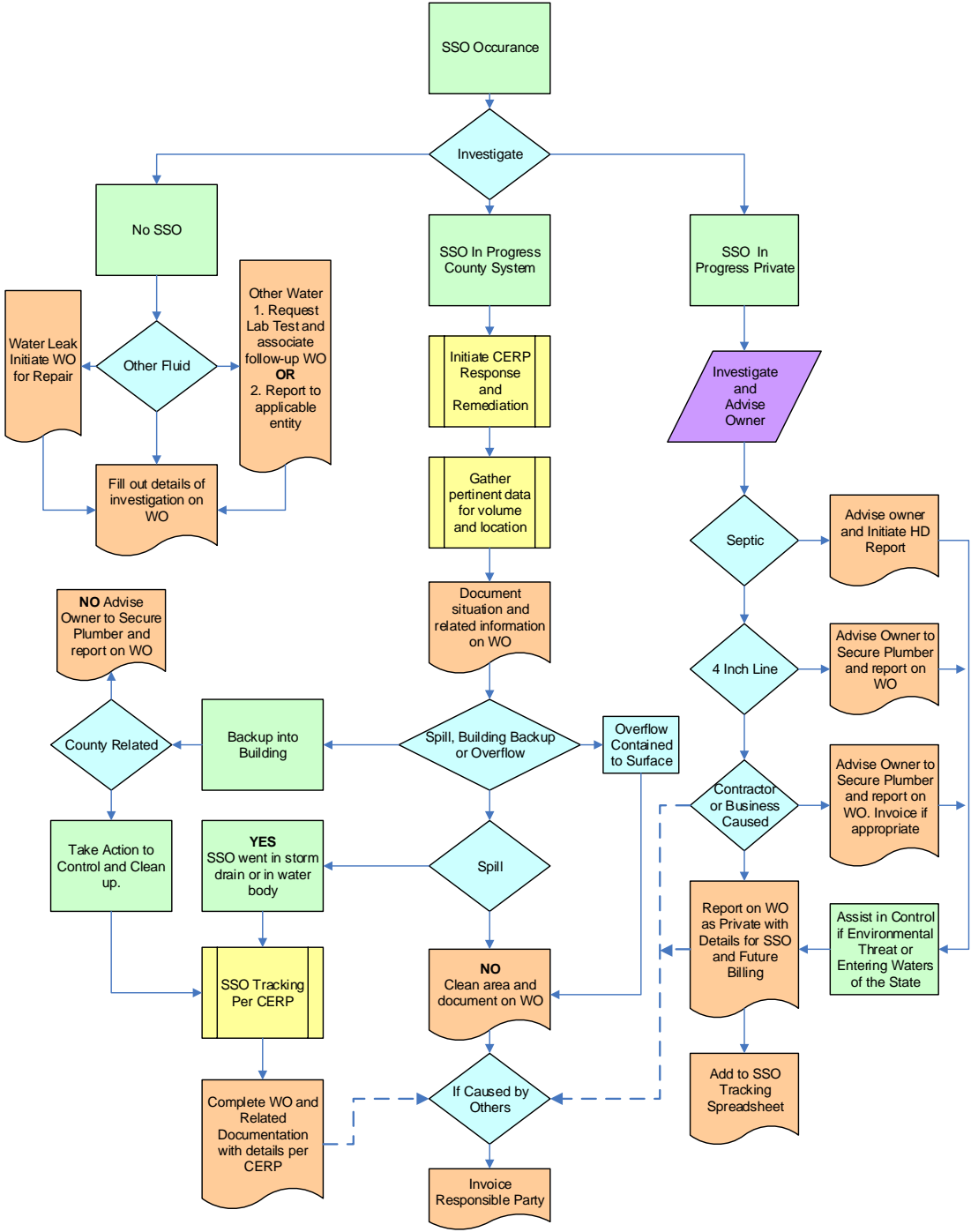
2.3 Response, Mitigation, and Clean-Up

It is the responsibility of the first response crew who arrive at the SSO site to protect the health and safety of the public by mitigating the impact of the SSO to the maximum extent possible. This includes initiating measures to contain the spill and recover, where possible, sewage that has already been discharged. In addition, crews must determine the immediate destination of the SSO (e.g. storm drain, street curb gutter, body of water, creek bed, etc.) and take immediate action to contain the overflow (e.g. block or bag sewer drains, recover through vacuum truck, divert into downstream manhole, etc.).

Upon arrival at the scene of a SSO, should a suspicious substance (e.g. oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g. gasoline) not common to the sewer system be detected, the DWM response crew immediately contacts their Supervisor for guidance before taking further action.

Should the Supervisor determine the need to alert the County hazardous material response team, crew personnel await the arrival of the team prior to taking any action. Upon arrival of the hazardous material response team, crew personnel take direction from the lead authority of the team. Only when the hazardous material team determines it is safe and appropriate for the crew to take action will spill response and clean-up actions take place.

FIGURE 2-1
 Summary of Response Actions



SR = Service Request; SSO = Spill, Overflow and Building backup; CERP = Contingency and Emergency Response Plan; HD= Health Department

2.3.1 Collection System Response and Mitigation

The sanitary sewer collection system includes manholes, clean-outs, and gravity lines/mains. The DWM C&M Division is responsible for SSO response involving the collection system.

2.3.1.1 C&M First Responders

- 1) C&M first responders consist of existing C&M staff, including supervisors, equipment operators, crew workers, etc., with the capacity to respond to any SSO that occurs within the County.
- 2) When first responders are dispatched to an SSO site, they may call for additional resources, as needed, to determine the SSO cause and extent. This could be done by inspecting the right-of-ways and manholes within a reasonable distance both up-gradient and down-gradient for a minimum of one-eighth (1/8) mile. They may also call for mitigation and for assistance determining the necessary repairs or other measures to prevent future SSOs at the site.
- 3) General Foreman, Assistant Superintendent, Superintendent or CMOM Coordinator provides the contact information for vendors that are on call to provide DWM with any additional equipment required to mitigate SSOs.
- 4) As noted in Section 2.2.2, Dispatch is notified by the First Response Crew if a Major Spill occurs. Dispatch or DWM Management then contacts the EPD Emergency Hotline and Water Quality Control (WQC) Laboratory/Monitoring Branch Supervisor immediately at 770-981-0220 (office) or 770-990-3952 (Cell and PTT). Dispatch or DWM Management requests that sampling be conducted in accordance with EPD guidance if impacts to water quality or a fish kill is involved. Section 4 describes the parameters, days of sampling, sample monitoring form, and reporting requirements. For Major Spills only, notification to the WQC Laboratory is by e-mail.

2.3.1.2 Manhole/Cleanout Overflow

- 1) When locating a manhole or cleanout overflow, crews document the SSO condition at the site, including the locations of County cleanouts.
 - a) Dispatch crew workers investigate downstream of the SSO site for any impact to water quality or possible fish kill and conduct "posting" activities as noted in Section 3.1.4.
 - b) If the SSO can be contained with minimal resources and support, this is done immediately. Also if accessible, arrangements are made for vacuum-jet truck(s) to pick up the SSO and clean/ disinfect the ground surface at the SSO site. Crews may also arrange for manual cleanup of the area.
- 2) Digital pictures of the event may be recorded to assist in follow-up investigations.
- 3) If an SSO from a manhole or cleanout is continuous:
 - a) Attempts are made to unblock the line; if the situation warrants, a bypass pumping system is set up immediately to divert flow around the blocked area.

- b) Rodding and pressure washing are performed as required to unclog the sanitary sewer main.
- c) If the situation warrants, delivery of vacuum-jet truck(s) is scheduled to support the SSO response actions and to clean/ disinfect the ground surface at the SSO site. Crews may also arrange for manual cleanup of the area.
- d) SSO “in progress” signs are posted, as noted in Section 3.1.4-6(g).

2.3.1.3 Sanitary Sewer Line/Main Break

- 1) If the SSO is the result of a sanitary sewer main break:
 - a) First responders should arrange for manpower and equipment, including a backhoe or excavator, as required, to repair the break.
 - b) If the pipe is greater than twenty (20) inches or in a location where an excavator is required to access the sanitary sewer main break, responders call the C&M Service Center at 770-621-7254, 678-201-2275, or 404-569-4014 (cell and PTT), and/or contact the General Foreman on duty to arrange for transportation of excavator(s) and a bypass pumping system to properly address the SSO.
 - c) First responders will get additional support as needed by:
 - i) Informing the Service Center and General Foreman of the number of pumps required.
 - ii) If the pumps are unavailable in-house, calling the Superintendent or an Assistant Superintendent to contact one or more of the on-call pump rental companies for immediate delivery.
 - iii) Prior to arrival of the excavator(s), establishing a containment system to help supplement the bypass system.
 - iv) Calling the Material Warehouse Supervisor at 770-414-6220 (Central Warehouse), 770-621-7240, or 404-472-4029 (cell and PTT), and making arrangement for delivery of materials required to restore the sanitary sewer main. After hours, this is done by calling the Warehouse Runner 770-274-9018 (cell and PTT) or Dispatch Center 770-270-6243.
 - v) If required, calling the Superintendent at 678-758-5202 (cell and PTT) to arrange for additional crews/ pump rental contractors or Assistant Superintendents at 678-898-2739 or 678-758-5195 (cell and PTT).
 - vi) Identifying upstream and downstream manholes to conduct applicable proposed bypass pumping.
 - (1) Sewer pipe bypass procedures are provided in **Appendix C**.
- 2) Digital pictures of the event will be recorded to support the follow-up investigations.

2.3.1.4 Sanitary Sewer Laterals within the Right-of-Way (Lower Laterals)

- 1) If the SSO is the result of a sanitary sewer maintenance issue within the lower lateral from the right-of-way cleanout to the WCTS caused by a maintenance-related issue in WCTS:
 - a) First responders determine the type of issue or the nature of the blockage (roots, debris from main, collapse, etc.) by investigating the location of the issue and the composition of the blockage.
 - b) If the lateral or cleanout is four (4) inches or less, the owner will be required to bring the lateral into compliance with County code, which is six (6) inches minimum.
 - c) If no right-of-way cleanout or access is available to the County, the owner is notified that a plumber will have to install a right-of-way cleanout to code. The owner is responsible for clearing the private lateral of any obstructions or blockages.
 - d) First responders should get support as needed:
 - i) If a repair is needed to restore flow to the lateral, supervisor approval is necessary. Investigation of the lateral using a portable CCTV camera to pinpoint the location and extent of the repair may be done before starting the repair work. All underground utilities should be located before starting work.
 - ii) If the SSO can be stopped by rodding or pressure washing the lateral to restore flow, then first responders will use these techniques to clear blockages.
 - iii) Building backups that require the use of cleaning services for the building must be referred to Operations Dispatch personnel to coordinate with contracted vendors for cleaning.
- 2) Digital pictures will be taken and CCTV video will be recorded of the process to assist in follow-up investigations.
- 3) As a supplemental process, maintenance issues within the lower lateral are tracked separately for internal reporting.

2.3.2 Wastewater Treatment Plant and Transmission System Response and Mitigation

The sanitary sewer transmission system includes lift stations, force mains, and air valves. The DWM Plant Operations Division is responsible for SSO response involving wastewater treatment plants and the transmission system.

2.3.2.1 Lift Station/Treatment Plant Overflow

- 1) When Plant Operations is notified by Dispatch of an SSO at a lift station/plant, the following actions are taken:
 - a) The required vacuum-jet truck(s) are secured to provide backup support for the Plant Operations Division.
 - b) If containment of the SSO requires continuous pumping, arrangements are made for the bypass pumping system to be mobilized immediately to the SSO site.

- i) Lift station bypass procedures are provided in the DeKalb Maintenance Management System Program.
 - c) Digital pictures of the event will be recorded to assist in follow-up investigations.
 - d) Plant Operations Division dispatches staff to investigate downstream for a possible fish kill.
- 2) After remediation of the lift station/treatment plant overflow:
- a) All pumps, hoses, and equipment are collected, cleaned by the users, and returned to the Equipment Maintenance Center for proper inspection, repair (if necessary), and storage.

2.3.3 Collection System Private SSOs

Note: Private property SSOs are not considered to be part of the Consent Decree and, as such, are not enforceable by EPA or EPD. Information about private property SSOs is included in this document for the convenience of the County in maintaining one document for SSO CERP.

- 1) Use available maps and site investigation to determine if the SSO is occurring on a County-owned property or privately held property and if it is flowing into the waters of the State. If it is a private SSO, take the following actions:
 - a) Digital pictures of the event may be recorded to assist in follow-up investigations.
 - b) If SSO is identified as entering the waters of the State, perform an assessment to see if work on the County owned property could resolve the SSO. This may include inspecting the existing sanitary sewer main in the vicinity of the on-going SSO and arranging for support equipment such as vacuum jet and/or rod trucks, etc. as necessary. If a related cleanout is available, rod the existing service line to the sanitary sewer main as necessary to abate the SSO.
 - i) If a County line is blocked or causing the SSO, handle and report as a County (public) SSO.
 - ii) If no blockage or damage is found in the County system report as Private SSO.
 - c) If no Property Line Cleanout is available, advise the owner of the code violation so the owner can install new cleanout(s) as applicable. Document the response WO and include the name of the party you gave the Property Line Cleanout letter.
 - d) If onsite inspection reveals that a private SSO is entering the waters of the State, perform work to prevent the SSO from entering the waters of the State, providing such work would not result in the County taking ownership of the infrastructure, and notify the property owner immediately to secure private resources to remedy the problem.
 - i) If owner is resistant to action notify a Compliance Inspector or the Health Department to issue a citation, shut off water to the site at the meter and follow-up to assure problem has been corrected before restoring water service.

- ii) If it is not possible to measure the SSO volume due to system configuration, place an estimated quantity on the reporting form with an explanation of the circumstances.
 - iii) Note all times for each action on the report so that the timeline is complete.
 - e) If a private SSO is not immediately impacting waters of the State, notify the property owner of their obligations to rectify the SSO immediately.
 - f) If the SSO involves a septic tank, advise the owner of the situation and provide a contact number for the Board of Health (404-508-7900) for them to call. Document the private SSO response WO and include the name of the party you gave the Property Line Cleanout letter.
 - i) Initiate Private SSO Notification WO to notify the Health Department and comment if Code Enforcement is also needed.
 - ii) Follow-up investigation WOs should determine if County sewer is available and initiate enforcement action through the appropriate regulatory agency to tie the citizen into the sewer system.
 - g) Request the SSO location be identified with appropriate private property signage.
- 2) Section 3.1.5 provides a sample letter that is sent to the private property owners when an SSO occurs on their property.

2.3.4 SSO Cleanup

Cleanup of SSO sites must be thorough with no readily identified residue (e.g. sewage solids, papers, rags, plastics, rubber products) remaining. Whenever possible, digital photos may be taken of the area before and after cleanup activities.

2.3.4.1 DeKalb County System (Public) SSOs

- 1) If the SSO is the responsibility of the County, the following procedure will be used for cleanup activities:
 - a) Visible debris is to be removed (solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal)
 - b) Areas where sewage or solids have collected are to be manually removed and/or pumped back to the sewerage system or vacuumed and disposed of at the septage receiving station.
 - c) Site is to be deodorized and disinfected as soon as possible through use of methods appropriate to the situation; use of absorbent material; excavation and disposal of affected soil; flushing with potable water, application, containment, and recovery of any chlorinated wash-down water and return of wash-down water to the sewer and/or lime application appropriate to the site.
 - i) If soil conditions do not allow immediate cleanup after the area is deodorized/disinfected, then a covering of straw is to be placed over the area and cleanup to follow as soon as soil conditions allow.

- ii) Sewage discharge into a body of water that may contain fish or other aquatic life must not be disinfected through application of chlorinated products or water. DWM will coordinate with EPD and/or the County Board of Health regarding cleanup of sewage in bodies of water.
- d) Areas below the SSO, including areas of any creek banks impacted by the SSO, are to be cleaned. Deodorant and disinfection are used as needed.
- e) Documentation of cleanup and any follow-up WOs issued and completed.

2.3.4.2 Private SSOs

Note: Private property SSOs are not considered to be part of the Consent Decree and, as such, are not enforceable by EPA or EPD. Information about private property SSOs is included in this document for the convenience of the County in maintaining one document for SSO CERP.

- 1) Entity to be advised cleanup is their responsibility and the County must follow the guidelines listed in 2.3.3 and 2.3.4.
- 2) Inspection to be made by Operations Division inspectors and/or Health Department inspectors to assure compliance.
- 3) Expenses incurred by the County in responding to a private SSO may be recoverable from the property owner or entity that damaged the County sewerage system that caused the leak via county court process.
 - a) If it is determined the SSO has caused an elevated response or action from the County then such expenses will be invoiced at the then current County cost to the responsible party.
 - b) If the SSO becomes reportable under the County responsibility, but was caused by a third party, and a fine is levied against the County, such fine will also be invoiced to the responsible party.
- 4) County Code Enforcement or DWM Compliance Division shall be notified to issue entity with a citation if applicable.

2.4 Response Documentation and Volume Calculations

2.4.1 Response Documentation

2.4.1.1 Response Service Request/Work Order Close-Out

- 1) Proper closeout of all service and work requests within the Computerized Maintenance Management System (CMMS) is essential for proper historical records. Adequate detail from the field notes is to be included along with employee time, supplies, and proper closeout codes.
- 2) If the SSO address is different than the original problem address, the SSO Investigation work order and follow-up work orders will be updated with the SSO address.

- 3) Each request related to an SSO response will include whether an SSO actually occurred, along with details about location, and if the SSO reached the waters of the state and/or if it was private in nature.
- 4) Each service request will have a “parent” SSO Investigation work order to evaluate the existence of an SSO. If an SSO is observed/or evidence found a “child” response work order and associated repair work orders will be generated according to the type of SSO found. The service request code is the dispatched problem code describing the problem as relayed from the caller to the dispatcher. The SSO investigation work orders and associated “child” work orders combined are the resolution or repair code, which describes what actions the service crew completed. Typically, these repair codes are not the same as the problem code.
- 5) Current Work Order Repair Codes:

Work Order Type	Description
SSO Investigation	Parent work order for all SSO-related service requests and used as the initial evaluation of potential SSO by first responders.
Spill Response - Public	Response actions for confirmed public spills from the WCTS.
Spill Response - Private	Response actions for confirmed private spills from outside the WCTS.
Overflow Response - Public	Response actions for confirmed public overflows.
Overflow Response - Private	Response actions for confirmed private overflows.
Building Backup	Response actions for confirmed building backups.
SSO - Clean Up	All SSO cleanup activities.
SSO - Escalation Request	Request to escalate the SSO to the CDPMT for further review.
SSO - Customer Service Follow-up	Customer service satisfaction report after SSO has ended. Also used to track field follow-up visits for verifying if private issues have been repaired by the property owners.
SSO - Public Notification	Request to begin the notification process for the public SSO (includes Major Spills) to the EPD and Health Department, this WO is submitted to the Dispatch staff to process.
SSO - Private Notification	Request to begin the notification process for private SSOs (includes septic tank) to the Health Department and/or Code Enforcement, this WO is submitted to the Dispatch Manager to process.
Potential Stream Contamination Notification	Report of adverse water quality observations and/or fish kill, submitted to the Dispatch staff to contact the WQC Lab Supervisor.

Field Notes

- 1) Field notes detail actions taken, methods used to calculate volumes, manpower involved, any contact information, and any other detail relative to the response. These notes are contained in the work order's mandatory fields, attached electronic documents, or comments in the work orders.
 - a) Notes may include:
 - Notification time
 - Dispatch time
 - Site arrival time
 - Work performed (as a detailed narrative)
 - Additional support called
 - SSO stopped time
 - Site work completed time
 - SSO cause
 - Infrastructure damage, if present
 - Work performed to mitigate the issue
 - Work performed during cleanup
 - Actual SSO address, updated if different than initial call address and directions to get to SSO site
 - Photographic history of the site and mitigation efforts, initial response, and post-cleanup
 - Posting information
 - Final job completion time
 - Associated work required
 - 2) Upstream and downstream manhole numbers and main IDs are to be included as soon as they are determined.

2.4.1.2 Spill Evaluation Form

- 1) Internal DWM personnel are notified by email and/or telephone as listed in the SSO Notification Directory (**Appendix B**: Internal All SSOs, Internal All Plant, and Lift Station SSOs).
- 2) For each SSO, an SSO Evaluation Form (**Appendix D**) is completed based on field operational knowledge and actions.

- 3) The current SSO Evaluation Form (**Appendix D**) is delivered to Dispatch and to the Dispatch Manager in charge (as a backup) for reporting requirements and for timely implementation of follow-up actions (external notification, investigation, and tracking). A SSO Evaluation Form shall not be left at a Dispatcher workstation without informing the person verbally that it is an SSO Evaluation Form and needs reporting.
- 4) If there is an indication that a fish kill may have occurred, the first responders will note this situation on the SSO Evaluation Form. The Sewer Superintendent of Operations will request a stream analysis immediately (Section 4.2) as well as ensure Georgia Fish and Wildlife Department is notified.
- 5) A copy of the SSO reporting documentation will also be provided to Customer Service Manager or Assistant, C&M Section, within seven to ten (7-10) working days from the reported SSO.
 - a) Customer Service Manager or Assistant will be responsible to contact the citizen that initially reported the SSO to the Dispatch Center and follow up to make sure that the response from the DWM was satisfactory. Documentation of the contact will be included in the SSO - Customer Service Follow-up WO.
- 6) The SSO Evaluation Form is also provided to the Dispatch Manager in charge for inclusion in the DWM SSO Response Package. The SSO Response Package is retained for internal DWM recordkeeping purposes. Copies are forwarded to the Document Control Coordinator.

2.4.2 Volume Calculations

- 1) Start time is either
 - a) the initial time DWM was notified of the potential SSO as noted by the Dispatch Center; or
 - b) the earliest time indicated where adequate evidence is presented that the SSO began some time prior to a notification to the Dispatch Center.
- 2) End time for SSO calculations is the time the SSO was controlled and no longer entering the Waters of the State. (For Building Backups and Overflows, the end time is when the SSO was controlled)
- 3) If field actions contribute to changing the SSO flow volume then those times that the flow volume changes will be documented with a start and end time for the change including how the change was determined to occur and the volume of the change.
- 4) All calculations and assumptions are to be documented in the field notes (Section 2.4.1.2).
- 5) SSO rates may vary based on line conditions and the field staff will use their best judgment in determining what the "average conditions" are during the SSO event so that calculations will not be based on either the minimum or maximum rate.
- 6) If possible a volume will be determined by a timed fill measurement.

2.4.2.1 Manhole Overflow Line Calculation Method

Procedures are as follows:

- 1) Locate Spill or Overflow site, and go to the downstream manhole.
- 2) Use the Sludge Judge or tape measure to measure the level of flow at that manhole.
 - a) Add one (1) inch to the measurement due to tool calibration if using the Sludge Judge.
 - i) Most of the time this value will be zero.
 - ii) If there is no flow or minimal flow, record the depth measurement as zero value.
- 3) Record the downstream level and the pipe size.
- 4) Record the time the blockage is removed and/or normal flow is restored.
- 5) Measure the level at the Spill or Overflow manhole.
 - a) Use the Sludge Judge or tape measure to measure the level of flow and add one (1) inch to your measurement due to tool calibration if using the Sludge Judge.
- 6) Record the level at the Spill or Overflow manhole and pipe size when flow returns to a normal rate.
- 7) Using the chart in **Appendix E**, find the pipe size and go down its column to the depth of flow at the Spill or Overflow manhole.
 - a) The number that is in the column and row intersection is the flow.
- 8) Repeat step 7 above for the measurements at the downstream manhole.
 - a) The number that is in the column and row intersection is the flow.
- 9) Once you have the two (2) flow rates, subtract the downstream number from the upstream number and record.
 - a) If this number is negative or zero, investigate further for additional flow sources or conditions.
 - i) Make a field note entry of how the flow rate was determined if system configuration does not allow use of this method.
- 10) Determine the number of minutes from the time the call came into Dispatch until the time the Spill or Overflow was stopped.
- 11) Multiply the minutes from step 10 above by the flow rate number from step 7 above.
- 12) Record this number as the spill or overflow volume.

2.4.2.2 Manhole Overflow Visual Calculation

- 1) Refer to **Appendix E** for a visual guide for solid top manholes under normal conditions.

- a) If manhole is at the bottom of a slope, determine another calculation method, as appropriate.
- b) If manhole is perforated, refer to **Appendix E** for the calculation method or determine another method as appropriate.
- c) If manhole has no top, refer to **Appendix E** for method or determine another method, as appropriate.

2.4.2.3 Line Break Calculations

- 1) Observe the flow at an upstream and downstream manhole and use the calculation sheet to determine volume and note your assumptions.
 - a) If in a creek, determine and note if flow is going out of pipe or into pipe using visual means or dye test. Note appropriately in field notes.
 - b) If flow is minor in nature, use a bucket and watch to calculate the volume.

2.4.2.4 Lift Station and Force Mains Calculations

- 1) Volume will be calculated by plant operations staff utilizing the appropriate pump run times, meters, flow differences, and other factors, based on the overflow circumstances.
 - a) All calculations and assumptions are documented and forwarded along with the SSO Evaluation Form to the Manager in charge.

2.4.2.5 Cleanout Calculations

- 1) Using the formula in this section will help calculate the volume from a standard six- (6)-inch and four- (4) inch open cleanout.
 - a) Use the number (in ft/sec) from the Velocity Plume Guide in **Appendix E**.
- 2) Six- (6)-inch cleanout
 - a) $\pi((0.5)^2/4)(\# \text{ from Chart ft/sec})(\text{minutes})$
 - b) $\pi((0.5)^2/4) = 0.195$
 - c) $(0.195)(\# \text{ ft/sec})(\text{minutes})=\text{Gallons}$
- 3) Four- (4)-inch cleanout
 - a) $\pi((0.33)^2/4)(\# \text{ from Chart ft/sec})(\text{minutes})$
 - b) $\pi((0.33)^2/4) = 0.085$
 - c) $(0.085)(\# \text{ ft/sec})(\text{minutes})=\text{Gallons}$

2.4.2.6 Building Backup Calculations

- 1) Volume will be calculated by first responders using visual estimates only, if they are allowed entry into the dwelling.

3. Public Notifications and Agency Reporting

Whether they occur on County property or private property, all SSOs are documented by the Manager in charge, and, as appropriate, included in an SSO Response Package for DWM recordkeeping. DWM maintains additional procedures for notifying the public and private property owners who experience a spill on or from their property.

3.1 Public Notification

DWM notifies the public expeditiously when the public is potentially affected by an SSO. The notification form and manner are targeted to the specific situation and those members of the public reasonably likely to be affected by the SSO. Notification methods include, but are not to be limited to, television, radio, newspapers, emails or other electronic communications such as social media and the DWM website, and signs posted at conspicuous public places.

3.1.1 Email Notification or Facsimile

- 1) Dispatch or DWM Management provides the SSO Evaluation Form for all reported Spills in an email to the media (radio stations, television stations, and newspapers), in addition to regulatory entities and downstream users as soon as possible, but within 24 hours of learning of an SSO (i.e., at the time the SSO is relayed to Dispatch). Email information includes the following:
 - a) Entities notified, and contact information, for all spills is provided in **Appendix B**. Appendix B is maintained by the Dispatch Supervisor and is updated as necessary. Updates are distributed to Dispatch Center personnel regularly. Appendix B includes outside agencies, as well as DeKalb County departments that require notification.
 - b) For all spills, the following information is emailed to the media, regulatory entities, and downstream users:
 - i) Date of the spill
 - ii) Location and cause
 - iii) Estimated volume discharged and name of receiving waters
 - iv) Corrective action taken to mitigate or reduce the adverse effects of the spill
 - v) Nearest roadway intersection
 - vi) Nearest adjacent park

3.1.2 Legal Organ Newspaper Publication

- 1) Major Spills are published through advertisement in the DeKalb County legal organ, *The Champion*, in the next available addition after the date of the Major Spill. A copy of the

advertisement is forwarded to the CMOM Coordinator and the Document Control Coordinator for inclusion in the official record.

- 2) The following information, at a minimum, is provided for publication in *The Champion*:
 - a) Date of the Spill
 - b) Location and cause
 - c) Estimated volume discharged and name of receiving waters
 - d) Corrective action taken to mitigate or reduce the adverse effects of the Spill

3.1.3 Press Release

Should additional media/press notification and status updates be deemed necessary for Major Spills, DWM uses pre-scripted notices that are made available to print and electronic news media for immediate publication or airing in coordination. This is completed in conjunction with the County's Communication Office.

3.1.4 Signage for Spills that Reach the Waters of the State

The intent of posting signs at the site of a Spill is to notify citizens who may come into contact with the affected water that a Spill or Major Spill has occurred. Signs are posted at the site of the Spill and upstream/ downstream of the site as soon as practical. If a Spill does not reach waters of the State or enter a storm drain, no postings are made unless there is an immediate threat to human health or the environment.

- 1) In order to cover the entire area, a minimum of four (4) signs are immediately posted upstream and downstream of a Spill.
- 2) Signs are posted by the response crew at the site of the Spill, entry into the waters of the State, and both upstream and downstream of the site.
- 3) Additional signs are posted at regular intervals at portions of the waterway affected by contaminant flow.
- 4) Sign locations include, but are not limited to, bridge crossings, trails, boat ramps, recreation areas, and other points of public access of the affected area.
- 5) All posting locations should be photo documented, and removed seven (7) days after the Spill has ceased and been appropriately remediated.
 - a) Documentation should be included for any missing signs during the required posting time and when they are picked up.
- 6) Signs posted should contain at least the following information:
 - a) Spill date
 - b) Spill location
 - c) Spill cause

- d) Estimated volume of the Spill - If not known, "To Be Determined" should be shown on the signs, which should be updated when the volume is determined.
- e) Receiving stream
- f) Corrective action taken
- g) In-progress signs include all of the above, as well as a time the next SSO review will occur.

3.1.5 Private Property Notification

NOTE: The private property SSO practices described here are not considered part of the Consent Decree and, as such, are not enforceable by EPA or EPD. The information is included in this document solely for the convenience of the County in maintaining one SSO CERP document.

When notifying private property owners of a spill on or from their property, DWM follows these procedures:

- 1) The Spill location is posted with appropriate signage.
- 2) **Figure 3-1** is a sample letter sent to private property owners when an spill occurs on their property. Once the letter has been sent, this is documented on the SSO Investigation WO.
- 3) If the spill involves a septic tank, the owner is advised of the situation and provided with the contact number for the Board of Health (404-508-7900). DWM then faxes a separate report to the Board of Health, which has regulatory authority over all septic tanks.

FIGURE 3.1 EXAMPLE PRIVATE PROPERTY SEWER SPILL NOTIFICATION

SEWER SPILL NOTIFICATION
<p>The DeKalb County Department of Watershed Management (DWM) has responded to a sewer spill complaint and has determined that the source is not caused by or emanating from County-owned or -operated property. The State of Georgia Environmental Protection Division (EPD) has regulations regarding any spills of sewage or other substances that may impact the environment, or more seriously, enter the waters of the State. Immediate action is required on your part to stop the spill, clean the area of the spill on your property, and notify EPD.</p> <p>If the spill is entering or likely to enter the waters of the State, the County may respond to prevent environmental damage. In such a case, the County will invoice the costs to the property owner. Any such response would be minimal, designed only to prevent spillage into the waters of the State. The County will not undertake repairs on privately owned sewer infrastructure, as this is the property owner's responsibility.</p> <p>If the spill is caused by construction activity, the party doing the construction could be held liable for the spill, in addition to the property owner. Enforcement action may be taken under the State Call Before You Dig rules, if applicable, County Codes and ordinances, and current EPD rules. All costs associated with any repair and corrective actions completed by the County will be invoiced to the owner and/or the entity that caused the problem.</p> <p>If a commercial establishment that is or should be regulated under the County's Fats, Oil, and Grease (FOG) Program causes the spill, the County FOG Program administrators may take enforcement actions.</p>

If a multi-family establishment or any resident thereof causes the spill, the property managers/owners will be notified of their responsibility to mitigate, remediate, and eliminate current or future spills.

If a septic tank is involved, the State Health Department must be notified to take enforcement action. The contact number is (404-508-7900).

If the problem is within or caused by a defect in a private sewer line, the property owner is responsible for corrective action and repairs to prevent future problems. A private sewer line is defined as that portion of the sewer system from the property line cleanout to the building and any related plumbing in, on, or under such building. If no property line cleanout is present, the entire sewer line from the building to the DeKalb County sewer main pipe is considered private. Enforcement action may be taken if the mitigation is not undertaken in a timely manner.

If the issue is a backup that resulted in sewage entering a building, the Homeowner/Property Owner is responsible for all associated repair expenses if the blockage originated from the building and occurred from the property line cleanout to the main as they are the only contributor to this line without a defect being located in a county-maintained line in a dedicated easement.

3.1.6 Public Education

Where possible and where it is determined that public education could help prevent future SSOs, appropriate education materials and instructions will be provided by DWM staff. This would apply to SSOs that have a documented cause and could potentially be avoided through awareness and education. The education can cover topics such as FOG, medical waste, school best practices, or others, depending on the cause. The CMOM Coordinator or Assistant CMOM Coordinators will determine which SSO events require education and will prepare and submit a follow-up WO.

DWM will also use the communication tool, post on social media, and share corrective action work plans with the affected community to increase public awareness. In some cases, a letter will be sent to the entity to help ensure effective SSO prevention activities are undertaken.

3.2 Public Access to the Spill Site

To protect human health, DWM limits public access to the site of a potential or confirmed SSO, with the extent and duration determined by the field conditions and investigations. EPD and/or the County Board of Health are consulted as appropriate. DWM keeps traffic and public access control materials (such as signs and barricade tape) available during SSO response activities. At a minimum, temporary signage will be placed around the affected area to caution the public against access to potentially impacted surface water bodies, ground surfaces, or other areas.

3.3 Notification to EPD, Other Agencies, and Downstream Users

3.3.1 Overview

DWM employees responding to the SSO (C&M or Plant Operations personnel), in cooperation with the Dispatch Center, provide copies of all Spill information and the SSO Response Form to the General Foreman, who in turn provides them to the Dispatch Center.

External notification – to regulators, the public, and private property owners – of SSOs is the responsibility of the Manager in charge of the Spill response activities. These notifications are completed when the Dispatch Center has received the SSO Evaluation Form from C&M and/or Plant Operations. If any erroneous information is identified in the form or the SSO investigation results in need for updated information, a corrected report is sent to the Dispatch Manager or Dispatch staff, who then resend the updated report to regulators, the public, and private property owners, as relevant.

3.3.2 Environmental Protection Division

Dispatch or DWM Management reports all SSOs immediately by fax to EPD. Any Major Spills are reported immediately to the EPD hotline. This takes place as soon as possible, but at least within 24 hours.

3.3.2.1 EPD Notification

- 1) Depending on the magnitude of the Spill, the immediate response activities, and when a Major Spill has been confirmed, DWM Management may notify EPD. However, the general approach is to have Dispatch make the EPD notification. Dispatch can, depending on the timeframe, make the initial phone call notification to the EPD Emergency Response Hotline (see **Appendix B** for notification lists).
- 2) Dispatch or DWM Management provides a fax or telephone notification for all spills (**Appendix B**) as well as an initial email notice to EPD.

3.3.2.2 Five-Day Report

- 1) The Consent Decree Administrator, CMOM Coordinator, Assistant CMOM Coordinators, or, if unavailable, the Operations Division staff, emails a written report to EPD (**Appendix B**) that includes, but is not limited to, the following information:
 - a) Date of the Spill
 - b) Report address, Spill location, and cause of Spill
 - c) Estimated volume discharged and name of receiving waters
 - d) Corrective action taken to mitigate or reduce the adverse effects of the Spill
 - e) Updates based on further evaluation since initial report

3.3.2.3 Environmental Reports

- 1) For Major Spills, stream monitoring and reporting is completed over a one-year period by the WQC Laboratory and Monitoring Branch. Section 4 provides specific details regarding water quality and biological monitoring actions and related reporting to EPD.
- 2) Documentation based on SSO investigations and follow-up actions, such as SRs completed, are provided to EPD as completed, as applicable, over 2 weeks to one month by the Operations Division. Section 5 provides more information about short- and long-term follow-up reporting to EPD.

- 3) EPD will make any decisions regarding additional notification of a spill to other local, State, and/or Federal agencies/entities, and DWM will comply with any additional reporting guidance provided by EPD.

3.3.2.4 Repairs Lasting Over 60 Days

The Operations Division staff (C&M), in coordination with ECMS Division staff, will develop a work plan if an SSO repair or resolution is expected to last more than 60 days. This work plan will be submitted to EPD within 30 days of the SSO by the Consent Decree Administrator, CMOM Coordinator, or Assistant CMOM Coordinators.

3.3.2.5 Project Escalation

The CMOM Coordinator or Assistant CMOM Coordinator, in coordination with other key staff (if needed), reviews each SSO to determine whether the SSO cause needs to be evaluated in greater detail by the Consent Decree Program Management Team (CDPMT) by completing an SSO Escalation Form (see **Appendix G**) and forwarding to the Consent Decree Administrator for processing and assignment.

3.3.3 Board of Health and Downstream Users

- 1) For all Spills, a copy of the SSO Evaluation Form is faxed and emailed by Dispatch or DWM Management to the DeKalb County Board of Health (**Appendix B**).
 - a) Board of Health notification is completed within 24 hours of DWM receiving SSO notification.
- 2) For Major Spills, the Operations Division staff emails a written report to the Board of Health (**Appendix B**) that includes, but is not limited to, the following information:
 - a) Date of the Major Spill
 - b) Location and cause of Major Spill
 - c) Estimated volume discharged and name of receiving water(s)
 - d) Corrective action taken to mitigate the adverse effects of the Major Spill
- 3) For Major Spills, notification of downstream users (i.e., water treatment plants) is provided by email and/or telephone (**Appendix B**) by Dispatch or the Operations Division staff.
- 4) The County Board of Health will make any decisions regarding additional notifications to other entities and/or additional actions, such as issuance of a public health alert, as a result of a Major Spill.

3.3.4 Georgia Wildlife Resource Division

- 3.3.4.1 If a fish kill is part of the Spill, the Georgia Wildlife Resource Division will be notified with the initial Spill reporting, per the SSO Evaluation Form.

4. Monitoring and Reporting

4.1 Overview

Stream monitoring and reporting is conducted by the WQC Laboratory and Monitoring Branch for Major Spills.

Emergency actions for Major Spills, or SSOs, are specified in GAC Rule 391-3-6-.05 and EPD's Major Spill sampling and reporting requirements clarification, dated December 28, 1999. **Appendix A** contains the version current as of the date of this CERP.

4.2 Water Quality Monitoring and Reporting

4.2.1 Water Quality Monitoring

- 1) In the event of a Major Spill or fish kill, DWM Dispatch notifies the WQC Laboratory and Monitoring Branch phone and via email.
- 2) A water quality monitoring team (equipped with a sampling unit and sample collection containers) is dispatched as soon as safely practicable.
 - a) The monitoring team establishes upstream and downstream sampling locations.
 - i) The following analyses are completed for each sample site:
 - (1) pH
 - (2) Dissolved Oxygen (DO)
 - (3) Temperature
 - (4) Fecal coliform bacteria
 - ii) Field analysis results are recorded in a field notebook with a chain of custody form completed for samples to be returned to the laboratory.
 - b) If visual assessment notes a fish kill, if a fish kill has been reported, or if field analytics indicate the water quality conditions could cause a fish kill, the procedure provided in **Appendix F** is followed.
- 3) Samples are transported for bacteriological analysis to the WQC Laboratory and Monitoring Branch laboratory located at the Snapfinger AWTP.
 - a) Results of field analyses are logged into the Laboratory Information Management System (LIMS) once a location code for the sampling sites

has been established.

- b) Bacteriological samples are analyzed and results provided within 24 hours of test completion.
- 4) Per the EPD Major Spill response requirements, the following sampling and reporting is performed:
 - a) Daily for one week (total of 7 days, including the first sampling event within 24 hours of the spill event, if safe for personnel).
 - i) A geometric mean of these samples is calculated and used for data reporting purposes.
 - b) Weekly for 3 weeks.
 - i) A geometric mean of these samples is calculated and used for data reporting purposes.
 - c) The 3rd month following the spill, sampling is conducted weekly for 4 weeks.
 - i) A geometric mean of these samples is calculated and used for data reporting purposes.
 - d) The 12th month following the spill, sampling is conducted weekly for 4 weeks.
 - i) A geometric mean of these samples is calculated and used for data reporting purposes.

4.2.2 Stream Monitoring Program Report

- 1) For a Major Spill, the first week's results are reported to EPD within 5 days of completion.
- 2) A monthly stream monitoring report is completed following each month with sampling activity.
 - a) Stream Monitoring Program Report Forms (**Appendix F**) are completed for each required spill event.
 - b) These forms are submitted to EPD by the 15th day of the month following activity.
- 3) Stream monitoring program reports and related records are forwarded the CMOM Coordinator and the Document Control Coordinator for inclusion in the official record.

5. Investigation, Assessment, and Mitigation of SSOs

5.1 Overview

SSO investigation, tracking, and trend analysis are the responsibility of Operations Wastewater Superintendent, in conjunction with the CMOM Coordinator, Consent Decree Administrator, Engineering and Construction Management Services, Consent Decree Program Management, and Regulatory Compliance personnel.

5.2 Investigation

SSO investigations are completed by the assigned SSO investigators, based on the cause of the spill event, and reviewed by supervisors in Operations and the CMOM Coordinator.

5.2.1 Investigation of Spill Cause

- 1) Assigned SSO investigation crews are responsible for investigating all SSO types.
- 2) SSO investigations are completed based on spill cause, such as:
 - a) Storms
 - b) FOG
 - c) Third-party contractors
 - d) Roots
 - e) Debris
 - f) Vandalism
 - g) System failures
- 3) SSO investigation activities are completed, based on the initial apparent SSO cause, using appropriate equipment, mapping, and observation techniques.
- 4) The initial SSO cause investigation is followed by an investigation of the surrounding system, one eighth (1/8) of a mile or larger, to determine the likelihood of another SSO occurring from the same or similar cause.
- 5) The final SSO investigation includes an assessment of the likelihood of similar SSOs elsewhere in the system based on system parameters.
- 6) Educational materials are distributed or presented in person, as appropriate, based on the spill event cause, and as described in Section 3.1.6.

- 7) The CMOM Coordinator and the CDPMT prepares a summary of the SSO investigations, including short- and long-term recommendations.

5.2.1.1. Service Requests/Work Orders

- 1) The Operations Division conducts an investigation to identify the root cause of the blockage in the piping system in coordination with C&M and other County resources, as required. Based on the investigation, a WO may be generated to cover the following work activities:
 - Point repair/line replacement
 - Relining
 - Pipe bursting
 - Closed-Circuit Television (CCTV) inspection
 - Manhole/cleanout repair
 - Replace or seal perforated manhole lids
 - Regularly scheduled root cutting or rodding/jet cleaning
 - New line installation
 - Enforcement action for FOG
 - Capacity review
 - Legal and code enforcement
- 2) Closing out the WO for a spill event includes updating the SSO Evaluation Report with the actions completed to address the spill.

5.2.1.2. Short- and Long-Term SSO Investigation Reporting

- 1) Documentation based on SSO investigations and SRs is tracked and managed through the CMMS and the CMOM Coordinator's tracking spreadsheet.
 - a) Additional actions taken are recorded.
 - b) Results of SSO investigations (forms and reports), including short and long term recommendations for follow-up actions, are recorded.
- 2) All documentation related to the SSO investigation, SRs, and reporting to EPD is provided to the CMOM Coordinator for inclusion in the appropriate Spill Response Package for DWM recordkeeping purposes. Records are kept for 3 years after the Consent Decree period ends.
- 3) Short-term solutions for causes like vandalism, grease, debris, and roots (or any combination of these) can include actions such as mechanical rodding of the main, pressure washing, using a root cutting bit, or other methods of clearing the blockage to restore flow.

- 4) Lift station-related causes, such as a pump failing to turn on or a power outage, can have short-term solutions as well. These situations can be rectified by bringing in other available resources to run the lift station while repairs are made.
- 5) Long-term solutions are sometimes necessary for causes such as a broken main, manhole damage, creek crossing break, storm event, and large blockages. It may take hours or days to repair. Solutions include replacing the sewer main, making point repairs, and heavy cleaning. Chemical root control can be a long-term solution for heavy roots in sewer mains.

5.3. Tracking

- 1) All SSOs are tracked by the Operations Division with the CMOM Coordinator and Assistant CMOM Coordinators in a spreadsheet for one year.
- 2) Information recorded for each spill by the Operations Division is based primarily on the completed SSO Evaluation Report. This includes, but is not limited to:
 - Number (based on date of occurrence)
 - Date reported
 - Time reported
 - Time cause corrected
 - Fish kill (Y, N)
 - Type of spill
 - Quantity (gallons)
 - Address
 - Manhole # or structure #
 - Pipe size, material of construction
 - Cause
 - Waterway/nearest named stream
 - Tributary to creek (Y, N)
 - Date and corrective action by C&M
 - FOG education (Y, N)
 - WO #
 - SR #
 - District
 - Land lot

- Cleanout
- 5-day letter mailed
- Additional letter mailed
- Long-term preventive measures

5.4. SSO Assessment and Mitigation

SSO data analysis is completed to review the location, cause, frequency, potential corrective actions, and effect of spills that could occur. DWM reviews the data for SSO trends monthly, quarterly, and annually. Results of these trends analyses help to determine potential repair, rehabilitation locations, new line installations, septic tank elimination/connection to sewer system opportunities, and/or maintenance frequencies to guide the County's spill reduction efforts. The CMOM Coordinator conducts the data analysis in coordination with Operations and other DWM Divisions as required. SSO data and trend analyses are described more fully below.

5.4.1. Data and Trend Analysis

- 1) Data from the SSO Tracking Spreadsheet are used to complete the analysis. Other data, such as the location of food service establishments, high-density housing, and current sewer projects are also reviewed.
- 2) SSO data graphs are compiled to produce a Spill Assessment Summary Dashboard, which can be compared over time to identify changes.
- 3) Trends such as SSO causes, seasonal impacts, wet weather events, temperature, pipe sizes, sewersheds, and basins are evaluated. Geographic analyses of parameters are also used to evaluate trends.
- 4) DWM produces a variety of maps using different data layers to assist in the analysis. The sewer mapping and modeling conducted as part of the County's CMOM programs will be used to map and/or predict potential SSOs. The modeling will help assess the likelihood of an SSO occurring in the system. To reduce the likelihood of an SSO occurrence or recurrence, preventive maintenance work orders will be developed for those areas with the potential for SSOs, based on modeling parameters.
- 5) The CMOM Coordinator or Consent Decree Administrator schedules and conducts monthly and quarterly SSO response meetings with other DWM Division representatives.
- 6) Analyses of data and maps are completed by ECMS staff in coordination with Operations staff using InfoWorks™ modeling software and ArcGIS software. Business Intelligence software can also be used to develop charts, graphs, and trends analysis. ECMS staff or contractors analyze the spill cause variables and recommend actions to reduce the number and amount of spills. The analysis could consider conditions such as clustered spill events; land use; temperature; rainfall; new development; maintenance activities; manhole condition; and the age, slope, size, condition and utilized capacity of the pipe.

- 7) DWM will take additional measures to address each Major Spill as follows:
 - a) Trend analyses by total causes and sewershed cluster maps are compared to C&M preventive maintenance activities, repairs, and rehabilitation activities.
 - b) Consideration is also given to other efforts, such as grease producer education and regulatory compliance.
 - c) This information is reviewed during the monthly trend analysis meetings to determine the effectiveness of efforts over time.
- 8) Additional strategies can be identified to further increase the effectiveness of DWM's actions to prevent and resolve specific SSO causes, and to address cluster SSO areas within sub-basins.

5.5 Work Plans and Communication with Communities after Investigation

As described in Section 3.3.2.4, work plans are required for all repairs or SSO resolutions that will take longer than 60 days.

- 1) If, 14 days after an SSO occurs, the repairs or final resolution have not been completed, Operations personnel (specifically, the SSO General Foreman) will communicate with the CMOM Coordinator that the SSO has reached this date and will provide a time estimate for completion.
- 2) If, at 14 days post occurrence, an SSO is estimated to require longer than 60 days for repair, the CMOM Coordinator will begin preparing a work plan.
- 3) If the repair is not completed at 30 days, the Consent Decree Program Administrator will submit the work plan to EPD with as much information and schedule data as is available.
- 4) Throughout the repair, the work plan is updated as information is made available.
- 5) At the completion of the project, the work plan is closed out and noted as completed.
- 6) Once developed, the work plan may be shared with any communities, citizens, owners, cities, agencies, or stakeholders that may be affected by its implementation.
- 7) The County public outreach personnel and City Liaison are included in the work plan process to help educate communities and cities about the possibility of repairs and sewer work occurring in their area.

5.6 Root Cause Analysis Process – Recurring SSOs

The purpose of root cause analysis is to identify the factors that resulted in the nature, the magnitude, the location, and the timing of the outcomes of one or more past events; to determine what behaviors, actions, inactions, or conditions need to be changed; to prevent recurrence of similar harmful consequences; and to identify lessons that could promote better outcomes.

- 1) After the initial investigation of an SSO has been completed and the initial cause identified, short-term solutions are implemented to mitigate the SSO and restore normal flow patterns to the sewer system.
- 2) A follow-up investigation or follow-up repair could identify secondary causes of the SSO.
- 3) For recurring SSO locations, a root cause analysis for the initial SSO and the recurrence takes place during trend analyses or the SSO escalation process.
- 4) There may be more than one root cause for an SSO.
- 5) The final goal of the root cause analysis is to identify the root cause(s) and to make the SSO mitigation actions proactive instead of reactive.

6. CERP Training/Preparedness

6.1 Training and Duties

The following ongoing training is provided for all employees involved in SSO CERP activities:

- New employee initial training
- Biannual training of staff, as needed, on the SSO CERP
- Annual refresher training
- Other ongoing training as events or issues dictate

Example training resources are shown in **Appendix H**.

6.1.1 Training and Duties of Program Participants

- 1) The CMOM Coordinator reviews all training materials to ensure the information is current.
- 2) All personnel involved in the SSO CERP, including Dispatch, response crews, and monitoring crews, will be trained in the requirements of this program.
- 3) Training will be performed before an employee is assigned specific reporting duties.
- 4) Retraining will take place whenever inspections indicate that an employee does not have the necessary knowledge or skills to work in the SSO CERP.
- 5) The Operations Division Administrative Assistant will maintain training records in coordination with the Training staff.

6.1.2 Training and Duties of Workers

- 1) All personnel that perform work in the SSO CERP will comply with the requirements of this program and will receive appropriate training that includes, at a minimum:
 - a) The work practices that must be followed during the SSO CERP
 - b) The use of tools and reporting documents that will typically be required during work in the SSO CERP
 - c) The requirements of the SSO CERP

6.1.3 Training and Duties of Supervisors

- 1) All personnel that could respond to an SSO in any capacity will receive the training detailed above and will, in addition, receive training on the requirements detailed in all sections and appendices of the SSO CERP.
- 2) These personnel will:

- a) Coordinate and actively participate in the training of department employees.
- b) Ensure on a daily basis, or more often as detailed in this program, that the intent of the SSO CERP is met.
- c) Review monthly exception reports to identify any missed or overdue training needs.

6.1.4 Contractor Awareness, Duties, and Responsibilities

- 1) A County contractor that is performing work on County-managed property will coordinate activities with the assigned County staff to ensure the work meets the requirements of the program and is performed safely.
 - a) The contract for any DWM contractor will include language related to the contractor's duties and responsibilities for spill prevention and control.
 - i) DWM will encourage changes in other County construction contracts to include similar language.
 - b) Any damages caused by the contractor and repaired by the County or that result in a fine will be reimbursed to the County.
 - c) Contractors are to follow GUPC, erosion control, and other regulations as relevant to their work.
 - d) This section does not apply to contractors employed by other entities, whether other government agencies or private sources.
 - e) Contractor training will occur during contract kick-off meetings and as needed for the duration of the contract.

6.1.5 Preparedness Activities with Other Agencies and Jurisdictions

- 1) The DWM Operations Division is an active participant with the DeKalb Emergency Management Agency (DEMA), the Georgia Emergency Management Agency (GEMA), and the Federal Emergency Management Agency (FEMA).
- 2) Under the auspices of the National Incident Management System (NIMS), the DWM will participate with the various agencies during emergency situations (floods, ice storms, severe thunderstorms, tornado activity, and water outages).
- 3) The Division will participate in training made available by other agencies and jurisdictions. In the past, the Division has participated in FEMA Sewer Response Training for large system issues from accidents and/or terrorism activities, GEMA/FEMA Regional Power Outage Response training for major ice storms, and DEMA local planning activities.
- 4) Along with DEMA and GEMA, the Division also will prepare, as it has done in the past, for backup power systems and inventory planning activities.
- 5) For mass communication and emergency supply coordination in the event of large water system disruption, the Division has and will continue to participate with the Centers for Disease Control.

- 6) City governments within the County will partner with DWM via the County's City Liaison for all preparedness activities. The City Liaison will also facilitate notifications of SSOs that occur within city limits.

6.1.6 Document Control Distribution

All original CERP documents are kept by the Consent Decree Administrator and are available electronically. Revisions or corrections can be made to the master document through the Administrator. All forms are available to Operations personnel via shared drive or hard copy. The SSO tracking spreadsheet, along with the final spill packages, are available on DWM's shared drive. The Department's document repository manages final document retention in compliance with the Consent Decree.

Appendices

- Appendix A SSO Rules and Guidance**
- Appendix B Notification Contact Lists**
- Appendix C Bypass Pumping Procedure**
- Appendix D SSO Evaluation Form and Instructions**
- Appendix E SSO Volume Calculations**
- Appendix F Stream Monitoring and Analysis Forms**
- Appendix G Investigation, Tracking, and Trend Analysis**
- Appendix H Training Guide**
- Appendix I Initial Notification**

Appendix A

Rules and Guidance

The following rules and guidance are provided in Appendix A:

- Ga. Comp. R. & Regs. r. 391-3-06.05 Emergency Actions
- Ga. Comp. R. & Regs. r. 391-3-06 (Applicable Sections)
- EPD Sampling and Reporting

Ga. Comp. R. & Regs. r. 391-3-06 (Applicable Sections)

391-3-6-.05 Emergency Actions

- (1) Purpose. The purpose of Paragraph 391-3-6-.05 is to provide procedures to handle any emergency which endangers the waters of the State.
- (2) Definitions. All terms used in this Paragraph shall be interpreted in accordance with the definitions as set forth in the Act unless otherwise defined in this Paragraph or in any other Paragraph of these Rules.
 - (a) "Spill" means any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the State.
 - (b) "Major Spill"; means:
 1. The discharge of pollutants into the waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater for any one day, provided that the effluent discharge concentration is equal to or greater than 25 mg/L for biochemical oxygen demand or total suspended solids.
 2. Any discharge of raw sewage that (1) is in excess of 10,000 gallons or (2) results in water quality violations in the waters of the State.
 - (c) "Consistently exceeding an effluent limitation" means a POTW exceeding the 30 day average limit for biochemical oxygen demand or total suspended solids for at least five days out of each seven day period during a total period of 180 consecutive days.
- (3) Notice Concerning Endangering Waters of the State. Whenever, because of an accident or otherwise, any toxic or taste and color producing substance, or any other substance which would endanger downstream users of the waters of the State or would damage property, is discharged into such waters, or is so placed that it might flow, be washed, or fall into them, it shall be the duty of the person in charge of such substances at the time to forthwith notify the Division in person or by telephone of the location and nature of the danger, and it shall be such person's further duty to immediately take all reasonable and necessary steps to prevent injury to property and downstream users of said water. The following specific requirements shall apply to POTWS:
 - (a) The owner of a POTW shall immediately notify the Division, in person or by telephone, when a spill or a major spill occurs in the system. Within five (5) days of the incident, the owner of the POTW shall submit a written report to the Division which includes, at a minimum, the information required in (3)(e) below. The spill notification and report may be submitted electronically, as approved or required by the Division.
 - (b) The owner of a POTW responsible for a major spill shall publish a notice of the major spill in the legal organ of the County where the incident occurred. The notice shall be published within seven days after the date of the major spill. The notice at a minimum shall include the following:
 1. Date of the major spill;
 2. Location and cause of major spill;
 3. Estimated volume discharged and name of receiving waters;
 4. Corrective action taken to mitigate or reduce the adverse effects of the major spill.

- (c) The owner of a POTW shall immediately establish a monitoring program of the waters affected by a major spill or by consistently exceeding an effluent limit, with such monitoring being at the expense of the POTW for at least one year. The monitoring program shall include an upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or the consistent exceedance of effluent limitations as described in (2)(c) above. At a minimum the following parameters shall be monitored in the receiving stream:
1. Dissolved Oxygen;
 2. Fecal Coliform Bacteria;
 3. pH;
 4. Temperature.
- The monitoring and reporting frequency as well as the need to monitor additional parameters will be determined by the Division. The results of the monitoring will be provided by the POTW owner to the Division and all downstream public agencies using the affected waters as a source of a public water supply.
- (d) The Division and the owner of a POTW will provide notice of a major spill within 24- hours of becoming aware of the major spill to every county, municipality or other public agency whose public water supply is within a distance of 20 miles downstream and to any others which could potentially be affected by the major spill.
- (e) The owner of a POTW responsible for a spill or a major spill shall report the incident to the local media (television, radio and print media) within 24 hours of becoming aware of the incident. The report shall include at a minimum the following:
1. Date of the spill or major spill;
 2. Location and cause of spill or major spill;
 3. Estimated volume discharged and name of receiving waters;
 4. Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill.
- (f) The owner of a POTW responsible for a spill or a major spill shall immediately report the incident to the local health department(s) for the area affected by the incident. The report shall include at a minimum the same information required in (3)(e) above.
- (g) The owner of a POTW responsible for a spill or a major spill shall immediately post a notice as close as possible to where the spill or major spill occurred and where the spill or major spill entered State waters. The notice shall include at a minimum the same information required in (3)(e) above. The intent of this requirement is for the POTW to notify citizens, who may come into contact with the affected water, that the spill or the major spill has occurred. The owner shall also post additional notices of the spill or major spill along the portions of the waterway affected by the incident (i.e. at bridge crossings, trails, boat ramps, recreational areas, and other points of public access to the affected waterway). These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.
- (4) Noncompliance Notification. If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitations specified in the permittee's NPDES permit, the permittee shall provide the Division with an oral report within 24 hours from the time the permittee

becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

- (a) A description of the noncompliance and its cause; and
 - (b) The period of noncompliance, including exact dates and times; 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 noncomplying discharge.
 - (c) The noncompliance notification and report may be submitted electronically, as approved or required by the Division.
- (5) Emergency Orders. The Director shall have the authority to issue an emergency order pursuant to Section 20 of the Act, and Section 17(a) of the Executive Reorganization Act of 1972, as amended.
- (6) Effective Date. This Rule shall become effective twenty days after filing with the Secretary of State's Office.

Authority: O.C.G.A. Section 12-5-20 et seq.

Amended: F. Oct. 13, 2017; eff. Nov. 2, 2017.

Ga. Comp. R. & Regs. r. 391-3-06 (Applicable Sections)

391-3-6-.03 Water Use Classifications and Water Quality Standards.

(1) **Purpose.** The establishment of water quality standards.

(2) **Water Quality Enhancement:**

(a) The purposes and intent of the State in establishing Water Quality Standards are to provide enhancement of water quality and prevention of pollution; to protect the public health or welfare in accordance with the public interest for drinking water supplies, conservation of fish, wildlife and other beneficial aquatic life, and agricultural, industrial, recreational, and other reasonable and necessary uses and to maintain and improve the biological integrity of the waters of the State.

(b) The following paragraphs describe the three tiers of the State's waters.

(i) Tier 1 - Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(ii) Tier 2 - Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the division finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the division's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the division shall assure water quality adequate to protect existing uses fully. Further, the division shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(iii) Tier 3 - Outstanding National Resource Waters (ONRW). This designation will be considered for an outstanding national resource waters, such as waters of National or State parks and wildlife refuges and waters of exceptional aesthetic, historic, recreational, or ecological significance. For waters designated as ONRW, existing water quality shall be maintained and protected. The following waters below are designated as ONRWs:

Conasauga River within the Cohutta Wilderness Area of the Chattahoochee National Forest (headwaters to Forest Service Road 17).

1. No new point source discharges or increases in the discharge of pollutants above permitted level from existing point source discharges to ONRW shall be allowed.

2. Existing point source discharges to ONRW shall be allowed, provided they are treated or controlled in accordance with applicable laws and regulations.

3. New point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, ONRW shall be regulated in accordance with applicable laws and regulations, including compliance with water quality criteria for the use classification applicable to the particular water. However, no new point source discharge or expansion of an existing point source discharge to waters upstream of, or tributary to, ONRW shall be allowed if such discharge would not maintain and protect water quality within the ONRW.

4. Activities that result in short-term, temporary, and limited changes to water quality may be allowed if authorized by the Division and the water quality is returned or restored to conditions equal to or better than those existing prior to the activities.

(c) In applying these policies and requirements, the Division will recognize and protect the interest of the Federal Government in interstate and intrastate (including coastal and estuarine) waters. Toward this end the Division will consult and cooperate with the Environmental Protection Agency on all matters affecting the Federal interest.

(d) In those cases where potential water quality impairment associated with a thermal discharge is involved, the division's actions shall be consistent with Section 316 of the Federal Clean Water Act.

(e) Variance. Variances are a temporary modification to the designated use and associated criteria. Variances may be written for a specific geographic area, pollutant, or source. The State may issue variances that can provide relief to a permittee while they upgrade their facility to meet the standard. Variances are based on a use attainability demonstration, which requires a scientific assessment of factors affecting the attainment of a standard. Variances target achievement of the highest attainable water quality standard, must be reviewed every three years, and do not allow for a reduction in treatment efforts. Before a variance to a water quality standard is applied to a permitted discharger or to a waterbody, it must be demonstrated that one of the following factors has been satisfied:

(i) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating Georgia's water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place, or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(v) Physical conditions related to the natural features of the water body such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(vi) Controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

(f) Removal of a Designated Use. The State may remove a designated use which is not an existing use, as defined in [40 CFR 131.3](#), or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible. This is done through a use attainability analysis. The use attainability analysis is a scientific assessment of factors affecting the attainment of a use and may include physical, chemical, biological and/or economic factors. A detailed analysis is required demonstrating that certain conditions are met indicating that the designated use cannot be met and should be removed. The use attainability analysis should be conducted in accordance with the US EPA Technical Support Manual: *Waterbody Surveys and Assessments for Conducting Use Attainability Analyses* and /or any State guidance documents. The factors that can be used are as follows:

(i) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating Georgia's water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place, or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(v) Physical conditions related to the natural features of the water body such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(vi) Controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

(3) **Definitions.** All terms used in this paragraph shall be interpreted in accordance with definitions as set forth in the Act and as otherwise herein defined:

(a) "Acute criteria" corresponds to EPA's definition for Criteria Maximum Concentration which is defined in [40 CFR 131.36](#) as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time (1-hour average) without deleterious effects.

(b) "Biological integrity" is functionally defined as the condition of the aquatic community inhabiting least impaired waterbodies of a specified habitat measured by community structure and function.

(c) "Chronic criteria" corresponds to EPA's definition for Criteria Continuous Concentration which is defined in [40 CFR 131.36](#) as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

(d) "Coastal waters" are those littoral recreational waters on the ocean side of the Georgia coast.

(e) "Existing instream water uses" include water uses actually attained in the waterbody on or after November 28, 1975.

(f) "Intake temperature" is the natural or background temperature of a particular waterbody unaffected by any man-made discharge or thermal input.

(g) "Critical conditions" are the collection of conditions for a particular waterbody used to develop Total Maximum Daily Loads (TMDLs), determine NPDES permit limits, or assess the protection of water quality standards. The Division considers appropriate critical conditions to represent the event that would occur once in ten years on the average or less often, unless otherwise stated.

(h) "Natural conditions" are the collection of conditions for a particular waterbody used to develop numeric criteria for water quality standards which are based on natural conditions. This is commonly the case for temperature and natural dissolved oxygen standards. For this purpose the Division defines "natural conditions" as those that would remain after removal of all point sources and water intakes, would remain after removal of man made or induced nonpoint sources of pollution, but may include irretrievable effects of man's activities, unless otherwise stated. Natural conditions shall be developed by an examination of historic

data, comparisons to reference watersheds, application of mathematical models, or any other procedure deemed appropriate by the Director.

(i) "Naturally variable parameters." It is recognized that certain parameters including dissolved oxygen, pH, bacteria, turbidity and water temperature, vary through a given period of time (such as daily or seasonally) due to natural conditions. Assessment of State waters may allow for a 10% excursion frequency for these parameters.

(j) "Reasonable and necessary uses" means drinking water supplies, conservation, protection, and propagation of fish, shellfish, wildlife and other beneficial aquatic life, agricultural, industrial, recreational, and other legitimate uses.

(k) "Secondary contact recreation" is incidental contact with the water, wading, and occasional swimming.

(l) "Shellfish" refers to clams, oysters, scallops, mussels, and other bivalve mollusks.

(m) "Significant Figures." The number of "significant figures" represented in numeric criteria are the number of figures or digits that have meaning as estimated from the accuracy and precision with which the quantity was measured and the data were rounded off. Technical guidance on significant figures, including rules for rounding off following mathematical operations, is provided in the publication entitled *Standard Methods for the Examination of Water and Wastewater*, in "Part 1050 Expression of Results, B. Significant Figures" (American Public Health Association (APHA), American Water Works Association (AWWA), and Water Environment Federation (WEF); 18th, 19th, 20th, or subsequent Editions).

(n) "Water" or "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.

(o) "Areas where salt, fresh and brackish waters mix" are those areas on the coast of Georgia having a salinity of 0.5 parts per thousand and greater. This includes all of the creeks, rivers, and sounds of the coastal area of Georgia and portions of the Savannah, Ogeechee, Altamaha, Satilla and St. Marys Rivers where those rivers flow into coastal sounds. Mixing areas are generally maintained by seawater transported through the sounds by tide and wind which is mixed with fresh water supplied by land runoff, subsurface water and river flow. Mixing areas have moving boundaries based upon but not limited to river stage, rainfall, moon phase and water use. (For the purposes of this rule salinity shall be analyzed by in situ measurement using a properly calibrated multi-parametric probe connected by hard line to a deck display or by measuring electrical conductivity according to one of the methods specified in *Title 40, Code of Federal Regulations, Part 136* and applying the guidance for conversion to salinity in the same volume. Collection of salinity samples must consider river flow, precipitation, tidal influences and other variables of the estuarine environment and must conform to the *National Coastal Assessment-Quality Assurance Project Plan 2001-2004* (EPA/620/R-01/002). Measurements at each sampling location must be made in a distribution in the water column according to the *Quality Assurance Project Plan*, with the minimum observations at each station including surface, mid-depth and near-bottom readings. In situ salinity analysis must comply with the *Quality Assurance Project Plan* and the manufacturer's guidance for the specific instrument used).

(4) **Water Use Classifications.** Water use classifications for which the criteria of this Paragraph are applicable are as follows:

(a) Drinking Water Supplies

(b) Recreation

(c) Fishing, Propagation of Fish, Shellfish, Game and Other Aquatic Life

(d) Wild River

(e) Scenic River

(f) Coastal Fishing

(5) **General Criteria for All Waters.** The following criteria are deemed to be necessary and applicable to all waters of the State:

(a) 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.

(b) All waters shall be free from oil, scum and floating debris associated with municipal or domestic sewage, industrial waste or other discharges in amounts sufficient to be unsightly or to unreasonably interfere with the designated use of the water body.

(c) All waters shall be free from material related to municipal, industrial or other discharges which produce turbidity, color, odor or other objectionable conditions which unreasonably interfere with the designated use of the water body.

(d) Turbidity. The following standard is in addition to the narrative turbidity standard in Paragraph **391-3-6-.03** (5)(c) above: 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 Paragraph **391-3-6-.03** (5)(d).

(e) 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.

EPD Sampling and Reporting Guidance

Georgia Department of Natural Resources

GEORGIA ENVIRONMENTAL PROTECTION DIVISION

Permitting, Compliance and Enforcement Program

4220 International Parkway, Suite 101

Atlanta, Georgia 30354

404/362-2680

FAX 404/362-2691

December 28, 1999

RE: Reporting Major Spills

Dear Mayor Penson:

The Environmental Protection Division (EPD) is revising the sampling and reporting requirements when you have a major spill. Primarily, the modification involves changing the months that the monitoring will be conducted. Also, the municipality must continue to meet the other publishing and reporting requirements related to major spills.

In the past, EPD has required municipalities to submit data every month for a twelve-month period. This is being changed to require data during the first month, third month, and twelfth month only. Similar to the previous reporting requirements, sampling for the first month will include daily samples for the first week and weekly samples for the next 3 weeks. Month 3 and month 12 will consist of samples collected once per week for the month. The monitoring will apply to dissolved oxygen, temperature, pH and fecal coliform bacteria. The geometric mean for the fecal coliform bacteria samples will be calculated for week one, month one, month three, and month twelve. The first week's daily samples are to be reported to EPD within 5 days after completion of these samples. The remainder of the reports are to be submitted to EPD by the 15th day of the month following the sampling period.

Enclosed with this letter is a copy of the stream monitoring report form. If you choose to create your own form, please ensure that, at a minimum, the information on EPD's report form is included. The stream monitoring report form should be filled out and updated each time sampling results are being submitted to EPD. In addition to submitting the report form, please submit an 8 x 11 (approximate size) copy of a county map indicating the upstream and downstream sampling locations as well as the location of where the major spill occurred.

If you have any questions regarding this correspondence, please contact Joe Fievet at (404) 362-2680.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey H. Larson". The signature is written in a cursive style with a large initial "J".

Jeffrey H. Larson, Manager
Permitting, Compliance and Enforcement Program

JHL/III

Attachment

Appendix B

Notification Contact Lists

The Spill Notification Directory contact lists current as of 7/31/18 are provided in Appendix B. Initial Spill Reporting Notifications are received by the following:

Organization	Phone Number	Fax Number	Alternate Contact
Regulatory Agencies			
Georgia EPD	404-463-1511	404-362-2671	Sarah.Sustaita@dnr.ga.gov Collan.Campbell@dnr.ga.gov Reginald.Williamson@dnr.ga.gov
Board of Health – DeKalb County	770-508-7900	770-508-7979	404-508-7934 Alan.Gaines@dph.ga.gov stacey.cargal@dph.ga.gov saskia.patterson@dph.ga.gov evangeline.reaves@dph.ga.gov leon.smith@dph.ga.gov
Georgia DNR Hotline*	1-800-241-4113		
Georgia Fish & Wildlife*	770-535-5498		
*Downstream Users			
DNR - Georgia State Parks			wayne.fuller@dnr.ga.gov
Chattahoochee Riverkeepers	404-352-9828		mmeyer@chattahoochee.org ssamuels@mindspring.com
South River Watershed Alliance	404-285-3756	678-974-7927	southernriverwatershedalliance@gmail.com
City of Atlanta Watershed Management	494-546-0311 404-546-3200 404-982-1468		glockett@atlantaga.gov kgraham@atlantaga.gov gfletcher@atlantaga.gov mmccarthy@atlantaga.gov
Hemphill Water Treatment Plant	404-982-1450		rtparker@atlantaga.gov
Chattahoochee Water Treatment Plant	404-609-7100		rtparker@atlantaga.gov
Cobb County-Marietta Water Authority Quarles Water Treatment Plant	770-514-5300		sbrinkley@ccmwa.org
Henry County Water Authority	770-957-6659	678-583-2466	pat.hambree@hcwa.com patrick.kelley@hcwa.com scott.sage@hcwa.com
Clayton County Water Authority	770-960-5205		charles.ecton@ccwa.us
Media/Other Agencies			
Atlanta Journal-Constitution			communitynews@ajc.com metronews@ajc.com mark.niesse@ajc.com
Crossroads News			editor@crossroadsnews.com
Dunwoody Crier			thecrier@mindspring.com
The Champion Newspaper			Kathym80@hotmail.com johnh@dekalbchamp.com
The DeKalb/Doraville Neighbor Newspaper			dekalb@neighbornewspapers.com
WABE 90.1 FM			newsroom@wabe.org
WSB 750 AM	404-897-7500	404-897-7363	Chris.camp@wsbradio.com
WSB - TV 2 (ABC)	404-897-6276		clarence.huber@wsbtv.com lacey.lecroy@wsbtv.com assignmentdesk@wsbtv.com newstip@wsbtv.com
WXIA – TV 11 (NBC)	404-892-1611	404-881-0675	News@11alive.com
WAGA – TV 5 (FOX)	404-898-0100		newstipsatlanta@foxtv.com
WGCL – TV 46 (CBS)	404-327-3200	404-327-3004	news@cbs46.com
DeKalb County CIP Advisory Board – John Hewitt			canoe4ever@gmail.com
City Governments within DeKalb County			

Avondale Estates	404-294-5400		rcbrown@avondaleestates.org ogriffin@avondaleestates.org
Brookhaven	404-637-0590		david.delgado@brookhavenga.gov gary.yandura@brookhavenga.gov
Chamblee	770-986-5010 470-395-2310		jwalker@chambleega.gov randerson@chambleega.gov
Clarkston	404-296-6489		kbarker@cityofclarkston.com
Decatur	404-377-5571	404-378-4153	David.Junger@decaturga.com Jennings.Bell@decaturga.com Michelle.Hirose@decaturga.com Hugh.Saxon@decaturga.com
Doraville	770-451-8745		shawn.gillen@doravillega.us
Dunwoody	678-382-6700		eric.linton@dunwoodyga.gov michael.smith@dunwoodyga.gov
Lithonia	770-482-0152		cheryl.foster@lithoniacity.org
Pine Lake	404-292-4250		valeriecaldwell@bellsouth.net saraiy'udah-green@pinelakega.com
Stone Mountain	770-498-8984 ext. 120		garypeet@stonemountaincity.org publicworks@stonemountaincity.org
Tucker	678-597-9040		thanlin@tuckerga.gov
Internal – DeKalb County			
CEO – Michael Thurmond			www.dekalbcountyga.gov/chief-executive-officer
Board of Commissioners			www.dekalbcountyga.gov/board-commissioners/board-commissioners
COO –Zachary Williams DCOO-Ted Rhinehart Director of Public Works- Richard Lemke			www.dekalbcountyga.gov www.dekalbwatershed.com www.dekalbwatershed.com
DWM Interim Director – Reggie Wells			www.dekalbwatershed.com
DWM Deputy & Assistant Directors			www.dekalbwatershed.com
DWM Operations Managers & Superintendents			www.dekalbwatershed.com
DWM Plant Managers & Superintendents			www.dekalbwatershed.com
DWM ECMS Staff			dwm_ecms@dekalbcountyga.gov
DWM Operations Staff			www.dekalbwatershed.com
Parks & Recreation Department			www.dekalbcountyga.gov/parks
Code Enforcement **			codeenforce@dekalbcountyga.gov
DWM Dispatch Center	770-270-6243	770-724-1400	DekalbWaterOPS@dekalbcountyga.gov

**Notified only if major sewer spill criteria are met or fish kill is present.*

***Notified only if private spill criteria are met or under other special conditions.*

Appendix C

Bypass Pumping Procedure

Bypass Pumping Procedure

- I. Secure work site by placing traffic control signs and safety devices at the work site.
 - (1) Follow Traffic Safety Procedures.
 - (2) Don safety vests, hardhats, safety glasses, etc.
 - (3) Isolate one or more lanes of traffic with flags, cones, traffic control signs, etc. where work in or immediately adjacent to roads exposes a crew member to traffic injuries.
 - (4) Look for overhead power lines that may hit the truck or equipment. If lines are above the work area, contact Georgia Power at (888) 850-4551 to de-energize or shield the lines. Equipment must be kept at least ten (10) feet from the overhead lines.
- II. Determine the location of manhole.
 - (1) Locate manhole location on city map and identify GIS location number.
 - (2) If manhole is not visible, use metal detection or other equipment to locate it.
 - (3) Check sewer main by removing manhole lids in vicinity of home/business until a free flowing manhole is found.
 - (4) Lift the manhole cover using the hook. Drag the cover with the hook, avoid bending over and using hand whenever possible.
 - (5) For heavier manholes, use a truck-mounted winch.
 - (6) Follow Confined Space Procedures.
 - (7) Follow Personal Protection Equipment (PPE) Program.
 - (8) DO NOT place your face near the manhole opening. Let the manhole "breathe" for ten (10) minutes before looking in.
 - (9) DO NOT SMOKE near manholes regardless of whether the cover is on or off.
 - (10) DO NOT STAND on the removed manhole cover.
 - (11) USE IMPERVIOUS GLOVES when working with an open manhole.
 - (12) USE DISPOSABLE TYVEK COVERALLS to keep sewage off your uniform.
- III. Prepare the pumping equipment for the bypass operation.

- (1) Locate the pumping equipment where the hoses are within reach of the manhole upstream of the stoppage and capable of pumping to the next free-flowing point in the gravity line.
- IV. Attach suction hose and discharge hose to pumping equipment.
- (1) Two employees are needed to position hoses.
 - (2) Determine length of suction hose needed by measuring depth from pump suction inlet to bottom of manhole.
 - (3) Determine length of discharge pipe needed by measuring distance from upstream manhole to downstream manhole.
- V. Insert free end of hoses into appropriate manholes.
- (1) Insert suction hose into manhole upstream of stoppage.
 - (2) Insert discharge hose into manhole downstream of stoppage where free-flow of sanitary sewer is restored.
 - (3) Depending on the nature of the stoppage and repairs needed, a plug may be required to completely isolate the blocked area so that appropriate remedial action can occur.
- VI. Check location of hoses in between manholes.
- (1) If hoses need to be below street/ground level, trenches may be made using a jackhammer or cement saw. Take the following precautions:
 - (a) Check underground utilities prior to starting work.
 - (b) Ensure that hose fittings are not in-line with driveways.
 - (c) If necessary, protect hoses by building protective covers over hoses or saw cutting ditches in the street in which to put hoses.
- VII. Start the pumping equipment.
- (1) Routinely monitor pumping equipment during entire bypass pumping process.
 - (2) Continue bypass pumping process until necessary repairs are made to the sewer line.
- VIII. Break down work site and report the work completed.
- (1) Replace manhole cover by dragging it with the hook if possible.
 - (2) When manhole cover is in place, remove Tyvek coveralls and place in garbage bag for disposal.
 - (3) Remove disposable respirator and place in plastic bag for reuse (refer to PPE Program).
 - (4) Clean up work site, disinfect, sanitize.

Appendix D

SSO Evaluation and Notification Forms

Appendix D includes:

- SSO Evaluation Report
- SSO Notification Report

DeKalb County Department of Watershed Management
SANITARY SEWER OVERFLOW (SSO) EVALUATION REPORT

Today's Date: _____ Spill Overflow Building Backup Private? Yes No

Weather conditions: _____ District: 1 2 3 Section: A B C D E F G H I

Who reported SSO: _____

Address of Caller reporting SSO: _____ City: _____ Zip: _____

Date and Time SSO reported: _____

Address of SSO: _____ City: _____ Zip: _____

Date and Time SSO was stopped: _____ Estimated amount of sewage discharged in gallons: _____

Reporting Foreman: _____ Service Request or Work Order #: _____

SSO Origin: Pipe Manhole Cleanout Size? _____ Lift Station Name: _____

Did SSO Enter: Waterway Storm Drain Building

Name of waterway/tributary that spill entered: _____ Tributary: _____

Were signs posted at site, upstream and entry to State waters, and along/at bridge crossings, trails, boat ramps, recreation areas and other points of public access? Yes No How many signs were posted? _____ (Minimum of 4 for Minor and 6 for Major)

Cause of Sanitary Sewer Overflow

(Check all that apply)

Grease Roots Broken Main I&I Manhole Damage Storm Event

Vandalism Outside Contractor/Utility Creek Crossing Unknown Other _____

Right-of-Way / Lateral Issue Distance rodded: _____ Feet Hit blockage at: _____ Feet

Debris Type of Debris: _____

Backwater valve installed? Yes No Disaster Cleaning Service Called? Yes No Sewer Line Size: _____ inches

SSO Cause Explanation: _____

Action taken to correct problem: _____

Date & Time Infrastructure Defect was repaired: _____

Spilling Manhole(s) #: _____ and Highlighted map attached? Yes No

INITIATE MAJOR SPILL REPORTING (CONTACT DISPATCH) IF ANY OF THE FOLLOWING EXISTS

Fish Kill or Water Quality Impact or Spill Volume of 10,000+ Gallons Observed? Yes No

Reviewed By: _____ Date: _____

DeKalb County Department of Watershed Management

SANITARY SEWER SPILL/OVERFLOW (SSO) NOTIFICATION REPORT

Reporting Process: SSO's that enter state waters – **Report Immediately to Dispatch**

***** DURING NORMAL WORK WEEK*****

Deliver all reports to the SSO General Foreman, Assistant Superintendent, Superintendent, Deputy Director, or Dispatch Manager for Quality Control review. If not available take to the C&M Dispatcher on Duty for reporting.

***** WEEKENDS (Fridays 4:00 pm – Monday 8:00 am) and HOLIDAYS *****

Deliver all reports to the C&M Dispatcher on Duty for reporting.

NOTIFICATION LIST

SSO Type	Agency/Action	Phone Number	Fax Number	Fax or Email Date	Fax or Email Time
All Spills (Public & Private)	Fax E.P.D.	404-463-1511	404-656-2453		
All Spills (Public & Private)	Fax Board of Health	404-508-7900	404-508-7979		
All Spills	Email Spill List*	Major or Minor (Public only)	N/A		
All Spills at Lift Stations	Email Lift Station Spill List	Major or Minor (Public only)	N/A		
Private Spills & Overflows	Fax Board of Health (Email to escalate)	Private only	N/A		
SSO Type	Agency/Action	Phone Number	Contact Person & Report #	Contact Date	Contact Time
Major Spills **	Call EPD Emergency Response Hotline	1-800-241-4113			
<i>Comments from EPD:</i>					
Major Spills involving Fish Kills**	Call Georgia Fish and Wildlife Service	770-535-5498			
Major Spills **	Call DWM Deputy Director, Operations	770-621-7208	Included in initial email notification		
Major Spills **	Call DWM Deputy Director, ECMS	770-621-7244	Included in initial email notification		
Major Spills **	Call Consent Decree Administrator	770-621-7214	Included in initial email notification		
Major Spills involving Water Quality Impact**	Call W.Q.C. Lab Monitoring Supervisor	770-981-0220 770-808-2929	Included in initial email notification		

Notifications completed by? _____

*Initial email notification lists include internal Staff, media contacts, and other County Staff; Major spill initial email notification lists include downstream users (Water Treatment Plants), DeKalb County Board of Health, and Water Regulators.

** Major spills are sanitary sewer overflows that involve a spill volume of 10,000 gallons or more, fish kill, or water quality impact observed.

Appendix E

Spill Volume Calculations

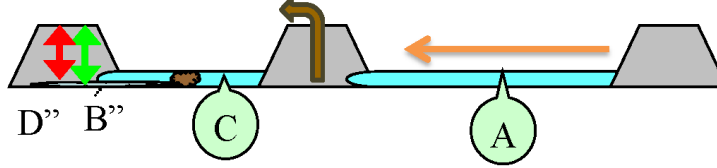
The following spill volume calculation information is provided in Appendix E:

- Sanitary Sewer Flow Rates
- Manhole Visual Volume Estimation
- Wet Weather Overflow Calculation

Overflow Calculation Sheet

Date: _____ Foreman: _____

SSO Manhole(s): _____ WO# _____



- A is upstream pipe size in inches A
- B is flow depth past blockage B
- Downstream flow amount from chart gpm #1
- C is blocked pipe size C
- D is "normal" flow after blockage cleared D
- Normal flow amount from chart gpm #2
- Notification time must be military time (##:##)
- Overflow stopped time must be military time (##:##)
- Time in minutes minutes #3

Calculations using chart:

$$\begin{array}{ccccccc}
 \boxed{0} & - & \boxed{0} & = & \boxed{0} & \times & \boxed{0.00} & = & \boxed{0} \\
 \text{\#2} & & \text{\#1} & & & & \text{\#3} & & \text{Total volume} \\
 & & & & & & & & \text{in gallons}
 \end{array}$$

IF #2-#1=0 THEN USE #2x#3 FOR FLOW GPM

Determining Volume using Manhole Chart:

Length x Width x Depth = Volume in cubic feet (measurements in feet)

$$L(\quad)\text{ft} \times W(\quad)\text{ft} \times D(\quad)\text{ft} \times 7.48 \text{ g/cft} \times \quad \text{\#3}$$

= gallons

radius x radius x Depth x pi = Volume in cubic feet (radius in feet is 1/2 diameter)

$$r(\quad)\text{ft} \times r(\quad)\text{ft} \times D(\quad)\text{ft} \times 3.14 \times 7.48 \text{ g/cft} \times \quad \text{\#3}$$

= gallons

revised 2/9/17

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Determine time of initial caller notification of sewer spill. 2. Measure the flow, if any, in inches in sewer immediately downstream of blockage and determine flow rate from table. 3. Clear obstacles from blocked sewer, allow free & steady flow to stabilize, and note the time. 4. Measure the flow in inches in the previously blocked sewer and determine flow rate from the table. | <ol style="list-style-type: none"> 5. Subtract the flow rate from the downstream sewer determined in 2 above, if any, from the flow rate from the previously blocked sewer determined in 4 above and multiply by the elapsed minutes from notification to clearance. 6. Report total amount spilled to General Foreman and Superintendent. |
|---|--|

DEPTH OF FLOW (inches)	PIPE SIZE (inches)								
	6	8	10	12	15	18	21	24	30
1	20	20	25	30	30	35	35	35	50
2	50	60	70	75	90	95	105	115	120
3	90	105	125	135	155	170	185	205	230
4	125	155	180	205	235	260	285	305	355
5	155	205	245	275	325	355	400	430	475
6	175	250	305	350	410	465	505	550	625
7		290	365	425	500	570	635	680	955
8		315	420	495	600	680	750	830	935
9			465	565	690	795	885	965	1110
10			490	630	775	905	1010	1105	1295
11				675	865	1015	1150	1265	1455
12				705	945	1120	1270	1410	1645
13					1010	1220	1405	1555	1840
14					1070	1320	1525	1715	2005
15					1100	1415	1650	1855	2205
16						1490	1760	1990	2400
17						1550	1875	2140	2565
18						1585	1965	2270	2760
19							2055	2390	2950
20							2120	2515	3110
21							2160	2615	3295
22								2705	3470
23								2780	3615
24								2820	3780
25									3930
26									4050
27									4175
28									4285
29									4355
30									4405

Gallons per minute @ v=2.0 fps and n=0.013

revised 2/9/17

DEPTH OF FLOW (inches)	PIPE SIZE (inches)				
------------------------	--------------------	--	--	--	--

	36	42	48	54	60
0	0	0	0	0	0
1	40	60	55	65	55
2	135	140	150	160	195
3	260	265	275	305	330
4	380	415	460	485	485
5	540	585	460	635	720
6	685	735	815	855	915
7	870	930	1010	1090	1125
8	1035	1140	1215	1280	1420
9	1240	1365	1435	1540	1660
10	1420	1595	1720	1815	1900
11	1640	1785	1960	2105	2244
12	1865	2030	2205	2330	2510
13	2055	2280	2455	2635	2780
14	2290	2535	2715	2950	3155
15	2490	2745	2980	3190	3445
16	2730	3010	3315	3520	3740
17	2930	3280	3585	3855	4140
18	3170	3550	3865	4195	4445
19	3375	3770	4145	4455	4760
20	3615	4045	4425	4800	5180
21	3855	4315	4710	5155	5495
22	4055	4590	5065	5420	5820
23	4290	4810	5350	5780	6255
24	4480	5085	5640	6140	6585
25	4705	5355	5925	6500	6915
26	4890	5625	6215	6775	7355
27	5105	5835	6500	7135	7690
28	5275	6100	6855	7500	8025
29	5475	6355	7135	7775	8475
30	5660	6605	7415	8135	8810

DEPTH OF FLOW (inches)	PIPE SIZE (inches)				
------------------------	--------------------	--	--	--	--


	36	42	48	54	60
31	5805	6850	7690	8495	9150
32	5965	7040	7965	8765	9595
33	6085	7270	8235	9120	9930
34	6205	7495	8565	9475	10265
35	6290	7705	8820	9820	10710
36	6345	7860	9075	10080	11040
37		8050	9320	10420	11370
38		8220	9555	10755	11805
39		8370	9785	11005	12125
40		8475	10060	11325	12445
41		8575	10270	11640	12865
42		8635	10465	11870	13175
43			10650	12170	13485
44			10815	12460	13885
45			10965	12735	14175
46			11100	12930	14465
47			11225	13185	14840
48			11280	13420	15115
49				13585	15380
50				13790	15720
51				13965	15965
52				14115	16200
53				14205	16495
54				14275	16705
55					16900
56					17135
57					17295
58					17430
59					17565
60					17625

revised 2/9/17

Manhole Visual Volume Estimation


Exhibit D-2










**City of San Diego
Metropolitan Wastewater Department**



**Reference Sheet for Estimating Sewer Spills
from Overflowing Sewer Manholes**
All estimates are calculated in gallons per minute (gpm)

**Wastewater Collection Division
(619) 694-160**



 5 gpm	 100 gpm	 225 gpm
 25 gpm	 150 gpm	 250 gpm
 50 gpm	 200 gpm	 300 gpm

All photos were taken during a demonstration of the new "water" made from a hydraulic connection with the City of San Diego's Water Treatment

D.2.3 WET WEATHER OVERFLOW CALCULATION:

The following can be used to help in estimating the rate of loss of flow out of manholes. As this is an estimate, judgment by the observing person and/or estimator must always be used.

All calculations are based on an estimate of the size of the opening involved, the velocity of flow through the opening, and the duration of time the overflow occurred. In most all occurrences, the opening size and velocity will change over an event from low to high back to low. Judgment on an average condition must thus be attempted to reach a realistic rate of loss.

D.2.3.A. Loss through vent holes

1. Size of opening:
Assume holes at 1-inch diameter

$$\text{Area} = (\text{number of holes}) (\pi) (D^2/4) (1\text{ft}^2/144)$$

$$\text{Area} = (\text{number of holes}) (3.14) (1/4) (1/144)$$

$$\text{Area} = (\text{number of holes}) (0.0055\text{ft}^2/\text{hole})$$

2. Velocity Plume Guide

Velocity through holes, based on Velocity Head = $(\text{Velocity}^2/2g)$

<u>Plume height</u>	<u>Velocity</u>
1-inch	2.0 ft/sec
2-inch	3.3 ft/sec
3-inch	4.0 ft/sec
4-inch	4.6 ft/sec
5-inch	5.2 ft/sec
6-inch	5.7 ft/sec

3. Time = convert to minutes

$$\text{Volume (Gal.)} = (\text{Area}) (\text{Velocity}) (\text{Time}) (448 \text{ gpm/cfs})$$

Example: Top with six hole, flow through holes makes a one-inch high plume, last for 4 hours, 15 minutes

$$\text{Volume} = (6 \text{ holes} \times 0.0055 \text{ ft}^2/\text{hole}) (2\text{ft}/\text{sec}) (255 \text{ min}) (448 \text{ gpm}/\text{cfs})$$

$$\text{Volume} = (0.033) (2) (255) (448) = 7540 \text{ gallons}$$

D.2.3.B. Loss around edge of non-vented cover

1. **Size of opening:**
As the weight of manhole lid will generally hold it in place until internal pressures exceed 0.4 pounds/sq. in., loss occurs through imperfections, grit, etc. between the lid and manhole frame. Observations are generally a vertical ring of water from side gap between the lid and frame of approximately 1/4 inch width.

$$\text{Area} = (\pi) (D) (1/4 \text{ inch}) (1/12 \text{ in}/\text{ft})$$

$$= (3.14) (2\text{ft}) (1/4) (1/12)$$

$$\text{Area} = 0.131 \text{ ft}^2$$

2. **Velocity through gap**
(see vertical plume guide above, D.3.A.2.)

3. **Time - convert to minutes**

Example: Manhole with 4-inch plume around edge for 2 hours, 15 minutes

$$\text{Volume (Gal.)} = (\text{Area}) (\text{Velocity}) (\text{Time}) (448 \text{ gpm}/\text{cfs})$$

$$= (0.131 \text{ ft}^2) (4.6 \text{ ft}/\text{sec}) (135) (448)$$

$$= 36,445 \text{ gallons}$$

D.2.3.C. Loss from tilted cover

1. **Size of opening:**
Some estimate has to be made in the field concerning how much gap exists in order to do this calculation. For the following amounts of lift of one side, the areas are as follows:

$$A = (\pi) (D) (\text{in. of lift}) (1/12 \text{ ft}/\text{in}) (1/2)$$

$$A = (3.14) (2\text{ft}) (\text{in. of lift}) (1/12) (1/2)$$

$$A = 0.262 (\text{in. of lift})$$

Lift (inches)	Area (ft ²)
1	0.262
2	0.524
3	0.786
4	1.048

2. **Velocity through opening**
This must be estimated from visual observation. A low rate would be 2 ft/sec, moderate rate at 4 to 5 ft/sec, high rates up to 7 ft/sec. Over 7 ft/sec, the lid will

probably blow off the manhole. The gap (lift) will generally increase with higher velocity as well.

3. Time - convert to minutes

$$\text{Volume (Gal.)} = (\text{Area}) (\text{Velocity}) (\text{Time}) (448 \text{ gpm/cfs})$$

Example: Field observation of 2-inch gap and velocity of 4 ft/sec for a period of 3 hours, 30 minutes.

$$\begin{aligned} \text{Volume (Gal.)} &= (0.524 \text{ ft}^2) (4 \text{ ft/sec}) (210 \text{ min}) (448) \\ &= 197,192 \text{ gallons} \end{aligned}$$

D.2.3.D. Loss from Manhole without a lid in place

If no cover exists, an estimate of the average height the water column (plume) extends above the top of the manhole frame must be made. Use the height to velocity estimate from (A) above to estimate the velocity. Be sure to adjust the height estimate downward for the affects of debris around the edge of the rim which will cause the height to be incorrectly high.

$$\text{Area} = (\pi) (D^2/4) = (3.14) (2^2/4) = 3.14 \text{ ft}^2$$

Velocity - from field observation of water column height

Time - convert to minutes

$$\text{Volume (Gal.)} = (\text{Area}) (\text{Velocity}) (\text{Time}) (448 \text{ gpm/cfs})$$

Example: A manhole without a lid was observed to have an overflow with a 3 - inch high column of water for a period of 6 hours, 10 minutes

$$\begin{aligned} \text{Volume (Gal.)} &= (3.14) (4.0 \text{ ft/sec}) (370) (448) \\ \text{Volume} &= 2,081,946 \text{ gallons} \end{aligned}$$

D.2.3.E. Other

1. Generally approach of estimating a cross sectional area where the flow is leaving and a velocity of flow can be used to determine a rate. This can be applied to any situation.
2. Several observations over an event to estimate the area and velocity are better than a single observation. The overflow examples above assume a constant rate over the period which will estimate volumes too high. As an example, if an hour at the beginning and end of each event is assumed for the flow to build up from zero to maximum and back to zero, a calculation could be done as follows:

Appendix F

Stream Monitoring and Analysis Forms

The following Stream Monitoring and Analysis Information is provided in Appendix F:

- Stream Quality Survey
- Stream Monitoring Program Report Form for a Major Spill
- Fish Kill Response - Standard Operating Procedure (SOP)

Stream Quality Survey

DeKalb County Department of Watershed Management

Natural Resources Section

STREAM NAME _____ DATE _____

INVESTIGATOR _____ TIME _____

COUNTY _____ SITE LOCATION _____

WEATHER CONDITION _____

STREAM QUALITY SURVEY REPORT

1. **STREAM REACH SAMPLE:** BANK FULL WIDTH ___ x 12 = STREAM REACH

2. **WATER FLOW:** PRESENT CONDITIONS

IN CHANNEL

- FLOODING OVER BANKS
- DRY / NO FLOW

3. **EMBEDDEDNESS:** EXTENT COBBLES OR ROCKS ARE EMBEDDED IN SILT.

- SOMEWHAT / NOT EMBEDDED 0-25%
- HALFWAY EMBEDDED 50%
- MOSTLY EMBEDDED 75%
- TOTALLY EMBEDDED 100%

4. **ORGANIC MATERIAL IN STREAM:**

- NONE
- OCCASIONAL
- PLENTIFUL

5. **WATER ODOR:**

- NONE
- CHEMICAL
- SEWAGE
- CHLORINE
- ROTTEN EGG

6. **WATER SURFACE:**

- CLEAR
- FOAMY
- OIL SHEEN
- OTHER

7. STREAM SHADE COVER:

TOTAL SHADING										NO SHADING	
100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%	

8. WATER CLARITY:

- TURBID - SUSPENDED SOLIDS
- NOT TURBID - NO SUSPENDED SOLIDS

9. BANK EROSION:

HOW VEGETATED IS THE LEFT BANK / LOOKING DOWNSTREAM / FOR THE LENGTH OF THE REACH?

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

HOW VEGETATED IS THE RIGHT BANK / LOOKING DOWNSTREAM / FOR THE LENGTH OF THE REACH?

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

10. ADDITIONAL COMMENTS AND OBSERVATIONS:

Fish Kill Response - Standard Operating Procedure (SOP)

This SOP is a guide for Fisheries staff in responding to reports of fish kills, and will be applicable to all fish, shellfish and other invertebrates found within DeKalb County waters.

Definition of a fish kill:

A 'fish kill' is a significant and sudden death of fish, shellfish and other aquatic animals. Such events are characterized by large numbers of animals dying over a short time, usually in a defined area.

Initial Notification

1. Based on the initial report, proper staff should be notified to respond.
2. The number of staff to respond will be determined by the size/severity of the kill.
3. Responding staff should locate proper forms, equipment and ice (located in dry lab freezer), and proceed to the site.

Once on location:

1. Talk to any witnesses/observers. Take a statement from any person at the scene who may have pertinent information. Their identity should be established, and statements should be signed and witnessed.
2. Any information recorded during an inspection should be written in pen. Do NOT use pencil!
3. Determine the extent of the kill by walking the length of shoreline or accessing the site by boat.
4. If a fish kill is observed, proceed with an investigation. Fill out the **Fish Kill Investigation Report Form** and continue to use it throughout site inspection. Information should include, but is not limited to:
 - # of fish - Symptoms/ conditions
 - Weather - Dimensions
 - Species affected - Water quality
5. Photographs should be taken of the entire site. Evidence of dead or affected fish and any other materials suspected of being associated with the fish kill should also be photographed. The date, time and location of sequential photographs and the name of the photographer should be recorded in the field notebook.
6. Make physical observations; look for any abnormalities that could lead to a possible explanation of the fish kill. Record any relevant information in field notebook and data sheets. Photographs SHOULD be taken of dead or affected fish and any other affected organisms.
7. Based on the type of kill and/or location, the most accurate counting method should be determined by using one of the following:
 - a. **Shoreline Count**
 - Determine the length of the affected shoreline by subdividing the shoreline into equal segments of a fixed length.
 - Count the total number of segments in the affected shoreline.
 - Then randomly select at least 3 segments.
 - Multiply the average or total count of fish in each segment by the appropriate expansion factor.
 - Hence: (# of fish/segment) x (total number of segments in fish kill zone) = Estimate of total population killed

b. Area sampling (lakes)

- Total Number = (# fish counted) x EV
- EV = (Total area effected)/ (area sampled)
- For example: 100 fish were counted in an area of 10 acres.
The lake was 100 acres. Hence: Total number = $100 \times (100/10) = 1000$ fish

c. Complete Count

- Count all fish over the entire extent of the kill. (This method is appropriate for a relatively small kill.)

FISH KILL INVESTIGATION FORM



Department of Watershed Management
1580 Roadhaven Drive / Stone Mountain, Georgia 30083



FISH KILL INVESTIGATION

DATE: _____

TIME: _____ AM ↑ PM ↑

LOCATION: _____

INVESTIGATORS: _____

of FISH KILLED: _____ ↑ Count ↑ Estimated

SPECIES: _____

POTENTIAL CAUSES:

Pollution Oxygen Deprivation Citizen Activity Unknown

OTHER _____

SUMMARY:

- Initial date and time reported
- Weather
- Size of Fish Kill Area Impacted
- Stream conditions
 - Flowing
 - Color
 - Clarity
- Site Conditions
 - Overall Conditions
 - Describe area of fish kill
 - Sewer In area
 - Storm Drains in area
 - Industry in area
 - Urban Runoff
- Potential Cause
 - Explain
- Overall Explanation
- Remedial Actions Needed

ATTACHMENTS:

- Statements from Witnesses
 - Written in ink and signed
- Pictures
 - Taken by _____
 - Number of Pictures _____
 - Date, Time, Location, Description noted on each
- Laboratory Data
 - Field Tests
 - Laboratory Bench Tests

Appendix G

Investigation, Tracking, and Trend Analysis

The following investigation, tracking, and trend analysis resources are provided in Appendix G:

- SSO Escalation Tracking Form and Process
- Sample Work Plan for Long-Term Repairs or Resolutions
- SSO Evaluation Checklist



DEPARTMENT OF WATERSHED MANAGEMENT SSO ESCALATION PROJECT TRACKING/REQUEST

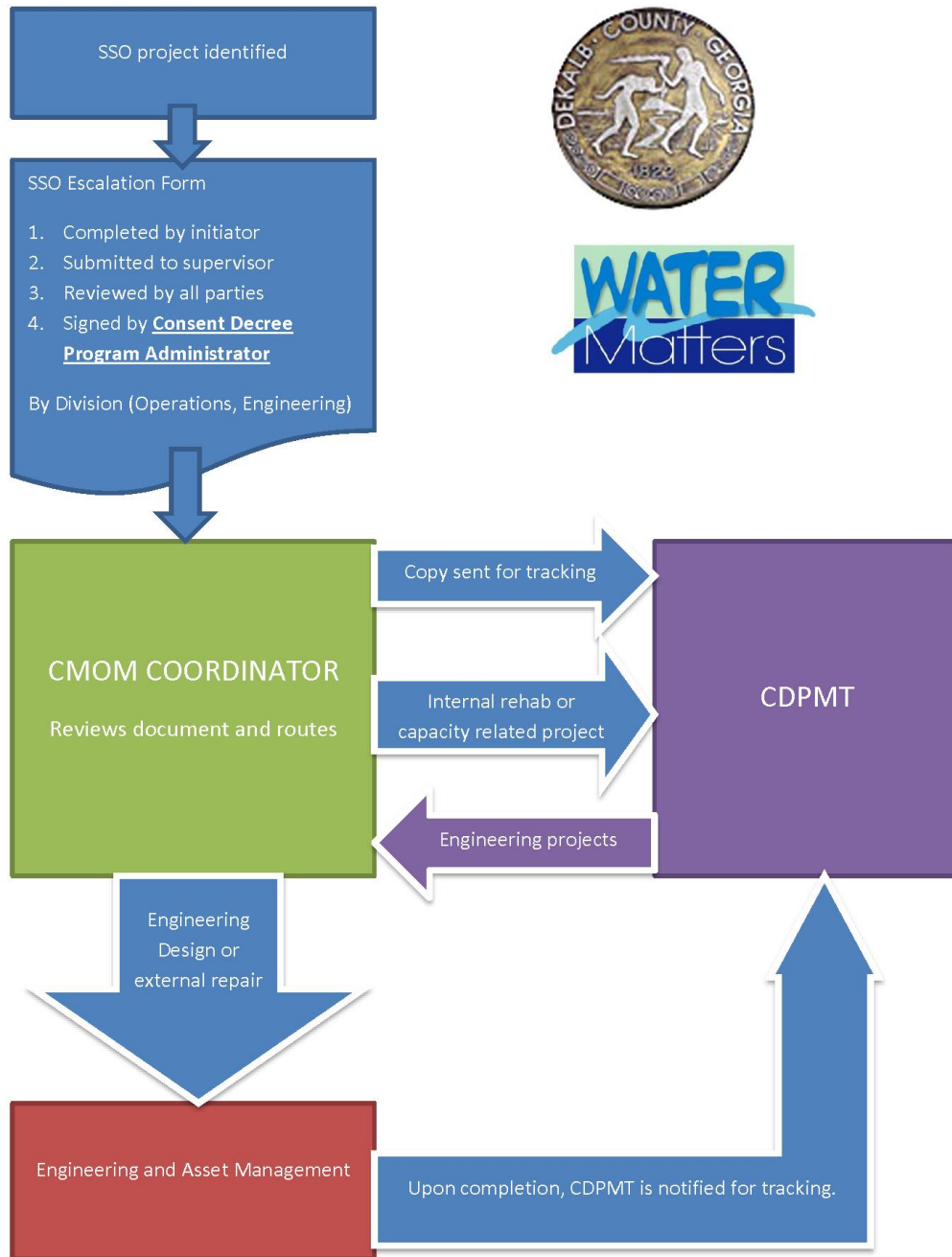
Priority: Emergency start within 6 mos within 12 mos.

PROJECT NAME:			
DATE INITIATED:			
PROJECT ADDRESS:			
NAME OF INITIATOR:			
EMAIL/PHONE:			
DATA SOURCE: Eng./C&M			
SERVICE REQUEST # and DESCRIPTION			
DESCRIPTION:			
SSO MANHOLE NUMBERS (unique asset ID):	Upstream /Downstream Manhole(s) – Line Segment(s):		
CCTV DATA AVAILABLE:	<input type="checkbox"/> YES <input type="checkbox"/> NO DATE: _____ Segments: _____ File Path: _____		
FIELD OBSERVATIONS:	OBSERVED ROOT CAUSE: POTENTIAL CAPACITY RELATED? <input type="checkbox"/> YES <input type="checkbox"/> NO PIPE/MANHOLE ASSESSMENT NEEDED? <input type="checkbox"/> YES <input type="checkbox"/> NO Describe: _____ POTENTIAL ENGINEERING DESIGN NEEDED? <input type="checkbox"/> YES <input type="checkbox"/> NO Describe: _____ POTENTIAL REHABILITATION NEEDED? <input type="checkbox"/> YES <input type="checkbox"/> NO		
ARE THERE RELATED SSO?	LIST: _____		
SSO REPAIR PLAN NEEDED TO BE FILED?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REPAIR TO TAKE LONGER THAN 60 DAYS PLAN <input type="checkbox"/> THERE HAVE BEEN MORE THAN 2 SPILLS – 2 YEAR PLAN		
REVIEWED/APPROVED	NAME	DATE	SIGNATURE
Supervisor:			
Assistant Director:			
CMOM Coordinator:			
CDPMT Reviewer:			
PASARP	<input type="checkbox"/> YES <input type="checkbox"/> NO		

COMMENTS:
ATTACH MAP AND BACK-UP
INFORMATION / DATA

<i>ROUTING</i>	<i>DATESENT</i>	<i>INITIALS</i>	<i>DATERCVD</i>	<i>INITIALS</i>
TO CMOM COORDINATOR				
TO CDPMT FOR TRACKING				
TO ENGINEERING (IF REQUIRED)				

SSO Escalation Form Work Flow



Revised 10/19/2015

\\wsv-fil-srv4\ShareFolders\Consent Decree Documents



**SSO CORRECTIVE ACTION WORK PLAN
215 Beaumont Avenue
Peavine Creek – Intergovernmental Basin**



Location: 215 Beaumont Avenue
Decatur, GA 30030

Primary Manager: Darren Eastall
Initiation Date: 04/14/2016
Project(s): EPA #1

Location History: Overflows at cleanout, backup at residence, and spill from manhole in front of property.



Actions Taken: In response, Construction & Maintenance (C&M) cleaned vicinity and inspected surrounding manholes, cleanout, and mains. C&M rodded from cleanout to stub and pressure washed mains. Crew also found and removed construction materials from manhole. Further investigation work orders have been assigned. After review, team decided to limit project boundary to problem location and removed northern portion of unconnected pipes; northern portion will be addressed as Priority Area (PASARP) in RFP #5 / RFP #6.

<u>ACTION</u>	<u>WO#</u>	<u>ASSIGNED</u>	<u>COMPLETED</u>
Overflow response, rod cleanout to main (clear)	1230656	DWM C&M	07/18/2012
Backup response, rod cleanout to main (clear)	1411517	C&M	03/18/2014
Overflow response	1503053	C&M	01/25/2015
Rod cleanout to main (blockage)	1503053	C&M	01/25/2015
Overflow response, rod cleanout (blockage)	1538489	C&M	11/07/2015
Inspect US/DS MHs, pressure wash mains	1538489	C&M	11/07/2015
Overflow response, rod cleanout, clean mains	1540353	C&M	11/25/2015
Overflow response, CCTV line, note MH surcharge	1603449	C&M	02/03/2016
Manhole condition assessments, 9 MH	1604108	MME	05/12/2016
CCTV vicinity, 19 pipes	1604109	MME	07/06/2016
Rehab recommendations – Phase 1	--	CDPMT/DWM	07/28/2016
Reviewed model recommendations for capacity	--	CDPMT	09/01/2016
Rehab recommendations – Phase 2	--	CDPMT	01/19/2017
Drawings finalized and recommendations compiled for DB Package #3	--	CDPMT	01/26/2017

Actions Planned: Packaged rehab recommendations to be delivered to DB contractor in RFP #3.

<u>ACTION</u>	<u>ASSIGNED</u>	<u>ASSIGNED DATE</u>	<u>EXPECTED DELIVERY</u>
Issue RFP for DB Package #3	P&C	TBD	TBD

Scoring: Pipe segments with medium to high scores in redefined project boundary

Recommendations: Redesign to address shallow manholes and upsize several segments; RFP #3

Work Plan Updated: Sarah Brannon 1/26/2017

Resolution Date: Pending

Closeout: _____(PM) _____(Director)

P:\Project_Management_CIP\Assessment_Projects\PASARP\SSO Escalation Assignments\SSO Escalation Work Plans

SSO Evaluation Checklist

SSO Address _____ District _____ Section _____

SSO Date _____ Final Spill Volume _____

Weather _____ Rainfall _____ Temperature _____

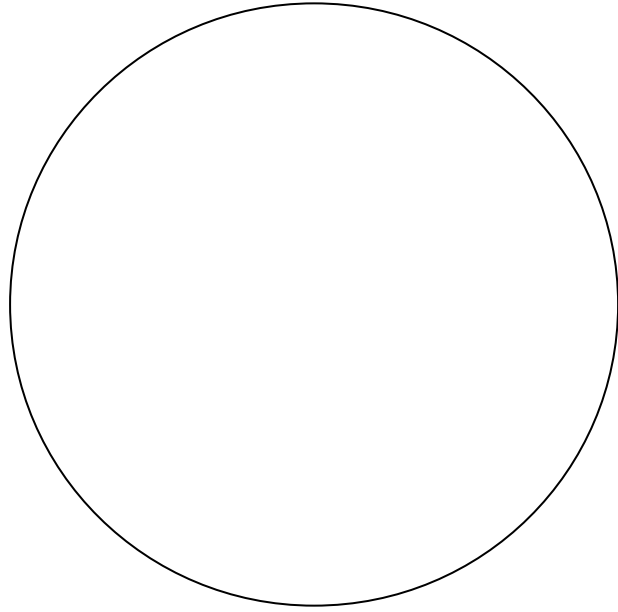
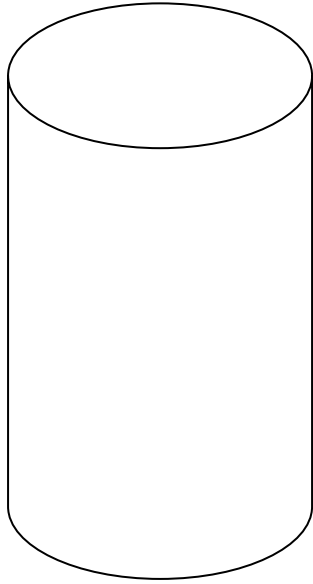
General Foreman Worked _____ General Foreman Follow-up _____

Site Inspection

Line Conditions			
		Initials	Service Request #
Size			
Material of Construction			
Slope	Flat <input type="checkbox"/> Normal <input type="checkbox"/> Steep <input type="checkbox"/>		
Age			
Upstream Manhole #			
Downstream Manhole #			
Collapsed			
Cracked			
Offset Joint			
Corrosion			
FOG Amount in pipe	< 1/4 1/4 1/2 3/4 Full		
FOG Source			
Roots	Removal: Mechanical <input type="checkbox"/> Chemical <input type="checkbox"/>		
Debris	Source:		
Debris Removed			
Other Blockage Source			
Visual Pipe Capacity	< 1/4 1/4 1/2 3/4 Full		

Manhole Conditions			
		Initials	Service Request #
Manhole Number			
Interior Shaft Size			
Material of Construction			
Age			
Depth			
Invert Condition			
Wall Condition, Interior			
Wall Condition, Exterior			
Ring Condition			
Covers	Perforated <input type="checkbox"/> Solid <input type="checkbox"/> Seal Insert <input type="checkbox"/> Bolted <input type="checkbox"/> Replace <input type="checkbox"/>		
FOG Amount in manhole	< 1/4 1/4 1/2 3/4 Full		
FOG Source			
Roots	Removed: Mechanical <input type="checkbox"/> Chemical <input type="checkbox"/>		
Debris	Source:		
Other Blockage Source			
Rehabilitation SR			

Diagram of Invert and Connections



Site Conditions			
		Initials	Service Request #
Partial clean-up			
Clean-up Completed			
Disinfectant/Deodorant			
Trash Removed			
Straw Spread			
New top soil			
Signs Posted (Date and Number)			
Signs Removed (Date and Number)			
Photos			
ROW/Easements	Clear <input type="checkbox"/> Needs Clearing <input type="checkbox"/> Needs Access <input type="checkbox"/>		
Area Map Accurate			
GIS Coordinates	X Y		
Added to GIS			
Spill Cluster Map Update			
Grease Map			

Waterway Conditions			
		Initials	Service Request #
Receiving Stream Name			
Banks Clean			
Water Clean			

Downstream Clean			
Water Color			
Any Sewer Odor Noticed			
Erosion Inspection			
Bank Rebuild/Stabilization			
Super Phosphate Spread			
Storm Drain Flushed			
Street Drainage Working			
Creek Crossing Inspected			
Debris Removal			

Follow-up Requests				Initials	Service Request #
CCTV Line, Large	___Upstream Segments	___Downstream Segments			
CCTV Lateral					
Capacity Evaluation					
Education					
Enforcement	FOG <input type="checkbox"/> Building <input type="checkbox"/> Private <input type="checkbox"/> IPT <input type="checkbox"/> Health Department <input type="checkbox"/> Environmental <input type="checkbox"/> Stormwater <input type="checkbox"/>				
Smoke Test					
Dye Test					
Infiltration					
Industrial Pretreatment					
Septic Tank					
Private Lift Station					
Private System					
5 Day Letter Sent					
Follow-Up Letters					
Remaining Time Frame					
Closed					

Legend for SSO Evaluation Checklist:

Responsible Party	Color
First Responder	
CCTV Operator	
General Foreman/Inspector	
GIS/Engineering	
General Foreman/Asst. Superintendent/CMOM Coordinator	

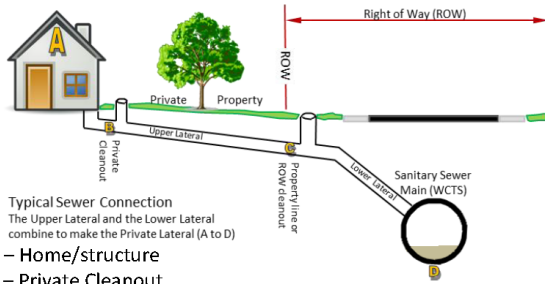
Appendix H

Training Documents

Appendix H includes the CERP Training Guide for Public SSOs, Private Laterals, Building Backups, and Private Manhole Sanitary Sewer Overflows

DeKalb County Dept. of Watershed Management
Contingency Emergency Response Plan (CERP) guide to Private Laterals, Building Backups, and
Private Manhole Sanitary Sewer Overflows (SSOs)

Typical Sewer Lateral

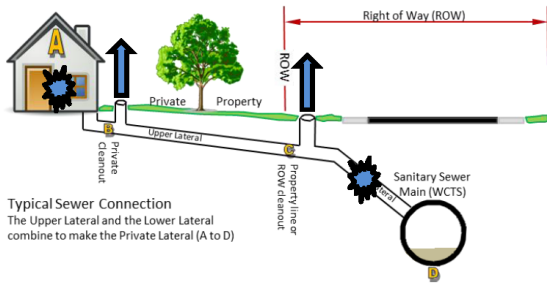


- A – Home/structure
- B – Private Cleanout
- C – Right-of-way Cleanout
- D – Sewer System Main (WCTS)

***Definitions**

***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
***Storm Drain** – an inlet connected to the surface constructed to drain stormwater runoff to Waters of the State. If sewage enters a storm drain and can be contained and completely cleaned prior to reaching Waters of the State, then this may be considered an overflow (contained on land)

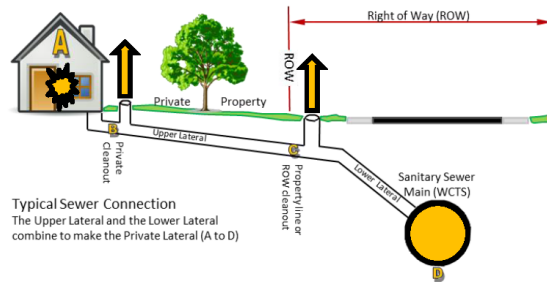
Private SSO



SSO from Point A, Point B, or Point C caused by debris coming from structure (diaper, wipes, grease, kitty litter, etc.)

1. If sewage or sewage debris reach **Waters of the State* or a storm drain* – Private SPILL** – Contact homeowner/resident, provide instructions on cleaning and restoration, if owner/resident is not available, **STOP** the spill, clean and sanitize the area. Leave notification, provide documentation (reports & photos) to charge owner/resident.
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Private OVERFLOW** – Contact homeowner/resident, provide instructions on cleaning and restoration, if owner/resident is not available, **STOP** the overflow, cordon off the area. Leave notification, provide documentation (reports & photos) to charge owner/resident.
3. If sewage or sewage debris are contained within a structure (does not leave a building or enter Waters of the State/storm drain) – **Private BUILDING BACKUP** – Provide instructions on cleaning and restoration. Document (reports & photos).

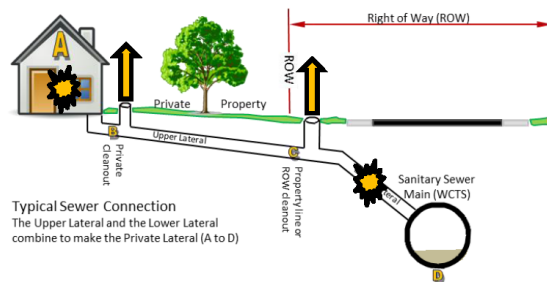
Public SSO



SSO from Point A, Point B, or Point C caused by a problem in the WCTS

1. If sewage or sewage debris reach **Waters of the State* or a storm drain* – Public SPILL** – Report immediately but no longer than 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notification, provide documentation (reports & photos).
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Public OVERFLOW** – report within 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notification, provide documentation (reports & photos).
3. If sewage or sewage debris are contained within a structure (does not leave a building or enter Waters of the State/storm drain) – **Public BUILDING BACKUP** – report within 24 hours, clean, sanitize and restore the building areas affected. Provide documentation (reports & photos).

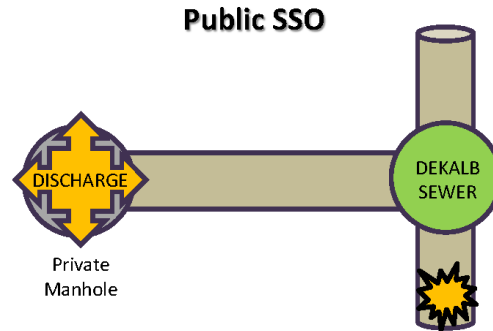
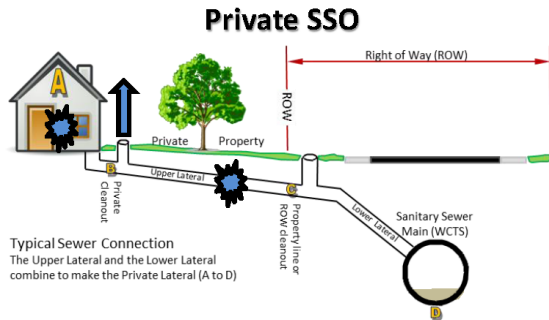
Public SSO



SSO from Point A, Point B, or Point C caused by maintenance problem (roots, debris from main, collapse, etc.) in the WCTS

1. If sewage or sewage debris reach **Waters of the State* or a storm drain* – Public SPILL** – Report immediately but no longer than 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notification, provide documentation (reports & photos).
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Public OVERFLOW** – report within 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notification, provide documentation (reports & photos).
3. If sewage or sewage debris are contained within a structure (does not leave a building or enter Waters of the State/storm drain) – **Public BUILDING BACKUP** – report within 24 hours, clean, sanitize and restore the building areas affected. Provide documentation (reports & photos).

DeKalb County Dept. of Watershed Management
 Contingency Emergency Response Plan (CERP) guide to Private Laterals, Building Backups, and
 Private Manhole SSOs – Page 2



SSO from Point A or Point B caused by maintenance issues or debris coming from the structure (collapsed line, roots, diapers, wipes, grease, kitty litter, etc.)

1. If sewage or sewage debris reach **Waters of the State*** or a **storm drain*** – **Private SPILL** – Contact homeowner/resident, provide instructions on cleaning and restoration, if owner/resident is not available, **STOP** the spill, clean and sanitize the area. Leave notifications, provide documentation (reports & photos) to charge owner/resident.
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Private OVERFLOW** – Contact homeowner/resident, provide instructions on cleaning and restoration, if owner/resident is not available, **STOP** the overflow, cordon off the area. Leave notification, provide documentation (reports & photos) to charge owner/resident.
3. If sewage or sewage debris are contained within a structure (does not leave a building or enter Waters of the State/storm drain) – **Private BUILDING BACKUP** – Provide instructions on cleaning and restoration. Document (reports & photos).

SSO from a private manhole caused by a problem in the WCTS

1. If sewage or sewage debris reach **Waters of the State*** or a **storm drain*** – **Public SPILL** – Report immediately but no longer than 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notifications, provide documentation (reports & photos).
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Public OVERFLOW** – report within 24 hours, clean, sanitize and restore the entire site (public and private areas). Leave notifications, provide documentation (reports & photos).

Reporting

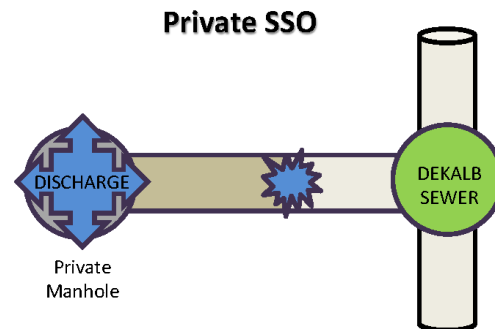
Spills: Reported to EPD through the Dispatch Center (770) 270-6243. **Spills MUST be reported IMMEDIATELY to dispatch but no longer than 24 hours using the Spill Report Form.**

Overflow/Building Backup: Reported to CMOM Coordinator using the appropriate form (overflow/building backup). Reported quarterly to EPD.

Private Spills, Overflows, Building Backups: Reported to CMOM Coordinator using the appropriate form and correctly coded on the service request.

Photographs: Always photograph the site at arrival, once contained, and after cleanup.

Reports: Complete reports thoroughly. Check for potential for water to enter a storm drain or Waters of the State.



SSO from a private manhole caused by a problem in the private manhole or private discharge pipe

1. If sewage or sewage debris reach **Waters of the State*** or a **storm drain*** – **Private SPILL** – Contact owner/management agency provide instructions on cleaning and restoration, if owner/management agency is not available, **STOP** the spill, clean and sanitize the area. Leave notification, provide documentation (reports & photos) to charge owner/ management agency.
2. If sewage or sewage debris are contained on land (do not reach a creek or a storm drain) – **Private OVERFLOW** – Contact owner/management agency provide instructions on cleaning and restoration, if owner/management agency is not available, **STOP** the overflow, cordon off the area. Leave notification, provide documentation (reports & photos) to charge owner/management agency.

Updated: 5/24/2016

Appendix I

Initial Notification

Appendix I includes the Initial Notification for Public and Private Manhole Sanitary Sewer Overflows

ADDRESS	
1. Nearest Roadway Intersection:	
2. Nearest Adjacent Park:	
3. Waterway/Tributary Entered:	
4. Type of Spill:	
5. Spill Volume (Gallons)	
6. Asset Type & Number/Size:	
7. SSO Cause Explanation:	
8. Service Request #:	