

# 2024 CMOM ANNUAL PROGRESS REPORT

NPDES PERMIT TN 0026158  
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**ROCKWOOD**  
WATER, SEWER & GAS





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## **INTRODUCTION**

This Annual CMOM Report for 2024 (January 1, 2024, through December 31, 2024) provides a comprehensive review of the Capacity, Management, Operation, and Maintenance (CMOM) Programs of Rockwood Water, Sewer, and Gas (RWSG) in Rockwood, TN.

Currently, RWSG serves 1,880 customers in its approximately four-square mile service area. The collection system consists of approximately 208,400 linear feet of sewer gravity main and approximately 600 manholes. The transmission system has about 57,000 linear feet of sewer force main and nine pump stations.

In 2024, RWSG treated 484.8 million gallons of wastewater with a daily average of 1.326 million gallons.

The yearly rainfall total for RWSG in 2024 was 50.26 inches compared to the area's annual average of 58 inches per year.

## **CMOM OVERVIEW**

### **Purpose of the CMOM Annual Report**

RWSG has developed and implemented CMOM programs designed to enhance the operability of their wastewater system and in accordance with NPDES Permit No. 0026158. The Annual CMOM report fulfills the following objectives:

- 1) Provide an annual summary of the CMOM program's completed activities, planned activities, and activities currently underway;
- 2) To describe and document any changes made to the CMOM programs, which may include changes to the objectives, strategies, tactics, and performance measures; and
- 3) To continue meeting regulatory compliance standards.

The CMOM provides oversight of the programs within, allowing RWSG to make significant improvements in their wastewater system by identifying potential issues and implementing preventative, predictive, and corrective maintenance strategies as part of an overall wastewater management system.



## **Components of the CMOM**

RWSG continues to apply, manage, and improve the CMOM. This annual progress report shows how RWSG will continue to use and update its CMOM programs in the future to better maintain the collection/transmission systems, serve our customers, and protect our environment. The following sections provide more specific information on the CMOM activities over the course of this past year that has been highlighted in this introduction.

### *Management Plan –*

RWSG's Management Plan ensures that employees are adequately trained, that programs are fully staffed, and that issues are handled quickly and efficiently.

As a part of RWSG's Management Plan, RWSG continues to verify asset information during the ongoing sewer inspection and construction activities. This ensures that asset information in the geographical information system (GIS) and asset management system remains accurate.

### *Operations & Capacity Programs -*

Within the wastewater collection system, RWSG has developed an investigative program designed to monitor and document the current condition of the wastewater assets. RWSG receives a lot of usable information from their investigation programs showing where potential issues are in the wastewater system.

RWSG also continues to reduce the occurrence of grease within their system by educating their customers, monitoring new and existing sources of grease, and by cleaning assets affected by grease build-up regularly. Regular inspections and maintenance of grease collection equipment has helped lower the amount of grease in the collection system.

### *Maintenance Programs -*

Based on the information received during the investigative program, RWSG can prioritize any improvements, maintenance, and management activities that may be required within the wastewater collection or transmission system.



## **PROGRAMS**

### **Sanitary Sewer Asset Management**

Asset management allows RWSG to properly schedule maintenance activities and isolate potential problem-causing areas through the inspection records and observations now available for each asset within the wastewater system. The ability to view data geospatially helps crews see the bigger picture when working in each area. This allows information to be processed in relation to surrounding assets.

The wastewater collection and transmission system's assets are managed through a GIS system and a Work Management System (WMS). The programs are used in conjunction to allow RWSG to record completed work, both Capital and O&M, schedule upcoming work, and manage asset information.

This technology is available in mobile format too, providing on-the-go access to inspection information and previous inspection records

### **Sanitary Sewer Evaluation Survey**

The Sanitary Sewer Evaluation Survey (SSES) program assesses the condition of its gravity collection system in a stepwise approach over the course of 5 years. The SSES Program is responsible for inspecting collection system mains and manholes.

Closed Circuit Television Video (CCTV) inspections, video manhole inspections, and smoke testing are performed throughout the wastewater collection system. RWSG will provide cleaning and root-cutting activities after the initial inspection, if required.

While completing the SSES activities, the GIS system is updated with any findings from the inspection investigation. These discrepancies may include finding an additional manhole or a previously mapped manhole that does not exist, main line diameter changes, alignment changes, or other discrepancies.

When a maintenance or structural issue is found during the survey, the line can be cleaned as a part of the Preventative Maintenance Program (PM) or added to the Asset Rehabilitation Program (ARP) and addressed at the appropriate time.

RWSG started a new SSES Annual Contract in late 2024 and work has already begun on the first round of maintenance and inspection activities.



### *Closed Circuit Television Video (CCTV)*

All main lines in the collection system should have an attempted inspection by CCTV during every SSES program. Due to connectivity, structural, or mapping issues, some mains will not have a complete inspection.

A list of results and scores are produced for every attempted CCTV inspection. Mainline structural and maintenance results from CCTV may include offset joints, deformed pipe, and other structural or maintenance issues. Defects are given a severity rating to help determine the overall condition and longevity of the inspected main. Features include observations that do not get a score like lateral taps, other connections to the main, and minor water level observations. A quality CCTV inspection provides both types of information for RWSG to use in future CMOM related activities.

In 2024, 5,200 linear feet of CCTV were completed.

### *Smoke Testing*

Smoke Testing involves adding pressurized smoke to each mainline, which shows various defects that could potentially allow water to leak in or out of the sewer system. During testing, smoke will permeate defects, illicit connections, and potential direct connections to the storm system.

### *Manhole Inspections*

Manhole Inspections gather data about the structural integrity and maintenance issues of each manhole in the system. The inspections show I/I sources, root issues, structural issues, and other problems within each manhole. Internal crews may perform wet weather inspections, dye-testing during rain events, to further investigate specific areas of RWSG, as required.



## **Preventative Maintenance**

Another effort to reduce maintenance issues within the collection system is The Preventative Maintenance Program (PM). PM activities are conducted as a part of the SSES program. After inspections are completed for the current study area, the data is then analyzed to verify what type of cleaning activity, if any, is necessary. Sewer main lines may require root cutting or high-velocity cleaning depending on the concentration and type of build-up within the main line.

## **Right of Way Maintenance**

RWSG acknowledges the importance of accessible easements. Therefore, a portion of RWSG's wastewater system in the easement is maintained annually. The remaining segments are cleared as necessary to allow CMOM activities to take place.

## **Asset Rehabilitation Program**

The main objective of the Asset Rehabilitation Program (ARP) is to address inflow and infiltration, structural, and capacity issues throughout the wastewater collection and transmission systems through rehabilitation and replacement projects.

RWSG's ARP conducted 3 repairs on mains and manholes in 2024.

## **Grease Control Program**

RWSG has a multi-faceted grease program to prevent grease discharges from food service facilities (FSFs) and from residential customers. FSFs are required to install new grease collection equipment when established and conduct ongoing inspections to verify the operability of the existing facilities.

In 2024, 20 grease trap locations were inspected 273 times, and 5 locations submitted their cleaning documentation.

Residential customers are encouraged to capture grease before releasing it into the wastewater system. Education materials are frequently made available to customers to remind them of the importance of limiting the amount of grease released to the wastewater system.

Pump stations are also regularly inspected and cleaned to prevent grease build-up. There are 13 degreasing stations within RWSG. Cleaning and inspection activities occurred 286 times in 2024.

## **Transmission System Monitoring**

Key performance criteria for the transmission system are monitored through the Supervisory Control and Data Acquisition System (SCADA) at all pump stations.



Additional inspections and maintenance activities are conducted frequently. All pump stations were inspected three times per week to ensure operability.

### **Sewer Overflow Response Plan**

RWSG makes reasonable efforts to respond as quickly as possible to each sewer overflow. While responding to each sewer overflow, the sewer maintenance personnel will record appropriate information to report the sewer overflow within 5 days of the occurrence.

During 2024, RWSG experienced 3 overflows in the collection system: 2 in March and 1 in June.

RWSG uses mobile GIS, asset management, and work order technology for sewer overflow response. This approach also allows the responder to verify recent and ongoing work for each area and to record field observations quickly and efficiently.

RWSG strives to complete each sewer overflow professionally and timely, leaving our customers satisfied with the results.

The SORP is reviewed as needed, and training is conducted annually.

### **Flow Monitoring**

Since 2012, flow monitoring has remained an integral tool to assist RWSG in assessing its wastewater system. RWSG has two temporary monitors to provide targeted information at strategic locations throughout the wastewater system.

During the flow monitoring study, R-values are determined for each area. An R-value is a ratio of the inflow and infiltration (I/I) amount received from the rainfall to the total rainfall volume. This information is valuable in determining where potential trouble areas for I/I are.

Flow monitoring for RWSG is conducted using EPA's Storm Water Management Model, version 5 (SWMM5).

### **Capital Improvement Plan**

RWSG annually updates the Capital Improvement Plan to outline the proposed expenditures over the next ten years. The information outlines the annual commitment to maintaining the system for the future. This list does not include the equipment purchased for use in the system and the engineering and design fees incurred each year.

In 2024, RWSG completed a Sewer Rehabilitation project funded by CDBG grant. This project rehabilitated mains with significant structural issues that were identified during the inspection portion of the SSES contract.



RWSG has been awarded an Asset Management Grant (TDEC) for \$292,000 to study and complete an in-depth asset management plan for the sanitary sewer system which includes the collection system and the WWTP in 2025.

### **Continuing Education**

Continuing educational activities allow RWSG employees to learn and implement work activities safely and effectively. Our collection operator trains all employees on the SORP plan each year to review response consistency. RWSG completed regular safety training activities in 2024, which include monthly safety meetings and separate sessions for excavation safety and confined space entry training.