JERRY L. CANFIELD, P.A. THOMAS A. DAILY, P.A. WYMAN R. WADE, JR., P.A. DOUGLAS M. CARSON, P.A. C. MICHAEL DAILY, P.A. † • COLBY T. ROE, P.A. MICHAEL A. LAFRENIERE

Also Licensed in Oklahoma
Also Licensed in Wyoming & North Dakota

DAILY & WOODS

A PROFESSIONAL LIMITED LIABILITY COMPANY ATTORNEYS AT LAW

> KMW BUILDING 58 SOUTH SIXTH STREET P.O. BOX 1446 FORT SMITH, AR 72902 TELEPHONE (479) 782-0361 FAX (479) 782-6160

> > www.dailywoods.com

JAMES E. WEST OF COUNSEL

HARRY P. DAILY (1886-1965) JOHN P. WOODS (1886-1976) JOHN S. DAILY (1912-1987) BEN CORE (1924-2007)

WRITER'S E-MAIL ADDRESS JCanfield@DailyWoods.com

December 27, 2016

#### **Via Federal Express**

Director, Compliance Assurance and Enforcement Division U.S. Environmental Protection Agency Region VI 1445 Ross Avenue Mail Code (6EN) Dallas, Texas 75202

Deputy Regional Counsel, Enforcement U.S. Environmental Protection Agency Region VI 1445 Ross Avenue Dallas, Texas 75202

Director Arkansas Department of Environmental Quality 5301 Northshore Drive North Little Rock, Arkansas 72118-5317

Re: <u>United States of America and State of Arkansas v. City of Fort Smith, Arkansas,</u> United States District Court, Western District of Arkansas – Case No. 2:14-cv-2266-PKH

Greetings:

Regarding the Continuing Pump Station and Force Main Evaluation and Maintenance Program component of CMOM (paragraph 45 of the Consent Decree), the City of Fort Smith hereby submits its Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

for EPA review and approval. As a deliverable under paragraph 89 of the Consent Decree, the Plan is also submitted to ADEQ. The submission is made in hard copy as well as in electronic and searchable text format.

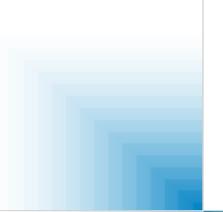
Thank you for your attention to this matter.

Very truly yours orfiell Jerry/L. Canfield cmm

Enclosures

 cc: Chief, Environmental Enforcement Section (Via Federal Express) Environment and Natural Resources Division
 U.S. Department of Justice
 Box 7611 Ben Franklin Station
 Washington, D.C. 20044-7611
 Re: DOJ No. 90-5-1-1-08677

Lisa Cherup <Lisa.Cherup@usdoj.gov> Leslie Rutledge <oag@ag.state.ar.us> Carl Geffken <cgeffken@fortsmithar.gov> Jeff Dingman <jdingman@fortsmithar.gov> Bob Roddy <broddy@fortsmithar.gov>





# CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM AND IMPLEMENTATION PLAN

**Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan** 

December 2016

# **CITY OF FORT SMITH, ARKANSAS** Development of a Capacity, Management, Operation, and Maintenance Program (CMOM) and Assessment and Remediation Plan for Effluent Limit Exceedances

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information 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.



Robert Roddy, Interim Director of Utilities City of Fort Smith, AR Utility Department

12/14/16

Date

# Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

# **Table of Contents**

Definitions	. i
Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent	vi
Section 1 Consent Decree Requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan	-1
Section 2 Purpose and Goals of the Continuing Pump Station and Force Main Evaluation ar Maintenance Program	
Section 3 Elements of the Continuing Pump Station and Force Main Evaluation and	
Maintenance Program Plan 3	
3.1 Related Consent Decree Programs3	
3.1.1 Continuing Capacity Assurance (CCA) Program	
3.1.2 Pump Station/Force Main Evaluation Report	-2
3.2 Continuing Evaluation of Pump Station Performance and Capacity	-2
3.3 Routine Pump Station Operations Program	-2
3.4 Emergency Pump Station Operations Program	-3
3.5 Pump Station Preventative Maintenance Program	
Section 4 Record Keeping and Reporting4	-1
4.1 Record Keeping	-1
4.2 Reporting	
4.3 Periodic Review, Evaluation, and Revision	
Section 5 Training and Standard Operating Procedures5	-1
5.1 Training	
5.2 Standard Operating Procedures5	

## List of Tables

Table 1-1 Summary of Consent Decree Requirements for the Pump Station and Force Main	
Evaluation and Maintenance Program1	l-1

# List of Acronyms

ADEQ	Arkansas Department of Environmental Quality
CCA	Continuing Capacity Assurance
CCTV	Closed Circuit Television
СМОМ	Capacity, Management, Operations, and Maintenance
CSSA	Continuing Sewer System Assessment
СТР	Comprehensive Training Plan
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oil and Grease
GIS	Geographic Information System
I&I	Infiltration and Inflow
IMS	Information Management System
MACP	NASSCO's Manhole Assessment and Certification Program
MGD or mgd	Million Gallons per Day
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	NASSCO's Pipe Assessment and Certification Program
SCADA	Supervisory Control and Data Acquisition
SOP	Standard Operation Procedure
SSA	Sewer System Assessment
SSO	Sanitary Sewer Overflow
U.S.	United States
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

# Definitions

Unless otherwise defined herein, terms used in in the plans comprising the CMOM Program and Implementation Plan shall have the meanings given to those terms in the CWA and the EPA Consent Decree lodged for City of Fort Smith, Arkansas. The terms and acronyms are defined as follows:

**ADEQ** shall mean the Arkansas Department of Environmental Quality, and any successor departments or agencies of the State of Arkansas.

**Annual Report** shall mean the report to be submitted annually pursuant to Section X of the Consent Decree.

**Article** shall mean a portion of Section V ("Comprehensive Remedial Requirements" Section) of the Consent Decree.

**Basin** shall mean a section of a Sewershed that is a distinct wastewater collection area, and designated by Fort Smith as such.

**Building/Private Property Backup** shall mean a wastewater backup into a building and/or a wastewater overflow onto private property that is caused by blockages, flow conditions or other malfunctions in the WCTS. "Building/Private Property Backup" does not include a wastewater backup into a building and/or a wastewater overflow onto private property that is caused solely by a blockage or other malfunction of a Private Service Lateral or other piping or conveyance system that Fort Smith does not own or operate.

**Calendar Year** shall mean the twelve (12) month period starting on January 1 and ending on December 31 of a given year.

**Capacity Constraint** shall mean those discrete components, or groups of components of the WCTS that are determined by the City, consistent with Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree to have capacity deficiency issues that have caused or significantly contributed to previous capacity-related SSOs; that are likely to cause or significantly contribute to future capacity-related SSOs; and/or that are identified as overflow locations for any storm event presented in Section V, Article Four, Paragraph 30.

City or Fort Smith shall mean the City of Fort Smith, Arkansas.

Clean Water Act or CWA shall mean the Federal Clean Water Act found at 33 U.S.C. §§ 1251-1387.

**CMOM** or **Capacity, Management, Operations, and Maintenance** shall mean a program of accepted industry practices to properly manage, operate and maintain sanitary sewer collection, transmission and treatment systems, investigate capacity constrained areas of these systems, and respond to SSO events, including as identified by the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Programs (EPA, Jan. 2005).

**Consent Decree** or **Decree** shall mean the Decree (and all Appendices) lodged by the U.S. EPA against the City of Fort Smith.

**Consultant** shall mean a professional engineer licensed in the State of Arkansas or other recognized professional within a field of practice, with appropriate qualifications, experience and adequate staff and resources necessary to undertake any program plan, study, analysis, design or report required by the terms of the Consent Decree.

**Contractor** shall mean a person or entity who in pursuit of its business undertakes to perform a job or piece of work, retaining in himself control of means, method and manner of accomplishing the desired result.

**Critical Response Time** shall mean the time interval between activation of the high wet well level alarm at a Pump Station and the first SSO from the WCTS tributary to that Pump Station under peak dry-weather flow conditions or under peak wet-weather flow conditions (generated by the analysis rainfalls presented in Section V, Article Four ("Capacity Assessment and Hydraulic Modeling") of the Consent Decree), whichever weather conditions prevail at the time of the SSO.

**Cross-Connection** shall mean any constructed connection, whether by pipe or any other means, between any part of the WCTS and any part of a storm water drainage system that is capable of conveying flow between the two systems.

**Date of Lodging** shall mean the date the United States filed a copy of the Consent Decree signed by all Parties with the District Court, along with the Complaint, prior to submitting the Consent Decree for publication in the Federal Register to provide an opportunity for public review and comment thereon. The Date of Lodging for the City's Consent Decree is January 02, 2015 (1/2/2015).

**Day** or **Days** shall mean a calendar day or calendar days unless expressly stated to be a business day or business days. In computing any period of time under the Consent Decree, where the last Day would fall on a Saturday, Sunday, or a Federal or State holiday, the period shall run until the close of the next business day.

**Deliverable** shall mean any written document required to be prepared and/or submitted by or on behalf of Fort Smith pursuant to the Consent Decree.

**Direct Discharge** shall mean a sewer pipe installed to convey wastewater from a sanitary sewer for release into the environment.

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

**Equalization Facilities** or **EQ Facilities** shall mean those components of the WCTS designated, designed or intended for the temporary storage of wet-weather wastewater flows.

**Fats, Oil and Grease** or **FOG** shall mean fats, oil and grease, whether petroleum-based, mineral-oil-based, animal-based or vegetable-based.

**FOG Control Device** shall mean any grease interceptor, grease trap, or other mechanism, device, or process that attaches to or is applied to wastewater plumbing fixtures and/or Private Service Lines to collect, contain, or remove FOG from the wastewater stream of a FOG Generator prior to discharge into the WCTS.

**FOG Control Program Plan** or **Fats, Oil and Grease Control Program Plan** shall mean Fort Smith's program to control discharge of FOG into the WCTS as developed and approved under **Section V**, **Article Seven, Paragraph 37** of the Consent Decree.

**FOG Generator** shall mean any food service establishment or food-processing establishment that discharges FOG into the WCTS, provided, however, that those establishments covered by the City's industrial user program shall not be considered a FOG Generator for the purposes of the Consent Decree.

**Force Main** shall mean any pipe that receives and conveys, under pressure, wastewater from the discharge side of a pump. A Force Main is intended to convey wastewater under pressure.

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

**Small-Diameter Gravity Sewer Lines** shall mean Gravity Sewer Lines that are less than twenty-four (24) inches in diameter.

**Large-Diameter Gravity Sewer Lines** shall mean Gravity Sewer Lines that are twenty-four (24) inches or greater in diameter.

**Infiltration** as defined by 40 C.F.R. § 35.2005(b)(20) shall mean water other than wastewater that enters a WCTS (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 WCTS (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.

**Infiltration and Inflow** or **I&I** shall mean the total quantity of water from Infiltration and Inflow without distinguishing the source.

Interest shall mean interest accruing on a sum calculated in the manner provided by 28 U.S.C. § 1961.

Manhole Assessment and Certification Program or MACP shall mean the National Association of Sewer Service Companies (NASSCO) Manhole Assessment and Certification Program.

**Massard Permit** shall mean NPDES Permit Number AR0021750 issued to City pursuant to Section 402 of the Clean Water Act, 33 U,S. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the Massard POTW and any future extended, modified or reissued permit.

**Massard WWTP** shall mean the publicly owned treatment works that is owned and operated by the City and that is located in Fort Smith with an address of **1609 North 9<sup>th</sup> Terrace, Barling, Arkansas**.

**Month** shall mean one calendar month running from a numbered day to the same numbered day of the following calendar month, regardless of whether the particular month has 28, 29, 30, or 31 days. If a triggering event would occur on a day of the month that does not exist (for example, February 30), then the event shall be due on the first day of the following month (for example, March 1).

NASSCO shall mean the National Association of Sewer Service Companies.

**P Street Permit** shall mean NPDES Permit Number AR0033278 issued to City pursuant to Section 402 of the Clean Water Act, 33 U.S.C. § 1342, and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-10, et seq., for the P Street POTW and any future, extended, modified or reissued permit.

**P Street WWTP** shall mean the publicly owned treatment works that is owned and operated by City and that is located at **13 North P Street in Fort Smith, Arkansas**.

**Pipe Assessment and Certification Program** or **PACP** shall mean the NASSCO Pipe Assessment and Certification Program.

Pipe Segment shall mean the portion of a Gravity Sewer Line extending from manhole to manhole.

**Private Service Line** shall mean a sewer line which is not owned or operated by City, but which conveys wastewater from a building to a main line of the WCTS.

**Private Service Line Release** shall mean any spill, release, or diversion of sewage from a Private Service Line to any location other than the WCTS caused solely by a blockage or other malfunction in that Service Line, even if the release does not reach Waters of the State or waters of the United States.

**Pump Station** or **Pumping Station** shall mean facilities owned or operated by Fort Smith that contain pumps that lift wastewater from a lower to a higher hydraulic elevation, including all related electrical, mechanical, and structural systems necessary to the operation of that Pump Station within the WCTS.

**Recurring Private Service Line Release** shall mean a Private Service Line Release that has occurred within three (3) years of a prior Private Service Line Release at the same location.

**Recurring SSO, Recurring Dry-Weather SSO,** and **Recurring Wet-Weather SSO.** A "Recurring SSO" shall mean any SSO that has occurred within three (3) years of a prior SSO that occurred at the same location under any weather conditions (wet or dry). A "Recurring Dry-Weather SSO" shall mean an SSO that has occurred during dry weather within three (3) Years of a prior SSO at the same location that also occurred during dry weather. A "Recurring Wet-Weather SSO" shall mean an SSO that has occurred during we weather within three (3) Years of a prior SSO at the same location that also occurred during we weather within three (3) Years of a prior SSO at the same location that also occurred during we weather within three (3) Years of a prior SSO at the same location that also occurred during we weather.

**Remedial Measures** shall mean spot repairs, trenchless sewer rehabilitation, sewer replacement, repair or reconstruction, and any other appropriate WCTS improvement technique for resolving condition deficiencies and/or capacity deficiencies in a particular system asset or group of assets within the WCTS, in accordance with **Appendix D** of the Consent Decree ("Remedial Determination Process"), that have caused or significantly contributed to previous SSOs, and/or, that are likely to cause or significantly contribute to future occurrence of SSOs.

**Sanitary Sewer Overflow** or **SSO** shall mean any spill, release, or diversion of sewage from the WCTS, including: (1) an overflow that results in a discharge to Waters of the State or waters of the United States, and (2) an overflow of wastewater, including a wastewater backup into a building or wastewater overflow onto private property, such as a Building/Private Property Backup (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building

lateral (i.e. a "Private Service Line")), even if that overflow does not reach Waters of the State or waters of the United States.

**Sewershed** shall mean a section of City's WCTS that is a distinct drainage or wastewater collection area and designated as such by City for the P Street WWTP and the Massard WWTP.

State of Arkansas or State shall mean the State of Arkansas acting on behalf of ADEQ.

**Sub-basin** shall mean a section of a Basin that is a distinct wastewater collection area and designated by Fort Smith as such.

**Tabulation** shall mean a document in a format containing text searchable cells or fields that is also sortable by data category.

United States or U.S. shall mean the United States of America, acting on behalf of EPA.

**Wastewater Treatment Plant or WWTP** shall mean the Massard or P Street wastewater treatment plants and components thereof.

**Wastewater Collection and Transmission System or WCTS** shall mean the sanitary sewer collection, retention and transmission systems for both the Massard WWTP Sewershed and the P Street WWTP Sewershed, including all pipes, Force Mains, Gravity Sewer Lines, Pump Stations, EQ Basins, manholes and appurtenances thereto, that are owned or operated by City at any time from the Date of Lodging of the Consent Decree until its termination under Section XXIV.

**Waters of the State** shall mean all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies of accumulations of water, surface and underground, natural and artificial, public or private, which are contained within, flow through, or border upon the State of Arkansas, or any portion of the State of Arkansas, as defined in Ark. Code Ann. §84-102(10).

**Year** shall mean a twelve-month period regardless of the beginning date. In the event a triggered event shall be due on a year ending date that does not exist (for example, February 29 in some years), then the event shall be due on the first day of the following month (for example, March 1).

# Capacity, Management, Operation, and Maintenance (CMOM) Program Summary and Intent

On January 2, 2015, the City of Fort Smith, Arkansas (City) entered into a Consent Decree with the United States Environmental Protection Agency (EPA) and the State of Arkansas to address deficiencies within the City's wastewater collection and transmission system (WCTS). Per Section V, Article Seven of the Consent Decree, the City will prepare an effective WCTS Capacity, Management, Operation, and Maintenance Program ("CMOM Program") consistent with EPA's 2005 Guidance entitled "Guide for Evaluating Capacity, Management Operation and Maintenance Programs at Sanitary Sewer Collection Systems." All components of the CMOM Program, as set forth in Paragraphs 37-56, shall be submitted in report form to EPA for review and approval at a date no later than twenty-four (24) months from the Date of Lodging, with shorter submission dates for certain components. The Date of Lodging for the Consent Decree has been established as January 2, 2015.

The aggregate CMOM Program is comprised of thirteen (13) separate components that were developed to address deficiencies within specific elements of the City of Fort Smith's WCTS. Upon approval by EPA, each of the respective CMOM components is intended to be used by the City of Fort Smith as guidelines for the implementation of a defined set of procedures to satisfy the requirements of the Consent Decree and promote compliance with the Clean Water Act (CWA).

# Section 1 Consent Decree Requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

The Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan described herein has been prepared to satisfy the requirements set forth in Article Seven, Paragraph 45 of the Consent Decree and must be submitted to EPA for review no later than twenty-four (24) months from the Date of Lodging of the Consent Decree (i.e., by December 31, 2016). Beginning in calendar year 2023, the Utility Department will initiate the implementation of the Continuing Pump Station and Force Main Evaluation and Maintenance Program. **Table 1-1** provides a list of the Consent Decree requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program and the sections of this document that address each requirement.

Consent Decree Paragraph	Consent Decree Requirement	Pump Station and Force Main and Maintenance Program Plan Section
45.a	Continuing evaluation of pump station performance and capacity considering future growth of the City.	3.2
45.b	<b>Routine Pump Station Operations Program</b> – to ensure proper pump station operation to prevent pump station failures, which shall include, at a minimum:	
	Procedures for reading and recording information appropriate to each pump station including, as applicable, pump run-time meter readings, start counters, amperage readings, checking and resting conditions, wet-well points, grease accumulations, and any other information that is necessary for the proper operation of a pump station;	3.3
	<ul> <li>Standard inspection routes and schedules such that pump stations having firm capacities greater than five (5) MGD and those pump stations without SCADA shall be inspected daily, and all other pump stations shall be inspected no less often than two (2) times per week; and</li> </ul>	
	<ul> <li>Standard forms, records and performance measures to be incorporated into the City's Information Management System (IMS).</li> </ul>	

# Table 1-1 Summary of Consent Decree Requirements for the Pump Station and Force Main Evaluation and Maintenance Program

Section 1 • Consent Decree Requirements for the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

Consent Decree Paragraph	Consent Decree Requirement	Pump Station and Force Main and Maintenance Program Plan Section
45.c	<ul> <li>Emergency Pump Station Operations Program – Establish written emergency operating procedures in the event of pump station failure and shall include, at a minimum, the following:</li> <li>Applicable manufacturers' representation emergency contact information;</li> <li>Operational procedures for activating and deactivating auxiliary power systems at each pump station;</li> <li>Location(s) of portable pumping and power generating equipment;</li> <li>Guidance for installing portable pumps during high flow periods;</li> <li>Applicable contingency plans to prevent the occurrence of sanitary sewer overflows (SSOs) from the tributary WCTS; and</li> <li>Standard forms, records and performance measures to be incorporated into the City's IMS.</li> </ul>	3.4
45.d	<ul> <li>Pump Station Preventative Maintenance Program – establish all standard procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement required to achieve the objectives of the Consent Decree. The program shall also include the following evaluations:</li> <li>Evaluation of dry-weather and wet-weather critical response time of each pump station;</li> <li>Evaluation of the general condition of each pump station based upon physical inspection and recent operating/mechanical failure history over not less than the previous three (3) Calendar Years;</li> <li>Evaluation of the adequacy of station design and equipment for peak wet-weather wastewater flow conditions anticipated within the next five (5) Years, including redundancy of the pumps, of the electrical power supply, and of the other equipment installed; and</li> <li>Evaluation of staffing and equipment required to take corrective action within the dry-weather and wet-weather critical response times calculated for each pump station to prevent the occurrence of SSOs from tributary gravity sewer lines and manholes.</li> </ul>	3.5

# Section 2 Purpose and Goals of the Continuing Pump Station and Force Main Evaluation and Maintenance Program

As a component of the City's comprehensive CMOM Program, the purpose of the Continuing Pump Station and Force Main Evaluation and Maintenance Program is to establish and document processes and procedures to operate and maintain pump station assets in a manner that ensures the pump stations operate as designed and minimize potential SSOs.

This program will outline procedures for the Utility personnel to identify potential maintenance and capacity constraints in pump station assets and to conduct preventative and emergency maintenance in a manner that minimizes the potential for structural, mechanical, electrical, instrumentation, hydraulic, or other failures that could result in, or contribute to, the occurrence of SSOs. Additionally, this program will outline a process for continuing evaluation of pump station performance and capacity considering future growth in the City. The Continuing Pump Station and Force Main Evaluation and Maintenance Program will be conducted at least once every five (5) years beginning in the year 2023.

# Section 3 Elements of the Continuing Pump Station and Force Main Evaluation and Maintenance Program Plan

The Continuing Pump Station and Force Main Evaluation and Maintenance Program is comprised of the following central elements:

- Continuing evaluation of pump station performance and capacity considering the future growth of the City;
- A Routine Pump Station Operations Program to ensure proper pump station operation and minimize pump station failures;
- An Emergency Pump Station Operations Program that will establish written emergency operation procedures for use in the event of pump station failure; and
- A Pump Station Preventative Maintenance Program that will establish all standard procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement as required.

In addition to these central program elements, Standard Operating Procedures (SOPs), training, reporting, and incorporation of pump station and force main evaluation data into the Utility Department's Information Management System (IMS) are all important to implementing an effective Program and are discussed in more detail in the following sections.

The Continuing Pump Station and Force Main Evaluation and Maintenance Program will be conducted at least once every five (5) years, beginning in 2023. Once implemented, the Program will serve predominantly as a proactive maintenance component of the CMOM Program.

## 3.1 Related Consent Decree Programs

The Continuing Pump Station and Force Main Evaluation and Maintenance Program is related to other CMOM programs outlined in the Consent Decree. Each of these related programs is discussed briefly below and will be considered in implementation of the Continuing Pump Station and Force Main Evaluation and Maintenance Program.

#### 3.1.1 Continuing Capacity Assurance (CCA) Program

As a condition of the Consent Decree, the Utility must implement a CCA Program to provide for the periodic evaluation of the WCTS to confirm that adequate capacity exists to convey current and projected future wastewater flows in order to maintain compliance with the Consent Decree, the CWA, the regulations promulgated under the CWA, and the City's National Pollutant Discharge Elimination System (NPDES) permits. The CCA Program must be conducted at least once every five (5) years, beginning in 2025.

The CCA Program outlines a procedure for the Utility to identify potential capacity constraints in the WCTS while providing assurance that flow additions or expansions to the WCTS will not cause or significantly contribute to SSOs resulting from inadequate capacity. The CCA Program will include gravity sewer lines ten (10) inches and larger; pump stations; force mains; equalization facilities and other flow control facilities; and other WCTS components included in previous capacity assessment efforts conducted by the Utility.

The CCA Program is therefore directly related to this Program in that it addresses Paragraph 45.a. of the Consent Decree, which requires a continuing evaluation of pump station performance and capacity, considering future growth of the City. The Utility will use evaluations conducted under the CCA Program to satisfy the requirement for the Continuing Pump Station and Force Main Evaluation and Maintenance Program as the frequency and timing of CCA evaluations correspond to the requirements of this Program (see **Section 3.2** for additional detail).

#### 3.1.2 Pump Station/Force Main Evaluation Report

As required by Article Three of the Consent Decree, the Utility Department will complete evaluations of all pump stations and force mains in the WCTS, as described in Appendix B of the Consent Decree, and will provide to EPA and the Arkansas Department of Environmental Quality (ADEQ) a Pump Station and Force Main Evaluation report detailing their findings by March 31, 2018. The purpose of these evaluations is to determine the suitability, overall performance, and condition of each pump station and force main and to identify remedial measures required at each pump station or force main.

Pump station and force main improvements and remedial measures identified in the Pump Station and Force Main Evaluation report will be completed in accordance with the schedule outlined in Appendix B of the Consent Decree. These evaluations directly relate to this Continuing Pump Station and Force Main Evaluation and Maintenance Program in that the results will be used as a basis for the Pump Station Preventative Maintenance Program described in **Section 3.5**.

# 3.2 Continuing Evaluation of Pump Station Performance and Capacity

The Utility will continue to evaluate pump station performance and capacity based on the growth in future population and resulting sewer demand, as part of the CCA Program discussed in **Section 3.1.1**. If any pump station is not covered in the CCA Program, then capacity will be evaluated under this program, as necessary, based on operational data.

## 3.3 Routine Pump Station Operations Program

Until the Continuing Pump Station and Force Main Evaluation and Maintenance Program is implemented, beginning in 2023, the Utility will continue routine maintenance within the pump station system. The Routine Pump Station Operations Program will be developed by the Utility and will provide for proper pump station operation and maintenance to minimize pump station

failures. Although the specific requirements may vary by station, this Routine Pump Station Operations Program will generally consider the following elements:

- Procedures for reading and recording applicable operational information appropriate to each pump station;
- Standard forms, records, and performance measures to be incorporated into the IMS; and
- Standard inspection routes and schedules such that pump stations having firm capacities greater than five (5) MGD will be inspected daily through SCADA monitoring and supplemented as needed by physical inspection. All other pump stations will be inspected at least twice a week (either by physical inspection or review of SCADA data). Additionally, all pump stations in the WCTS have SCADA capabilities, thus providing the Utility the ability to monitor for station failures. If any of the stations within the system were to fail, the Utility will respond by sending personnel to address the issue in order to minimize potential SSOs at the pump stations.

## 3.4 Emergency Pump Station Operations Program

The Utility will continue to implement an Emergency Pump Station Operations Program in the event of pump station failures. The Standard Operating Procedures Program, required under the Consent Decree, establishes written emergency operations procedures in the event of pump station failure. This Program will include the following elements:

- Applicable and essential manufacturers' representative emergency contact information will be included in the Utility's Operations and Maintenance Manual, which will be kept in electronic and hard copy format;
- Operational procedures for activating and deactivating auxiliary power systems at each pump station;
- Location of portable pumping and power generating equipment;
- Guidance for installing portable pumps during emergency high flow periods;
- Applicable contingency plans to minimize the occurrence of SSOs from the tributary WCTS; and
- Standard forms, records, and performance measures to be incorporated into the IMS.

Elements of the Emergency Pump Station Operations Program will be implemented as appropriate for each station. For instance, pump stations equipped with a dual feed power supply would not require the capability for a portable generator to be installed.

## 3.5 Pump Station Preventative Maintenance Program

The Utility will develop a Pump Station Preventative Maintenance Program that will establish procedures for the monitoring of pump station performance and schedules for preventative maintenance and equipment replacement required to achieve the objectives of the Consent

Decree. The Pump Station Preventative Maintenance Program will include the following evaluations:

- Evaluation of dry-weather and wet-weather critical response time of each pump station;
- Evaluation of the general condition of each pump station based on physical inspection and recent operating/mechanical failure history over the previous three (3) calendar years;
- Evaluation of the adequacy of station design and equipment for peak wet-weather wastewater flow conditions anticipated within the next five (5) years, including redundancy of pumps, electrical power supply, and other equipment, either through installed equipment, or access to replacement pumps and power sources via a third-party supplier; and
- Evaluation of staffing and equipment required to take corrective action within the dryweather and wet-weather critical response times calculated for each pump station to minimize the occurrence of SSOs from tributary gravity sewer lines and manholes.

# Section 4 Record Keeping and Reporting

This section of the Plan describes procedures for record keeping and reporting for the Continuing Pump Station and Force Main Evaluation and Maintenance Program, as well as procedures for the periodic review, evaluation, and revision of this Plan.

## 4.1 Record Keeping

As required by the Consent Decree, records associated with the Continuing Pump Station and Force Main Evaluation and Maintenance Program will be saved in the Utility Department's document management system and maintained as required under the records retention policy.

The City is currently updating its strategy for managing its field and office information. The City's plan for modifying its IMS, as described in Article Seven, Paragraph 50 of the Consent Decree, is being submitted to EPA for approval within twenty-four (24) months of the Date of Lodging (i.e., by December 31, 2016).

## 4.2 Reporting

Per Article Seven, Paragraph 45 of the Consent Decree, the City will report the pump station and force main evaluations and preventative maintenance activities performed each calendar year in the Annual Report for that calendar year as described in Section X of the Consent Decree.

The Annual Reports will include the following information related to the Continuing Pump Station and Force Main Evaluation and Maintenance Program, as outlined in Paragraph 94.e of the Consent Decree:

- The findings of Pump Station and Force Main evaluations conducted in the Annual Report Year, including condition, configuration and capacity deficiencies discovered;
- Pump Station and Force Main Remedial Measures required to achieve the Objectives of Section II of the Consent Decree, and the schedule for completing those Remedial Measures; and
- A Tabulation of Pump Station and Force Main Remedial Measures identified through the Continuing Pump Station and Force Main evaluation effort that were initiated or completed in the Annual Report Year.

## 4.3 Periodic Review, Evaluation, and Revision

As part of the annual reporting process, this Plan shall be reviewed and evaluated by City personnel in order to determine whether the objectives set forth by the Consent Decree are being met in the most efficient means possible. If an element of this Plan is identified as being ineffectual or impracticable, then the City will propose the necessary amendments, which will be summarized in the Annual Report.

# Section 5 Training and Standard Operating Procedures

## 5.1 Training

Per Article Seven, Paragraph 55 of the Consent Decree, the CMOM Program must include a Comprehensive Training Program (CTP) for technical and skills training for appropriate categories of the Utility's employees. The CTP plan was submitted to EPA for approval within eighteen (18) months of the Date of Lodging (submitted June 28, 2016). The CTP is directly related to the operation and maintenance of the sanitary sewer collection system for the purpose of responding to and minimizing SSOs.

# **5.2 Standard Operating Procedures**

The plan and schedule for developing SOPs for general operation and maintenance of all components of the WCTS is detailed in a report submitted to EPA within eighteen (18) months of the Date of Lodging (submitted June 28, 2016) per the Consent Decree.