



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY RECEIVED

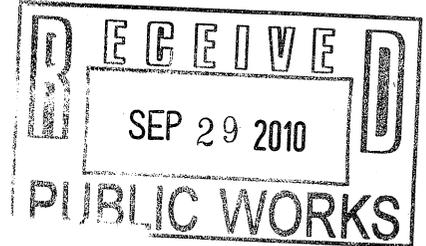
REGION 4  
SAM NUNN  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA GEORGIA 30303-8960

2010 SEP 30 PM 1:11  
OFFICE OF THE CITY CLERK

SEP 27 2010

CERTIFIED MAIL 70090960000064890671  
RETURN RECEIPT REQUESTED

The Honorable Tom Beehan  
Mayor, City of Oak Ridge  
200 South Tulane Avenue  
Post Office Box 1  
Oak Ridge, Tennessee 37830



Re: Administrative Order No. CWA-04-2010-4772  
City of Oak Ridge, Turtle Creek  
Wastewater Treatment Plant and Associated Wastewater  
Collection and Transmission System  
NPDES Permit No. TN0024155

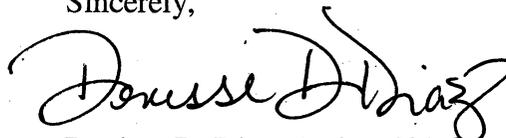
Dear Mayor Beehan:

Pursuant to Section 309(a) of the Clean Water Act (CWA), 33 U.S.C. § 1319(a), as amended, the Director, Water Protection Division, United States Environmental Protection Agency (EPA), Region 4 has determined that the above named facility is in violation of Section 301 of the CWA, 33 U.S.C. § 1311. As a result, the Director has issued the enclosed Administrative Order (AO) pursuant to Sections 308 and 309(a) of the CWA, 33 U.S.C. §§ 1318 and 1319(a).

This AO does not replace, modify or eliminate any other requirement of the CWA or the National Pollution Elimination System (NPDES) permit. Notwithstanding the issuance of this AO, EPA retains the right to bring further enforcement action under Sections 309(b) or 309(g) of the CWA, 33 U.S.C. §§ 1319(d) or 1319(g), for the violations cited therein or for any other violation of the CWA. Violations of the CWA, including requirements contained in a NPDES permit or an AO issued under Section 309(a) of the CWA, remain subject to a civil penalty of up to \$37,500 per day for each violation, pursuant to Sections 309(d) and 309(g) of the CWA, 33 U.S.C. §§ 1319(d) and 1319(g), as amended by the *Civil Monetary Penalty Inflation Adjustment Rule*, 73 Fed. Reg. 75340 (December 11, 2008). Such violations may also be subject to criminal penalties pursuant to Section 309(c) of the CWA, 33 U.S.C. § 1319(c).

Should you have any questions concerning the requirements contained in the enclosed AO, please contact either Mr. César Zapata, Chief of the West NPDES Enforcement Section at (404) 562-9744, or Mr. Dennis Sayre (404) 562-9756 or you may submit written comments to the address on this letterhead. Legal inquiries should be directed to Ms. Judy Marshall, Associate Regional Counsel, at (404) 562-9533.

Sincerely,

A handwritten signature in black ink, reading "Denisse D. Diaz". The signature is written in a cursive style with a large, looping initial "D".

Denisse D. Diaz, Acting Chief  
Clean Water Enforcement Branch  
Water Protection Division

Enclosure

cc: Paul Davis  
Division Water Pollution Control, TDEC

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4**

**IN THE MATTER OF:** ) **ADMINISTRATIVE ORDER**  
 )  
**THE CITY OF OAK RIDGE,** )  
**TENNESSEE** ) **DOCKET NO. CWA-04-2010-4772**  
\_\_\_\_\_ )

**ADMINISTRATIVE ORDER**

**I. Statutory Authority**

1. Section 309(a) of the Clean Water Act (CWA), 33 U.S.C. § 1319(a), provides that whenever the U.S. Environmental Protection Agency (EPA) finds that any person is in violation of any condition or limitation which implements, *inter alia*, Sections 301(a) and 402 of the CWA, 33 U.S.C. §§ 1311(a) and 1342, EPA may issue an order requiring such person to comply with such condition or limitation, and shall specify a time for compliance that EPA determines to be reasonable.

2. The following Findings are made and Order issued pursuant to the authority vested in EPA by Section 308(a) and 309(a) of the CWA, 33 U.S.C. § 1318(a) and 1319(a), as amended. This authority has been delegated to the Regional Administrator of EPA, Region 4, and further delegated by the Regional Administrator to the Director of the Water Protection Division, EPA, Region 4.

**II. Findings**

3. The City of Oak Ridge (City) is a municipality existing under the laws of the State of Tennessee and is a “person” within the meaning of Section 502(5) of the CWA, 33 U.S.C. § 1362(5).

4. At all times relevant to this action, the City owned and operated a Wastewater Collection and Transmission System (WCTS), as defined in Paragraph 15 below, that connects to the Oak Ridge Sewage Treatment Plant located at 200 Monterey Road, Oak Ridge, Tennessee, which is named the Turtle Creek Wastewater Treatment Plant (WWTP). The WWTP, and its associated WCTS, is a Publicly Owned Treatment Works (POTW) as defined at 40 C.F.R. § 403.3, and discharges “pollutants” as defined at Section 502(6) of the CWA, 33 U.S.C. § 1362(6), from a “point source” as defined at Section 502(14) of the CWA, 33 U.S.C. § 1362(14), into the East Fork Poplar Creek, a “navigable water” as defined at Section 502(7) of the CWA, 33 U.S.C. § 1362(7).

5. To accomplish the objective of the CWA, defined in Section 101(a) of the CWA, 33 U.S.C. § 1251(a), to restore and maintain the chemical, physical, and biological integrity of

the nation's waters, Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants by any person into waters of the United States except as in compliance with a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to Section 402 of the CWA, 33 U.S.C. § 1342.

6. Section 402 of the CWA, 33 U.S.C. § 1342, establishes an NPDES permit program authorizing EPA or authorized states to administer the NPDES permit program, including the issuance of NPDES permits allowing for the discharge of pollutants into navigable waters subject to specific terms and conditions. EPA has granted the State of Tennessee, through the Tennessee Department of Environment and Conservation (TDEC), approval to issue NPDES permits pursuant to Section 402(b) of the CWA.

7. TDEC issued NPDES Permit No. TN0024155 (Permit) to the WWTP and its associated WCTS for the discharge of treated domestic and industrial sanitary wastewaters into navigable waters subject to specific terms and conditions. The Permit became effective on October 1, 2008, and expires on August 31, 2013.

8. The Permit requires compliance with the effluent limits as specifically set forth in the Permit. To demonstrate compliance, the City monitors discharges from the WWTP and its associated WCTS, and submits monthly Discharge Monitoring Reports (DMRs) to TDEC with results of the monitoring.

9. Section 2.1.4 of the Permit requires the City to properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment.

10. Section 2.3.3 of the Permit defines an overflow as any release of sewage from any portion of the collection, transmission or treatment system other than through permitted outfalls; states that the City shall operate the collection system so as to avoid overflows, and states that overflows are prohibited.

11. On November 20, 2008, EPA sent an Information Request Letter, pursuant to Section 308 of the CWA, 33 U.S.C. § 1318, to the City requesting information related to Sanitary Sewer Overflows (SSOs), as defined in Paragraph 15 below, from the WCTS, to evaluate the performance of the WWTP and its associated WCTS, and to assess the City's compliance with the Permit and the CWA.

12. On October 27 and 28, 2009, EPA conducted a Compliance Evaluation Inspection (CEI) of the WWTP and its associated WCTS to further evaluate the City's compliance with the Permit and the CWA.

13. Based on its review, EPA finds that the City constructed, and maintained as operational, nine unpermitted outfalls (constructed overflows). EPA also finds that the City failed to adequately report all known SSOs to TDEC in accordance with the Permit, and failed to report all known SSOs to EPA in response to the Information Request Letter. EPA further finds

that the City failed to properly operate the WWTP and its associated WCTS in accordance with the Permit, and that the City discharged wastewater without a permit through nine outfalls.

### **III. Violations**

14. The City has violated Section 301(a) of the CWA, 33 U.S.C. § 1311(a), and the Permit, by failing to comply with the operation, maintenance and reporting requirements of its Permit, and by discharging pollutants without a permit as required by Section 402 of the CWA, 33 U.S.C. § 1342.

### **IV. Order**

15. For purposes of this Order, the following definitions shall apply:

A. "Building backup" shall mean a wastewater backup into a building that is caused by blockages, malfunctions, or flow conditions in the Sewer System. A wastewater backup into a building that is caused by a blockage or other malfunction of a Private Lateral is not a Building Backup.

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

C. "Excessive Infiltration and Inflow" (Excessive I/I) 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.

D. "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.

E. "Sanitary Sewer Overflow" or "SSO" shall mean an overflow, spill or release of wastewater from a Sewer System including unpermitted discharges; overflows, spills, or releases of wastewater that may, or may not have reached waters of the United States or the State; and all building backups.

F. "Sewer System" shall mean the WWTP and its associated WCTS.

G. "Significant Industrial Users" means an industrial user subject to Categorical Pretreatment Standards under 40 C.F.R. 403.6 and 40 C.F.R. Chapter I Ssubchapter N; any industry which discharges an average of 25,000 gallons per day or more of process wastewater to the sewer system (excluding sanitary, contact cooling and boiler blowdown wastewater); or any industry which is designated as such on the basis that the industrial user has a reasonable potential for adversely affecting the operation of the collection system or treatment plant, or

violating any pretreatment requirement.

H. “Unpermitted discharge” shall mean a discharge of pollutants which reaches waters of the United States or the State from the Sewer System (including constructed overflows), from WWTPs through a point source not specified in an NPDES Permit, or from WWTPs which constitutes a prohibited Bypass.

I. “Wastewater Collection and Transmission Systems” or “WCTS” shall mean the municipal wastewater collection and transmission systems, including all pipes, force mains, gravity sewer lines, lift stations, pump stations, manholes and appurtenances thereto, which are owned or operated by the City.

J. “Wastewater Treatment Plant” or “WWTP” shall mean devices or systems used in the storage, treatment, recycling, and reclamation of municipal wastewater. For purposes of this Order, this definition shall include all facilities owned, managed, operated, and maintained by the City, including but not limited to the Turtle Creek WWTP.

16. Based on the foregoing Findings and pursuant to the authority of Sections 308 and 309(a) of the CWA, 33 U.S.C. §§ 1318 and 1319(a), IT IS HEREBY ORDERED that the City comply with the following requirements:

**A. Sanitary Sewer Overflows**

Within two (2) months of the effective date of this Order, the City shall identify and provide to EPA a list of SSOs (including from constructed overflows) for the past twenty-four (24) months prior to the effective date of this Order. For each SSO provide the following, if available: location of the SSO, including source (pump station, manhole, etc.); date and time of the SSO; date and time when the City was notified of the SSO event; date and time when the City (or any contractor) responded to the SSO; date and time when the SSO ceased; corrective actions taken to stop the SSO; date and time when corrective action was completed; ultimate destination of the SSO, such as surface waterbody (by name), storm drain leading to surface waterbody (by name), dry land, building, etc.; volume of the SSO; and cause of the SSO such as grease, roots, other blockages, wet weather (infiltration and inflow), loss of power at pump station, pump failure, etc.

**B. System Evaluation and Rehabilitation Plans (SERP)**

The City shall develop a System Evaluation and Rehabilitation Plan (SERP) to evaluate and rehabilitate the City’s WCTS, and to identify deficiencies within the WCTS that contribute to SSOs and excessive I/I, as defined in Paragraph 15 above. The SERP shall include a plan of action to correct those deficiencies. The SERP will consist of a Capacity Assessment Plan, a Sewer System Evaluation Survey (SSES) and a Collection System Remediation Plan. In developing the SERP, the City shall refer to published guidance documents, including but not limited to, *Sewer System Infrastructure Analysis and Rehabilitation* handbook, EPA/625/6-

91/030, October 1991; *Computer Tools for Sanitary Sewer System Capacity Analysis and Planning*, EPA/600/R-07/111, October 2007; *Existing Sewer Evaluation and Rehabilitation*, WEF MOP FD-6, 1994; the National Association of Sewer Service Companies (NASSCO) *Manual of Practice*; the State of Tennessee's *Tennessee Design Criteria for Sewage Works*, April 1989, and *A Guide to Short Term Flow Surveys of Sewer Systems*, WRC Engineering (Undated).

i. Capacity Assessment Plan

a. Within six (6) months of the effective date of this Order, the City shall submit a Capacity Assessment Plan for EPA's review, comment and approval that will describe how the City will undertake a Capacity Assessment that shall include an engineering study to comprehensively evaluate the design hydraulic capacity and actual dry weather and wet weather flow conditions of the WCTS. The Capacity Assessment Plan shall provide details on the methodology to be used (e.g., Manning/Chezy) and whether that methodology will be carried out using manual computations or computerized modeling. If computerized modeling is to be used for some or all of these analyses, a description of the software package(s) to be used shall be included in the Capacity Assessment Plan. In either case, both the overall approach proposed and the specific analyses to be applied to the WCTS shall be described in detail.

b. The Capacity Assessment Plan shall propose rainfall monitoring and in-stream flow metering to measure actual flow in the WCTS. The flow and rainfall monitoring network shall be designed, installed, operated and maintained to provide representative data of sufficient quality for use in the development of the Capacity Assessment. Monitoring site selection, equipment selection and installation, calibration, maintenance, and data quality assurance checks shall all be carried out to optimize monitoring accuracy, and shall conform to the equipment manufacturers' recommendations and current, sound engineering practices. The flow monitoring and rainfall data shall be used to prioritize additional flow monitoring and physical investigation activities.

c. The Capacity Assessment Plan shall include plans to evaluate pump station capacity as part of the system hydraulic analysis and identify any pump station deficiencies that cause or contribute to SSOs or the likelihood of SSOs in the absence of constructed overflows.

d. The Capacity Assessment Plan shall indicate the design storm that will be utilized to calculate surcharge conditions in the WCTS. The choice of design storm shall be based on actual historic rainfall data, or otherwise justified using sound engineering practices.

e. The Capacity Assessment Plan shall include plans to evaluate worst-case (high flow/high groundwater) conditions, and all expected upstream and

downstream influences, including hydraulic capacity and I/I, on each reach of a sewer affecting “critical mini-systems.” For the purpose of this Order, “critical mini-systems” are defined as those “mini-systems” in the WCTS that have experienced SSOs in the past five (5) years; currently have, or have had within the past five years, a constructed overflow built into the WCTS; and are upstream of areas experiencing SSOs or having constructed overflows. A “mini-system” is a particular segment or section within the WCTS described by alpha-numeric numbers and used as a mapping identification tool to divide the WCTS into smaller manageable subsystems.

ii. Capacity Assessment Report

a. Within twelve (12) months after approval of the Capacity Assessment Plan the City shall complete the Capacity Assessment and submit a Capacity Assessment Report.

b. The Capacity Assessment Report shall provide summary information on how the various collection system components were modeled and describe all simplifying assumptions that were used in the modeling effort. The hydraulic analysis results shall include a diagram of the hydraulic grade lines and surcharge conditions for each critical mini-system, an explanation of limiting factors (i.e., why the pipe surcharges at a given flow), and an analysis of pump station capacity affecting each segment analyzed. The Capacity Assessment Report shall identify any anticipated SSOs caused by the elimination of constructed overflows.

c. The Capacity Assessment Report shall include a map or maps of usable scale of the WCTS, including the tributary pipes, that clearly displays the location of all known SSOs reported in the past five (5) years and constructed overflows. The map(s) shall clearly identify each “mini-system” as defined by the City and identify critical mini-systems. The map(s) may be divided into subsections and multiple pages for clarity.

d. The Capacity Assessment Report shall include an estimated number of sewage customers (per capita) for each critical mini-system. Estimations shall be made using all applicable categories of the “Discharge Facilities” and “Design Units” categories of Appendix 2-A (Table for Design Basis for New Sewer Works) of the *Tennessee Design Criteria for Sewage Works*. The number of design units per discharge facility must be justifiable and based on sound engineering judgment. The Capacity Assessment Report shall also provide the volume of sewage transmitted and treated from all Significant Industrial Users.

e. The Capacity Assessment Report shall provide results of the hydraulic and excessive I/I analyses of all critical mini-systems in the WCTS, including per capita usage calculations for each critical mini-system.

f. The Capacity Assessment Report shall include a collection and transmission system model to assist in the development and implementation of operation and maintenance procedures to optimize transmission capacity within the WCTS and to evaluate the impact of excessive I/I rehabilitation projects, proposed modifications, upgrades, and expansions on the transmission capacity.

g. The Capacity Assessment Report shall include a calculation of the amount of increased flow that will be transmitted to the WWTP as a result of eliminating constructed overflows and SSOs in the WCTS, and assess the impact of increased flow to the WWTP.

iii. Sewer System Evaluation Survey

a. Within six (6) months of the effective date of this Order, the City shall submit a Sewer System Evaluation Survey Work Plan for EPA's review, comment and approval. This Sewer System Evaluation Survey Work Plan will describe how the City will undertake a Sewer System Evaluation Survey (SSES) that will result in the systemic examination of the sewer system to determine specific locations, estimated flow rates, methods of rehabilitation, and cost of rehabilitation versus the cost of transportation and treatment for each defined source of excessive I/I. The Sewer System Evaluation Survey Work Plan shall include plans to identify and quantify SSOs; identify and quantify sources of excessive I/I rates within the Sewershed; identify sections of the Sewershed with excessive I/I rates that cause and/or contribute to SSOs; identify cross connections and unauthorized connections; and identification of physical degradation of the WCTS, including general pipe condition and condition of force mains, that causes or contributes to SSOs. Upon EPA-approval of the Sewer System Evaluation Survey Work Plan, the City shall implement the Work Plan in accordance with the schedules therein.

b. The Sewer System Evaluation Survey Work Plan may propose to incorporate appropriate and accurate existing attribute data, and as necessary, the collection and use of additional physical attribute data; verified existing rainfall and flow data, and as necessary, the collection and use of additional flow and rainfall data; monitoring of WWTP flows and flows at key locations within the WCTS; monitoring of groundwater and rainfall at appropriate locations throughout the WCTS; physical investigation of the causes of excessive I/I and SSOs; and documentation of the condition of the portions of the WCTS causing or contributing to SSOs. The Sewer System Evaluation Survey Work Plan shall include the planned locations, types and rationale for placement of rain gauges, flow monitors, and any other equipment, and a discussion of how Doppler radar will be employed (if appropriate). The Sewer System Evaluation Survey Work Plan may also propose to utilize existing monitoring and characterization data

only to the extent that the data are of adequate quality and for locations appropriate for the purposes of the SSES. The Sewer System Evaluation Survey Work Plan shall identify all existing data to be utilized; identify all additional data to be collected; and describe in detail how the existing and proposed additional data will satisfy the objectives of the SSES.

c. The SSES shall include, and the Sewer System Evaluation Survey Work Plan shall also establish plans to include, the following:

(1) A review of existing data to be used for SSOs, sewage flows, WWTP and WCTS attributes (e.g., pipe diameters, pipe segment lengths, diversion structure characteristics, catchment characteristics, invert elevations, pipe interior roughness coefficients, etc.), rainfall, and groundwater levels; and an evaluation of the accuracy, completeness and adequacy of such existing data for purposes of supporting the characterization of the WCTS and sources of extraneous wet weather flow. The data review shall further identify all additional data needed to allow the SSES to satisfy the objectives stated herein.

(2) Dry weather monitoring so as to allow the characterization of base flows and excessive I/I rates. Wet weather monitoring following events of sufficient duration and intensity to cause significant excessive I/I in the system, to allow the prioritization of mini-systems, and to support the development of the Capacity Assessment.

(3) A network of rain gauge stations placed in accordance with industry standards and sound engineering practice.

(4) Flow data collected using permanent and/or temporary flow monitors placed at locations in the WCTS necessary to allow the characterization of flow from each critical mini-system. The City shall inspect, maintain, and calibrate (if necessary) all flow monitors at least once per week.

d. The Sewer System Evaluation Survey Work Plan shall contain requirements to perform investigative activities in the locations determined to have excessive I/I, any critical mini-systems, and any portions of the WCTS that cause or contribute to SSOs. The investigative activities shall be designed to locate and allow estimation of the wet weather flows associated with individual sources of excessive I/I, or shall identify physical degradation of the WCTS that causes or contributes to SSOs. The investigative activities shall include, but not be limited to, additional flow monitoring to isolate sources of excessive I/I; smoke

testing; visual inspections of pipes and manholes; dye testing; night flow isolation; CCTV inspection to identify sewers in need of repair, rehabilitation, or replacement; and building inspections. The further investigative activities shall be sufficient to allow detailed characterizations of all significant sewer defects in sewer sub-basins (mini-systems) with excessive I/I and SSOs and to support the development of capital improvement schedules.

e. The Sewer System Evaluation Survey Work Plan shall include expeditious schedules for performing and completing the SSES, including timelines for installation of sewer flow and rainfall monitoring equipment; completion of all monitoring activities, and for submitting the SSES Results. The SSES shall be completed no later than twelve (12) months after EPA-approval of the Sewer System Evaluation Survey Work Plan. The SSES Results shall be submitted within two (2) months after completion of the Survey.

f. For the purposes of this Order, excessive I/I includes those sections of the sewer shed that experience an excess of 275 gallons per capita per day (gpcd) of wet weather flow. The City must clearly demonstrate that each mini-system not included in a more detailed excessive I/I analysis is experiencing less than 275 gpcd of excessive I/I from a typical 2-year, 24-hour storm; justification must include the estimated per capita users for each critical mini-system identified for exclusion, and all pertinent data and calculations used to determine per capita usage at the point in the mini-system entering a gravity sewer interceptor (gravity sewer pipe greater than or equal to 12 inches in diameter or the final exit point or points from a mini-system). This paragraph does not apply to critical mini-systems as defined in Paragraph 16.B.i.e above.

#### iv. WCTS Remediation Plan

a. Within two (2) months of submission of the SSES Results, the City shall develop and submit for EPA review, comment and approval, a WCTS Remediation Plan with specific measures and schedules that, when implemented, will result in elimination of all constructed overflows and adequate capacity in its wastewater collection and transmission system, such that SSOs will be eliminated under current and future conditions.

b. The WCTS Remediation Plan shall identify all measures necessary to achieve adequate capacity. Adequate capacity is that capacity needed to collect, convey and treat anticipated peak wet weather flows, without causing SSOs. At a minimum, peak wet weather flows shall include the conditions considered as part of the Capacity Assessment. If insufficient capacity to accommodate projected peak wet weather flows exists in any portion of the system, the City shall identify and propose measures to provide adequate capacity to eliminate SSOs.

c. The WCTS Remediation Plan shall identify all measures necessary to eliminate all SSOs caused by physical degradation of sewers, inadequate system capacity, including pump station capacities, or poor pump station reliability. The Plan shall also identify all measures necessary to eliminate any anticipated SSOs identified during the hydraulic analysis as a result of eliminating constructed overflows currently located throughout the WCTS.

d. The WCTS Remediation Plan shall identify the degree to which sources of excessive I/I shall be removed, and the degree to which excessive I/I removal is expected to alleviate capacity constraints, and propose specific remedial measures that will address those capacity limitations not expected to be addressed by excessive I/I removal. Anticipated excessive I/I removal rates used in the development of the WCTS Remediation Plan shall reflect current industry practice and local experience. Specific remedial measures to address capacity limitations may also include increases in pump station and sewer capacity in the WCTS, construction of storage or equalization basin facilities, or increases in wastewater treatment capacity.

e. The WCTS Remediation Plan shall prioritize the remedial measures based upon: (1) relative likely human health and environmental impact risks; (2) SSO frequencies of activation; and (3) total annual SSO volumes. The WCTS Remediation Plan shall provide a description of the methodology used in the prioritization.

f. The WCTS Remediation Plan shall provide basic project descriptions, estimated capital costs and a schedule for design, construction, and placement in service of all proposed measures that is as expeditious as possible, but in no event later than three (3) years after submission of the WCTS Remediation Plan (the Remediation Date). In addition, the WCTS Remediation Plan shall identify estimated begin/complete design, permitting, award contract, begin/complete construction dates for each measure proposed. In the event that major sewer interceptor replacement (or other major capital improvement) is identified as a result of the Capacity Assessment and/or SSES, the City may request, in writing and with supporting documentation, for an extension beyond the Remediation Date. Approval of any extension beyond the Remediation Date shall be at EPA's discretion and in writing.

### **C. Sanitary Sewer Overflow Response Plan**

Within six (6) months of the effective date of this Order, the City shall submit a Sewer Overflow Response Plan (SORP) for EPA's review, comment and approval that will establish timely and effective methods and means of responding to, cleaning up, and/or minimizing the impact of all SSOs; timely reporting of the location, volume, cause, impact, and other pertinent

information of all SSOs to the appropriate regulatory agencies; and notification methods to the potentially impacted public.

i. The SORP shall provide procedures for orally reporting to TDEC the location of any SSO by street address or any other appropriate method (i.e., latitude-longitude) within twenty-four (24) hours of the time the City first becomes aware of the SSO.

ii. The SORP shall provide procedures for written reporting to TDEC within five (5) days of the time the City first becomes aware of the SSO. At a minimum, a written report shall contain the following:

a. Location of the SSO by street address, or any other appropriate method (i.e., latitude-longitude).

b. Estimated date and time when the SSO began and stopped, or if still active, the anticipated time to stop the SSO.

c. Steps taken to respond to the SSO.

d. Name of the receiving water, if applicable.

e. An estimate of the volume (in gallons) of sewage discharged.

f. Description of the sewer system component from which the SSO was released (ie., manhole, crack in pipe, pump station wet well, constructed overflow pipe).

g. Estimate of the SSO's impact on public health and water quality in the receiving water body.

h. Cause or suspected cause of the SSO.

i. The date of the last SSO at the same location.

j. Steps taken or to be taken to reduce, eliminate, and prevent reoccurrence of the SSO with a schedule of major milestones for those steps.

k. Report of all notifications to the public and other agencies or departments.

iii. The SORP shall provide procedures for maintenance of records for at least five (5) years from the date of an SSO, including all written reports to the State; records documenting steps that have been and will be taken to prevent the SSO from recurring, including work order

records associated with investigation and repair activities; and a list and description of complaints from customers or others regarding an SSO.

iv. The SORP shall provide procedures for responding to SSOs to minimize the environmental impact and potential human health risk, and shall include, but not be limited to, the following:

a. A detailed description of the procedures to immediately provide notice to the public (through the local news media or other means including signs or barricades to restrict access).

b. A detailed description of the procedures to provide notice to appropriate federal, state or local agencies/authorities.

c. A detailed description of the procedures (including response standard operating procedures) to minimize the volume of untreated wastewater transmitted to SSO location.

d. A detailed description of pump station-specific emergency procedures, bypass/ pump-around strategies, and estimated storage capacity (i.e., maximum volume of sewage that can be stored in the event of a pump station failure or repair without causing a SSO and estimated time during which sewage can be stored before a SSO will occur).

e. In the event that a repair may cause or lengthen the time of a SSO, a detailed procedure for determining when additional storage or pump around will be needed.

f. A detailed plan describing the standard operating procedures to be followed by City personnel in responding to building backups, including:

(1) Methods for communicating with customers about how to report building backups and how to obtain clean-up.

(2) Response to building backups, including timeframe for responses, measures to be taken to clean up building backups caused by conditions in the City's Sewer System, procedures to disinfect and/or remove potentially contaminated items (ie., wet vacuuming, wiping floors and walls with disinfectant, flushing out and disinfecting plumbing fixtures, carpet cleaning or replacement), procedures to correct or repair conditions in the Sewer System causing or contributing to the building backup, and the follow-up process to insure adequacy of cleanup.

(3) Resources to correct or repair the condition causing or contributing to the building backup.

v. The SORP shall provide procedures for providing adequate training necessary for City employees, contractors, and personnel of other affected agencies to effectively implement the SORP. The SORP shall provide training guidelines to ensure adequate response training is provided to management and field personnel responsible for responding to SSOs. The SORP shall provide procedures for adequate training to response personnel for estimating volumes from SSOs.

vi. The City shall identify and include in the SORP a list of those SSO locations within the sewershed that has been recorded as overflowing more than once and those locations at which a SSO is likely to occur first in the event of pump station failure for each pump station. The SORP shall provide procedures for establishing routine inspection routes to be performed after each rain event. The inspection routes shall include all SSO locations identified as having occurred more than once, and all pump stations that are not monitored at a central location via remote monitoring devices.

#### **D. Management, Operation, and Maintenance Programs**

The City shall develop the following Management, Operation, and Maintenance (MOM) Programs under the schedule set forth below. All MOM Programs shall be developed in accordance with EPA Region 4 guidance as set forth in the enclosed CDROM disk. The City shall ensure that such Programs contain the following key MOM elements: written, defined purpose; written, defined goals; written documentation with specific details; implementation by trained personnel; establishment of performance measures; and written procedures for periodic review. Within twelve (12) months of EPA's approval of a MOM Program, the City shall certify to EPA that such MOM program has been fully implemented.

##### **i. Information Management System (IMS) Programs**

a. Within nine (9) months of the effective date of this Order, the City shall develop and submit for EPA's review, comment and approval the Information Management System (IMS) Programs as described below. Each IMS Program shall include, but not be limited to, a description of information fed into the system, how it is entered and by what means it is recorded; types of work reports prepared and submitted, including examples and periodic review of such reports; a description of the management reports generated from the input data (i.e. work reports), including examples and periodic review of such reports; standard forms used by both field personnel and management for the program, where applicable; a detailed description of how the records are maintained; and a description of any computer software used with cited references for training and procedures.

b. The Management IMS Program shall provide utility managers guidelines and instructions to adequately evaluate operations, maintenance, customer service, and system rehabilitation activities so that overall system performance can be evaluated and utility planning can be conducted.

c. The Operations IMS Program shall provide managers and field supervisors guidelines to adequately track scheduled operational activities to enhance operational performance, utilizing operating reports and standard operation forms to be used by field personnel, and shall provide for field supervisor review. The Operations IMS Program shall be capable of feeding information into the Management IMS Program.

d. The Maintenance IMS Program shall provide managers and field supervisors guidelines to adequately track scheduled maintenance activities and to enhance maintenance performance, utilizing maintenance reports and standard maintenance forms to be used by field personnel, and shall provide for field supervisor review. The Maintenance IMS Program shall be capable of feeding information into the Management IMS Program.

e. The Complaint Tracking IMS Program shall provide managers guidelines to adequately assess and manage complaint information, utilizing standard complaint forms to be used by personnel, and shall provide for supervisor review. The Complaint Tracking IMS Program shall be capable of feeding information into the Management IMS Program.

f. The Performance Indicators Computation IMS Program shall provide managers with guidelines to adequately evaluate data collected from the IMS Programs to determine the condition of the WCTS, and shall include identification of performance indicators (i.e., SSO data, per capita waste flow, effluent compliance) and a process for evaluating the performance of the City's MOM and customer service programs.

## ii. Engineering Programs

a. Within twelve (12) months of the effective date of this Order, the City shall develop and submit for EPA's review, comment and approval the Engineering Programs as described below. Each Engineering Program shall include standard forms and record procedures, where applicable, and shall include procedures to feed information into the IMS programs.

b. The Sewer Mapping Program shall include, but not be limited to, a description of the City's mapping procedures (CCTV requirements, survey requirements, etc.); requirements for recording changes and updates to the sewer maps; utility specific map inclusions and labeling requirements to include

manholes, pump stations, force mains, air release valves and any other applicable appurtenances that may affect the performance of the WCTS or WWTP; and annual review procedures.

c. The Sewer System Design Program shall include, but not be limited to, a brief description of the City's design procedures pertaining to sewer system design, including reference documents (citation information); a description of the utilities design review process, including approval authority; and a description of the utilities capacity analysis procedures for the WCTS and the WWTP used to determine the ability of existing systems to transmit or treat future flow created by expanding development.

d. The Sewer Construction and Rehabilitation Inspection Program shall include, but not be limited to, a brief description of the City's sewer system specific inspection procedures, including reference documents (citation information); specific instructions not included in referenced ordinances or other documents; a description of the sewer system specific inspection requirements and processes including any authority given to an inspector by the City, if so assigned; and post-inspection requirements (CCTV, testing, etc.) and approval authority for acceptance of completed projects at the City management level.

e. The Continuing Sewer System Assessment Program shall include, but not be limited to, dyed water flooding; routine manhole inspections; flow monitoring program; CCTV program; smoke testing; service lateral investigations; and specific procedures including schedules and/or events (i.e. blockage, infiltration/inflow and back-ups) which may require a specific program.

f. The Pump Station Performance and Adequacy Program shall include, but not be limited to, a description of installed systems and equipment; procedures used to collect data from pump stations; and specific data to be collected.

g. The Infrastructure Rehabilitation Program shall consist of a Gravity Lines Rehabilitation Program and a Manhole Rehabilitation Program, and shall include, but not be limited to, a process to identify and prioritize identified rehabilitation work; a prioritized list of manholes identified in the City's Sewer System Evaluation Survey completed in 1993 listed as "poor" and "very poor" and a rehabilitation plan; an inventory of manhole rehabilitation completed and scheduled since the completion of the Sanitary Sewer Evaluation Survey completed in 1993; a plan to evaluate gravity lines for necessary rehabilitation; an inventory of gravity line rehabilitations completed and scheduled since the completion of the City's Sewer System Evaluation Survey completed in 1993; and written schedules for rehabilitation work.

### iii. Pump Station Operation Programs.

a. Within twelve (12) months of the effective date of this Order, the City shall develop and submit for EPA's review, comment and approval the Pump Station Operations Programs as described below to manage the City's pump station and lift station operations. Each Pump Station Operation Program shall include provisions for both manned and un-manned pump stations, standard forms and record procedures, where applicable, and procedures to feed information into the IMS Programs.

b. The Routine Pump Station Operation Program should ensure prevention of pump station failures and shall include, but not be limited to, procedures for reading and recording information appropriate to each pump station or lift station including, as applicable, pump run-time meter readings, start counters, amperage readings, checking and resetting conditions, wet-well points, grease accumulations and any other information that is necessary for the proper operation of a pump station or lift station; and development of standard inspection routes and schedules.

d. The Emergency Pump Station Operation Program should provide for emergency operations in the event of pump station failure, and shall include, but not be limited to, written standard emergency operating procedures for each type of pump station or lift station; emergency contact information; location(s) of auxiliary power including portable or fixed emergency generators applicable to each pump/lift station; location(s) of portable pumping equipment; guidance for initiating auxiliary power with portable or fixed generators; guidance for installing portable pumps during high flow; and applicable contingency plans.

### iv. Maintenance Programs

a. Within twelve (12) months after approval of the Capacity Assessment Plan, the City shall submit to EPA a Pump Station Report which shall include an evaluation of the condition of each pump station and associated force mains; whether each pump station is capable of operating at full design capacity; a schedule of repair for each pump station identified as in need of repair or operating below design capacity; whether emergency (back-up) electrical power is available (portable or fixed) for the pump station; and any scheduled repair or replacement. Pump stations identified as causing or that may cause SSOs (i.e., operating below design capacity) shall be incorporated in the Collection System Remediation Plan and subject to the remediation deadline pursuant to Paragraph 15.B.iv above. All pump stations identified as in need of repair shall be placed in the Pump Station Repair Program described below.

b. Within fifteen (15) months of the effective date of this Order, the City shall develop and submit for EPA's review, comment and approval the Maintenance Programs as described below for both manned and un-manned pump stations. The City shall ensure that routine inspections are included in the Maintenance Programs. Each Maintenance Program shall include standard forms and record procedures, where applicable, and procedures to feed information into the IMS Programs.

c. Pump Station Preventive Maintenance Programs. The City shall develop and implement Pump Station Preventive Maintenance Programs to reduce the need for reactive maintenance. The Pump Station Preventive Maintenance Programs shall consist of an Electrical Maintenance Program, a Mechanical Maintenance Program, and a Physical Maintenance Program. These Pump Station Preventive Maintenance Programs shall include, but not be limited to, list of personnel responsible for preventive maintenance, guidance for scheduling preventive maintenance, and standard tag out/lock out procedures.

(1) The objective of the Electrical Maintenance Program shall be to provide guidance to managers and field personnel responsible for electrical maintenance to ensure that preventive maintenance on pump station electrical components are performed on a routine basis. This program shall include meter calibration schedules for any meter used to record data collected at or from the pump station.

(2) The objective of the Mechanical Maintenance Program is to provide guidance to managers and field personnel responsible for mechanical maintenance to ensure that preventive maintenance on pump station mechanical components are performed on a routine basis.

(3) The objective of the Physical Maintenance Program is to provide guidance to managers and field personnel responsible for physical maintenance (pipes, walls, inverts, covers, etc.) to ensure that preventive maintenance on pump station physical components are performed on a routine basis.

d. Pump Station Repair Program. The City shall develop and implement a Pump Station Repair Program to identify, prioritize, schedule and repair pump stations on a timely basis once the pump station has deteriorated beyond the scope of the Preventive Maintenance Programs. The Pump Station Repair Program shall include, but not be limited to, factors to determine when a pump station is to be placed in the Pump Station Repair Program, a prioritized inventory of pump

stations and lift stations in need of repair, an ongoing inventory of completed repairs, and a work schedule for repairs.

e. Gravity Line Preventive Maintenance Programs. The City shall develop and implement a Gravity Line Preventive Maintenance Program to provide guidance for routine pipe line clearing and cleaning, and to establish standard operating procedures to deter or eliminate blockage in the gravity sewer lines. The Gravity Line Preventive Maintenance Program shall include, but not be limited to, guidelines for scheduling hydraulic cleaning, root clearing, and mechanical cleaning activities; personnel responsible for each activity; equipment available for each activity; and a schedule of preventive maintenance, including routine inspections.

17. EPA will review submitted Plans, Programs and other documents described above and will either approve the submittals or provide comments. The City shall address any comments provided by EPA and resubmit a revised Plan, Program or other document within two (2) weeks of receipt. In the event of any disagreement, EPA will consider the City's position and make a final determination. The City shall begin implementation of any approved Plans and Programs within one (1) month of receipt of EPA's approval unless otherwise stated above.

18. The City shall submit to EPA written quarterly progress reports (Quarterly Reports). A Quarterly Report is due the 28<sup>th</sup> of the month following the end of a quarter (January-March, April-June, etc.). The first Quarterly Report is for the first full quarter after the Effective Date of the Order, and is due following the end of that full quarter. Quarterly Reports shall include:

A. A description of the actions which have been taken toward achieving compliance with this Order since the previous Quarterly Report.

B. An assessment of the effectiveness of such actions in preventing SSOs.

C. A list of any SSOs that occurred since the previous Quarterly Report. The list shall include the data specified in Paragraph 15.B.iii above.

19. The City may submit a request for any extension of time to comply with the requirements of this Order in writing. Such request must include the reasons for the extension request and a date when compliance will be achieved. Failure to obtain federal, state, or local permits or approvals shall not be a basis for an extension unless the City has sought such permits or approvals in a timely and complete manner. Any extension must be approved by EPA in writing to be effective.

20. All reports, notifications, documentation, and submittals required by this Order shall be signed by a duly authorized representative of the City as specified by 40 C.F.R. §§ 122.22(b)(2) and (d) and shall include the following statement:

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

21. All reports, programs, plans notifications, documentation, and submittals required by this Order shall be sent by certified mail or its equivalent to the following address:

Denisse D. Diaz, Acting Chief  
Clean Water Enforcement Branch  
Water Protection Division  
ATTN: Mr. Dennis J. Sayre  
U.S. Environmental Protection Agency, Region 4  
61 Forsyth Street, S.W.  
Atlanta, Georgia 30303-8960

#### **V. General Provisions**

22. Failure to comply with the requirements herein shall constitute a violation of this Order and the CWA, and may subject the City to penalties as provided in Section 309(d) of the CWA, 33 U.S.C. § 1319(d).

23. This Order shall not relieve the City of its obligation to comply with all applicable provisions of federal, state or local law, nor shall it be construed to be a ruling on, or determination of, any issue related to any other federal, state or local permit. Compliance with this Order shall not be a defense to any actions subsequently commenced pursuant to federal laws and regulations administered by EPA.

24. Nothing in this Order shall be construed as prohibiting, altering, or in any way limiting the ability of the United States to seek any other remedies or sanctions available by virtue of the City’s violation of this Order or of the statutes and regulations upon which this Order is based, or for the City’s violation of any other federal or state statute, regulation or permit.

25. Nothing in this Order is intended to nor shall be construed to operate in any way to resolve any criminal liability of the City, or other liability resulting from violations that were not alleged in this Order. The United States does not waive any right to bring an enforcement action against the City for violation of any federal or state statute, regulation or permit, to initiate an action for imminent and substantial endangerment, or to pursue criminal enforcement.

26. This Order applies to and is binding upon the City and its officers, directors, employees, agents, successors and assigns.

27. Any change in the legal status of the City, including but not limited to any transfer of assets of real or personal property, shall not alter the City's responsibilities under this Order.

28. Pursuant to Section 309(a)(4) of the CWA, 33 U.S.C. § 1319(a)(4), EPA has sent a copy of this Order to the State of Tennessee.

29. The provisions of this Order shall be deemed satisfied upon a determination by EPA that the City has fully completed and implemented the actions required by this Order.

**VI. Effective Date**

30. The effective date of this Order shall be the date upon which it is received by the City.

**IT IS SO ORDERED,  
BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 4**

  
\_\_\_\_\_  
James D. Giattina  
Director  
Water Protection Division

**SEP 27 2010**  
\_\_\_\_\_  
Date