

CWB
Engineers, Inc.

Designing a Better Arkansas

March 24, 2014

Mr. Alan Anderson
Water Enforcement Branch
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Re: City Corporation – CAO
Annual Report on Implementation of CMOM
NPDES Permit No. AR0021768
CAO LIS No. 09-146
AFIN 58-00105

Dear Mr. Anderson,

I am pleased to submit the enclosed Capacity, Management, Operation, and Maintenance (CMOM) program update on behalf of City Corporation. The CMOM submittal shall fulfill the requirements of the Consent Administrative Order and the Corrective Action Plan dated May 28, 2010. The enclosed document is the 2014 CMOM Update. Please review the document and respond to City Corporation or myself with any concerns or comments.

If you have any questions, you may contact me at email cwbengineers@yahoo.com or phone (501) 413-0861.

Sincerely,

Clint W. Bell, P.E.
CWB Engineers, Inc.

Enclosure



Capacity, Management, Operations, and Maintenance Program (CMOM)
MARCH 2014 UPDATE



Prepared By:



NPDES PERMIT No. AR0021768
CAO LIS No 09-146
AFIN 58-00105

CMOM 2014 UPDATE LOG

The CMOM 2014 Update Log includes the entire body of the CMOM document with notes to changes made since the 2013 document. Appendices of the CMOM document were only printed if changes had been made. Refer to the 2013 document for reference to any other appendix information needed.

<u>Sheet Number</u>	<u>Information</u>	<u>CMOM Year</u>
4	Table 2-1: System Profile was updated	2014
6-7	Pipe Breakdown Charts	2014
26-28	Updated the Maintenance Charts with 2013 Numbers	2014
28-29	Updated the Root Control Information	2014
29	Updated the Average Daily Flow to 2013. Spreadsheet included in Appendix 11	2014
31	Updated the Maintenance Charts with 2013 Numbers	2014
33	Updated Rain Gauge Information	2014
42	Updated Table 6-3 Lift Station Improvements	2014
43	Updated Table 6-4: RJN Recommendations for Improvements	2014
44-45	Updated Design Plans in Subbasins 7,14, & 23	2014
45-46	Updated Design Plans in Subbasins 1,2,8, & 11	2014
47	Added SSES Findings for 3,5,6,21	2014
50	Updated the Overflow Charts	2014
51	Updated Budget Process and Schedule Information	2014
53	Updated Chapter 10	2014
60	Updated Figure 10-1	2014
Appendix E	Sanitary Sewer Overflow List	2014
Appendix G	Maintenance Vehicles and Major Equipment	2014
Appendix H	Spare Parts Inventory	2014

CMOM 2014 UPDATE LOG

Appendix R	Grease Trap Schedule	2014
Appendix S	Private Defect List	2014
Appendix Y	SSO Response Plan (manhole overflow status)	2014
Appendix 1	Budget Process and Schedule	2014
Appendix 9	Creek Crossing List with Inspections	2014
Appendix 11	Effluent Flow Spreadsheet	2014
Appendix 12	Newspaper Ads and Articles	2014
Appendix 13	Map of Completed Subbasins and Future Study Areas	2014
Appendix 14	Updated Organizational Chart	2014

Table of Contents

CHAPTER 1-PROGRAM INTRODUCTION	- 1 -
1.1 What is CMOM?	- 1 -
1.2 Purpose and Overview	- 1 -
1.3 Goals.....	- 2 -
1.4 Components.....	- 2 -
1.5 Consent Administrative Order	- 3 -
1.6 Corrective Action Plan.....	- 3 -
1.6.1 TSS & TRC.....	- 3 -
1.6.2 Comprehensive	- 3 -
CHAPTER 2-PERSONNEL	- 4 -
2.1 City Corporation Organization	- 4 -
2.1.1 History.....	- 4 -
2.1.2 System Profile	- 4 -
2.1.3 Organizational Structure.....	- 8 -
2.2 Job Descriptions	- 8 -
2.3 Public Relations	- 9 -
2.4 Training	- 9 -
CHAPTER 3-LEGAL AUTHORITY.....	- 11 -
3.1 Ordinances	- 11 -
3.2 ADEQ Permits.....	- 12 -
3.2.1 NPDES Permit.....	- 12 -
3.2.2 No Exposure Storm Water Permit	- 12 -
CHAPTER 4-MANAGEMENT.....	- 13 -
4.1 Maintenance Facilities and Equipment.....	- 13 -
4.1.1 Scheduling.....	- 13 -
4.1.2 SCADA	- 13 -
4.1.3 Replacement Parts.....	- 13 -
4.2 Network Operations.....	- 14 -
4.2.1 Collection System Maps-GIS.....	- 14 -
4.2.2 Construction	- 14 -
4.2.3 Developer Funded	- 14 -
4.3 Safety Program.....	- 15 -
4.3.1 Safety Procedures.....	- 15 -
4.3.2 Vehicle Safety	- 15 -
4.3.3 Pharmaceutical Take-Back Program	- 15 -
4.4 Emergency Disaster Response Plan	- 15 -
4.5 City Corporation Master Plan 2003.....	- 16 -
CHAPTER 5-OPERATIONS AND MAINTENANCE.....	- 17 -
5.1 Critical Components.....	- 17 -
5.2 Collection System.....	- 19 -
5.3 Infiltration/Inflow Control.....	- 19 -
5.4 Lift Stations	- 20 -

5.4.1 Operation & Monitoring	- 20 -
5.4.2 Preventive & Routine Maintenance	- 21 -
5.4.3 Lift station details	- 22 -
5.5 Force Mains	- 25 -
5.5.1 Air Release Valves	- 25 -
5.6 System Rehab.....	- 25 -
5.6.1 Mainline & Manhole Repairs	- 25 -
5.6.2 Scheduling.....	- 25 -
5.6.3 Service Lateral Repairs.....	- 27 -
5.7 Cleaning/Television Inspection	- 27 -
5.8 Root Control.....	- 28 -
5.9 Grease Control	- 29 -
5.10 Treatment Facility	- 29 -
5.11 Private Defects	- 30 -
5.12 Water Quality Monitoring.....	- 32 -
5.13 Rain Gauges.....	- 33 -
5.14 Inspection Procedures and Specifications	- 35 -
CHAPTER 6- SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN	- 37 -
6.1 System Wide Flow Monitoring/Capacity Analysis- Phase I.....	- 37 -
6.1.1 Flow Monitoring	- 37 -
6.1.2 Manhole Inspection	- 39 -
6.1.3 Lift Station Evaluation.....	- 41 -
6.1.4 Capacity Improvements.....	- 43 -
6.2 System Wide Flow Monitoring/Capacity Analysis- Phase II.....	- 44 -
6.2.1 Subbasins 7,14,23 SSES Findings & Design Plans.....	- 44 -
6.2.2 Subbasins 1,2,8,11 SSES Findings & Design Plan	- 45 -
6.2.3 Subbasins 3,5,6, 21 SSES Findings & Design Plan	- 47 -
CHAPTER 7-OVERFLOW EMERGENCY RESPONSE PLAN	- 48 -
7.1 Awareness.....	- 48 -
7.2 Response	- 48 -
7.3 Official Notification	- 48 -
CHAPTER 8- FINANCIAL	- 51 -
8.1 User Rate/User Charge	- 51 -
8.2 Budget Process and Schedule	- 51 -
CHAPTER 9-PROGRAM AUDITS	- 53 -
9.1 Summary	- 53 -
9.2 Program Updates	- 53 -
CHAPTER 10-SUMMARY OF RECOMMENDATIONS.....	- 54 -
10.1 Strategic Planning Process	- 54 -
10.2 Construction/As-Built Recording Procedure.....	- 54 -
10.3 Force Mains.....	- 54 -
10.3.1 Operating Practices.....	- 55 -
10.3.2 Design Practices.....	- 55 -
10.4 Rehabilitation.....	- 55 -
10.4.1 Main Lines.....	- 55 -
10.4.2 Manholes	- 56 -

10.5 CCTV Report/Inspection.....	- 56 -
10.6 Public Education/Outreach	- 57 -
10.7 Easement Clearing	- 57 -
10.8 Aerial Stream Crossing Inspection	- 58 -
10.9 Industrial Stormwater Control	- 58 -
10.10 Record keeping program.....	- 59 -
10.11 City Grid System	- 59 -
10.12 Schedule of Recommended Improvements.....	- 59 -

REFERENCES**APPENDICES**

Appendix A - Consent Administrative Order 09-146
Appendix B - Corrective Action Plans
Appendix C - Job Descriptions
Appendix D - Ordinances
Appendix E - Sanitary Sewer Overflow List
Appendix F - No Exposure Permit Renewal
Appendix G - Maintenance Vehicles and Major Equipment
Appendix H - Spare Parts Inventory
Appendix I - Workplace Safety Committee document
Appendix J - Safety & Health Manual
Appendix K - Vehicle Accident SOP
Appendix L - Parked Traffic Cone Procedure
Appendix M - Cone Positioning
Appendix N - Drug Terminator Poster
Appendix O - Prescription Disposal Guidelines
Appendix P - Lines to be Rehabbed in 7,14 & 23
Appendix Q - Emergency/Disaster Response Plan with Emergency Contacts
Appendix R - Grease Trap Inspection Schedule
Appendix S - Private Defect List
Appendix T - Lines to be Rehabbed in 1,2,8 & 11
Appendix U - Standard Specifications and Details
Appendix V - Permanent Rain Gauge Specifications
Appendix W - Policies and Procedures
Appendix X - Dry/Wet Weather Peaking
Appendix Y - Overflow Response Plan
Appendix Z - 24 Hour SSO Report
Appendix 1 - Budget Process and Schedule
Appendix 2 - Manhole Inspection Form
Appendix 3 - Food Service Brochure Example
Appendix 4 - Sewage Spill Brochure Example
Appendix 5 - Poster Example
Appendix 6 - Aerial Stream Crossing Inspection Form
Appendix 7 - Sewer & Water Rate Flyer
Appendix 8 - NPDES Permit
Appendix 9 - Creek Crossing List with Inspections
Appendix 10 - Customer Complaint Form
Appendix 11 - Effluent Flow Spreadsheet
Appendix 12 - Newspaper Ads and Articles for 2012
Appendix 13 - Completed SSES Subbasins
Appendix 14 - Organizational Chart
Appendix 15 - Subbasin Boundary Map
Appendix 16 - Treatment Plant Layout
Appendix 17 - Temporary Rain Gauge Locations
Appendix 18 - Permanent Rain Gauge Locations
Appendix 19 - RJN Flow Meter Locations
Appendix 20 - Lift Station Locations
Appendix 21 - Overflow Locations
Appendix 22 - Strategic Planning Process

LIST OF TABLES

- Table 2-1: Sewer System Profile
- Table 5-1: Collection System Routine Maintenance Schedule
- Table 5-2: Pump Station Routine Maintenance Schedule
- Table 5-3: Lift Station Details
- Table 5-4: Lift Station Pumping Capacity
- Table 5-5: Collection System Response and Repair Priority Hierarchy
- Table 5-6: Temporary Rain Gauge Locations
- Table 5-7: Permanent Rain Gauge Locations
- Table 6-1: RJN Manhole Findings
- Table 6-2: RJN Manhole Defects
- Table 6-3: RJN Recommendation for Lift Station Improvements
- Table 6-4: RJN Recommendations for Overall Capacity Improvements

LIST OF CHARTS

- Chart 2-1: Pipe Type Breakdown for Gravity Sewer
- Chart 2-2: Pipe Type Breakdown for Force Mains
- Chart 2-3: Pipe Diameter Breakdown for Gravity Sewer
- Chart 2-4: Pipe Diameter Breakdown for Force Mains
- Chart 2-5: Pipe Age Summary
- Chart 5-1: Mainlines Rehabbed
- Chart 5-2: Manholes Rehabbed/Inspected
- Chart 5-3: Cleaning/Television Inspection Completed
- Chart 5-4: Private Defects Rehabbed
- Chart 5-5: Smoke Testing Completed
- Chart 7-1: Total Overflows
- Chart 7-2: Total Overflow Locations

LIST OF FIGURES

- Figure 2-1: System Profile
- Figure 5-1: Basin Flow Diagram
- Figure 6-1: Hydrograph
- Figure 6-2: Parts of a Standard Manhole
- Figure 10-1: Schedule of Recommended Improvements

ACRONYMS

ADEQ- Arkansas Department of Environmental Quality
CAO- Consent Administrative Order
CAP – Corrective Action Plan
CEU- Continuing Education Units
CMOM – Capacity, Management, Operations and Maintenance
CSR- Customer Service Representatives
EPA – Environmental Protection Agency
FOG- Fats, Oils & Grease
GIS – Geographical Information System
GPS- Global Positioning System
I/I – Infiltration and Inflow
MGD – Million Gallons per Day
NOC- Network Operation Center
NPDES- National Pollutant Discharge Elimination System
O&M – Operations and Maintenance
ORP – Overflow Response Plan
PCW -Pollution Control Works (Treatment Plant)
PDH- Professional Development Hours
PM – Preventive Maintenance
PPE – Personal Protective Equipment
SCADA – Supervisory Control and Data Acquisition
SECAP – System Evaluation and Capacity Assurance Plan
SOP – Standard Operating Procedure
SSES- Sanitary Sewer Evaluation Study
SSO – Sanitary Sewer Overflow or Sanitary Sewer Outfall
SSORP- Sanitary Sewer Overflow Response Plan
TMDL- Total Maximum Daily Load
TSS – Total Suspended Solids
WWTP – Wastewater Treatment Plant

CHAPTER 1-PROGRAM INTRODUCTION

1.1 What is CMOM?

CMOM stands for "Capacity, Management, Operations, and Maintenance". It is a flexible, dynamic framework for municipalities to identify and incorporate widely accepted wastewater industry practices to:

- Better manage, operate, and maintain collection systems
- Identify and investigate capacity constrained areas of the collection system
- Respond to sanitary sewer overflow (SSO) events

In CMOM planning, the utility selects performance goal targets, and designs CMOM activities to meet the goals. Information collection and management practices are used to track how well each CMOM activity is meeting the performance goals, and whether overall system efficiency is improving.

1.2 Purpose and Overview

In an ideal world, sanitary sewer systems would be sized and maintained in a manner resulting in no unpermitted discharges and a high quality effluent released into the receiving stream. Unfortunately, sanitary sewer collection systems have limited hydraulic capacity to carry wastewater based on the size of the system components. The size of the components is based upon an analysis of the contributory flows into the system plus a factor for growth. The analysis considers residential, commercial and industrial sources of flow plus a designed leakage rate for the system components. With time, the design basis for the system may change resulting in flows in excess of the designed flow. Changes can include population increases beyond the anticipated growth factor, deterioration of the system components, inappropriate storm water connections, etc. These factors can eventually lead to overflows of the system as the increased flows exceed the ability of the collection system or lift stations to convey the wastewater.

Additionally, poor collection system maintenance can result in overflows irrespective of any flow increases. Materials such as grease, rags, roots and other foreign objects can create blockages within the system. Regular maintenance and cleaning can severely limit or even eliminate these occurrences, particularly grease and root development.

Overflows, regardless of the cause, release untreated sewage to surface waters, at times leading to substantial negative impacts on the receiving body. The majority of impaired waters in the United States are impaired due to nutrients, sediment, pathogens, metals and organic enrichment. Sewage overflows contribute to these impairments and can have acute impacts such as fish kills and beach closures. The CMOM provides the resources and information necessary to properly plan, manage, operate, and maintain the sanitary sewer system to minimize this environmental impact.

The CMOM shall enable the Permittee to:

- Properly manage, operate, and maintain, at all times, all parts of the collection system the Permittee owns or over which it retains operational control.

- Provide adequate capacity to convey base flows and peak flows for all parts of the collection system the Permittee owns or over which it retains operational control and take all feasible steps to stop and mitigate the impact of non-wet weather related sanitary sewer overflows in portions of the collection system owned by the Permittee or over which the Permittee retains operational control.
- Provide notification to parties with a reasonable potential for exposure to pollutants associated with an overflow event.

1.3 Goals

City Corporation operates and maintains approximately one hundred and ninety-eight (198) miles of sanitary sewer and nineteen (19) wastewater lift stations. Continuing growth, urbanization, changing hydrologic conditions, and age contribute to strain on this infrastructure. In addition, new regulations will impose additional issues and constraints. The purpose of this document is to detail a formal Capacity, Management, Operations and Maintenance (CMOM) Program. The Program's approach is environmentally conscientious and cost-effective. The Program elements outline and provide specific activities and reporting procedures to document the progress of the Program. Current and anticipated federal and state requirements will be evaluated and implemented throughout the program.

The Program's goals are:

- *Prevent*- Prevent sanitary sewer overflows. Take all steps feasible to eliminate current overflow locations and prevent new overflow locations.
- *Protect* - Protect the Environment. Take all feasible steps to eliminate and mitigate the impact of sanitary sewer overflows for all parts of the collection system and to develop and enforce appropriate ordinances that will enhance the performance of the collection system.
- *Prolong*- Prolong the life of City Corporations sanitary sewer system, through effective rehab methods and effective management of Inflow and Infiltration.
- *Provide*-
 - Provide effective resource management for the assets of City Corporation.
 - Provide adequate system capacity through the use of analytical and engineering methods through the development of a system to assess and prioritize maintenance, rehabilitation and replacement activities
 - Provide excellent service to our customers through effective communication, programs, and education.

1.4 Components

This CMOM contains chapters that address specific requirements of the CMOM Program. The chapters contain language addressing how City Corporation is applying CMOM principles to its conveyance and treatment facilities. The Program, including objectives, strategies, tactics and other activities will be subject to change and refinement as City Corporation continues implementing the CMOM Program. The CMOM will be updated annually for the first five years of the program.

1.5 Consent Administrative Order

City Corporation entered into Consent Administrative Order LIS No. 09-146 AFIN 58-00105 with the Arkansas Department of Environmental Quality (ADEQ). The CMOM document satisfies Section 8 of the Order and Agreement portion of the Consent Administrative Order (CAO). The CAO was executed November 6, 2009 and became effective December 25, 2009. The Executed CAO document is attached as Appendix A.

1.6 Corrective Action Plan

Corrective Action Plans were implemented as required by the CAO to guide City Corporation to implement improvements to the sanitary sewer collection system.

1.6.1 TSS & TRC

A Corrective Action Plan (CAP) was prepared by Garver LLC on behalf of City Corporation, Russellville, AR, to address the possible solutions for the City Corporation Pollution Control Works (PCW) Total Suspended Solids (TSS) and Total Residual Chlorine (TRC) violations. This CAP is required per the Consent Administrative Order (CAO) No. 09-146 AFIN 58-00105. The CAP outlines proposed improvements to address TSS and TRC violations and proposes an implementation schedule for the said improvements. This document can be viewed in Appendix B.

1.6.2 Comprehensive

A Comprehensive Corrective Action Plan (CAP) was formulated to address paragraph Two.(2.) of the Order and Agreement section of the Consent Administrative Order LIS No. 09-146. The entire Comprehensive Corrective Action Plan can be viewed in Appendix B.

CHAPTER 2-PERSONNEL

2.1 City Corporation Organization

2.1.1 History

WWTP/Storm Water Basin-The original Wastewater Treatment Plant was constructed in 1923 on the banks of Prairie Creek near Arkansas Tech University. In 1964 a modern plant was built at the current site on Jimmy Lile Road and was upgraded in 1974,1978, and most recently in 1999. The recent improvements, including a new 21 million gallon equalization basin, have significantly increased the capacity of the plant. Extensive rehabilitation and replacement of the sewer collection system has also greatly reduced the number of overflows and volume at the plant.

The City of Russellville has been served by a community sanitary sewer system since approximately 1912. The sewers originally discharged to nearby creeks, but as the City grew the individual sewer lines were connected together to form a collection system. The sewers were maintained by the street department or other maintenance functions of the general City government until 1985, when City Corporation, the commission established by the City to operate the municipal water system, assumed responsibility for the sewer collection system, lift stations and treatment plant.

2.1.2 System Profile

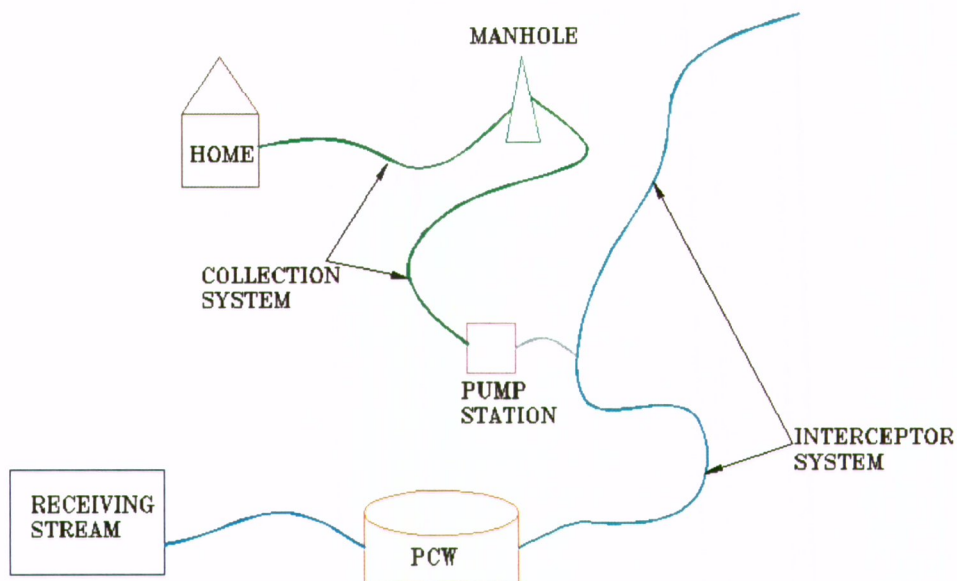
City Corporation's sanitary sewer system consists of gravity and force main components serving the community of Russellville and a satellite system of Dover. Maps of the system are maintained by the City Corporation at the Administration office located at 205 West 3rd Place in Russellville, AR. The system profile is as follows:

Table 2-1: Sewer System Profile

Total Population Served	25,011
Population of Russellville	27,586 (2010 Census)
Contributory Area	6,500 acres
Population of Dover	1,408 (2010 Census)
Total Customers	10,798 (Nov 2013)
Residential Customers	9,152
Other Customers	1,646
Treatment Plant Name(s)	City Corporation Pollution Control Works
Plant Design Capacity	7.3 MGD
Average Daily Flow 2013	5.73 MGD
Miles of Gravity Sewers	182.6
Miles of Force Mains	18.7
Number of Pump Stations	19
Number of Manholes	3716
Number of Employees	58

As shown in the graphic below, in City Corporation's service area, wastewater leaving a house or business typically flows through a gravity pipeline toward the street, where it enters the city's collection system and continues to a pump station. At this point, the wastewater is pumped into a large interceptor pipeline, which is then transported to the Wastewater Treatment Plant. After being treated, the effluent water is then released into Whig Creek, and ultimately flows into the Arkansas River.

Figure 2-1: System Profile



As a result of the terrain in Russellville, the system consists of 18 miles of force mains, and 19 lift stations to transport wastewater to the treatment plants. These pipes are operated under pressure and typically have minimal inflow and infiltration (I/I) problems.

Chart 2-1: Pipe Type Breakdown for Gravity Sewer

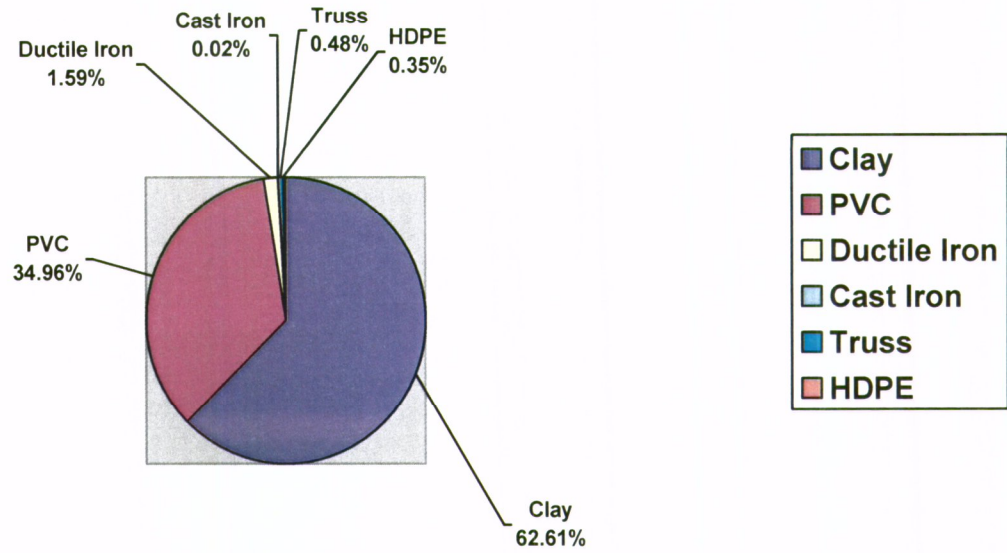


Chart 2-2: Pipe Type Breakdown for Force Mains

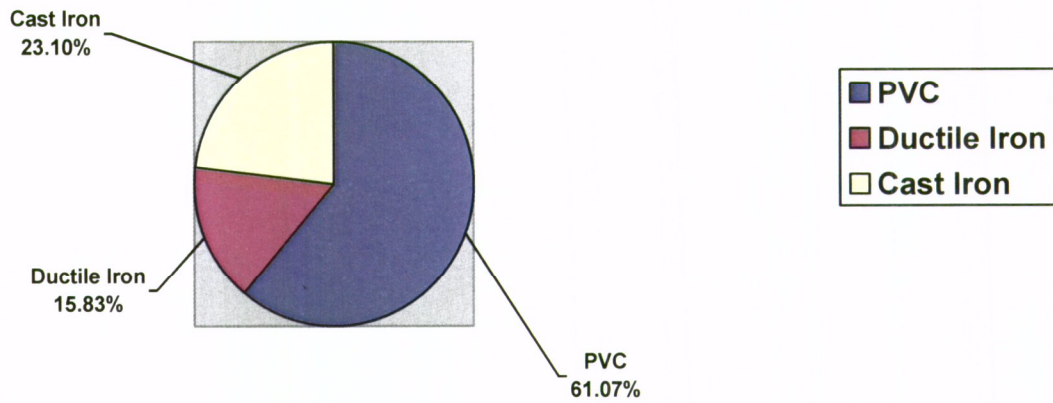


Chart 2-3: Pipe Diameter Breakdown for Gravity Sewer

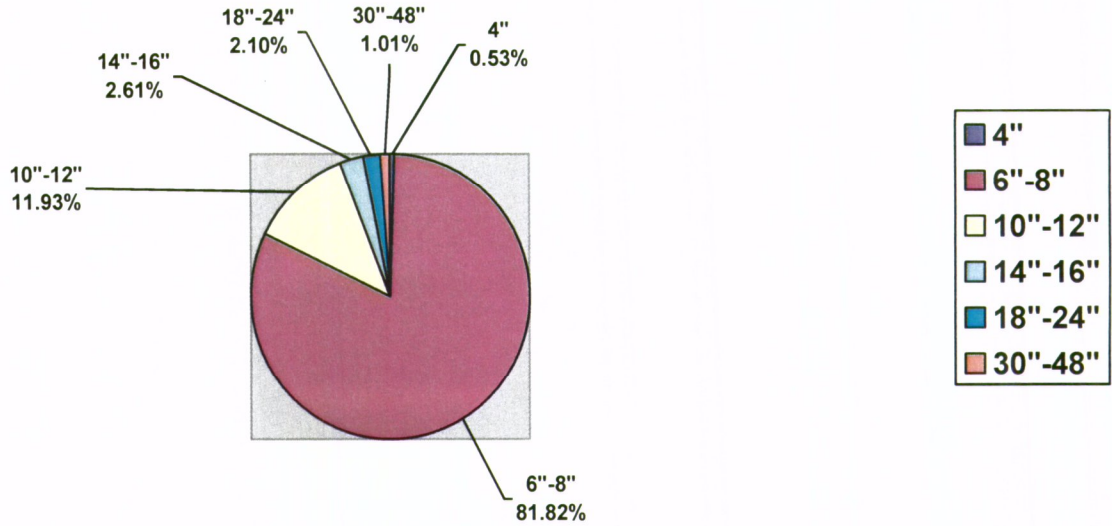


Chart 2-4: Pipe Diameter Breakdown for Force Mains

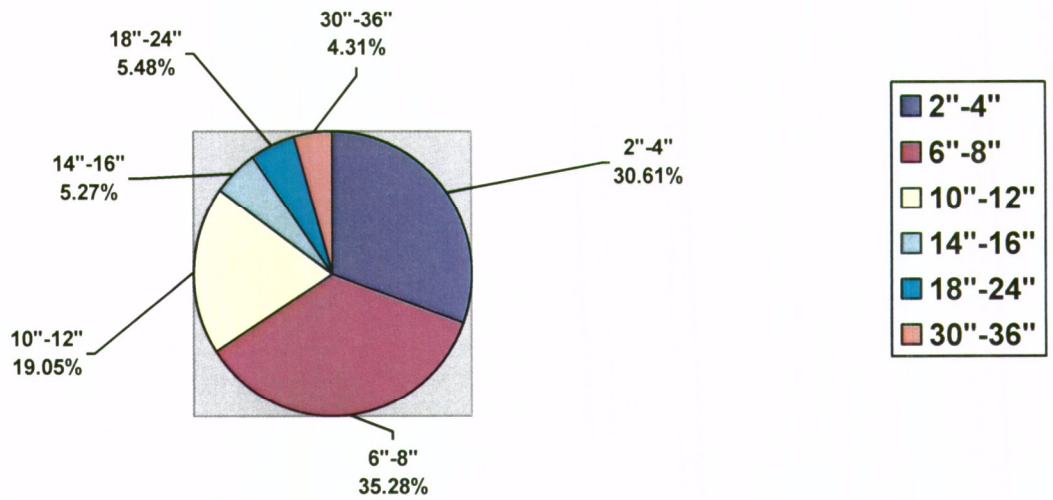
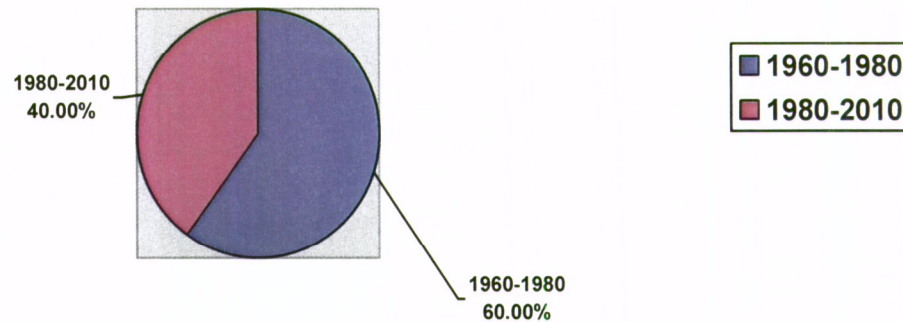


Chart 2-5: Pipe Age Summary



2.1.3 Organizational Structure

The sewer system is governed by City Corporation, a board established by the City of Russellville to operate the municipal water system both potable and sewerage. City Corporation assumed responsibility of the sewer system and treatment plant in 1985. The board is made up of five board members. City Corporation employs the service of a general manager, who oversees the entire utility and reports directly to the board. The following positions report to the General Manager: Operations Manager, Administrative Manager, and the NOC (Network Operations Center) Manager/Safety Coordinator. The Operations Manager is responsible for the treatment plant operations and maintenance, collection system operations and maintenance, construction, and laboratory operations. The Administrative Manager oversees the following areas: human resources, administration, accounting, and customer service. The NOC Manager/Safety Coordinator is in charge of safety, project coordination, dispatch, and mapping/GIS. Please refer to Appendix 14 for the Organization Chart for City Corporation.

2.2 Job Descriptions

Job descriptions lay out the foundation for the requirements and responsibilities of each person within the organizational structure. Descriptions are reviewed every two years and updated as necessary to reflect new or changing requirements. Employees are expected to comply with the elements of the job descriptions including any requirements for professional licenses and continuing education. Failure to meet the basic elements of an employee's assigned job description may be reason for termination, demotion or other disciplinary action deemed appropriate. City Corporation has 58 current positions available. The individuals who fill them perform a variety of duties essential to their mission. The Human Resources Division maintains current job descriptions for all positions. The job descriptions define the nature of the work to be performed, minimum requirements for the position, necessary qualifications or certifications, common examples of the type of work and licenses required. Job descriptions are included as Appendix C.

2.3 Public Relations

City Corporation has a customer service department responsible for correspondence and complaints received through email, calls, or letters. The CSR's (Customer Service Representatives) take all the calls from customers and make work orders that are sent to the Network Operations Center where they are routed to the field technicians to confirm and address. The lobby hours for the CSR's are Monday through Friday; 8:00 a.m. to 4:30 p.m. However, the CSR's can be reached by telephone Monday through Friday; 8:00 a.m. to 6:00 p.m. Employees trained in customer service provide prompt and courteous responses to telephone inquiries regarding billing issues or other concerns. Drive up services are provided until 6:00 p.m. at the main office for City Corporation. During evenings, weekends and holidays, an emergency after hour's number is listed on the answering machine that directs them to a representative located at the water treatment plant. A copy of the customer complaint form is located in Appendix 10. City Corporation is currently in the newspaper, this helps to inform the public and talk about the CAO's and other issues City Corporation faces. A copy of the ads are located in Appendix 12.

2.4 Training

Each licensed employee is required to obtain a minimum of 12 hours of professional/trades development training per year upon approval by an immediate supervisor. Training may be in the form of formal off-site or on-site training, on-the-job training, college/vocational course work or other approved education. The training must be directly relevant to the employee's duties as described in his/her job description. If an employee is required to obtain continuing education units (CEUs) or professional development hours (PDHs) for his/her license, the employee is required to determine if the license granting agency/board will accept the hours before the employee begins the course.

Within the first three months of employment, each employee is required to attend a course in Safety. The Manager or his/her designee will approve the course prior to attendance.

Other potential course topical areas include:

- Routine line maintenance including rodding, cabling, chemical and jet cleaning
- Traffic control
- Environmental/safety regulations
- Pump theory, operation, and maintenance
- Laboratory procedures, equipment calibration, sample collection and handling
- Electrical and instrumentation
- Public relations
- Sewer overflow response and reporting
- Collection system evaluation including smoke testing and closed circuit TV
- Pipe repair
- Collection system rehabilitation including pipe bursting, cured in place, slip lining, and trenching/shoring
- Heavy equipment operation
- Wastewater System Operations and Maintenance

City Corporation will include in the operating budget sufficient funds to provide a combination of on and off site training such that each employee can obtain a minimum of 12 hours of professional/trades development training per year inclusive of continuing education needed for license requirements. The funding will be inclusive of course cost, travel, lodging, meals, and incidental expenses consistent with typical costs for the location. College and vocational tuition cost reimbursements will be consistent with the City Corporation's policy for such reimbursements.

CHAPTER 3-LEGAL AUTHORITY

3.1 Ordinances

City Corporation is provided legal authority through the ordinances enacted by the City of Russellville, Arkansas. The ordinances providing authority are summarized below and are included in their entirety in Appendix D.

- Ordinance 1075- Sewer Use Ordinance - Outlines the requirements for sewer design, installation, testing, and inspection of new sewer facilities. It also details illegal connections and materials which are illegal to discharge into the sewer. It gives the employees of City Corporation the right to access all system properties.
- Agreement with the City of Dover - This agreement provides the specific details of the arrangement between the City of Dover and City Corporation in regards to sanitary sewer treatment. The City of Dover is a satellite system of City Corporation. City Corporation is responsible for treating the sanitary sewer, but the collection system is maintained by the City of Dover. This agreement gives City Corporation the specific right to review plans and specifications for system improvements, to inspect the Dover system, and to require maintenance or repair work as may be necessary to prevent the infiltration of surface water or storm drainage.
- Ordinance 2105 - Pretreatment Ordinance - Current Ordinance outlines the details of the City Corporation pretreatment program.
- Ordinance 976-Service Line Responsibility- Amended Ordinance that outlines the requirements for sewer service line installation and responsibility for repairs.
- Ordinance 2060-Service Line Responsibility- Current Ordinance that outlines the requirements for sewer service line installation and responsibility for repairs.
- Ordinance 2043-Current Sewer User Rate Ordinance -This Ordinance establishes the current sewer rates for City Corporation.
- Ordinance 2044-Current Water User Rate Ordinance- This Ordinance establishes the current water rates for City Corporation.
- Ordinance 949-Original Sewer User Rate Ordinance
- Ordinance 1022-Amended Sewer User Rate Ordinance
- Ordinance 1294-Amended Sewer User Rate Ordinance
- Ordinance 1372-Amended Sewer User Rate Ordinance
- Ordinance 1388 - Amended Pretreatment Ordinance

3.2 ADEQ Permits

3.2.1 NPDES Permit

City Corporation is authorized to discharge through NPDES permit No. AR0021768. Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. The current was issued September 30, 2010 and became effective October 1, 2010. The expiration of the existing permit is September 30, 2015. The entire permit can be viewed in Appendix 8.

3.2.2 No Exposure Storm Water Permit

No exposure means all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snow melt and/or runoff. No Exposure Exclusions may be obtained for discharges composed entirely of storm water associated with industrial activity in lieu of this general permit as long as all of the required conditions for applicability can be certified. A Notice of Intent form can be obtained from the General Permits Section of the Water Division. The No Exposure Exclusion Certification must be renewed 120 days after the effective date of the renewal permit. A renewal form is located in Appendix F.

CHAPTER 4-MANAGEMENT

4.1 Maintenance Facilities and Equipment

City Corporation maintains several facilities to support the collection system program. Administrative activities are conducted at the Administrative Office, which houses the Maintenance Operations, Human Resources, Administration, Customer Service, and Network Operations. The Pollution Control Works Facility houses all Pollution Control workers, Pretreatment Operations, and Laboratory Operations. The majority of facility and construction equipment is stored at the construction office or on site at the treatment plant facility. Adjacent to the Pollution Control Work-Treatment Plant is a Construction Office, which houses all Construction crews.

The Construction & Maintenance Operations uses a wide and extensive variety of equipment including backhoes, tractors, dump trucks, utility crew trucks with trailers, pickup trucks, utility vehicles, hydraulic jet cleaners, trailers, hydraulic pumps, video inspection trailers, portable video equipment, gas detectors, and safety equipment. A complete list of all Maintenance Vehicles and Major Equipment is located in Appendix G.

4.1.1 Scheduling

To schedule and maintain facilities and equipment City Corporation prints "Maintenance Tickets". Maintenance can be scheduled: every day, once a week, twice a month, once a month, quarterly, six months, and yearly. They are kept on file and can be reviewed upon request.

4.1.2 SCADA

The Maintenance Operations of City Corporation maintains 19 wastewater lift stations throughout the city. There are four employees assigned to monitor and repair lift stations. These lift stations are constantly monitored by the Supervisory Control and Data Acquisition (SCADA) system.

SCADA is a computer system for gathering and analyzing real time data. SCADA systems are used to monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining and transportation. A SCADA system gathers information, such as where a leak on a pipeline has occurred, transfers the information back to a central site, alerting the home station that the leak has occurred, carrying out necessary analysis and control, such as determining if the leak is critical, and displaying the information in a logical and organized fashion. SCADA systems can be relatively simple, such as one that monitors environmental conditions of a small office building, or incredibly complex, such as a system that monitors all the activity in a nuclear power plant or the activity of a municipal water system. All SCADA information is stored in Historian (a historical database) on the City Corporation's computers.

4.1.3 Replacement Parts

City Corporation maintains a construction shop with a supply yard that houses all necessary materials and equipment required to make emergency repairs. Appendix H is an inventory of all maintained spare parts. The program "AS/400" is used to keep inventory of all these spare parts. For those parts not kept in inventory, City Corp uses vendors such as River Valley Winwater, MS Wholesale, and others.

4.2 Network Operations

4.2.1 Collection System Maps-GIS

Geographic Information System (GIS) technology has made the mapping and map updating process considerably more efficient. GIS is a computerized mapping program capable of combining mapping with detailed information about the physical structures within the collection system. City Corporation maintains a CAD-based map of the entire sewer system. The map is updated as additional information is received. To facilitate information storage and retrieval, the sewer system has been segmented into 27 individual basins. These basin labels were developed around 1965, and the underlying manhole numbering system was developed in 1986. A map of the basins is shown in Appendix 15.

City Corporation has successfully converted from a manually drawn, paper mapping system, to a Geographic Information System (GIS) based on aerial photography. All graphic information from the old system has been entered into the computerized mapping system, and the assignment of identifying labels to all manholes is complete.

Recognizing that significant error will likely be associated with the transfer of available graphic data (e.g. hand-drawn maps) into the GIS, City Corporation has also undertaken a program to obtain accurate positions for manholes within the system through the use of Global Positioning System (GPS) technology.

4.2.2 Construction

City Corporation's Construction Operation has two-4 person crews that complete new services, maintenance, and repairs on the water and sewer system. Also a 3 person crew performs Inflow & Infiltration work and repairs in the sewer system. The Inflow & Infiltration crew gets assistance from the other crews to keep up with the repairs to the sewer system. The Inflow & Infiltration crew is responsible for sewer stoppages during regular hours. City Corporation maintains 2 persons on call after hours for sewer stoppages and water leaks.

4.2.3 Developer Funded

City Corporation is involved with several Developer Funded Projects. The designs are reviewed by City Corporation staff for approval. Once approved, the construction site is supervised by qualified personnel to ascertain that the construction is in accordance with the plans and specifications. All new lines are vacuum tested to 5 psi for 10 minutes with no loss of pressure and all new manholes are vacuum tested at 10 psi for 1 minute with no loss of pressure.

4.3 Safety Program

The Safety Division is administered by the Safety Coordinator. The Safety Division is responsible for:

- Safety training
- Safety inspections
- Accident investigations
- Development of emergency response procedures
- Documentation of training, sampling, inspections, and medical information conducted by the Safety Division
- Safety Notices
- Communication of relevant safety information to all employees

4.3.1 Safety Procedures

Safety rules are written rules describing required practices and procedures to follow for performing routine and non-routine activities in a safe manner. City Corporation personnel are responsible for familiarizing themselves with all safety rules and are mandated to follow all safety rules in the performance of their daily activities while at City Corporation's facilities or when representing City Corporation off site. Supervisors are responsible for: informing, explaining, and publicizing all safety rules to their personnel; enforcing observance of all safety rules by personnel; and ensuring each employee receives a copy of the safety rules. To view the Safety & Health Manual in full see Appendix J.

4.3.2 Vehicle Safety

City Corporation maintains an accurate log of all reportable accidents, both in the HR department for workers comp, and in the Safety Manual binder completed by the safety coordinator. All injuries have an accident investigation sheet completed and filed with the accident report. A chart of injuries with name, department, date, and type of injury listed is on file with the safety coordinator. The following are related to the safety program:

Appendix K- Vehicle Accident SOP (Standard Operating Procedures)

Appendix L- Parked Traffic Cone Procedure

Appendix M- Cone Positioning

4.3.3 Pharmaceutical Take-Back Program

City Corp assisted in the development of a new Pharmaceutical Take-Back Program. City Corp purchased the Drug Terminator incinerator and donated to the River Valley Operation Medicine Cabinet. It is our understanding that it is the second full-time program in the state. The Drug Terminator poster can be viewed in Appendix N. The Proper Drug Prescription Disposal Guidelines can be viewed in Appendix O.

4.4 Emergency Disaster Response Plan

Disasters/Emergencies that are likely to occur in the service area that are addressed are: earthquake, major fire emergencies, water outages do to loss of power, localized flooding, water contaminations and acts of sabotage. The Emergency Disaster Response Plan is located in Appendix Q.

4.5 City Corporation Master Plan 2003

There were several locations in the last master plan (2003) effort that reflected similar results and inadequate deficient areas as the 1997 Wastewater Collection System Master Plan. Flow data may have limited the accuracy of these collection system models. The master Plan recommended that City Corporation perform and I/I evaluation of its collection system and start a Clay Pipe replacement program. Improvements to Prairie Creek Pump Station, Pump Stations "A" , "B" and 23rd St Pump Station were also included in the report. Because of the age and limitations of the existing 2003 Master Plan, City Corporation should consider a new comprehensive Master Plan for the sewer system. City Corporation is currently involved in a system wide flow study and extensive Sanitary Sewer Evaluation Studies throughout the system, therefore, it is an opportune time to complete the Master Plan.

CHAPTER 5-OPERATIONS AND MAINTENANCE

Collection system operation and maintenance (O&M) consists of inspection, evaluation, preventative maintenance, and cleaning to maintain flow and mitigate inflow and infiltration. O&M varies by the equipment type, condition, age, and operating history. Chapter 4.1 describes City Corporation's maintenance equipment. Table 5-1 is a baseline O&M schedule. However, periodic factors may necessitate a more frequent O&M schedule for individual components. Appropriate corrective actions or temporary mitigation measures are initiated based upon the findings of the routine O&M activities.

Table 5-1: Collection System Routine Maintenance Schedule

Description	Known Problems/Issues	Every Other Week	Monthly	Semi-Annually	Annually	Every 5 years
Restaurant/Apartment Areas	Routine FOG issues	Monitor Line	Clean			Assess condition
Lines near Streams or Creeks	No known problems, but could be a larger source of I/I			Walk lines and visually inspect manholes for evidence of surcharging	Clean and Televisе lines	Assess condition
Lines in remote areas	No known problems but could present large I/I sources if undetected			Walk lines and visually inspect manholes for evidence of surcharging	Clean and Televisе lines	Assess condition
All other lines in system	No known problems					Clean and Televisе lines, assess condition

5.1 Critical Components



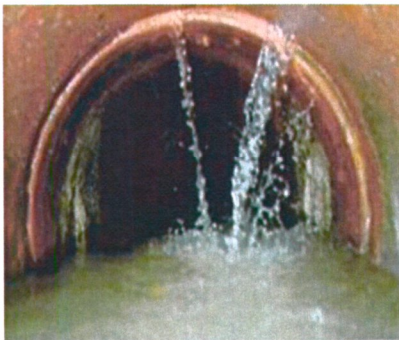
Grease-Grease and grease like products can be significant causes of sewer overflows. Restaurants and industrial facilities can discharge grease as part of their normal sanitary flows that can lead, in time, to blockages, backups, and overflows. The discharge of fats, oils, and grease (FOG) are regulated through the City Corporation FOG program, however, backups can sometimes occur. Typically, areas in which there is heavy industrial activity or large numbers of restaurants will be regularly monitored for accumulations of fats, oils, and grease (FOG).



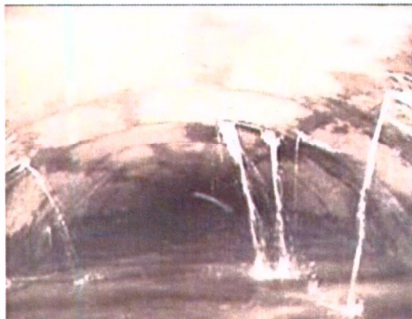
Stream Crossings-Gravity sewers follow the natural topography of the land which often leads to stream bottoms. Several miles of City Corporation's collection system were constructed along streams making them critical components requiring greater monitoring. Also, several areas within the system are isolated from population centers and as such an overflow could go undetected for an extended period of time. These areas will be monitored by the Inflow & Infiltration crew to prevent an undetected overflow.



Deteriorating Sewer System- A significant amount of Russellville City Corporations sanitary sewer pipes are beyond their designed life. Deteriorating pipes are a major component in the operation and maintenance of the system. Planning and funding for long-term sewer rehabilitation and replacement projects will help address this critical component.



Infiltration and Inflow (I/I)- Rainfall and occasional snowmelt can infiltrate through the ground into leaky sanitary sewers. Roof drains connected to sewers, broken pipes, or poorly connected sewer service lines are also large contributors of I/I. Smoke Testing and Dye Testing will help to identify these areas of concern.



Undersized System-Undersized Force Mains or Outfall lines can cause a major problem in a Sanitary Sewer System. Through the use of Hydraulic Modeling and engineering tools the system shall be designed to handle the system flows without an overflow.



Pipe Failures-Pipe failures can result from cracked pipes, broken pipes, or blocked pipes. Identifying these failures before they occur through smoking or televising will help to prevent overflows and stoppages.



Prairie Creek Lift Station

Pump Station Failures-Pump failures, power failures or inadequate wet well capacity can cause an overflow. Power backup generators and scheduled O&M on the Pump Stations will help to prevent these overflows.

5.2 Collection System

The Russellville wastewater collections system consists of approximately 182.6 miles of publicly maintained gravity sewer ranging in size from 6" to 36" in diameter, approximately 3716 manholes, 19 lift stations of various pumping capacities and 18.7 miles of force main ranging in size from 2" through 48" in diameter.

5.3 Infiltration/Inflow Control

City Corporation has a more detailed and systematic program to address the infiltration/inflow issue through the completion of a city wide wastewater flow-monitoring program. This effort resulted in an estimate of sanitary flow, infiltration, and inflow for each of the 27 basins within the City. This study also identified the basins in which I/I reduction was deemed to be most cost-effective. This work serves as the basis for direction of the City Corporations infiltration and inflow reduction efforts.

An Inflow & Infiltration (I &I) crew was re-established at City Corporation in 2010. Currently staffed by 3 employees, their goal is to identify and mitigate sources of infiltration and inflow into the system. City Corporation has adjusted its approach to infiltration/inflow reduction by the following:

- Re-Establishing an I/I Program
- Developing a qualified crew
- Equipping the Crew
- Supporting the I/I team

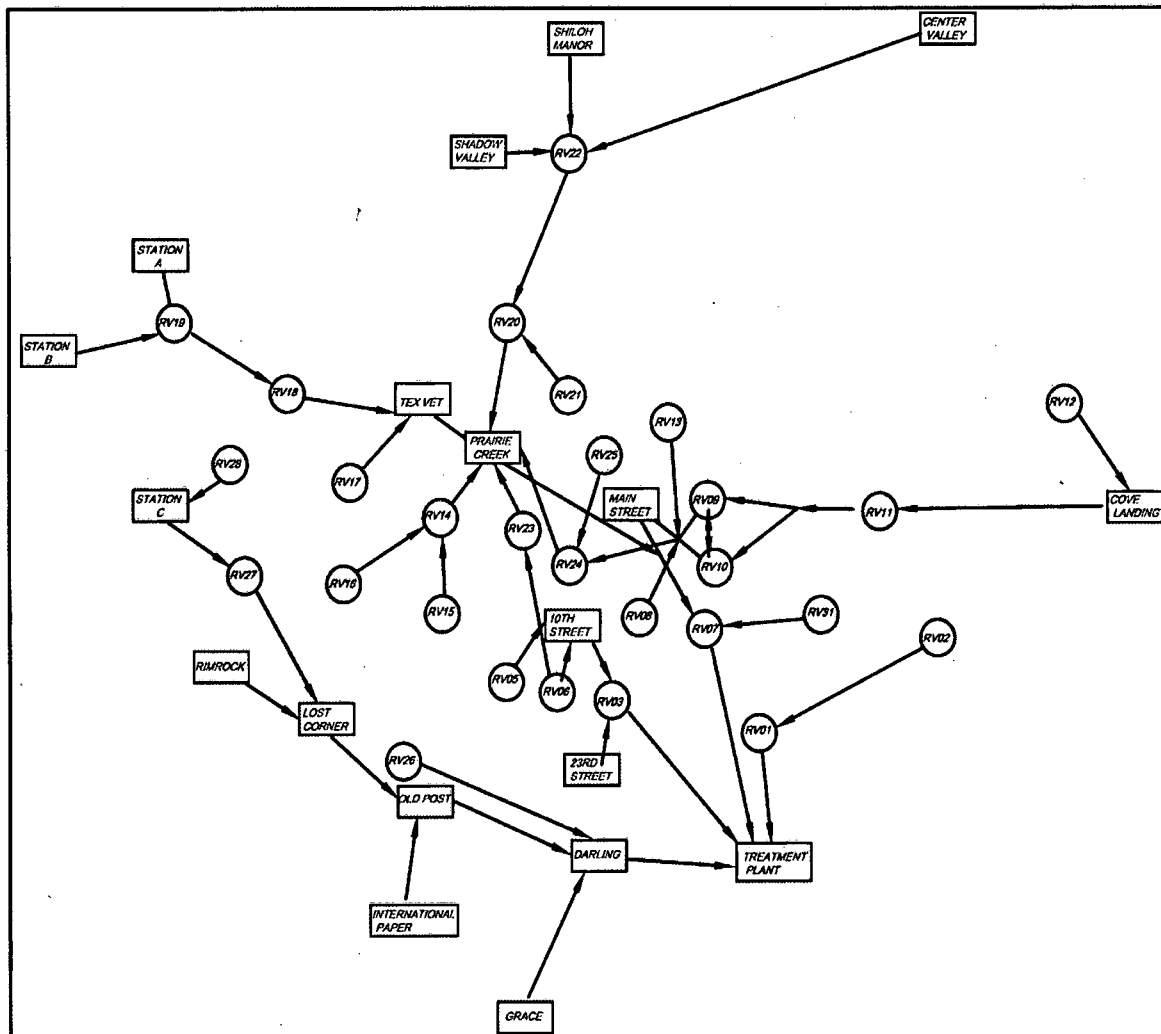
It is anticipated that an expansion of I/I reduction efforts, as outlined above, will be effective in reducing peak flow rates.

5.4 Lift Stations

5.4.1 Operation & Monitoring

The collection system includes 19 lift stations to move sewage from low elevation areas to higher elevation areas. Two (2) of the pump stations have auxiliary power with the remaining seventeen (17) capable of accepting a portable generator. All 19 lift stations have Genset quick connections installed. Fifteen of the nineteen stations have full Supervisory Control and Data Acquisition (SCADA) systems in place. SCADA system generates and stores critical operational information, such as pump run times, wet well status, power status, and other operational data. Utilizing advanced radio technology with extensive functionality, the system provides remote operational control of the facilities, a benefit during emergency or other abnormal conditions. The remaining four stations have notification by phone line. Periodic loss of power may occur due to storms and electrical grid equipment failures. The lift stations have limited storage capacity and as such are subject to overflows during a power loss. Therefore the following lift stations are considered critical components due to a lack of auxiliary power and require more frequent monitoring: Tyson, Center Valley, Shiloh Manor, International Paper, and Shadow Valley. Please refer to Table 5-2 for the Pump Station Routine Maintenance Schedule. A basin flow diagram indicating direction of flow from one basin to another including pump stations is shown on Figure 5-1.

Figure 5-1: Basin Flow Diagram



5.4.2 Preventive & Routine Maintenance

Responsibility for lift station maintenance is divided among four employees. The removal of grease from each pump station is done at least twice a year. All equipment is to be maintained in accordance with the manufacturer's specifications. In addition, the following maintenance activities will be conducted:

Table 5-2: Pump Station Routine Maintenance Schedule

Description	Alarming /Known Issues	Daily	Weekly	Monthly	Annually	Every 5 years
Main St. Prairie Creek	Backup power available, full SCADA, no known issues – Large Flow Stations	Monitor SCADA Information	Check station for problems including security, Record pump pressure and pump run times	Check and record motor amperage, check mechanical and electrical, operate backup generator, check and top off all fluids	Exercise all valves	Disassemble and clean internal pump components, check impeller, disassemble and clean check valves, assess condition
Cove Landing International Paper South Frankfort (Darling) Tex Vet Old Post	No known problems, has back up power and SCADA or other notification system	Monitor SCADA information	Check station for problems including security, record pump pressure and run time	Check and record motor amperage, check mechanical and electrical connections, operate backup generator, check and top off all fluids	Exercise all valves	Disassemble and clean internal pump components, check impeller, disassemble and clean check valves, assess condition
Center Valley Rimrock Shadow Valley Tyson Grace Shiloh Manor Lost Corner Station A Station B Station C 10 th St.	SCADA or other notification system, no standby power but have the capability of backup power by a portable generator	Monitor SCADA information	Check station for problems including security, record pump pressure and run time	Check and record motor amperage, check mechanical and electrical connections	Exercise all valves	Disassemble and clean internal pump components, check impeller, disassemble and clean check valves, assess condition

5.4.3 Lift station details

Table 5-3 lists the lift station name, pump manufacturer, pump model, number of pumps, pump horsepower, force main diameter, and wet well dimensions.

Table 5-3: Lift Station Details

Name	Pump Manufacturer	Pump Model	# Pumps	Horsepower per Pump	Force Main Diameter	Wet Well Dimensions Diameter (ft)	Wet Well Dimensions Depth (ft)
10 th Street	Hydromatic	S6A300M4-4	2	30	10	13	22.5
Lift Station A	Hydromatic	UNK	2	25	8	6	21
Lift Station B	Hydromatic	S4Q300M4-4	2	30	8	6	21
Lift Station C	Hydromatic	S4T1000M4-4	2	100	6	6	16
Center Valley	Goulds	1GA87J4BD	2	5	4	4	10.6
Cove Landing	Hydromatic	S4B200M4-4	2	20	8	6	21.5
South Frankfort (Darling)	Hydromatic	S6A4000M4-4	2	40	12	12	24
Grace	Pumpex	UNK	2	30	8	8	17.25
International Paper	Myers	4VC 150M4-43	2	15	6	6	11.1
Lost Corner	Myers	6VC 150M6-23	2	15	12	6	10
Main Street	Allis-Chalmers	1-69945	3	1-25HP / 2-50HP	30	11X9.4	22
Old Post	Myers	6VC 150M6-23	2	15	12	6	17.5
Prairie Creek	Flyght	3306.735	3	245	24	30X11	29.4
Rim Rock	Myers	4WHV50M4-21	2	5	6	5	11
Shadow Valley	Hydromatic	S4M750M3-4	2	7.5	4	6	15.1
Shiloh Manor	Myers	4VHA	2	10	4	6	12
Tex-Vet	Hydromatic	S8L1500M4-6	2	50	15	12	23.2
Tyson	Hydromatic	S4P1500M3/4-4	2	15	6	6	15.8

Table 5-4: Lift Station Pumping Capacity

Name	Total Dynamic Head	Pump 1 Flow Rate (gpm)	Pump 2 Flow Rate (gpm)	Pump 3 Flow Rate (gpm)	Pump 1 & 2 Flow Rate (gpm)	Pump 2 & 3 Flow Rate (gpm)
10 th Street	86	1,103	1,158	n/a	1,262	n/a
Lift Station A	102	261	310	n/a	395	n/a
Lift Station B	125	390	360	n/a	Low flow	n/a
Lift Station C	197	153	Not operating during visit	n/a	Not operating during visit	n/a
Center Valley	93	46	35	n/a	49	n/a
Cove Landing	105	202	219	n/a	234	n/a
South Frankfort (Darling)	76	835	763	n/a	1,108	n/a
Grace	134	211	242	n/a	267	n/a
International Paper	96.4	462	392	n/a	Not configured for dual pump	n/a
Lost Corner	75	696	564	n/a	942	n/a
Main Street	36	Not operating during visit	808	924	n/a	1,872
Old Post	45.2	852	948	n/a	1,140	n/a
Prairie Creek	98	2,123	2,293	Not operating during visit	3,976	n/a
Rim Rock	45	116	151	n/a	Not configured for dual pump	n/a
Shadow Valley	40	102	91	n/a	81	n/a
Shiloh Manor	96	127	124	n/a	137	n/a
Tex-Vet	50	1,520	1,595	n/a	2,256	n/a
Tyson	82	228	191	n/a	249	n/a

5.5 Force Mains

5.5.1 Air Release Valves

City Corporation maintenance crews operate air release valves every six months or more often as needed to release air that may accumulate in the system. Any accumulation is removed during the operation of the air release valves.

5.6 System Rehab

5.6.1 Mainline & Manhole Repairs

Routine maintenance will identify repair needs within system components. The appropriate repair for any given problem is dependent upon the nature of the problem and cannot be prescribed in this plan. However a priority hierarchy has been established to structure when and how repairs are to be accomplished. The hierarchy is based upon identifying and repairing critical components first. Critical components are parts of the collection system which if failure occurs will result in system failure and sewer overflow. Such items may include failure of a pump, failure of a backup generator to start, or obstruction in the sewer line. Other problems identified by maintenance activities will be less acute and can be repaired on a lower priority basis. This may include loose or missing manhole bricks, broken manhole covers, lift station lighting, etc. When normal maintenance activities identify the need for component repairs or when problems are brought to the attention of the system by customers or others, the problem and corresponding repair will be assigned a priority ranking based on the following hierarchy. The response time and repair time goals are stated in the hierarchy. The goals shall be monitored and evaluated annually with the plan review.

5.6.2 Scheduling

Table 5-5: Collection System Response and Repair Priority Hierarchy

Problem	Priority	Response Time	Action	Repair Time Goal
Active Sewer Overflow	1	Within 1 hour of receiving report	Stop overflow, return system to normal operation	Within 4 hours of arriving on site
Failure of Critical Component, Overflow/Bypass Will Occur if Not Repaired	1	Within 1 hour of receiving report or discovering problem	Repair or replace component, return system to normal operation	Within 4 hours of arriving on site
Unsafe Condition Poses Risk to Public or Employees	1	Within 1 hour of receiving report or discovering problem	Mitigate and repair to eliminate unsafe condition	Mitigate risk within 2 hours of arriving on site, repair within 8 hours if public risk, 7 days if employee risk

Problem	Priority	Response Time	Action	Repair Time Goal
Evidence of System Surcharging and Intermittent Overflow	2	Within 1 day of receiving report or discovering problem	Clean sewer line and/or check for proper downstream pump station operation and repair as needed. Re-evaluate problem following cleaning/repair.	Within 8 hours of arriving on site for cleaning and station repairs. Initiate I&I evaluation within 30 days
Failure of Backup Power System	2	Within 3 days of receiving report or discovering problem	Repair or replace equipment as needed	Within 10 days of response
Evidence of Surcharging, No Overflow Evidence	3	Within 1 week of receiving report or discovering problem	Clean sewer line and/or check for proper downstream pump station operation and repair as needed. Re-evaluate problem following cleaning/repair.	Within 8 hours of arriving on site for cleaning and station repairs. I&I evaluation within 90 days
Failure of Monitoring or Measuring Equipment	3	Within 3 days of receiving report or discovering problem	Make repairs or replace as needed	Repairs within 7 days of response. Replacement within 30 days.
Evidence of I&I Non-surcharging	4	Complete evaluation of cause within 90 days of discovering problem.	Make corrective actions based on I&I evaluation findings	Within 360 days
Component failures non-critical and general non-routine maintenance	5	Evaluate repair/maintenance need within 180 days of discovering problem	Make repairs	Within 360 days

Chart 5-1: Mainlines Rehabbed

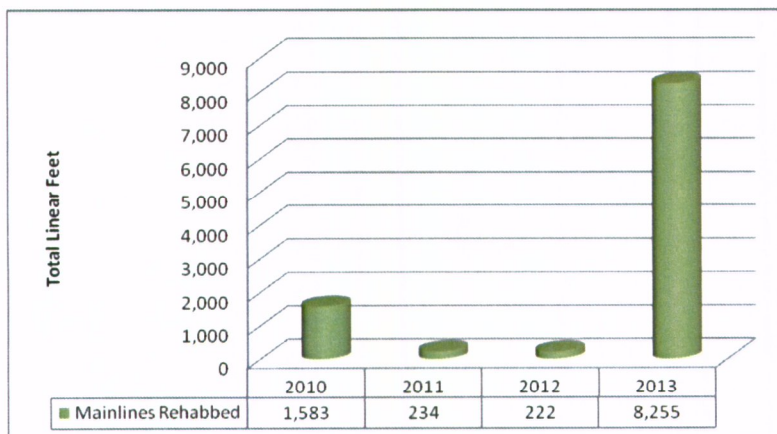
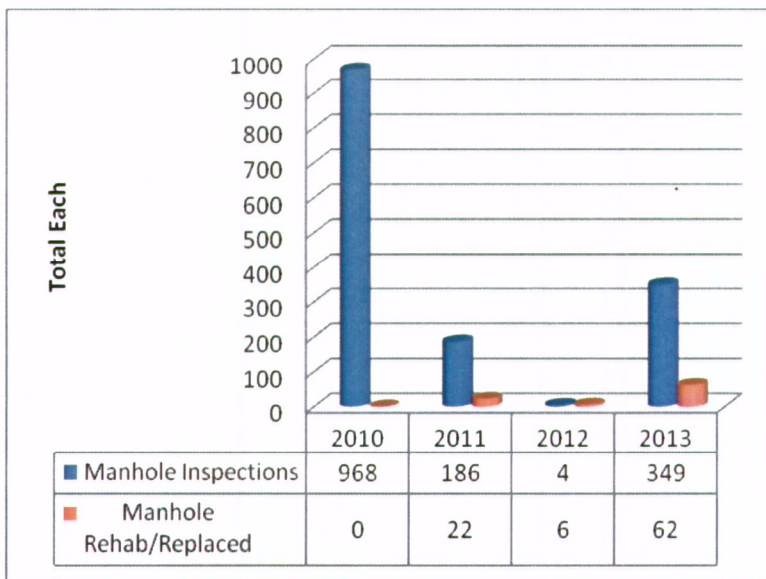


Chart 5-2: Manholes Rehabbed/Inspected



5.6.3 Service Lateral Repairs

City Corporation owns, maintains, and repairs all of the underground water and sewer lines up to the customers' property line. The customer owns and is responsible for the installation; maintenance, and repair of everything from the property line in the case of sewer service into the house. If a stoppage occurs on the customer's portion of the line, the customer must have the leak repaired. Service Line Ordinance 2060 addresses the ownership of the service lateral, and can be found in Appendix D.

An inspection is done on all service lines new or repaired. The inspector will inspect the sewer service connection between the house and the property line, and it must be installed according to Arkansas State Plumbing Code standards. The Arkansas State Plumbing Code standards states that the pipe used must be Schedule 40 piping and at least 4" in diameter with a fall of 1% or 1/2" every 10'. There also has to be a 2-way clean out installed within 3' of the building and the line has to be tested for leaks with water or air to pass inspection.

5.7 Cleaning/Television Inspection

Pipeline hydraulic cleaning and television inspection are performed as a part of routine maintenance in areas where deposition issues are chronic or in response to immediate flow problems. The hydraulic cleaning is effective in reducing material that becomes deposited in lines with minimal slopes and in areas of high commercial activity. Television inspection is an aide in identifying lines with obstructions, with corrosion problems, and with potential failure possibilities. Both cleaning and television inspection are performed by crews from the Construction Department.

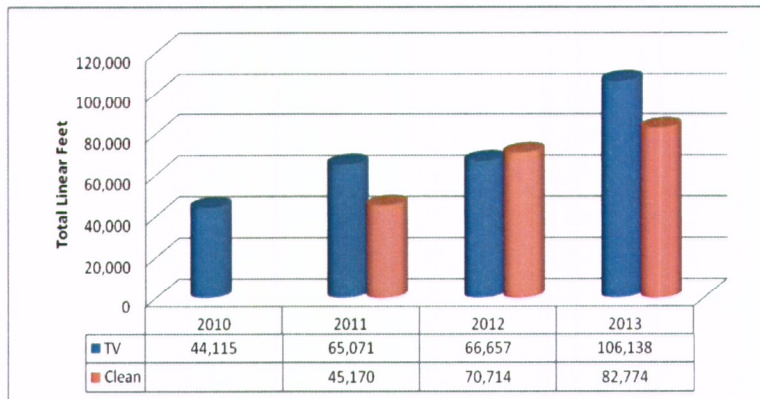
City Corporation will clean the sanitary sewer per the baseline maintenance schedule with the equipment listed below.

- (2) Jetters
- (1) Jetter/Camera Trailer
- (1) Tiger Vac
- (1) Easement Machine

Additional cleaning equipment and manpower are available via contract operations with several area vendors. City Corporation does not anticipate using contract services unless the following conditions exist:

- system equipment inoperable for extended period
- manpower shortage
- unusually high cleaning demand due to unforeseen circumstances
- large flows or difficult conditions requiring specialized expertise or equipment

Chart 5-3: Cleaning/Television Completed



5.8 Root Control

The intrusion of roots into sewer lines, particularly collector sewers, is always going to be an ongoing concern for City Corporation. Extensive root intrusion, if allowed to continue without attention, can result in reduced system capacity and, ultimately, blockage of the pipe. Problems associated with root intrusion are sometimes exacerbated by the presence of grease in the flow stream, which tends to attach to any roots present and cause more rapid impact on flow conditions.

Historically, these issues have been addressed through pipeline cleaning efforts by the Inflow & Infiltration crew, which generally consisted of mechanical removal of roots. Starting in 2014, City Corporation will obtain the service of Duke's Root Control, Inc. to apply a root control product to the collection system. Duke's will apply a product called "Razerooter II", which contains the active ingredient diquat dibromide ("diquat"). "Razerooter II" is the only diquat-based, sewer root control product that is registered with the US Environmental Protection Agency (EPA Registration No 64898-8) and the Arkansas State Plant Board. City Corp will treat approximately 25,000-30,000 linear feet of the collection system. Duke's will be directed to known areas of the collection system where roots are problematic. The footages and areas of application will be tracked

and reported by City Corp. City Corp has dedicated \$50,000 to this project. The following is a breakdown of the targeted areas:

- 23,445 linear feet of 6" pipe
- 20,455 linear feet of 8" pipe
- 5,840 linear feet of 10" pipe
- 2,190 linear feet of 12" pipe

5.9 Grease Control

Ordinance 1075 was created in 1983. Sec. 6 of the ordinance addresses grease. It states "Grease, oil, and sand interceptors shall be provided when, in the opinion of the Superintendent, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Superintendent, and shall be located as to be readily and easily accessible for cleaning and inspection." The entire ordinance is located in Appendix D.

City Corporation currently has 154 grease traps. Each food establishment that has a grease trap is put on an inspection schedule for cleanings. The schedule is located in Appendix R. City Corporation is in the process of amending the current grease ordinance to improve the FOG program. A current grease trap detail drawing is located in Appendix U.

5.10 Treatment Facility

Pollution Control Works used to be located on the NW part of Russellville, around the Arkansas Tech area. However, around 1963, the Corp of Engineers developed the McClellan Kerr Navigation System which involved the building of a dike to keep Lake Dardanelle from flooding Russellville. This caused the water and wastewater utility to relocate their facilities to the southeast side of town. The Pollution Control Works (PCW) design capacity is 7.3 MGD with an additional 21 MG equalization basin for wet weather flows. The breakdown of the daily flows for the year 2012 are located in Appendix 11. Appendix 16 shows the layout of the treatment plant:



POLLUTION CONTROL WORKS

404 Jimmy Lile Rd.
Russellville, AR 72802

Receiving Stream: Whig Creek then into Arkansas River

Operation Startup: 1964

Capacity (Design Flow): 7.3 MGD

Average Daily Flow (2013): 5.73 MGD

Level of Treatment: three biological treatment processes

Solids Management: Aerobic Digester with Land Application

Disinfection Method: Chlorine Contact Chamber

Effluent Discharge Limitations: (reported monthly to the Arkansas Department of Environmental Quality):

Effluent Characteristics	Discharge Limitations Concentration Monthly Average	Discharge Limitations Concentration Daily Maximum
BOD	10 mg/L	15 mg/L
TSS	15 mg/L	22.5 mg/L
pH	6.0 S.U. Min to 9.0 S.U. Max	
Fecal Coliform	1000/100 mL	
Dechlorination	<0.1 mg/L	

Interim Limits: (established by CAO):

Effluent Characteristics	Discharge Limitations Mass (lbs/day) Monthly Average	Discharge Limitations Concentration (mg/L) Monthly Average	Discharge Limitations Concentration (mg/L) 7-day Average
Nitrates (NO ₃ -N)	919.3	15.1	20.4
Total Residual Chlorine (TRC)	N/A	0.55 (Inst. Max)	

5.11 Private Defects

In 2008, City Corporation started the "I&I Cleanout Cap Program". The goal of the program was to work through each pump station basin by smoke testing to identify broken or missing cleanout caps, and private service line defects throughout the entire collection system. The two-man I&I crew carried a supply of cleanout caps and replaced missing caps as they were discovered. A record was kept so that they could confirm each cap that was installed. The first cap for a particular residence would be installed for free; any subsequent caps installed during follow-up investigative smoke testing leads to a \$50 direct bill to the customer. The routine of the smoke testing operation was to first send out door hangers that gave the customers notification of the upcoming smoke testing to be performed. In 2010, City Corporation changed from door hanger notifications to newspaper ad notifications in hopes to add more production days for smoke testing and finding defects. The defects were marked in green paint, and added to a log for future repairs. The private defect list can be found in Appendix S.

Chart 5-4: Private Defects Rehabbed

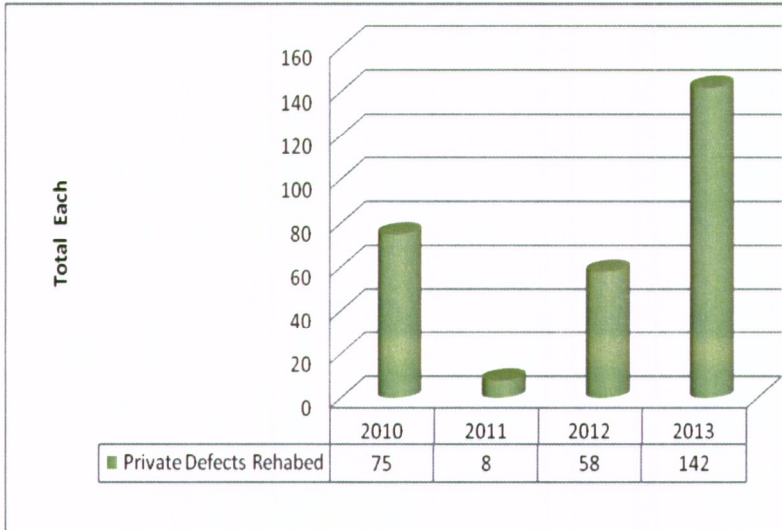
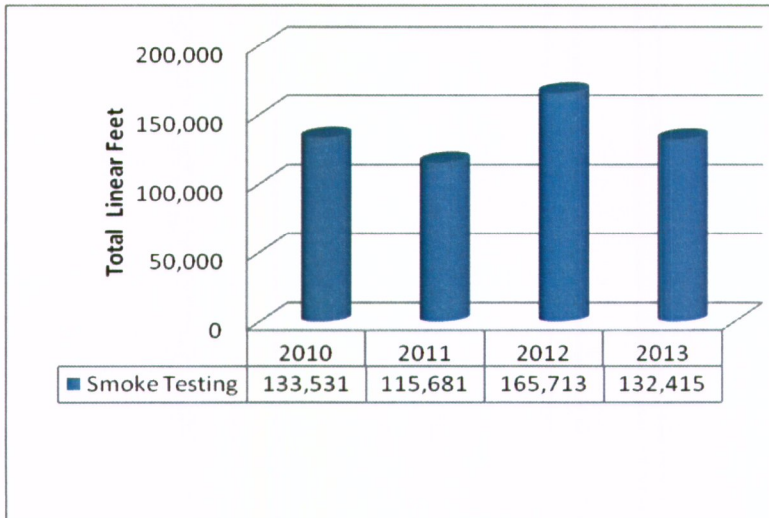


Chart 5-5: Smoke Testing Completed



5.12 Water Quality Monitoring

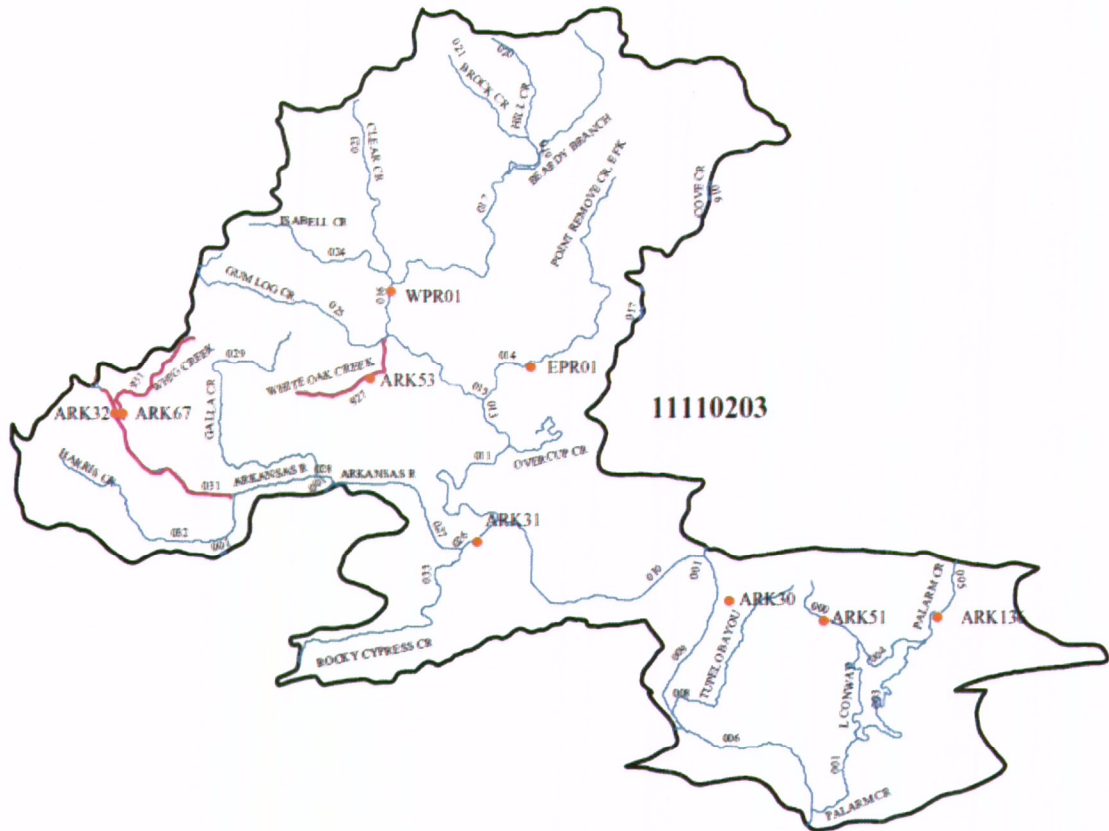
The Arkansas Department of Environmental Quality (ADEQ) has issued a report on the condition of the state's waters. The 2010 list of Impaired Water bodies is the assessment used to determine the water quality standards throughout the state. City Corporation discharges into Whig Creek. Whig Creek is listed as an impaired water bodies (stream) with completed TMDLs. The ultimate receiving stream is the Arkansas River and it is listed as a water quality limited water bodies (streams).

The 2004 Integrated Water Quality Report by ADEQ states that "Region Whig Creek continues to be impaired by point source discharges. Both municipal and industrial discharges exist in Whig Creek. A TMDL has been completed for this water body." The following table shows the report and the location of the sampling site.

ARK0067 Whig Creek Downstream of Russellville, AR

Parameter	Valid Data Points	Mean	Minimum	Maximum	Standard Deviation
Dissolved Oxygen (mg/L)	57	7.81	4.00	12.60	1.93
BOD5 (mg/L)	55	1.37	0.29	5.60	1.03
pH (standard units)	57	7.06	6.35	7.68	0.30
Total Organic Carbon (mg/L)	58	6.33	4.059	10.40	1.07
Ammonia as N (mg/L)	59	0.16	<0.005	1.69	0.27
NO ₂ +NO ₃ as N (mg/L)	59	8.51	0.168	23.90	4.37
Orthophosphate as P (mg/L)	59	3.48	<0.005	8.54	2.27
Total phosphorus as P (mg/L)	58	3.63	0.37	8.23	2.13
Total Hardness (mg/L)	29	56.17	17	124.00	19.09
Chloride (mg/L)	60	43.25	2.98	96.40	23.64
Sulfate (mg/L)	60	38.16	11.8	70.90	11.28
Total dissolved solids (mg/L)	47	262.99	35.5	424.50	103.15
Total Suspended Solids (mg/L)	48	48.9	<1.0	1348.00	206.77
Turbidity (NTU)	58	33.51	2.7	630.00	106.48

ARK0067 Sampling Site



5.13 Rain Gauges

Six temporary rain Gauges were installed to determine the amount of rainfall that occurred during the system wide flow monitoring study conducted by RJN Group in 2010. The temporary rain gauge locations are shown in Appendix 17. See Appendix V for Permanent Rain Gauge Specifications. In 2013, City Corporation ordered and installed eight permanent rain gauges around the city to monitor rainfall events. The permanent gauges are allowing City Corporation to track rainfall throughout the city. Furthermore, it will provide rainfall data for smaller portions of the system. City Corp will be able to isolate overflows and localized rainfall amounts at the time of the overflow. The permanent rain gauge locations are shown in Appendix 18.

Table 5-6: Temporary Rain Gauge Locations

Name	Location
RG01	2221 Skyline Dr (Western Hill Pump Station)
RG02	500 N. Glenwood Ave. (Prairie Creek Pump Station)
RG03	915 Arkansas (Steve Standridge Insurance)
RG04	404 Jimmy Lile Rd (Pollution Control Works)
RG05	2606 E Main St (Furniture Factory Outlet)
RG06	1920 N Arkansas (Station Fire Department)

Table 5-7: Permanent Rain Gauge Locations

Location
Shiloh Manor Pump Station
Prairie Creek Pump Station
10 th Street Pump Station
Lift Station "B"
Cove Landing Pump Station
Water Treatment Plant
Pollution Control Works
International Paper Lift Station

5.14 Inspection Procedures and Specifications

All Plans for proposed extensions of the sewage collection system shall be prepared by and bear the stamp of a Professional Engineer currently registered by the Arkansas State Board of Registration for Professional Engineers and Land Surveyors and shall conform to the latest edition of the "City Corporation Standard Specifications and Details and Policies and Procedures." Standard Specifications and Details are included in Appendix U. The current specifications were written in 1995 and are currently in the process of being revised. Revised standard specifications and details should be complete in 2014. Policies and Procedures are included in Appendix W.

City Corporation's approval of a plan for a particular sewer main extension is contingent on several standard conditions:

- The engineer of record must also submit the same plan to the Arkansas Department of Health and to any other agencies or local entities for approval. City Corporation does not submit proposed plans to regulatory agencies or local entities for approval.
- No construction is permitted on the proposed sewer main extension until City Corporation, the regulatory agencies and all local entities have approved the proposed plans in writing. In addition, approval of the Russellville City Council is required for any proposed service outside of the City limits.
- Approval of proposed plans for sewer main extensions by City Corporation is subject to the condition that all materials, construction procedures and tests are to be as specified in the latest edition of the City Corporation Standard Specifications. The only deviations from published City Corporations Standards, which are permitted, are those which are specifically approved in writing by City Corporation for particular sewer main extensions proposed.
- City Corporation inspectors do not have the authority to waive or modify City Corporations standard in the field.
- When City Corporation approves plans for sewer main extensions, the approval process does not stop with the plan approval. The City Corporation approval is with the express understanding that the engineer of record will remain responsible for the construction as shown on the approved plans, until all work is complete and the project has been " Accepted for Service" by the City Corporation.
- The engineer of record for an approved sewer main extension is responsible for advising City Corporations when construction is to begin on the proposed sewer main extensions. Please provide a minimum of 24 hours notice of commencement of construction. If construction is to be performed on a weekend, holiday or after normal working hours (8:00 a.m. to 4:30 p.m.), make arrangements in advance for a City Corporation inspector to be present.
- No permits for sewer taps will be issued for main extensions, which have not been "Accepted for Service" by City Corporation. "Accepted for Service" is defined as follows:
 1. All construction and cleanup is complete and all tests have been passed with the documentation in City Corporation files.
 2. As-Builts have been received by City Corporation and have been field checked and found acceptable.
 3. All appropriate agreements have been executed and filed with City Corporation. All applicable pro-rata rebates have been collected.

4. Easements and/or street dedications have been filed for record in the Courthouse and copies furnished to City Corporation.
5. City Corporation has by letter accepted the main extension for service and maintenance, subject only to the one-year's maintenance period.

CHAPTER 6- SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

The concept of capacity for a wastewater system has two basic elements; the capacity of the wastewater plant and the capacity of the collection system. Inflow/infiltration and growth can result in wastewater flows exceeding the design capacity of either the plant or collection system or both. RJN Group has been contracted by City Corporation to complete a thorough evaluation of the capacity of the system. The Sanitary Sewer Evaluation Survey (SSES) will entail several key components to assist City Corporation with future repair efforts and hydraulic upgrades to the system. The components of this study are detailed below.

6.1 System Wide Flow Monitoring/Capacity Analysis- Phase I

Phase I of the Sanitary Sewer Evaluation Survey (SSES) includes a System Wide Inflow/Infiltration (I/I) Analysis. RJN divided the system into 27 distinct subbasins. Each subbasin was monitored through the installation of flow meters. Appendix 19 shows the locations of the flow meters. The meters were monitored and analyzed for a period of 53 days. Rain gauges were also installed throughout the system to correlate rainfall information with the resulting flow data. Areas that exhibited high amounts of I/I were listed as priority basins. These basins will be studied in more detail as described in 6.2 below.

Concurrent with the flow monitoring, RJN updated the system maps for all lines 10-inch in diameter and larger. All manholes on these lines were GPS surveyed to ensure accuracy and each manhole was inspected for signs of I/I and structural soundness. As a result of the survey information, a hydraulic model network was developed for all 10-inch in diameter and larger lines, selected 8-inch diameter lines, and all major pump stations. The model will be used along with the flow monitoring data to identify collection system capacity issues. Also included in Phase I of the SSES was a review of all 19 lift stations as discussed in 6.1.3 below.

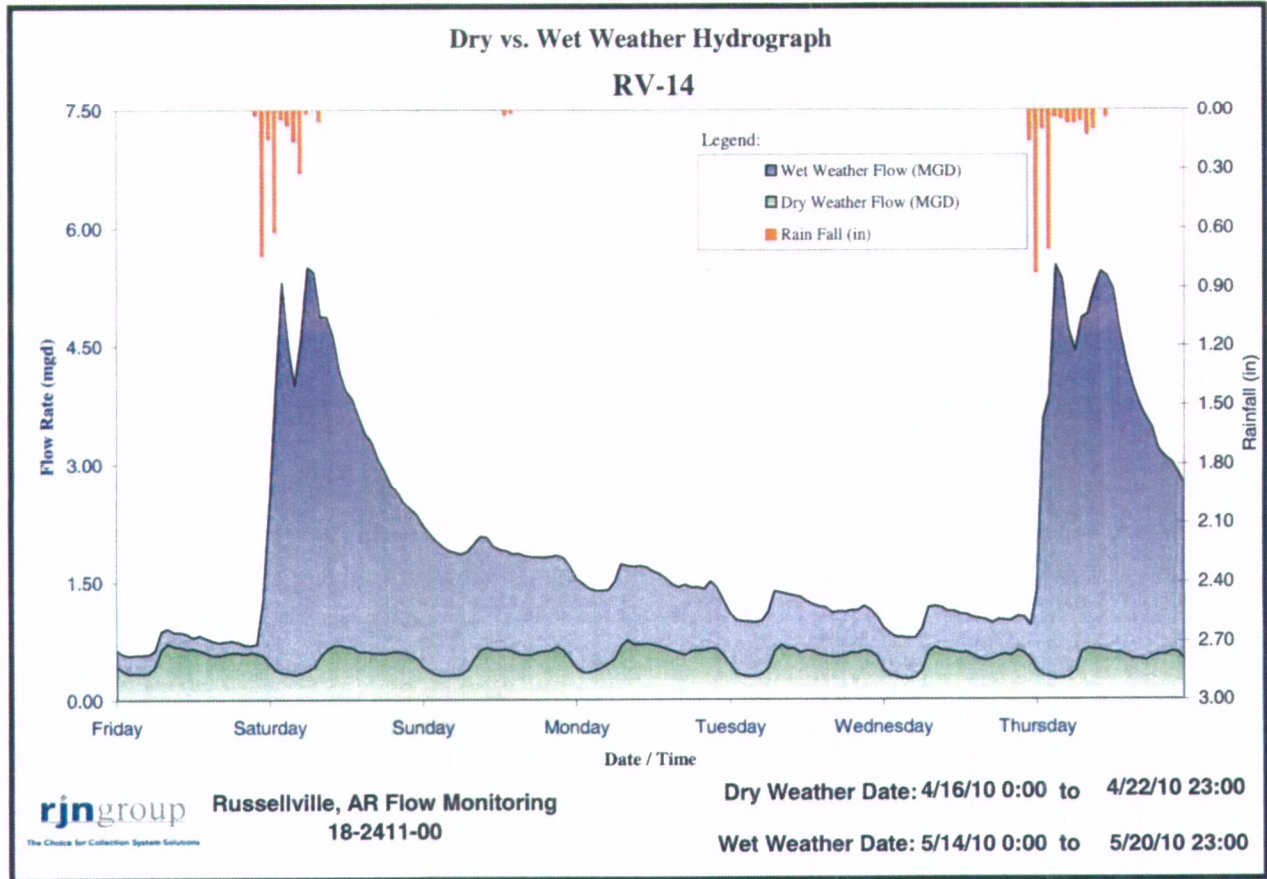
RJN has developed a detailed report for all Phase I activities. The report provides the results of the flow monitoring and capacity analysis including recommendations for further investigation. The recommendations are based on the amount of inflow and infiltration contribution from each subbasin. The I/I ranking was to be used to develop a prioritization for each basin, along with a milestone schedule for studying the high priority basins. Wet and Dry Peaking factor results of the study can be found in Appendix X.

6.1.1 Flow Monitoring

Concurrent with establishment of the I/I program, a comprehensive evaluation of I/I within the City was undertaken through a Consultant. RJN Group, Inc. performed a city-wide flow monitoring program during the spring of 2010. A total of 31 ADS flow meters were used to monitor wastewater flow from March 15, 2010 to May 24, 2010 for a period of 53 days. Six rain gauges were also installed to determine the amount of rainfall that occurred during this period. While the initial city-wide monitoring effort included basins comprising on the order of 939,871 linear feet of sewer, the follow-up monitoring effort included only about 30,000 linear feet per monitor. Each of these smaller basins was evaluated with respect to infiltration and to inflow, and a recommendation was made for each of the parameters. In general, if an area was considered cost-effective for inflow removal, manhole inspection, smoke testing, dye testing, and repair were recommended. If an area was considered cost-

effective for infiltration removal, manhole inspection, sewer cleaning, television inspection, and repair were recommended. For areas where both infiltration and inflow appeared excessive, all of these activities were recommended. Figure 6-1 is an example of Peak flow during a rain event.

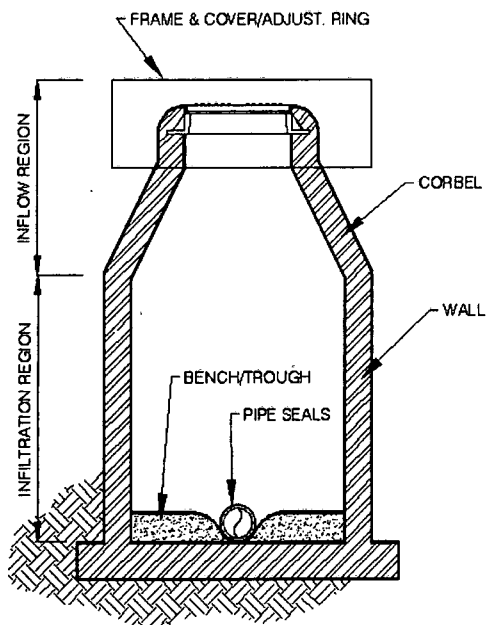
Figure 6-1:Hydrograph



6.1.2 Manhole Inspection

Manhole inspections were performed on selected manholes to verify system mapping, collect coordinates and invert elevations for construction the hydraulic model. All manholes were physically descended and visually inspected unless deemed unsafe or unable to descend. All manholes were inspected for defects and restrictions. Figure 6-2 shows the main parts of a standard manhole.

Figure 6-2: Parts of a Standard Manhole



The following data was recorded for each manhole:

- Location and identification number
- Potential for ponding on manhole cover
- Cover type, fit, distance above or below grade, evidence of inflow
- Frame adjustment, type and condition of seal, evidence of inflow
- Corbel construction, condition, evidence of inflow
- Wall construction, condition, evidence of infiltration
- Bench/trough construction, condition, deposition, evidence of infiltration
- Pipe seal condition, evidence of infiltration
- Step and rung conditions
- Manhole inside diameter
- Surcharging or evidence of surcharging
- Indication of groundwater level at time of inspection
- Maintenance problems
- Line segment diameter and direction
- Line segment observations from manhole

Approximately 700 manholes serve as access structures for 10 inch and larger diameter pipes and selected 8 inch diameter pipes and were selected for inspection. RJN completed 659 of the 698 manhole inspections attempted and identified 11 inaccessible, 2 buried, and 26 not found manholes. Table 6-1 shows the findings in more detail.

Table 6-1: RJN Manhole Findings

Basin	Total	Inspected	Not Found	Buried	Inaccessible
RV01	16	14	2	0	0
RV02	42	39	3	0	0
RV03	32	29	3	0	0
RV05	21	20	0	1	0
RV07	96	93	1	0	2
RV08	2	2	0	0	0
RV09	51	47	3	0	1
RV11	65	62	2	0	1
RV13	4	4	0	0	0
RV14	65	57	5	0	0
RV15	21	20	1	0	0
RV16	17	17	0	0	0
RV17	5	5	0	0	0
RV18	34	32	1	0	1
RV19	10	10	0	0	0
RV20	34	34	0	0	0
RV21	27	26	0	0	1
RV22	31	31	0	0	0
RV23	11	10	0	0	1
RV24	60	56	3	0	1
RV26	19	17	0	0	2
RV27	22	18	2	1	1
RVUM	16	16	0	0	0
TOTAL	698	659	26	2	11

A total of 311 manholes were found to have evidence of surcharging during the manhole inspections activities. Table 6-2 shows the findings.

Table 6-2: RJN Manhole Defects

Type of Defect	Number of Defects
Pick Holes	304
Cover Missing Bolts	10
Broken Cover	24
Defective Frame Seal	96
Broken Frame	32
Manhole Rim Leaks	15
Defective Manhole Corbel	53
Defective Wall	122
Cracked Pipe Seal	86
Cracked Bench/Trough	32
Total	774

6.1.3 Lift Station Evaluation

RJN Group, Inc. evaluated all 19 lift stations from July 19, 2010 through July 23, 2010. The purpose of the evaluation was to assess the performance of each pump station and determine the firm pumping capacity of each station for use in the preparation of the hydraulic model. Appendix 20 shows the locations of lift stations.

Field information collected during site investigations at each of the lift stations uncovered an array of lift station types, including pump and wet well variations. Lift station configuration ranges from duplex, alternating pump to triplex, dual pump operation. The recommendations from the evaluation are in Table 6-3. City Corporation will continue to work on the upgrades until they are complete.

Table 6-3: RJN Recommendations for Lift Station Improvements

Lift Station	Improvements Needed	Improvements Completed
10 th Street	None	
23 rd Street	Redesign and Re-evaluate drainage system for the dry well	Removed & gravity to South Frankfort
Lift Station "A"	Alleviating the drainage issues within the vault and correcting rust concerns	Repairs were completed by In-House crews
Lift Station "B"	Alleviating the drainage issues within the vault and correcting rust concerns	Repairs were completed by In-House crews
Lift Station "C"	None	
Center Valley	None	
Cove Landing	None	
South Frankfort (Darling)	None	
Grace	None	
International Paper	Repair any corroded or rusted components	To be repaired by In-House crews
Lost Corner	None	
Main Street	Replace Pump 1 and provide reliable emergency option, evaluate condition of wet well and ventilation system	Removed Comminutor and Cleaned Pump Station
Old Post	Rehab wet well	To be rebuilt by contractor in 2014
Prairie Creek	Repair wall leak, Evaluate condition of wet well and ventilation system	
Rimrock	Schedule more frequent removal of Grease	
Shadow Valley	Investigate why pumps are not running at full power	
Shiloh Manor	Schedule more frequent removal of Grease	
Tex Vet	Alleviating the drainage issues within the vault and correcting rust concerns	Budget for repairs in year 2014-2015
Tyson	Schedule more frequent removal of Grease	

6.1.4 Capacity Improvements

RJN recommended improvements on the overall sanitary sewer system to reduce the I/I 30% and included proposed growth to the city of Russellville. Shown below on table 6-4 are the recommendations RJN has made and the future or current project the lines will be associated with and their proposed design time.

Table 6-4: RJN Recommendations for Overall Capacity Improvements

Project Name	Improvements Recommended	Design Timeline
10 th Street FM	Upsize 5,664 LF 10" Force Main to 12"	Design 2015
Prairie Creek FM	Upsize 8,616 LF Force Main to 24"	Design 2017
Hydraulic Capacity Improvements	Upsize 2,055 LF 8"-10" Upsize 1,676 LF 10"-12"	Design 2013 & 2014
ATU South	Upsize 321 LF 6"-8" Upsize 714 LF 8"-10" Upsize 3,059 LF 10"-21" Upsize LF 998 15"-24" Upsize 1,607 LF 15"-27" Upsize 158 LF 10"-27" Upsize 76 LF 24"-30"	Design 2015
East 2nd Street Wastewater Improvements	Upsize 597 LF 10" 14" Upsize 8,520 LF 10"-18"	Complete
City Mall Wastewater Improvements	Upsize 5,462 LF 8"-12" Upsize 2,729 LF 18"-24"	Bid Preparation
7,14 & 23	Upsize 355 LF 15"-21"	In design
ATU North	Upsize 7,720 LF	To be Designed by Garver

6.2 System Wide Flow Monitoring/Capacity Analysis- Phase II

The high priority basins resulting from the flow monitoring studies will be further examined in Phase II. The studies of the priority basins will involve extensive field investigation in an effort to quantify the results of the I/I Analysis. The following field activities will be part of the Phase II investigations:

- Manhole Inspections
- Additional Flow Monitoring
- Smoke Testing
- Dyed Water Flooding
- Cleaning
- Television Inspection

A detailed report for each subbasin studied will be developed by the engineer at the conclusion of the Phase II activities. The report will include a capital improvement plan which includes a rehabilitation plan, capacity improvements, a staged priority schedule, and budget costs for the recommended improvements. The report will also include a narrative description of the hydraulic analysis and field investigations. Phase II will be included in more detail in future CMOM updates.

6.2.1 Subbasins 7,14,23 SSES Findings & Design Plans

The three subbasins included a total of 146,868 linear feet of sanitary sewer lines. A detailed map of the subbasins and the current study phase they are in is included in Appendix 13. RJN Group, Inc. has finished an extensive study of the collection system in subbasins 7,14,23. The following is a summary of the work performed and the defects found:

Work Performed

Manhole Inspections	338	EA
Smoke Testing	133,531	LF
Dyed Water Testing	32	Areas
TV Inspection	29,231	LF

Defects Found

Root Growth	60	Locations
Longitudinal Cracks	10	Locations
Circular Cracks	52	Locations
Collapsed Pipe	6	Locations
Offset Pipe	31	Locations
Broken Pipe	39	Locations
Manhole Defects	114	Locations
Building Lateral Defects	159	Locations
Defective Cleanout	142	Each

The goals for this project are:

- Improve overall sewer system
- Reduce I/I
- Eliminate Overflows
- Reduce Maintenance Calls
- Reroute main sewer line from under business and home

A map of the lines to be rehabbed in this project is located in Appendix P. The projects estimated construction cost is \$3,000,000. The following is a brief description of the work to be performed:

7,14 & 23

Description	Quantity	Units
CIPP Existing 6"	126	LF
CIPP Existing 8"	2140	LF
CIPP Existing 10"	1905	LF
CIPP Existing 12"	888	LF
CIPP Existing 15"	619	LF
CIPP Services	96	EA
Pipe Burst 6"-8"	2967	LF
Relay/Install 8"	9663	LF
Relay/Install 10"	871	LF
Relay/Install 21"	402	LF
Reinstate Services	291	EA
Construct Manholes	31	EA
Stormwater Controls	1	LS
Bypass Pumping	1	LS
Trench & Safety	1	LS

6.2.2 Subbasins 1,2,8,11 SSES Findings & Design Plan

The four subbasins included a total of 126,967 linear feet of sanitary sewer lines. A detailed map of the subbasins and the current study phase they are in is included in Appendix 13. RJN Group, Inc. has finished an extensive study of the collection system in subbasins 1,2,8,11. The following is a summary of the work performed and the defects found:

Work Performed

Manhole Inspections	376	EA
Smoke Testing	113,818	LF
Dyed Water Testing	53	Areas
TV Inspection	22,514	LF

Defects Found

Root Growth	21	Locations
Longitudinal Cracks	2	Locations
Circular Cracks	21	Locations
Collapsed Pipe	5	Locations
Offset Pipe	23	Locations
Broken Pipe	6	Locations
Manhole Defects	115	Locations
Building Lateral Defects	72	Locations
Defective Cleanout	89	Each

The goals for this project are:

- Improve overall sewer system
- Reduce I/I
- Eliminate Overflows
- Reduce Maintenance Calls
- Reroute main sewer line from under home

A map of the lines to be rehabbed in this project is located in Appendix T. The projects bid price is \$1,145,382 and is currently under construction. The following is a brief description of the work to be performed:

1,2,8 & 11

Description	Quantity	Units
CIPP Existing 8"	1353	LF
CIPP Existing 24"	2842	LF
CIPP Services	16	EA
Pipe Burst 6"-8"	4410	LF
Pipe Burst 8"-10"	783	LF
Pipe Burst 8"-8"	375	LF
Relay/Install 6"-6"	112	LF
Relay/Install 6"-8"	1286	LF
Reinstate Services	99	EA
Construct Manholes	4	EA
Stormwater Controls	1	LS
Bypass Pumping	1	LS
Trench & Safety	1	LS

6.2.3 Subbasins 3,5,6, 21 SSES Findings & Design Plan

The four subbasins included a total of 115,919 linear feet of sanitary sewer lines. A detailed map of the subbasins and the current study phase they are in is included in Appendix 13. RJN Group, Inc. has finished an extensive study of the collection system in subbasins 3,5,6,21. The following is a summary of the work performed and the defects found:

Work Performed

Manhole Inspections	361	EA
Smoke Testing	115,919	LF
Dyed Water Testing	22	Areas
TV Inspection	27,241	LF

Defects Found

Root Growth	53	Locations
Longitudinal Cracks	1	Locations
Circular Cracks	33	Locations
Collapsed Pipe	2	Locations
Offset Pipe	34	Locations
Broken Pipe	11	Locations
Manhole Defects	144	Locations
Building Lateral Defects	37	Locations
Defective Cleanout	76	Each

The goals for this project are:

- Improve overall sewer system
- Reduce I/I
- Eliminate Overflows
- Reduce Maintenance Calls
- Reroute main sewer line from under home

CHAPTER 7-OVERFLOW EMERGENCY RESPONSE PLAN

7.1 Awareness

In order to respond effectively to a sewer overflow, a plan must be in place prior to the overflow and all personnel need to understand their role in the response and follow up. The following SSO Response Plan Summary describes the actions that will be taken in the event of an overflow of the collection system. The full Overflow Response Plan is located in Appendix Y.



7.2 Response

The Sanitary Sewer Overflow Response Plan (SSORP) is designed to ensure that every report of a confirmed sewage overflow is immediately dispatched to the appropriate crew so that the effects of the overflow can be minimized with respect to impacts to public health, beneficial use, quality of surface waters, and customer service. The SSORP further includes provisions to ensure safety pursuant to the directions provided by the ADEQ and that notification and reporting is made to the appropriate local, state, and federal authorities. For purposes of this SSORP, "confirmed sewage spill" is also sometimes referred to as "sewer overflow," "overflow," or sanitary sewer overflow "SSO". The 24 Hour SSO Report and the SSO Monthly Report are located in Appendix Z.

7.3 Official Notification

Official Notification of SSO during working hours

Customer Service Representative (CSR) receives notification of a possible SSO from the public. The CSR will route the call to the Network Operations Center at which time all relevant information is collected, as outlined in Section IV-A. NOC will then dispatch the appropriate Response Crew to the site to verify if an SSO has occurred. The Response Crew will report findings back to NOC.

Response Crew determines if SSO has occurred and attempts to resolve problem. Response Crew completes the Overflow Report Form, takes photographs before clean-up is started, and places warning sign(s) at the site,

as required. Construction Supervisor verifies Overflow Report, problem resolution, and signage have been appropriately addressed.

On all public overflows, Response Crew begins cleanup and disinfection of the affected area. Response crew will notify Network Operations Center when cleanup is complete. NOC will dispatch Construction Supervisor to verify cleanup is completed, take photographs and remove warning signs.

All private overflow calls are directed to the Network Operations Manager. The customer is then directed to contact their individual insurance carrier for coverage and is encouraged to work with insurance company to complete cleanup. Because of the nature of a private overflow, City Corporation recommends the use of a professional restoration service to complete the cleanup. City Corporation employees are not allowed to work inside private/commercial addresses.

Official Notification of SSO after working hours

After Hours Emergency Crew receives direct notification of possible SSO from public at which time they collect all relevant information as outlined in Section IV-A and proceed to location. (After Hours Emergency Crew mans emergency phone after business hours)

Emergency crew determines if SSO has occurred and attempts to resolve problem then takes photographs before cleanup and places warning signs at site, as required. Emergency Crew is to fill out Overflow Report Form and turn in with their paper work at the beginning of the next workday.

On all public overflows, Emergency Crew then begins clean-up and disinfection of the affected area. When cleanup is completed, crew is to take photographs and remove warning signs. Site visit is to be performed the first work day after the overflow occurrence.

All private overflow calls are directed to the Network Operations Manager. The customer is then directed to contact personal insurance for coverage and restorations service for cleanup. City Corporation employees are not allowed to work inside private/commercial addresses.

Internal Notification of possible SSO

All City Corporation personnel are directed to immediately report any potential overflow to the Network Operations Center and provide all relevant information as outlined in Section IV-A. After the overflow has been reported, all procedures will be the same as with a public notification of possible SSO above.

Rain events that are one-inch or greater will trigger our Response Crews to investigate possible recurring SSO sites to verify if an overflow has occurred. These crews will be furnished a list of possible SSO sites (see appendix E), which has been determined as being locations that have potential to overflow. After crews have completed a check of the entire list, they will begin clean-up at each site. Appendix 21 is a map showing the recorded overflow locations.

Chart 7-1: Total Overflows

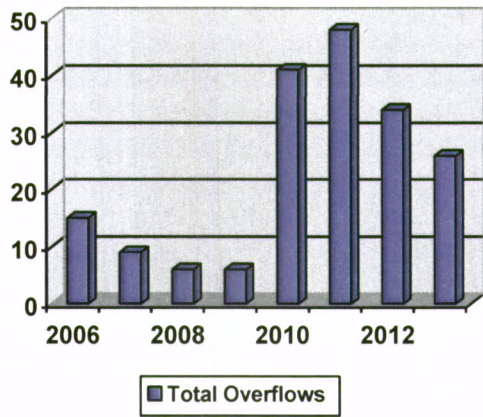
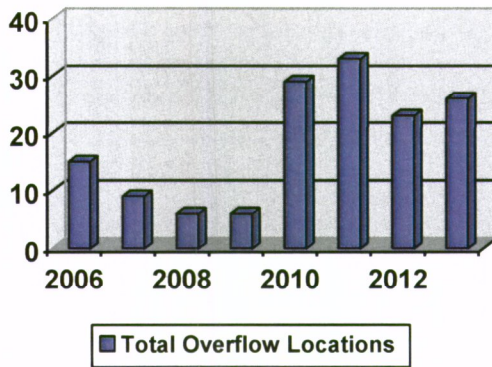


Chart 7-2: Total Overflow Locations



CHAPTER 8- FINANCIAL

8.1 User Rate/User Charge

Sewer service charge

Monthly residential sewer service charge is computed on the average water used in the month of January, February, and March of each year. In general, these are the months when residential customers use the least amount of water and when water issued is going into sanitary sewer for treatment.

Charges for *new* domestic users will be based on the water consumption of a typical user of the same or similar class until a water use history is established and the average computed. Charges for all other classes of customers (commercial, industrial, etc.) are based on the same rate but are computed each month according to the amount of water used.

Charges for all classes of customers who are located outside the City Limits of Russellville are computed at 1 ½ the normal rate.

Charges are computed in compliance with city ordinances and rates as follows:

First 1,000 Gallons Per Month	\$6.67 Per Month
Next 19,000 Gallons Per Month	\$2.59 Per 1,000 Gallons
Over 20,000 Per month	\$2.20 per 1,000 Gallons

There will be an additional monthly charge of \$5.00 to those customers who require a grinder pump system.

This charge is in addition to the initial purchase price of the grinder pump and normal installation cost.

See Appendix 7 for the Sewer & Water Rate Flyer.

8.2 Budget Process and Schedule

Budget preparation begins approximately 6 months prior to new fiscal year. Authorized employees are capable of keying in their Operations & Maintenance Expenses into the Budget program screen. Capital budget items are submitted to the Administrative Manager with these items then being compiled into a report. This capital budget is then reviewed by management at a meeting scheduled after completion of the operations and maintenance budget. This allows management to have the dollars available for capital work after operations and maintenance expenses are addressed.

Authorization is given to the individual employees involved in preparation for account numbers of a designated department. The employee can print out work sheets for these accounts and compile the budgeted numbers with assistance of their manager. They are then able to key these budget figures into the mainframe budget

program. At the deadline given for budget entry, this authorization is revoked to protect any numbers from being changed without approval of the General Manager. Meetings are scheduled (see attached schedule example) with General Manager, Department Manager, Department Lead, Accountant and Administrative Manager to review the projected budget numbers. Any changes made at that time are keyed into the program by Accountant and budget is reprinted and reviewed with auditor and Board member. Final version is then printed and presented for review at the next scheduled Board meeting with Board approval given in the June Board meeting each year. The Budget process and schedule can be found in Appendix 1.

CHAPTER 9-PROGRAM AUDITS

9.1 Summary

The foregoing Capacity, Management, Operation and Maintenance Program for the sanitary sewer system owned by City Corporation reflects the commitment to the protection of the environment and continued provision of exemplary customer service. As indicated throughout this document, City Corporation has committed and is prepared to further commit the resources necessary to provide vigilance over the wastewater system. Necessary funds and staffing are available through operating and capital budgets and required contractual arrangements are either already in place or can be readily accomplished. This document will be updated annually through revisions to reflect the City Corporations commitment to its mission and to satisfy federal and state regulatory requirements. This CMOM document, appendices, and supporting documents are presented on the CMOM link on the City Corporation web site. The CMOM Program is viewed as a working document with the most current data available that reflects the latest collection system conditions.

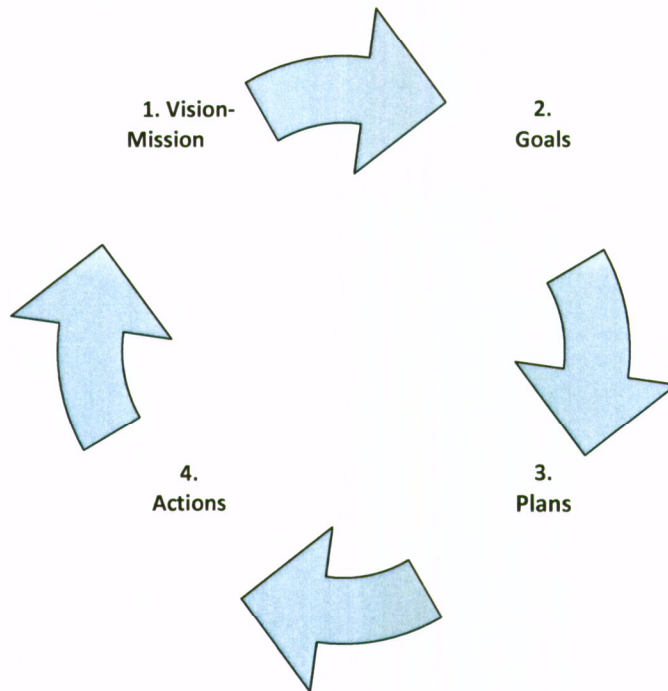
9.2 Program Updates

This plan lays out metrics for employee training, routine maintenance, repairs, and system monitoring. The plan is essentially the business plan for the sewer system of City Corporation. The program is developed as a guidance manual for the entire staff and customers of City Corporation. City Corporation, along with their consulting engineer, will evaluate adherence to these metrics and the goals of this program on an annual basis. The plan will be modified to incorporate new information from current studies, new technology, and any additional changes, at City Corp's discretion, based on the annual evaluation. The General Manager is expected to require all employees to adhere to this plan in the performance of their individual duties.

CHAPTER 10-SUMMARY OF RECOMMENDATIONS

10.1 Strategic Planning Process

Strategic Planning will be done under the guidance of City Corporation's Mission-Vision Policy. The following graphic shows how the Strategic Planning Process works.



Strategic Planning defines the five-year business oriented goals and establishes a Strategic Plan to accomplish these goals. The Strategic Plan expresses the Vision of City Corporation and attempts to guide our efforts in that direction. Individual action items and action plans are developed to direct the work to be accomplished. The Strategic Planning Process is broken down in more detail in Appendix 22.

10.2 Construction/As-Built Recording Procedure

- Retrieve all drawings from Russellville and Engineers
- Label all As-Built with a numbering system (Example: Year-project name)
- Scan all drawings
- List As-Built in an access database for easy searching and usage
- Access file should include the following: As Built # and Name of Project.

10.3 Force Mains

Elimination of air entrainment in interceptor force mains is absolutely essential to reduce corrosion and failure of force mains due to sulfuric acid attack. Air entrainment in interceptor force mains is the result of improper design and/or operation of pump stations since air can only enter a force main via a pump station. Air

entrainment in interceptor force mains must be eliminated by proper design and/or operation of pump stations and force mains as follows:

10.3.1 Operating Practices

- Minimize wet well turbulence and splash.
- Eliminate free discharge or falling jets from incoming sewers and force mains by:
 - Raising minimum wet well levels to minimize or eliminate drops.
 - Directing incoming flows below the minimum wet well level using chutes.
 - Directing incoming flow away from pump suction lines.
 - Relocating air relief discharges, sump pump discharges, and bubbler control discharges away from pump suction lines.
- Eliminate vortex formation at pump suction lines by raising minimum wet well level to submerge pump suction lines.
- Operate all installed force main air vents periodically with a frequency depending upon experience and air accumulation at each air vent.
- Install and operate additional air vents where needed and not originally installed.
- Pump Station preventative maintenance tickets are developed through MVP Plant software, and assigned to appropriate employee.

10.3.2 Design Practices

- Minimize wet well turbulence and splash.
- Establish wet well levels as high as possible with respect to the incoming sewers and force mains.
- Avoid free discharge or falling jets from incoming sewers and force mains onto the wet well liquid surface.
- Locate air relief discharges and sump pump discharges as far away as possible from pump suction inlets.
- Select force main profile to minimize the number of high points.
- Provide air vents at profile changes from an upward slope to a relatively flat or downward slope
- Provide air reliefs at one half-mile intervals on long ascents, descents or horizontal sections between defined high points.

10.4 Rehabilitation

10.4.1 Main Lines

City Corporation must identify and prioritize all structural deficiencies and set short-term and long-term rehabilitation actions to address each deficiency. Overall, the utility must provide a structured approach for gathering, storing and analyzing costs related to the planning, engineering, design, construction, start-up, operations, maintenance, energy use, rehabilitation, refurbishment and disposal of its assets. The structured approach is necessary to have the information available when making asset management decisions.

10.4.2 Manholes

Manholes are underground chambers to provide man-entry access to maintain utility pipelines. They usually are subjected to underground corrosive environments and traffic loads which accelerates the degradation process of these structures. As they are underground and out of general sight, degradation of these structures is not usually monitored unless a collapse or problem occurs.

With the advancement of pipeline rehabilitation techniques and technologies, defects and problems in manholes are now receiving increased attention. Engineers and municipalities have realized the benefits of rehabilitation repairs to manholes. As leaks which are prevented from repaired pipes are only re-directed to the next weakest part of the system which are usually the manholes. As manhole rehabilitation is an integral part of the whole pipeline rehabilitation process, neglecting it and only concentrating on the pipe, just shifts the problem and defeats the rehabilitation process. A benefit to manhole rehabilitation is that it is usually the easiest and the least costly repair process. The restoration of these manholes is done in less time that it would take to replace them and for a fraction of the cost. It can be carried out within two to three hours without much disruption to above ground activities and environment. By rehabilitation of these manholes, cities are able to prolong the lifespan of the structures. Appendix 2 contains an example of a Manhole Inspection form. It is recommended that Standard Specifications and Details for Manhole Rehabilitation should be included in the updated Standard Specifications and Details to be completed on a future date.

10.5 CCTV Report/Inspection

RJN has begun to assess the condition of all City Corporations facilities and recommend upgrades, as necessary. As part of enhancing the integrity of City Corporations network of gravity mains, RJN uses a CCTV van to inspect parts of the gravity

pipelines. CCTV inspection is a non-destructive, proactive approach to evaluate the pipeline infrastructure and is required to assess the condition of the pipeline interior. A CCTV inspection may be utilized to:

- Inspect conditions and determine the location of problem areas such as pipe or joint separations, drops, ruptures, leaks, obstructions, deterioration, pipe misalignment, and root intrusions.
- Locate infiltration and inflow sources.
- Look for damage to sewers caused by excavation and construction.
- Search for unrecorded connections, such as illegal taps.
- Evaluate effectiveness of pipeline repairs, replacement, and/or rehabilitation within the sewer system.
- Assess pipeline condition of new installation before the warranty period ends.

CCTV inspection reports and videos are generated after each evaluation.

10.6 Public Education/Outreach

The City's Fats, Oils and Grease (FOG) Public Education program has been designed to reach as many local residents and businesses as possible. City Corporation is committed to minimizing FOG and other pollutants from entering the sanitary sewer system.

Residential and commercial activities such as the disposal of cooking grease, oil, food scraps, household and industrial strength chemicals, and even pharmaceuticals into the sanitary sewer, can have an impact on the City's ability to protect human health and the environment. Through the reduction and potential elimination of Sanitary Sewer Overflows (SSOs), the streets, surface waters, and ultimately the ocean are at less risk of containing harmful levels of bacteria, viruses or chemicals that have the potential to cause harm.

As part of the City Corporations program to educate and assist city residents and businesses in implementing Best Management Practices to reduce pollutants entering the sanitary sewer system, the City should use a variety of tools such as brochures, posters, videos, public service announcements, community events, commercial and industrial inspections, and partnering with other agencies to promote the FOG program. The materials available are shown below.

Brochures

An educational brochure has been developed for city residents through a program with the goal of preventing SSOs. The brochures are free and are available at many city facilities including, City Hall and libraries. The brochures contain information that can be used by residents and businesses to educate employees, tenants, neighbors, and family members. An example of a Food Service Brochure is shown in Appendix 3. An example of a Sewage Spill Brochure is shown in Appendix 4.

Posters

An educational poster has been developed for restaurant use with the goal of preventing SSOs. The poster is free and has been made available to all city restaurants. The poster contains information that can be used by owner to educate their employees. An example is shown in Appendix 5. Posting this poster in an area that is frequently visited by the employees will help to educate them on the correct ways to dispose of FOG.

10.7 Easement Clearing

City Corporation generally holds a ten foot wide permanent easement along its sewer lines. While some other individual or entity normally owns the underlying property, City Corporation has the right to access and maintain the line. This is not an issue in areas where sewers cross undeveloped property; however, issues have arisen from homeowners when easement clearing is needed in developed areas.

In response to an increasing need for access to remote sewer lines, it is recommended that City Corporation adopts a more aggressive approach to easement clearing using a ten-foot path. It is anticipated that this program will enhance the ability to effectively operate its sewer system. In addition, cleared areas should be mowed annually. Currently there is not an easement clearing procedure in place for City Corporation. However, they are currently investigating incorporating an annual contract in the near future.

The development of a trail system in conjunction with sewer easements is growing in popularity around the country. We feel City Corporation could see tremendous benefits from partnering with the city to provide trails along existing sewer easements. It provides some key benefits for the city, including:

- A great way to improve the city
- Enables maintenance and easement access
- Provides recreational activities

10.8 Aerial Stream Crossing Inspection

City Corporation operates and maintains approximately 182.6 miles of sanitary sewer with an unknown number of aerial sewer stream crossings of six-inch size and above. Parts of the system are over fifty years old.

City Corporation has developed a stream crossing log sheet that they use when inspecting aerial stream crossing. The log sheet and current findings are located in Appendix 9. It is recommended that City Corporation develop an aerial sewer stream crossing inspection and operation & maintenance program. This program will include an inspection schedule with forms to identify required preventive and routine maintenance for City Corporation's aerial sewer stream crossings.

The goal of the inspection program is to inspect, remove debris, and repair as required, all major sewer trunk crossings six inches or more in diameter within the major drainage basins, and then perform a scheduled, regular, preventive maintenance inspection. To conduct the initial inspections, a process should be developed that includes the completion of an inspection form and digital photographs of the crossing. A copy of a blank inspection form is included as Appendix 6. The form was designed to allow the inspectors to grade each crossing to determine the severity of any debris removal or repair that may need to be made. Additional data on the crossing such as manhole numbers both upstream and downstream, general condition, type of crossing, easement condition, and a sketch shall be completed.

City Corporation will use their Record System to store all inventory and inspection data, all digital photographs, and to generate preventive maintenance work orders for periodic inspection of all sewer aerial crossings. From an initial inspection, each crossing will be graded to determine the frequency of future inspections. Larger line crossings suspended over major streams will be inspected more frequently than smaller line crossings that may only be partially exposed in smaller streams. The digital photographs from the initial inspection will be compared to subsequent inspections and photographs to adjust the inspection frequency in addition to the inspection grade. The work order system will automatically generate work orders to conduct repeat inspections.

10.9 Industrial Stormwater Control

City Corporation experiences significant sources of Inflow and Infiltration from industries throughout the city. The recent system wide evaluation from RJN identified the industrial subbasins as some of the highest inflow problems in the entire collection system. Industries can have illegal taps and direct storm water connections that significantly add to the wastewater flows in the sewer system. It is recommended that City Corporation make a concerted effort to prevent industrial stormwater from entering the sewer system through active monitoring, enforcement of existing ordinances, and enactment of additional ordinances or regulations for stormwater.

10.10 Record keeping program

City Corporation currently has what is called the "AS/400" a master log program used for keeping all the companies records and work orders. This program appears to be dated and difficult to use. It is recommended that City Corporation evaluate a new record keeping program.

City Corporation is transitioning to a new software called "MVP Plant". It is a maintenance program software being used in conjunction with the AS/400.

10.11 City Grid System

City Corporation currently utilizes a manhole numbering system. The method for numbering the manholes is not based on geography, and therefore is difficult to use when locating manholes in the system. It is recommended that City Corporation evaluate a new Grid System to help break down large unmanageable areas into smaller easily identified areas of the city. City Corporation is currently in the process of creating a new numbering system, which should be in place by next year. It is an Alphanumerical system starting at Arkansas & Main (0,0).

10.12 Schedule of Recommended Improvements

Figure 10-1 is a schedule that has been created to give City Corporation and ADEQ a milestone to the activities of the recommended improvements throughout the city, as required by the Consent Administrative Order. The schedule reflects a 10 year comprehensive program including a study phase, a design phase, and a construction phase. The program and corresponding dates may be revised as the program is implemented.

FIGURE 10-1 (3-21-2014)

SSES SCHEDULE OF EVENTS

SSES PHASE II

CITY CORPORATION

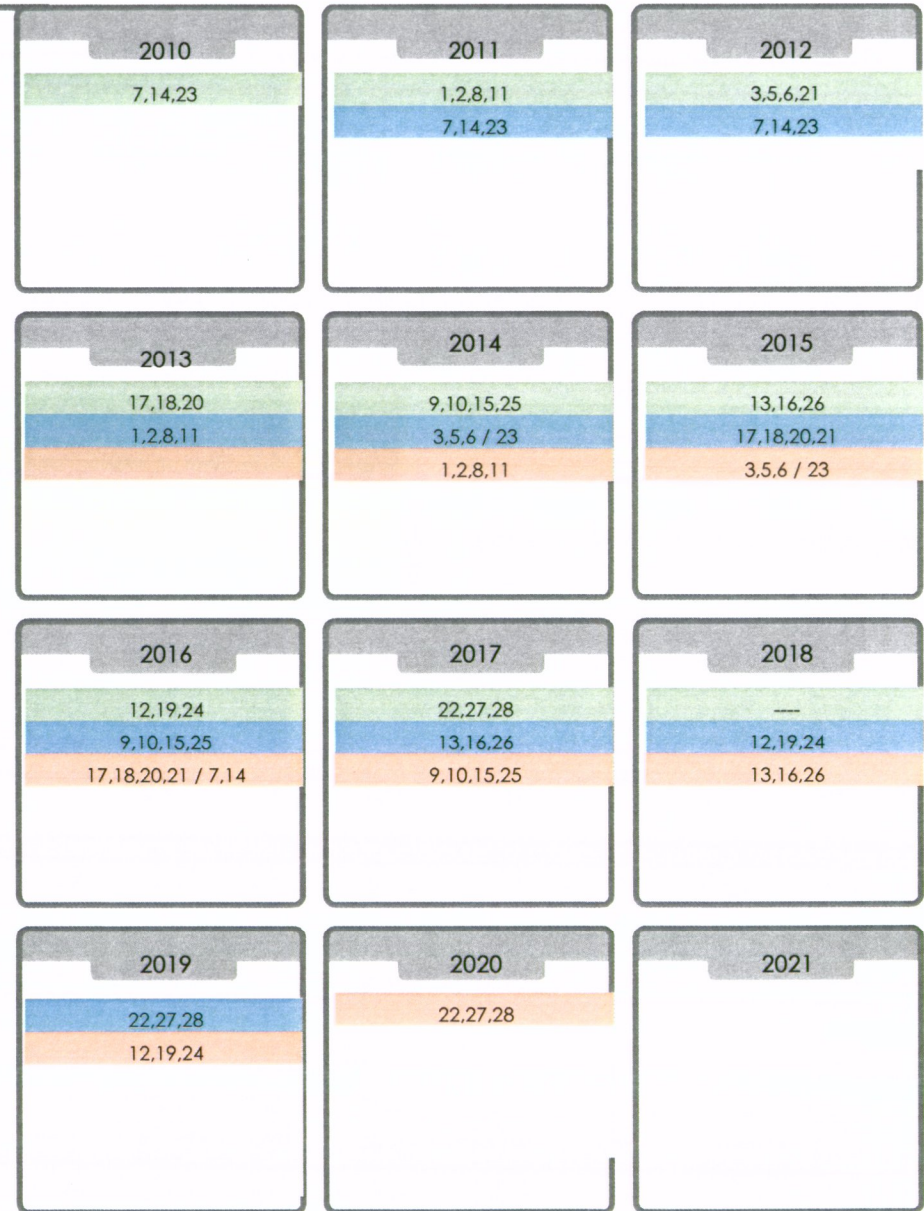
The following schedule is a milestone schedule for SSES Phase II activities as required by the Consent Administrative Order. The schedule reflects a 10 year comprehensive program including a study phase, a design phase, and a construction phase. The program and corresponding dates may be revised as the program is implemented.

PROJECT PHASE



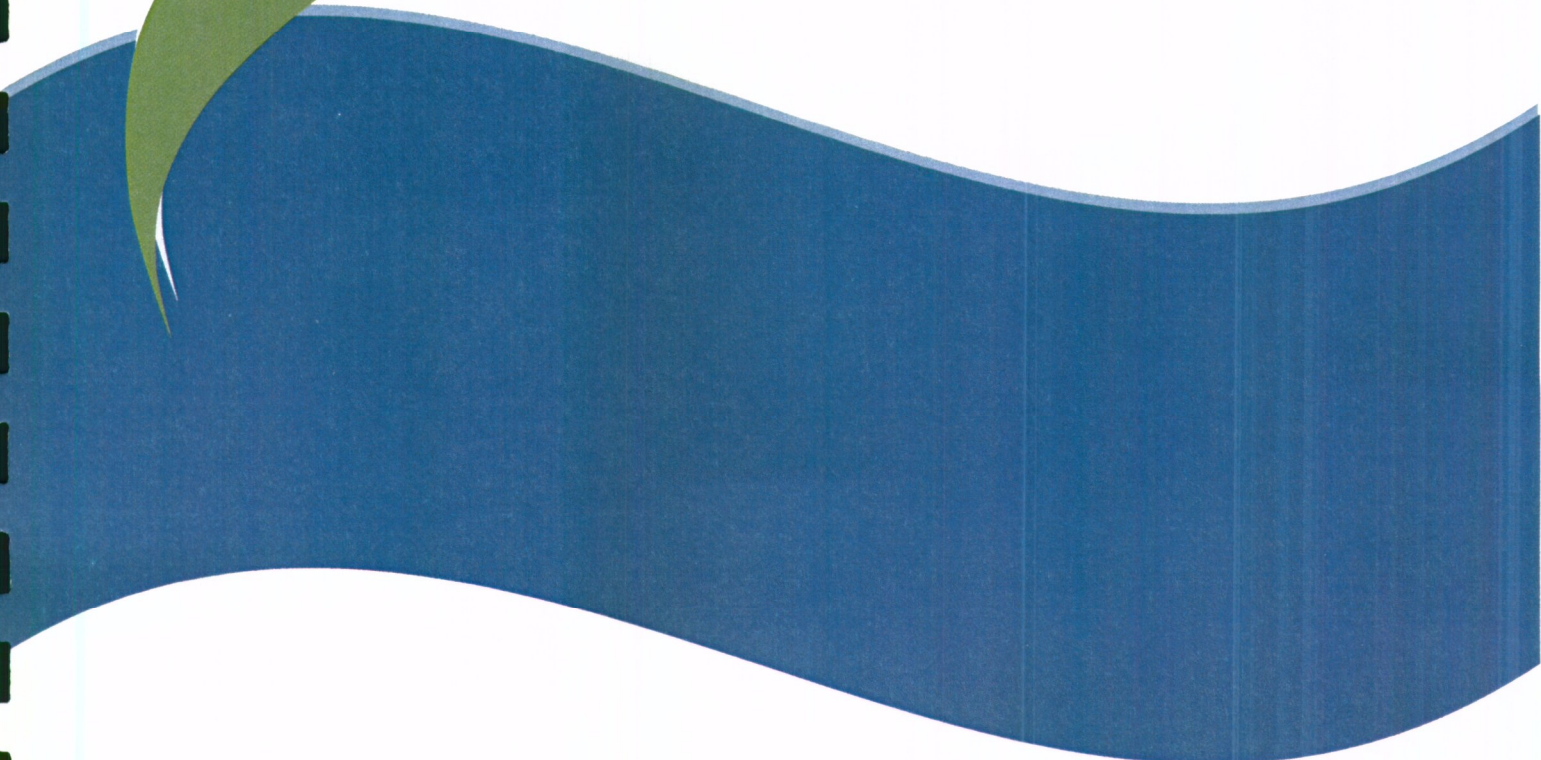
BASINS	TOTAL LINEAR FEET GRAVITY
7,14,23	146,868
1,2,8,11	126,967
3,5,6,21	120,979
17,18,20	122,371
9,10,15,25	124,812
13,16,26	133,437
12,19,24	122,329
22,27,28	105,826
----	----

SCHEDULE



APPENDIX E

SANITARY SEWER OVERFLOW LIST



APPENDIX E- OVERFLOW LIST

Status	Manhole	Address	Project Name	Basin	Design Year
Active	1043	400 N Vancouver	Basins 7,14 & 23	RV14	2012
Active	1108	W 2nd Place & S Phenoix	Basin 7,14 & 23	RV14	2012
Active	1200	1105 Resimont Cv	Basins 9,15 & 25	RV15	2015
Active	1219	601 G St	Basins 9,15 & 25	RV25	2015
Active	1295	Hartford & E Parkway	Basins 13,16 & 26	RV13	2016
Active	1315	3rd & Vancouver	Hydraulic Cap Improv	RV16	2013
Active	1333	4th & Waco	Hydraulic Cap Improv	RV16	2013
Active	1341	1310 Ridgewood Dr	Basins 13,16 & 26	RV16	2016
Active	1465	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	1466	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	1468	West N & N Glenwood	Basins 17,18,20, & 21	RV20	2014
Active	1487	410 W Parkway	Basins 7,14 & 22	RV23	2012
Pending	1510	400 S. Commerce	Basins 7,14 & 23	RV23	2012
Active	1513	5th & Commerce	Basins 7,14 & 23	RV23	2012
Private	1564	Marina Rd	Basins 1,2,8 & 11	RV02	2012
Active	1567	Behind Robertson's Furniture	Hydraulic Cap Improv	RV24	2013
Active	1568	107 N Boston Pl	Hydraulic Cap Improv	RV24	2013
Active	1593	601 E 7th St	Basins 12,19 & 24	RV24	2017
Active	1608	E B St & N Detroit Ave	Basins 12,19 & 24	RV24	2017
Pending	1624	110 E Street	City Mall	RV24	2012
Pending	1675	1310 E M St	Basins 13,16 & 26	RV13	2016
Active	1704	K St & Parker Rd	City Mall	RV25	2012
Active	1705	1023 Parker Rd	City Mall	RV25	2012
Active	1706	1020 Parker	City Mall	RV25	2012
Active	1711	1003 E J St	City Mall	RV25	2012
Active	1725	E G & Greenwich	City Mall	RV25	2012
Active	1728	904 N Frankfort Ave	City Mall	RV25	2012
Pending	1735	M St & Frankfort	Basins 3,5, & 6	RV21	2013
Active	1823	City Mall	City Mall	RV24	2012
Active	1825	City Mall	City Mall	RV24	2012
Pending	1848	1514 N. Jackson	Basins 9,15 & 25	RV25	2015
Active	1850	1507 Knoxville Ave	Basins 9,15 & 25	RV25	2015
Active	1852	1506 N Jackson Ave	Basins 9,15 & 25	RV25	2015
Active	1996	906 W 16th St	Basins 3,5, & 6	RV05	2013
Active	2023	508 W 8th St	Basins 9,15 & 25	RV15	2015
Active	2024	108 W Birch St	ATU North-Garver	RV22	unk
Active	2028	Birch and Commerce	ATU North-Garver	RV22	unk
Active	2032	Birch and Commerce	Basins 22,27 & 28	RV22	2018
Active	2035	Honda of Rsvl, Lakefront Dr	ATU North-Garver	RV22	unk
Active	2036	220 Lakefront Dr	ATU North-Garver	RV22	unk
Active	2040	Harrell Dr	Basins 17,18,20, & 21	RV20	2014
Active	2042	Red Hill & N Phoenix Ave	Basins 17,18,20, & 21	RV20	2014
Active	2043	ATU Softball Field	Basins 17,18,20, & 21	RV20	2014
Active	2046	West R & N Glenwood	Basins 17,18,20, & 21	RV20	2014
Active	2048	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	2050	West O & Glenwood	Basins 17,18,20, & 21	RV20	2014
Active	2276	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	2314	ATU Softball Field	Basins 17,18,20, & 21	RV20	2014
Active	2808	E 5th & S Erie Ave	Basins 12,19 & 24	RV24	2017
Active	2814	S Phoenix & W 2nd St	Basins 7,14 & 23	RV14	2012
Active	2815	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	2816	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Active	2817	ATU Pasture	Basins 17,18,20, & 21	RV20	2014
Pending	2859	311 W. B	Basins 7,14 & 23	RV23	2012
Active	3026	2501 W 2nd St.	Basins 17,18,20, & 21	RV17	2014
Active	3027	2507 W 2nd St.	Basins 17,18,20, & 21	RV17	2014
Active	3043	N Hunter Ridge Ln	Basins 17,18,20, & 21	RV18	2014
Active	3052	102 N Fairbanks	Basins 17,18,20, & 21	RV17	2014
Active	3075	3801 W Main	Basins 17,18,20, & 21	RV18	2014
Active	3094	Portland & Main	Basins 17,18,20, & 21	RV18	2014
Pending	3114	106 S. Hastings	Basins 17,18,20, & 21	RV18	2014
Active	3133	243 Enid Ave	Basins 17,18,20, & 21	RV17	2014
Active	3191	John Trusty Lane	Hydraulic Cap Improv	RV18	2013

APPENDIX G
MAINTENANCE VEHICLES AND
MAJOR EQUIPMENT



City Corporation Fleet Listing

Vehicle #	Description	Operation
502	2006 Chev. Silverado	2
503	1999 International 4700 Dump	4
504	1995 Ford F800 Dump	1
505	2007 Ford F150 (8cyl)	5
506	2008 Ford F350	1
507	2013 John Deer Minix	1
508	2003 New Holland LB75.B Backhoe	1
509	1997 Sullair 185DLG (542)	1
510	2006 International 420 Diesel Pickup	1
511	2009 Ford F150	1
514	2000 Dodge 1/2 Ton	4
515	2007 Ford F150 (6cyl)	7
517	2010 Ford Ranger	1
518	2000 Ford TC35D Tractor	4
519	2007 Ford F150	4
520	1998 Chevrolet 1/2 Ton 1500	3
521	2004 Chevrolet 1500	6
522	2005 Chev SC1 Pickup	6
523	2007 Ford F150	6
526	2009 Ford F150	6
527	2008 Ford F250	5
528	2002 Ford F350 4x4	1
529	1986 Ford 2110 4x4 Tractor	4
530	1995 New Holland Skid Loader	4
531	2009 Ford F250	1
532	2005 Chev SC1 Pickup	5
533	2005 GMC 2KH Pickup	5
538	1993 Case 1845C Uniload	2
539	2004 Sreco Jetter	1
540	2003 International 4200 Diesel	1
541	2004 International 4200 Diesel	1
542	2010 Freightliner M2106	1
543	1995 Ford F700 Flatbed	1
544	2008 Ford F350 Diesel	1
545	2004 New Holland LB75.B Backhoe	1
546	1997 International 2 Ton Flatbed Dump	1
555	1998 Ford 555E Backhoe	1
556	2005 case 580M Backhoe	1
558	2007 SECA Model 747FR2 Jetter/Cam Tr.	1
559	2007 Tex-Mex 14' Trailer	5
560	1996 Alumacraft MV 1650 AW Boat	2
601	1992 Hudson Trailer	1
602	1992 Hudson Trailer	1
603	2005 Holden Model HCZ Trailer	1

City Corporation Fleet Listing

Vehicle #	Description	Operation
604	2000 Tiger-Vac	1
605	2007 Kubota RTV	4
606	1994 Justin C Trailer 6x14	1
607	2005 Holden Model HCZ Trailer	1
608	1996 Gooseneck Trailer	5
609	1995 Sullair Compressor 540	1
610	1995 Sullair Compressor 541	1
611	1989 Wells Cargo Trailer	1
612	1986 Light Boat Trailer	2
613	2010 Trailmaster 14' Trailer	4
614	1996 M-F Tractor	2
616	1995 CRLY Utility Boat Trailer	2
617	2007 Kubo RTV	2
618	2001 Troy Built 50" Mower	2
619	1996 Sullair 185 543	1
620	2013 ECO-III Sewer Cleaner/Trailer	1
621	1999 Easement Cleaner	1
622	1999 Sreco Seca Trailer	1
623	1999 Big Tex Dump Trailer	1
624	1999 Kodiak Trailer	2
625	2004 Husqvarna Lawn Tractor	1
626	2005 Cherokee Enclosed Trailer	1
627	1991 Toro Proline 52" Mower	2
628	2003 MEBT U Trailer	5
629	2006 Bad Boy Mower	5
630	2006 John Deere X500 Mower	2
631	2003 125 Geneartor RE02JB	4
632	2003 500 Generator	4
633	2009 125 Geneartor GCT-2E-11400	4
634	2009 10' Big Bee Rotary Cutter	2
	Black 16' Trailer (Kept at Const. Shop)	1
636	Gator Gam Push Camera	1

- 1 Construction Dept
- 2 Water Plant
- 3 Con-Agra PTP
- 4 Wastewater Plant
- 5 Maintenance
- 6 Office-Service
- 7 NOC

APPENDIX H

SPARE PARTS INVENTORY



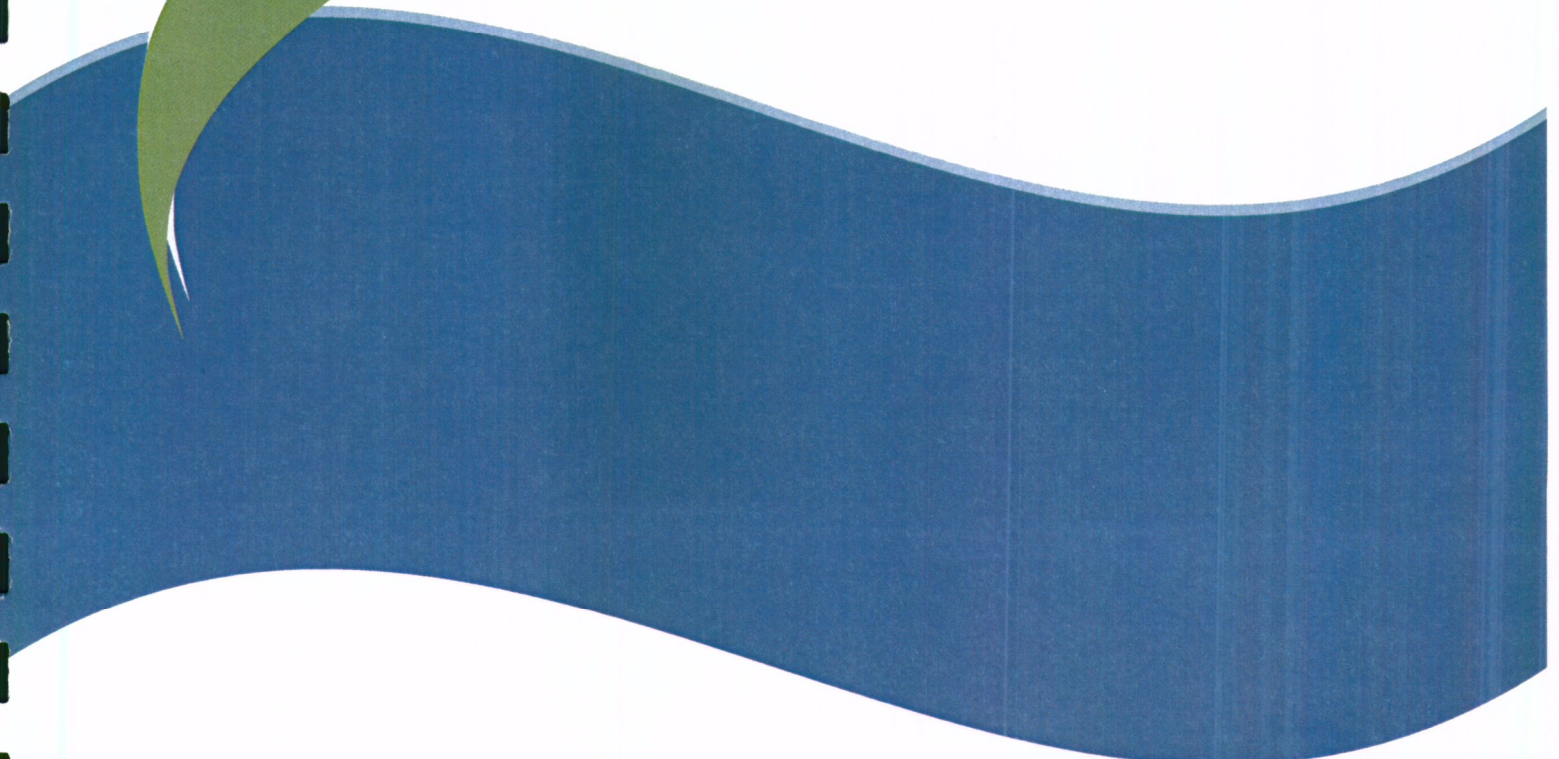
City Corporation Spare Parts Inventory

No.	Item2	Quantity
1	Radio for Scada PAC MDS 4710/S.N.1486560	1
2	Shaft Sleeve for Flygt Pump Part # 52-109-473-001	1
3	Rail Guides for Grinder Pump Station	1
4	Scad PAC S.N. 5015705.	1
5	Cramer Hour Meters Model # 6x137	1
6	Bushing Material for Air Lift Disc at the PCW Porgy 2.375x3.75	1
7	Complete Capacitor Package for 2hp single phase 230 v grinder pump	7
8	Capacitor # 97F9632 440 VOLTS 50/60HZ (Fits all sewer lift stations)	7
9	Capacitor # 12141A006 220 VAC. 50/60 HZ	2
10	Capacitor # 12141A000 250 VAC. 50/60 HZ	2
11	Capacitor #97F9633 440 VAC 50/60 HZ	1
12	Capacitor #97F9264 410 VAC 50/60 HZ	1
13	Relay # 3ARR22J15M3	3
14	O-Ring kit for Flygt Pump	2
15	Rebuild Kits for 2inch Air Relief Valves	4
16	Transducer Serial # 2007/PBD/1V3090029	1
17	Transducer Serial # PBD / W 5140518	1
18	Transducer Serial # PBD/ W 7080013	1
19	2 inch air release valves for sewer force mains	3
20	Myers 5 Horse Power 1750 RPM Pump. Spare for Rim Rock	1
21	Complete Rebuild Kit for a Residential Grinder Pump Station	1
22	Myers 2 Horse Power 230 Volt Grinder Pump	1
23	4715 Sewer Service Saddle Romac 4.63	13
24	4723 Furnco Plastic x Plastic 4"	10
25	4731 Furnco Clay x Plastic 4"	38
26	4758 Furnco Plastic x Plastic 6"	17
27	4766 Furnco Clay x Plastic 6"	38
28	4774 Furnco Plastic x Plastic 8"	39
29	4782 Furnco Clay x Platic 8"	80
30	4790 Furnco Plastic x Plastic 10"	21
31	4804 Furnco Clay x Plastic 10"	2
32	4812 Furnco Plastic x Plastic 12"	5
33	4820 Furnco Clay x Plastic 12"	6
34	4839 Pipe PVC SCH 40 4"	722
35	4847 Pipe PVC SDR 26 6"	301
36	4855 Pipe PVC SDR 26 8"	57
37	4863 Pipe PVC SDR 26 10"	33
38	4871 Pipe PVC SDR 26 12"	106
39	4898 Manhole Riser STD. DIA. 1.5"	27
40	4901 Manhole Riser STD. DIA. 2"	20
41	4928 Manhole Riser STD. DIA. 3"	0
42	4936 Manhole Riser STD. DIA. 4"	6
43	4944 Manhole Riser STD. DIA. 6"	3
44	4952 Manhole Riser STD. DIA. 8"	0

45	4960 Manhole Riser STD. DIA. 10"	0
46	4979 Manhole Riser STD. DIA. 12"	0
47	4987 Reg Manhole Top Ring	5
48	4995 Flat Top Manhole Ring	1
49	5002 Manhole Lid STD. DIA.	13
50	5010 Sondes Green Marker	81
51	5517 Manhole Riser Ring 2.5"	21

APPENDIX R

GREASE TRAP INSPECTION SCHEDULE



GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
7-40 Super Club	2807 N.Arkansas	P.O.Box 601 Rsvl.Ar.72811-0601	Bob Horton 970-9750	GT 0061	12	Reed's	4/12/2013
Abu's Gyros	605 N.Arkansas	Rsvl. 72801	Marwan Aboul-Zelof 619/316-5710	GT 0014	6	TRS	10/29/2012
Ahrens Fourt St. Laundry	320 E. 4th. St.			GT 0178	12	TRS.	7/5/2013
Arby's	915 E.Main	U.S.Beef Corp.4923 E.49th.St, Tulsa, OK 74135	Wilma 501) 562-7106	GT 0029	6	Brooks	7/31/2013
Arby's (1000gal's)	2323 N.Arkansas	U.S.Beef Corp.4923 E.49th.St, Tulsa, OK 74135	Shelley Hughes 857-6824	GT 0054	6	Brooks	10/31/2013
Ark. State Highway Dept.	370 E. Aspen Ln.	P.O.Box 70 Rsvl. Ar. 72811	Monte 968-2286	GT 0012	12	Roto-Rooter	3/14/2013
ATU, Chambers	204 W. O St.			GT 0187			
ATU. Williamson Bldg. (nis)	1205 N.El Paso	ATU.Physical Plant Rsvl. 72801	Brian Lasey 968-0261	GT 0157	12	Reeds	8/15/2011
ATU Techionery	306 W. O. St.	3000 gals.		GT-0175	6	TRS.	1/8/2014
ATU. Baswell Hall	1204 N. El Paso Ave.	1000 gals.		GT 0200	6	TRS>	09/25/201
Best Auto Sales	3015 S.Arkansas Ave.	1000 gals.	cleaned 12/20/13	GT 0203		inactive	inactive
Brangus	1509 E.Main	Russellville,Ar.72801-5326	Mike/Matt Brady 968-1999	GT 0147	3	TRS	1/2/2014
Brick Oven Pizza	401 S.Arkansas Ave.	Ruvl. Ar.72801	967-7900	GT 0125	6	Murdock	9/16/2013
Brock's Dog House (nis)	113 N.ElPaso	Russellville,Ar. 70801	Richard Bucher 967-3557	GT 0159	12	Ford Mgt.	10/31/2012
Brookfield Inn	2407 N.Arkansas		Christy Millsaps 968-4300	GT 0052	6	TRS	11/26/2013
Brown's Catfish	1804 E.Main	Alvin Brown DBA. P.O.Box 487, Russellville, AR 72811	Alvin Brown 968-3360	GT 0037	12	Murdock	3/27/2013
Burger King	1420 E.Main	Circle N Investment 2900 Grand Ave.Ft. Smith, AR 72901 479(783-8880)	John 970-1602	GT 0034	6	Roto-Rooter	6/19/2013
Burger King 3064	2306 N.Arkansas	Circle N Investment 2900 Grand Ave.Ft. Smith, AR 72901 479(783-8880)	John Jennings 479/970-1602	GT 0055	6	Roto-Rooter	8/9/2013
Cash Saver (three guy's)	3301 W. Main St.	Skyline Joint Ventures	Diane Dollar 968-2559/264/4232	GT 0064	12	TRS	9/5/2013
C.J.Burgers	2803 N.Arkansas	Russellville,Ar. 72802-8986	Richard Wilson 968-2300	GT 0060	12	Roto-Rooter	6/12/2013
The Carpet Shack	1512 S Arkansas Ave		Rick Latham 967-7748	GT 0122	0	inactive	Inactive
Catherin's Cake	311 W.B.St.	Russellville,Ar.72801 (cell 223-2319)		GT 0127	12	TRS.	12/4/2012
Central Presbyterian	400 W.Main	Russellville,Ar.72801-3794	Dough 968-1238	GT 0015	12	Murdock	4/15/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Central Rentals	105 N. Sidney	Sand/Oil separator	Mike Mayo 870/ 365-0401	GT 0197	12	new trap	5/15/2013
Chick Fil A	3089 E. Main St.			GT-0171	6	TRS.	8/13/2013
Chinesse Rainbow Tree 88	107 N. Elmira Ave.	Russellville, Ar. 72802	Amy 917) 251-9669 / 880/8887	GT 0080	6	TRS	6/20/2013
Cogswell Colision Center	202 N. Sidney Ave.		Pat Johnson 968-4471	GT 0153	12	Murdock	8/14/2013
Cogswell River Valley Trucks	2911 S. Arkansas Ave.		Joey Barrett 479/ 498-7846	GT 0184	3	Roto-Rooter	5/13/2013
Community Development Inst.	507 N. Elmira Ave.		Sandra Johnson 567-5629	GT 0149	12	Murdock	10/17/2013
Church of Christ West-Side	2300 W.C.st.	Russellville, Ar. 72801-2503	Frank Foster 880-6845	GT 0025	0	Murdock	inactive
Cici's Pizza (nis)	3063 E. Main Ste.C	BFE Pizza DBA. 217 Gate House Rd. Hot Springs, AR 71913	Mark Groff 501) 620-0626	GT 0155	3	Lyles Co.	12/2/2013
Colton's Steak House,	2320 N Arkansas	5 Shackelford Plz. Ste. 100, Little Rock AR 72211-1889 Randy Bell	Alison Frazier 880-2333	GT 0056	6	Brooks	10/31/2013
Cracker Barrell	211 E. Harrell Dr.	P.O.Box 787 Lebanon, Tn. 37088-0000	968/5983	GT 0022	6	TRS.	9/20/2013
Cracker Box	801 N. Arkansas	110 Cracker Box Ln. Hot Springs, AR 71913-		GT 0154	0	Inactive	Inactive
Cumberland Presbyterian	1200 N. Arkansas	Russellville, Ar. 72801-2939	Gene 968-1061	GT 0124	12	Murdock	4/22/2013
Dairy Queen	2007 E. Main	Russellville, Ar. 72802-5361	Christina 858-6420	GT 0048	3	Brooks	11/12/2013
Dixie Café	105 E. Harrell Dr.	1000gals.	968-4800	GT0023	6	TRS.	11/26/2013
Dos Rios Mexican	2211 N. Arkansas	Russellville, Ar. 72802-2217	Juan Enriguez 903/217-4204	GT 0057	0	CLOSE	Inactive
El Parian	2621 W. Main	Ste. 1 Russellville, Ar. 72801-2551		GT 0028	0	CLOSE	Inactive
Exxon Tiger Mart	203 S Arkansas	P.O.Box 1330 Beebe, Ar. 72012-1330	Corp. 501/ 882-5220	GT 0123	12	TRS.	9/5/2013
Exxon S & F Fuel	1103 E. 16th St.	P.O.Box 267 Rsvl. 72811-0267	Ali 967-2676	GT 0031	12	Roto-Rooter	4/11/2013
E-Z Mart (Shell)	3102 S. Arkansas Ave.		Not being use. No cooking				Inactive
Fat Daddy BBQ (nis)	7206 Hwy 64 S.	not in the system		GT0159	12	TRS.	9/6/2013
Firehouse Subs	2005 N. Arkansas Ave.		Robert Burnett 479) 264-2851	GT 0196	2	TRS.	9/26/2013
First Assembly of God	124 E. G. St.	Russellville, Ar. 72801-3822	Diane 968-2622	GT 0005	6	TRS.	10/17/2013
First Baptist Church	200 S. El Paso	P.O.Box 36 Rsvl. 72811	Darren Richardson 968-1316	GT 0017	3	Roto-Rooter	11/12/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Fletcher Oil (Shell)	2325 N. Arkansas Ave			GT 0193	6	TRS.	10/30/2013
Freedom House	400 Lake Front Dr.	Rsvl.72802 Gary Rhodes 857-4369 cell	Martice 968-7086	GT 0069	6	TRS	9/6/2013
Friendship Apts.	1010 E. M St.	Grace House	Sam 264-0511	GT-0170	12	Roto-Rooter	
Flying J (Denny's Rest.)	43 Bradley Cove Rd.	Russellville,Ar. 72802 2000gals	Diana Brixley 498-2390	GT 0057	3	Lyles 501/227-9042	10/1/2013
Flying J	43 Bradley Cove Rd.	Sand/oil separator tank farm	Keith Puttman	GT 0194	6	Tenn.General	11/2/2013
Gambino's Pizzeria	2410 E. Main St.	501/365-6805/6630	Michael/Marianne Warth	GT-0072	0	inactive	Inactive
Hardees	1201 W Main	Nicholas Shutgot Saddle Peak LLC., PO Box 7971 Madison, WI 53791	Kim 968-6300	GT 0026	6	Roto-Rooter	11/6/2013
Hardee's	3095 E. Main	" " " " " " " " " "	Twila Hurtado 890-5986	GT 0043	6	Roto-Rooter	11/6/2013
Harp Foods	100 S.Knoxville	P.O.Box 48 Springdale,Ar.72765-0048	Donnie Sims 967/4345	GT 0030	6	Bud's Inc.	8/14/2013
Health Food Garden	2621 W.Main		Brenda/ Gene 498-2884	GT 0028	12	Murdock	2/6/2013
Hob Nob Shell (nis)	20 Bradley Cove Rd.	1000 gals.		GT0158	12	TRS	10/30/2012
Hog Wild Family Fun Center	301 N.Sidney Ave.	Rsvl. Ar. 72802	Buddy Grimms 479/264-6260	GT 0049	12	TRS	8/26/2013
Huynh Li Hua	1107 N.Arkansas		KC 954) 600-9826	GT 0009	6	TRS	5/31/2013
Inglesia LaLuz Mondo Church	1412 S Arkansas	Russellville,Ar. 72801-6767	Walter Morales 479/747-6271	GT 0101	12	TRS	3/23/2013
I-Hop	401 E.Harrell Dr.	Russellville,Ar. 72802-2276	Sandi Street 972) 420-1902	GT 0021	6	Value Stream	12/18/2013
Imperial Catering	1310 S.Elmira	Rsvl. 72802-9648	Bob Wylie 877/836-0155	GT 0038	12	Reed's Septic	4/13/2013
Italian Gardens	315 W.Main	Rsvl. 72811	Spence 967-1707	GT 0016	6	TRS	9/6/2013
Jackson Brothers Vending	1601 S Knoxville	CLOSE		GT 0032	0	Inactive	Inactive
Johnny's Ice Cream	2405 E.Parkway Dr.			GT 0044	6	TRS	8/23/2013
Kentucky Fried	720 N.Arkansas	600 Edgewood Dr. Maumelle, Ar. 72113	Peachy 968-1568	GT 0006	12	Lyles	6/8/2013
Kroger 617	2804 S Arkansas	Close		GT 0087	0	Inactive	Inactive
Kroger 624	1111 W.Main	P.O.Box 290396, Nashville, TN 37229	Patsy Kenedy 901/765-4208	GT 0027	3	Lyles	12/2/2013
La Chiquita Meat&Deli	1509 E.Main St. Ste3	Russellville,Ar. 72801-5350	Maria Navarro 890-9402	GT 0050	12	TRS.	8/14/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
La Huerta	1500 E.Main	Russellville,Ar. 72801-5327	Robert cell: 747-2105	GT 0036	3	TRS	10/9/2013
La Huerta (Mathias Shopping)	2005 N.Arkansas	Ste.1 Russellville,Ar. 72802-2214	880-9111 (1000gals)	GT 0058	3	TRS	10/9/2013
Latino Market	517 S.Arkansas Ave.		Jose 967-4188/4288	GT 0160	12		5/31/2013
La Villa Italian	1312 N.Arkansas	479) 968-6285	Ray Perolli	GT 0003	6	TRS.	10/23/2013
Las Palmas II	615 N Arkansas	Russellville,Ar. 72801-3845 886-2807	Jaime Atilano D.B.A.	GT 0013	6	TRS	11/4/2013
Legacy Heights Nursing	900 W.12th St.	Russellville,Ar. 72801-6699	Rebecca Brashear 968-5858	GT 0065	2	Murdock	9/3/2013
Linh Vietnames Noodle Soup	624 S.Knoxville	Russellville,Ar. 72801-6419	Phuong Linh Phan 479/ 221-0392	GT 0126	6	TRS	9/6/2013
Little Caesars	407 N.Arkansas	Ste.14 7500 Landers Rd., North Little Rock, AR 72117-1609	Robin Rohloff 501/833-9444	GT 0067	6	Roto-Rooter	12/13/2013
Long John Silvers	916 N.Arkansas	Rsvl. 72801	968-6040 (Charale)	GT 0004	6	Brooks	10/31/2013
Madame Wu's	914 S.Arkansas	Russellville,Ar. 72801-6012	968-4569	GT 0018	2	TRS.	11/22/2013
Main Street Donuts	3415 W.Main St.	Rsvl.		GT 0119	6	TRS	9/20/2013
Main Street Mission	1110 E.2st.	Jeff Jones	968-8303	GT 0033	12	TRS	11/3/2013
Market 311	311 S.Arkansas Ave.	Talkington Trust		GT 0181	6	Inactive (close)	11/8/2011
McAlister Deli	319 Weir Rd.	1000 gal.new grease trap 7/1/2010		GT 0046	6	Lyles Co.	9/4/2013
McDonald's	81 SR 331N	808 W .B.St Rsvl. 72801-3610	Vicky Sykes 967-9393	GT 0041	6	Roto-Rooter	12/2/2013
McDonald's	1122 N.Arkansas	808 W .B.St Rsvl. 72801-3610	Bradley Allen 968-2292	GT 0002	6	Roto-rooter	12/2/2013
MiChild Rvvl.(Friendship)	1301 Russell Rd.	P.O.Box 2109 Rsvl. 72811-2109	Sam Kreun 264-0511	GT 0063	3	TRS.	11/4/2013
MKJ	4480 E.Main St.	Rsvl. Ar. 72802	Roxanne DeMarco 967-0227	GT 0040	6	Roto-Rooter	12/31/2013
The Oak Tree Bistro	2725 E. Parkway Ave.	Special Stainless Steel GT.	Miller Susan	GT 0185	2		8/1/2013
Mulan's	2790 E. Parkway	Russellville,Ar. 72802-2006	Jim Ni 880-8080	GT 0107	3	TRS.	8/16/2013
Neighborhood Roofing	1122 Bradley Ln.	owner Jeff Hawkins 479/ 967-8768		GT-0176		inactive	
New China(MathiasShopping)	2005 N.Arkansas	203 E.Elm St.Rsvl. 72802-8913	Andy Zhang 968-8881	GT 0108	3	TRS.	1/8/2014
New Prospect Baptist Church	321 S.Houston Pl.	P.O.Box 2021 Rsvl. 72811-2021	Andy Hatley 970-8315	GT 0020	12	TRS.	2/26/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Old South	1330 E.Main	Russellville,Ar. 72801-5323	James Austin 968-3789	GT 0035	3	TRS.	12/16/2013
Oumami	1107 N.Arkansas	Russellville,Ar. 72801-2937	Johny 857-3464	GT 0009	12	inactive	Inactive
Oumami	304 N.Elmira Ave.	Rsvl. 72811	Amy 857-3464	GT 0111	12	TRS	9/9/2013
Outdoor Living Center RV.	10 Outdoor Ct.	Lint trap	Ricky 968-7705	GT 0141	12	Murdock	3/13/2013
P.D.Q. East	2215 E.Main	Frank Griffin Oil PO Box 666 Rsvl. 72811	Sherrie Leavell 968-3939	GT 0112	3	TRS.	7/24/2013
P.D.Q.South	2750 S Arkansas	P.O.Box 666 Rsvl. 72801	Tammy Brook 890-5392	GT 0113	12	TRS	4/1/2013
Ozark Pizza (Papa John)	700 W.Main	Ark. Pizza Grp. Angie 858-7272 700 Northshore Pl. N.L.R 72118-5298	inside grease trap Roto Rooter	GT 0114	6	Roto-Rooter	5/28/2013
Papa Murphy's	420 N.Arkansas Ave.	Rusl. Ar. 72801 968-7272		GT 0007	12	TRS.	9/20/2013
Parker Place Apts.	1401 Parker Rd.	890-9708	Lint trap	GT 0199	12		3/6/2013
Pilot Travel (Sand/Oil Sep.)	215 SR.331 N.	P.O.Box 182181,Columbus,Oh.43218	Keith Putnam 967-7414	GT 0160	6	Tenn.General Const	11/2/2013
Pizza Hut	502 N.Arkansas	330 E.Madison Ave.Ste. B-10, Derby, KS. 67037	Nancy Pitt 479/890-5555	GT 0117	12	Roto-Rooter	8/27/2013
Pizza Pro (1000 gal's)	218 E.Parkway	P.O.Box 1285 Cabot,Ar.72023-1285	Diane 1-800) 777-7554	GT0008	6	Murdock	6/18/2013
Pope County Detention Center	3 County Complex	Russellville,Ar. 72801	Kenneth Wells 968-2558	GT 0047	6	Roto-Rooter	9/23/2013
Popeyes Chicken (Pollo LLC)	2411 E.Parkway	Russellville,Ar. 72802	Steve Duvall 479/857-5573	GT 0068	3	Value Stream	10/14/2013
Johnny's Ice Cream	2405 E.Parkway	Russellville,Ar. 72802	John Bucher 857-4274	GT 0044	6	Roto-Rooter	2/14/2013
Pupuseria Xiomara	416 S.Knoxville	Rsvl. Ar. Behind bldg.in the grass (750gls)	970/5430	GT 0001	12	TRS.	1/29/2013
Quick Truck Wash (nis)	43 Interstate Ave.	Rsvl.72802	Ida Jackson 968-9131	GT 0152	3	Reed's	1/1/2014
Quiznos	407 N.Arkansas	Ste.3 P.O.Box 814 Rsvl.72811-0814	Robert Ford 479/970-9388	GT 0072	12	new trap	1/8/2014
River Valley Equipment	2911 S.Arkansas Ave.				6	Roto-Rooter	11/21/2013
Ruby Tuesday	115 E Harrell Dr.	150 W. Church Ave.Maryville,Tn.37801	858-7151	GT 0073	3	Lyles	12/10/2013
Rsvl. Centervalley School	1204 SR. 124	Jaime Thomas 968-1306	Kelly 968-1650	GT 0151	12	TRS.	3/21/2013
Rsvl. Child Development	507 N. Elmira Ave.	2707 E. H.St.Rsvl, 728	Sandra Johnson 567-5629	GT 0045	12	Murdock	3/16/2012
Rsvl. High School	2203 S.Knoxville Ave.	Jaime Thomas 968-1306		GT 0039	6	TRS.	7/25/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Rsvl. Junior High	2000 W.Parkway Dr.	P.O.Box 928 Rsvl. Ar.	Jaime Thomas 968-1306	GT 0075	6	TRS.	7/25/2013
Rsvl. Middle School	1201 W 4 th.St.	P.O.Box 928 Jaime Thomas 968-1306	Wesley Roach 968-1650	GT 0076	6	TRS	9/6/2013
Rsvl..Nursing Rehab.	215 S.Portland	P.O.Box 1588 Rsvl. 72811-1588	Bro Price 968-5256	GT 0078	3	TRS	8/12/2013
Rsvl Nursing (ATU)	1700 W.C.St.			GT 0077	0	Inactive	Inactive
Rsvl..Country Club	186 Country Club Plz.	P.O.Box 1143 Rsvl. 72811-1143	Tanya acct.pay. 968-1139 ext.4	GT 0079	6	Roto-Rooter	8/25/2011
Rsvl. Superstop	1600 S.Elmira	Russellville,Ar. 72802-8452	498-2230	GT 0093	12	Roto-Rooter	3/10/2013
Second Time Around	713 E.4th.St.	Used appliances	890-8045	GT 0082	0	Inactive	Inactive
Senior Center(Friendship)	1010 N.Rochester	Rsvl.Ar. 72801 968-5039	Sam Kreun 264-0511	GT 0083	3	TRS.	12/9/2013
Shipley Donuts	407 N.Arkansas	1000 gals. Caetra Yok 880-0885		GT 0179	6	TRS	1/11/2013
SKK Italy	331 Weir Rd.		Al owner 661)549-4452	GT 0096	6	TRS	10/3/2013
Sonic	3003 E.Parkway	Rsvl.72802-2004	Ken Bilyeu 968-8631	GT 0084	12	TRS	4/17/2013
Sonic	806 E.4th.St	2505 W.Main Rsvl. 72801-2532	Ken Bilyeu 968-8631	GT 0085	12	TRS.	7/1/2012
Sonic	2505 W.Main St.	2505 W.Main Rsvl. 72801-2532	Ken Bilyeu 968-8631	GT 0086	12	TRS	4/17/2013
Southern Skies	1019 N.Arkansas	600 W. J St. #2 Rsvl. (hookah lounge)	Pranav Khera 747-3263	GT 0109		TRS	Inactive
Sportsworld	3700 W.Main	Russellville,Ar. 72802	David Hyde 968-1122	GT 0088	12	Murdock	4/10/2013
St.Mary Hospital	1800 W.Main St.	P.O.Box 3050 Rsvl. 72811-3050	Craig Neal 964-9269	GT 0089	6	Roto-Rooter	1/3/2014
Starbucks	2220 E Parkway	mcatudal@starbuck.com (Micheal)	Heather Hall 967-2488	GT 0090	3	Murdock	10/1/2013
Stella Manor	400 N.Vancouver	Russellville,Ar. 72801-2720	Brad 968-4141	GT 0091	6	Murdock	7/31/2013
Subway's	2410 E.Parkway	56 Bowers Loop,Dover,Ar.72837-8777	Melisa Cross 968-7976	GT 0092	12	Roto-Rooter	7/23/2013
Subway's (Pilot Travel Center)	215 SR.331 N.	P.O.Box 182181,Columbus,Oh.43218	Keith Putnam 967-7414	GT 0160	6	Tenn.General Cons	2/22/2011
Suds Car Wash	1020 N.Arkansas Ave.	Signature Bank of Arkansas	John Krochcke 964-9887	GT 0179	6	Murdock	5/22/2013
Superfast Lube & Oil	1301 E. Main St.	Rsvl. Ar. 72801	Bobby Gipson 968-8761	GT 0148	12	Roto_Rooter	1/25/2013
Sue Wee 2	422 S.Arkansas	Russellville,Ar.72801-5902	968-6802 Sue Meadows	GT 0019	12	TRS	5/31/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Taco Bell # 346	301 N.EIMira Ave.	P.O.Box 6538 Ft.Smith 72906-6538	967-2121 Christa	GT 0094	6	Drain Master	10/7/2013
Taco Bell # 345	1308 N.Arkansas Ave.	Rsvl. 72801 968-7444	Chris Gosh 479/806-3894	GT 0095	6	Drain Master	10/7/2013
Taco John's	1103 N.Arkansas	Russellville,Ar. 72801-2937	Jerome Minaham DBA 967-1985	GT 0097	12	Murdock	5/29/2013
Taco John's	1819 E.Main St.	Rsvl.72802	Patrick Minaham	GT 0098	12	Murdock	5/29/2013
Taco Villa	420 E.4th.St.	Russellville,Ar. 72801-5219	Kit Kitterman DBA. 968-1191	GT 0099	3	TRS.	1/7/2014
The Cake Place	411 W. Parkway Dr.		Patti 968-8945	GT 0191	12	TRS.	4/1/2013
The Cake Place	411 W Parkway	Russellville,Ar. 72801	Patti	GT 0115	12	TRS.	4/1/2013
The Oak Tree Bistro	2725 E. Parkway Ave.	Stainless Steel GT 500gals		GT 0192	6	Brooks	5/30/2013
The Health Food Garden	2621 W.Main		Brenda 964-9355	GT 0028	12	Murdock	2/6/2013
Three Guy's Inc.(Cash Saver)	3301 W. Main St.	Rsvl.	Jessie Emerson 967-4466	GT 0064	12	Williams	3/23/2013
Tiger Mart # 106 (Exxon)	2402 N. Arkansas Ave.	Rsvl. 72811	968-2966	GT 0053	12	TRS.	9/5/2013
Tyson (TVDC)	4820 E.Main	Rsvl. Ar. 72801	Mark Johnson 964-8124	GT0166	12	Roto-Rooter	7/23/2013
Tyson Truck Shop	5050 E.Main	ronnie.keene@tyson.com 964-8160	Crystal Clean 877/ 938-7948	GT 0183	6	Crytal Clean	6/6/2013
Varizon Phone(Mr.Burger)	1710 E.Main	Not in use	formerly Mr.Burger not in use	GT 0102	0	Inactive	Inactive
Venezia's Pizzeria &Pasta	1321 E.Main St.			GT 0051	6	TRS.	11/22/2013
Waffle House #1410	3085 E.Parkway	Ozark Waffles llc.P.O.Box 6450, Norcross, GA. 30091 Melony for both stores	Michelle Harness 1-866/327-4362, Local 968-3382	GT 0042	3	Value Stream	1/1/2014
Waffle House # 897	2408 N.Arkansas	5305 McClanaham Dr. Ste.1, North Little Rock, AR 72116-7001	1-866/327-4362, Local-968-3444 Crystal	GT 0103	3	Value Stream	10/2/2013
Wal-Mart (2 ea.grease traps)	2409 E. Main	P.O.Box 8042 Bentonville,Ar.72712-8042	Roxanne Wolf 967-9777	GT 0104	3	Liquid Enviromental	7/22/2013
2000 gal's West side	GT 0104	1000 gal's North side GT 0105		GT 0105	3	Liquid Enviromental	7/22/2013
Wal-Mart Oil Separator	1000 gal's	Wendy Widner 479/204-2030	Oil- Water Separator	GT 0106	6	January Envir.	10/1/2013
Waste Mgmt.	88 Joyce Ln.	Sherry 968-0540	Oil-Separator	GT 0187	3	FCC	11/25/2013
Wendy's #45	215 SR.331 N.	42 Parkstone Cir.Norht Little Rock 72116	Corp. 501/ 372-2000	GT 0059	6	3-D Plumbing	12/16/2013
Wendy's # 10	721 N Arkansas	Fourjay llc.42 Parkstone Cir.N.Little Rock 72116-7086	Gary 857-1571	GT 0011	6	3-D Plumbing	11/27/2013

GREASE TRAP - FACILITY LIST

Customer	Address	Billing Address	Contact	Serial #		Pumper	Date Pumped
Western Sizzlin	1105 E.Main	3492 W.Sunset Ave.Springdale, AR 72762-4900	Joe 479/751-3663	GT 0118	3	TRS.	11/18/2013
West Main Donuts	3415 W.Main St.	Mark 880-9308		GT 0119	3	TRS	3/23/2013
West Side Church of Christ	201 N. Waco	Rsvl 72801 (2300 W.C.St.)	Frank 968-1121/6565	GT 0120	12	Murdock	1/8/2014
Wind Taste	715 N. Arkansas Ave.		Yung Yang Ni 857-6969	GT 0187	6	TRS.	9/10/2013
Wildflower Retirement	240 S.Inglewood	Emeritus Corp.3131 Elliott Ave.Ste.500	Roberta Gill 890-6709	GT 0121	3	TRS	12/9/2013
Yates Htg & A/C Inc.	1605 S.Elmira Ave.	owner Robert Simpson 886-0102	Carl & Mary Yates 495-9741/40	GT-0177	0	Inactive	Inactive

APPENDIX S

PRIVATE DEFECT LIST



**Cleanout Cap Program
Infiltration Contributors List**



	Order #	Service Address	Req Repair	Notice	Due Date	Inspection	Compliant	CC Repair
1	419236	1019 E Gum St	cleanout assembly	9-Oct-08	3-Nov-08	21-Nov-08	Yes	
2	419243	503 E Fir St	cleanout assembly	9-Oct-08	3-Nov-08	21-Nov-08	Yes	
3	415222	601 E Fir St	service line	9-Oct-08	3-Nov-08	20-Oct-08	Yes	
4	415236	612 Twin Oak Dr	cleanout assembly	9-Oct-08	3-Nov-08	28-Oct-08	Yes	
5	421471	603 E Gum St	cleanout & service	9-Oct-08	3-Nov-08	22-Dec-08	Yes	
6	415238	604 E Holly St	cleanout & service	9-Oct-08	3-Nov-08	20-Oct-08	Yes	
7	415239	141 Sandstone Dr	service line	9-Oct-08	3-Nov-08	4-Nov-08	Yes	
8	415240	30 Hamco Cir	cleanout assembly	9-Oct-08	3-Nov-08	14-Nov-08	Yes	
9	415241	703 Shadow Dr	cleanout assembly	9-Oct-08	3-Nov-08	28-Oct-08	Yes	
10	419245	32 Crystal Dr	cleanout assembly	9-Oct-08	3-Nov-08	20-Nov-08	Yes	
11	415254	308 E Gum St	service line	9-Oct-08	3-Nov-08	13-Nov-08	Yes	
12	415255	306 E Gum St	service line	9-Oct-08	3-Nov-08	24-Oct-08	Yes	
13	415257	315 E Fir St	service line	9-Oct-08	3-Nov-08	30-Oct-08	Yes	
14	422983	312 E Gum St	cleanout & service	9-Oct-08	6-Jan-09	6-Jan-09	Yes	
15	415259	313 E Fir St	service line	9-Oct-08	3-Nov-08	20-Oct-08	Yes	
16	415261	704 E Fir St	cleanout assembly	9-Oct-08	3-Nov-08	3-Nov-08	Yes	
17	415262	3010 N Hartford Ave	cleanout assembly	9-Oct-08	3-Nov-08	14-Oct-08	Yes	
18	423523	4100 W Main St	multiple/trailer park	15-Oct-08	19-Jan-09	12-Jan-09	Yes	
19	418895	PO Box 570	multiple/trailer park	16-Oct-08	12-Nov-08	14-Nov-08	Yes	
20	424534	3640 E Main St	multiple/trailer park	16-Oct-08	19-Jan-09	20-Jan-09	Yes	
21	417488	2615 W Main St	multiple/trailer park	16-Oct-08	14-Nov-08	27-Oct-08	Yes	
22	417486	312 E Fir St	service line	24-Oct-08	24-Nov-08	28-Oct-08	Yes	
23	420827	1302 E M St	cleanout assembly	30-Oct-08	28-Nov-08	9-Dec-08	Yes	
24	422091	3318 E 4th St	cleanout assembly	17-Nov-08	17-Dec-08	22-Dec-08	Yes	
25	421474	3406 E 4th St	cleanout assembly	17-Nov-08	17-Dec-08	17-Dec-08	Yes	
26	421475	406 Union Ave	cleanout assembly	17-Nov-08	17-Dec-08	18-Dec-08	Yes	
27	NA	Shiloh Creek Apt 10	cleanout assembly	17-Nov-08	17-Dec-08	15-Dec-08	Yes	
28	421477	31 Northview Dr	cleanout assembly	17-Nov-08	17-Dec-08	29-Dec-08	Yes	
29	420818	502 E Gum St	cleanout assembly	18-Nov-08	18-Dec-08	9-Dec-08	Yes	
30	421552	3505 E 5th St	cleanout assembly	18-Nov-08	18-Dec-08	18-Dec-08	Yes	
31	418192	3510 E 4th St	cleanout assembly	18-Nov-08	18-Dec-08	10-Nov-08	Yes	
32	420836	518 S Jackson Ave	cleanout assembly	18-Nov-08	18-Dec-08	9-Dec-08	Yes	
33	421553	1209 S Hartford Ave	service line	18-Nov-08	18-Dec-08	18-Dec-08	Yes	
34	421554	901 S Ithaca Ave	open cleanout w/tape	26-Nov-08	18-Dec-08	18-Dec-08	Yes	
35	121556	1005 S Hartford Ave	cleanout assembly	26-Nov-08	18-Dec-08	18-Dec-08	Yes	
36	421557	900 S Hartford Ave	service line	26-Nov-08	18-Dec-08	18-Dec-08	Yes	

**Cleanout Cap Program
Infiltration Contributors List**

37	423508	708 E 4th St	service line	19-Dec-08	19-Jan-09	9-Jan-09	Yes
38	421559	901 S Greenwich Ave	cleanout assembly	26-Nov-08	19-Dec-08	19-Dec-08	Yes
39	421561	813 S Greenwich Ave	cleanout assembly	26-Nov-08	19-Dec-08	19-Dec-08	Yes
40	421562	412 S Greenwich Ave	cleanout assembly	26-Nov-08	19-Dec-08	19-Dec-08	Yes
41	421525	1708 S Cleveland Ave	cleanout assembly	26-Nov-08	22-Dec-08	17-Dec-08	Yes
42	421206	305 E 17th St	cleanout assembly	26-Nov-08	22-Dec-08	11-Dec-08	Yes
43	421790	301 E 17th St	cleanout assembly	26-Nov-08	22-Dec-08	23-Dec-08	Yes
44	421791	1002 E 23rd St	cleanout assembly	9-Dec-08	31-Dec-08	31-Dec-08	Yes
45	421792	2218 S Frankfort Ave	cleanout assembly	9-Dec-08	31-Dec-08	31-Dec-08	Yes
46	428411	1313 S Sidney Ave	cleanout assembly	18-Feb-09	19-Mar-09	19-Mar-09	Yes
47	428412	1502 E 13th St	cleanout assembly	18-Feb-09	19-Mar-09	19-Mar-09	Yes
48	428408	1504 E 13th St	cleanout assembly	19-Feb-09	19-Mar-09	25-Feb-09	Yes
49	428924	911 E F St	cleanout assembly	ph 24-Feb-09	26-Mar-09	9-Mar-09	Yes
50	428926	511 N Hartford Ave	cleanout assembly	24-Feb-09	26-Mar-09	26-Mar-09	Yes
51	428934	718 N Frankfort Ave	cleanout & service	27-Feb-09	30-Mar-09	5-Mar-09	Yes
52	430057	1120 N Erie Ave	cleanout assembly	3-Mar-09	1-Apr-09	19-Mar-09	Yes
53	430058	615 E E St	service line	3-Mar-09	1-Apr-09	25-Mar-09	Yes
54	430059	509 N Erie Ave	cleanout assembly	4-Mar-09	2-Apr-09	27-Mar-09	Yes
55	430165	605 N Erie Ave	service line	13-Mar-09	2-Apr-09	2-Apr-09	Yes
56	430168	317 E F St	cleanout assembly	13-Mar-09	2-Apr-09	2-Apr-09	Yes
57	432045	234 E K St	cleanout assembly	4-Mar-09	2-Apr-09	8-Apr-09	Yes
58	430068	506 N Arkansas Ave	cleanout assembly	9-Mar-09	6-Apr-09	13-Apr-09	Yes
59	430055	1300 N Boston Ave	service line	10-Mar-09	8-Apr-09	10-Apr-09	Yes
60	430125	112 E E St	service line	10-Mar-09	8-Apr-09	7-Apr-09	Yes
61	430124	208 E J St	service line	10-Mar-09	8-Apr-09	18-Mar-09	Yes
62	430120	405 S Arkansas Ave	service line	10-Mar-09	16-Mar-09	17-Mar-09	Yes
63	430418	209 N Hartford Ave	cleanout assembly	17-Mar-09	16-Apr-09	14-Apr-09	Yes
64	430420	421 E C St Apt B	cleanout assembly	17-Mar-09	16-Apr-09	14-Apr-09	Yes
65	431965	2415 W 8TH St	cleanout & service	6-Apr-09	6-May-09	14-Apr-09	Yes
66	441150	318 S Houston Ave	service line	21-Jul-09	19-Aug-09	19-Aug-09	Yes
67	443159	312 E Fir St	service line	21-Jul-09	20-Aug-09	20-Aug-09	Yes
68	443930	409 S Denver Ave	cleanout/service	21-Aug-09	21-Sep-09	21-Sep-09	Yes
69	444944	609 S Denver Ave	cleanout/service	21-Aug-09	21-Sep-09	21-Sep-09	Yes
70	443932	1910 S ElPaso, Apt1	service line	4-Sep-09	12-Oct-09	5-Oct-09	Yes
71	445031	401 W 15th, Apt 1,2,3	cleanout assembly	15-Sep-09	15-Oct-09	29-Sep-09	Yes
72	452595	506 N Inglewood, Apt 3	cleanout assembly	5-Jan-10	4-Feb-10	4-Feb-10	Yes
73	452596	506 N Inglewood, Apt 4	cleanout assembly	5-Jan-10	4-Feb-10	4-Feb-10	Yes

**Cleanout Cap Program
Infiltration Contributors List**

74	452597	510 N Inglewood, Apt 3	cleanout assembly	5-Jan-10	4-Feb-10	4-Feb-10	Yes
75	452598	510 N Inglewood, Apt 4	cleanout assembly	5-Jan-10	4-Feb-10	4-Feb-10	Yes
76	451025	308 N Inglewood, Apt 3&4	cleanout assembly	5-Jan-10	4-Feb-10	7-Jan-10	Yes
77	467397	1820 S Commerce Ave	service line	4-Aug-10	3-Sep-10	13-Aug-10	Yes
78	467033	1910 S EIPaso	cleanout assembly	4-Aug-10	3-Sep-10	9-Aug-10	Yes
79	469639	100 W 19th St	cleanout assembly	4-Aug-10	3-Sep-10	9-Sep-10	Yes
80	467387	1301 S Denver Ave	cleanout assembly	4-Aug-10	3-Sep-10	13-Aug-10	Yes
81	465374	706 W 18th Terrace	cleanout assembly	30-Jul-10	13-Aug-10	27-Aug-10	Yes
82	469327	1113 S Oswego Ave	cleanout assembly	9-Aug-10	8-Sep-10	15-Sep-10	Yes
83	470583	1207 E 13th St	service line	24-Aug-10	23-Sep-10	23-Sep-10	Yes
84	468384	1519 E 14th St	service line	24-Aug-10	23-Sep-10	2-Sep-10	Yes
85	470699	1508 E 13th St	cleanout assembly	24-Aug-10	23-Sep-10	24-Sep-10	Yes
86	471710	POM Inc	cleanout/service	7-Sep-10	7-Oct-10	11-Oct-10	Yes
87	471801	Skate Station	cleanout assembly	7-Sep-10	7-Oct-10	14-Oct-10	Yes
88	470335	105 S Rochester	cleanout assembly	8-Sep-10	8-Oct-10	20-Sep-10	Yes
89	471713	Brown's Catfish	illegal drain connect	15-Sep-10	15-Oct-10	20-Sep-10	Yes
90	472218	1202 S Detroit Ave	cleanout assembly	24-Sep-10	25-Oct-10	27-Oct-10	Yes
91	HUD Apts	1701 S Detroit Ave #51	cleanout assembly	24-Sep-10	25-Oct-10	20-Jun-12	Yes
92	472211	1104 S Detroit Ave	cleanout assembly	24-Sep-10	25-Oct-10	19-Oct-10	Yes
93	471487	1708 S Cleveland Ave	cleanout assembly	24-Sep-10	25-Oct-10	6-Oct-10	Yes
94	472222	203 E 14th St	cleanout assembly	24-Sep-10	25-Oct-10	25-Oct-10	Yes
95	472224	109 E 15th St	service line	24-Sep-10	25-Oct-10	21-Oct-10	Yes
96	472225	2205 S Hartford Cv	cleanout assembly	28-Sep-10	28-Oct-10	28-Oct-10	Yes
97	472226	906 E 23rd St	cleanout assembly	28-Sep-10	28-Oct-10	26-Oct-10	Yes
98	472227	1903 S Arkansas	cleanout assembly	28-Sep-10	28-Oct-10	21-Oct-10	Yes
99	472228	918 E 23rd St	cleanout assembly	28-Sep-10	28-Oct-28	29-Oct-10	Yes
100	472229	818 E 23rd St	service line	28-Sep-10	28-Oct-10	28-Oct-10	Yes
101	496558	1016 N Jackson Ave	cleanout cap	28-Sep-11	28-Oct-11	28-Oct-11	Yes
102	496542	705 East M St	cleanout assembly	28-Sep-11	28-Oct-11	29-Oct-11	Yes
103	496562	400 East H St	cleanout/service	28-Sep-11	28-Oct-11	28-Oct-11	No
104	496561	803 East K PI	cleanout assembly	28-Sep-11	11-Nov-11	9-Nov-11	Yes
105	496560	707 East L St	cleanout assembly	28-Sep-11	28-Nov-11	9-Nov-11	Yes
106	NA	1020 Parker Rd	service line	29-Sep-11	29-Oct-11	15-Dec-11	Yes
107	496564	605 N Erie Ave	service line	29-Sep-11	29-Oct-11	31-Oct-11	No
108	496563	618 East H St	cleanout assembly	29-Sep-11	29-Oct-11	31-Oct-11	No
109	509250	222 East J St	cleanout assembly	9-May-12	9-May-12	10-May-12	Yes
110	496601	1804 S Baltimore Ave	cleanout cap			21-Oct-11	Yes

 Compliant
 Non-Compliant

**Cleanout Cap Program
Infiltration Contributors List**

Address	Contributor	Service	Date	Status	Notes
111 496602 1800 S Columbus Ave	cleanout cap	21-Oct-11	Yes		
112 496890 3506 E 4th St	service line	26-Oct-11	Yes		
113 913 W Norristown Cir	cleanout cap		No		
114 540171 255 Hilltop Dr	cleanout cap	28-Aug-13	Yes	cap	
115 540171 805 W 14th St	cleanout assembly	28-Aug-13	Yes	cap+plug	
116 540171 1418 Normandy Cir	cleanout cap	28-Aug-13	Yes	plug	
117 531 Old Post Rd	cleanout assembly		No		
118 1406 Shalimar Cir	cleanout assembly		No		
119 540171 1805 S Dayton Ave	cleanout cap	19-Aug-13	Yes	2x4" plugs	
120 540171 1716 S Atlanta Ave	cleanout cap	19-Aug-13	Yes	cap	
121 540171 2007 S Utica Ave	cleanout cap	19-Aug-13	Yes	cap	
122 540171 1814 E 22nd St	cleanout cap	19-Aug-13	Yes	plug	
123 540171 2023 E 20th St	cleanout cap	19-Aug-13	Yes	cap	
124 540171 3640 E Main St	cleanout cap	19-Aug-13	Yes	2x caps	
125 540171 3808 E 5th St	cleanout cap	19-Aug-13	Yes	plug	
126 540171 3717 E 6th St	cleanout cap	19-Aug-13	Yes	2" plug	
127 540171 3613 E 6th St	cleanout cap	19-Aug-13	Yes	plug	
128 540171 512 Union St	cleanout cap	19-Aug-13	Yes	plug	
129 540171 302 Bonnie Dr	cleanout cap	19-Aug-13	Yes	plug	
130 540171 309 Harris Dr	cleanout cap	19-Aug-13	Yes	plug	
131 540171 3413 E 4th St	cleanout cap	19-Aug-13	Yes	plug	
132 540171 700 E Main St	cleanout cap	19-Aug-13	Yes	3" plug	
133 540171 720 E Main St	cleanout cap	19-Aug-13	Yes	plug	
134 540171 711 E 5th St	cleanout cap	19-Aug-13	Yes	cap+plug	
135 540171 416 S Knoxville Ave	cleanout cap	20-Aug-13	Yes	cap	
136 540171 813 E 9th St	cleanout cap	20-Aug-13	Yes	cap	
137 540171 519 S Hartford Ave	cleanout cap	20-Aug-13	Yes	plug	
138 540171 900 S Ithaca Ave	cleanout cap	20-Aug-13	Yes	cap	
139 540171 901 S Ithaca Ave	cleanout cap	20-Aug-13	Yes	plug	
140 540171 902 S Hartford Ave	cleanout cap	20-Aug-13	Yes	plug	
141 540171 3053 E Main St	cleanout cap	20-Aug-13	Yes	cap+ 6" plug	
142 540171 1122 Bradley Ln	cleanout cap	21-Aug-13	Yes	plug	
143 540171 211 S Phoenix Ave	cleanout cap	21-Aug-13	Yes	plug	
144 540171 2320 E 16th St	cleanout cap	21-Aug-13	Yes	plug	
145 540171 1325 S Sidney Ave	cleanout cap	21-Aug-13	Yes	plug	
146 540171 1808 E 12th St	cleanout cap	21-Aug-13	Yes	cap	
147 540171 1809 S Verona Ave	cleanout cap	22-Aug-13	Yes	plug	

 Pending
 NonComp

**Cleanout Cap Program
Infiltration Contributors List**

148	540171	2107 E 16th St	cleanout cap			22-Aug-13	Yes	plug
149	540171	2117 E 16th St	cleanout cap			22-Aug-13	Yes	plug
150	540171	804 S Louisville Ave	cleanout cap			22-Aug-13	Yes	plug
151	540171	2415 W Parkway	cleanout cap			22-Aug-13	Yes	plug
152	540171	812 S Boulder Ave Apt A	cleanout cap			22-Aug-13	Yes	cap
153	540171	1413 W C St	cleanout cap			22-Aug-13	Yes	cap
154	540171	419 E L St	cleanout cap			23-Aug-13	Yes	plug
155	540171	1520 S Knoxville Ave	cleanout cap			23-Aug-13	Yes	plug
156	540171	1200 W Main St Ste A	cleanout cap			23-Aug-13	Yes	plug
157	543985	1201 W Main St (Hardees)	cleanout cap	5-Sep-13	7-Oct-13	8-Oct-13	Yes	
158	540171	815 W 2nd St	cleanout cap			23-Aug-13	Yes	plug
159	540171	1611 W Main St	cleanout cap			23-Aug-13	Yes	cap
160	540171	1109 S Boston Pl	cleanout cap			26-Aug-13	Yes	pop-up
161	541639	1800 S Knoxville Ave	cleanout cap	26-Aug-13	26-Sep-13	27-Sep-13	No	pop-up
162	540171	1814 S Knoxville Ave	cleanout cap	5-Sep-13	7-Oct-13	17-Sep-13	No	smoke
163	540171	2111 S Ithaca Ave	cleanout cap			26-Aug-13	Yes	pop-up
164	540171	1502 E 13th St	cleanout cap			26-Aug-13	Yes	pop-up
165	540171	1307 E 13th St	cleanout cap			26-Aug-13	Yes	pop-up
166	540171	401 E 14th St	cleanout cap			26-Aug-13	Yes	pop-up
167	540171	1907 S Boulder Ave	cleanout cap			26-Aug-13	Yes	pop-up
168	540171	1106 S Houston Ave	cleanout cap			26-Aug-13	Yes	cap
169	540171	1010 S Glenwood Ave	cleanout cap			26-Aug-13	Yes	pop-up
170	540171	1207 N Greenwich Ave	cleanout cap			26-Aug-13	Yes	2x4" plugs
171	540171	530 E O St	cleanout cap			26-Aug-13	Yes	pop-up
172	540171	1200 N Arkansas Ave	cleanout cap			27-Aug-13	Yes	pop-up
173	543986	1905 W 3rd Ct	cleanout assembly	9-Sep-13	9-Oct-13	9-Oct-13	No	
174	540171	601 E E St	cleanout cap			28-Aug-13	Yes	pop-up
175	543123	511 N Greenwich Ave	cleanout assembly		7-Oct-13	26-Sep-13	Yes	
176	545233	912 E 5th St	cleanout cap			23-Oct-13	Yes	cap
177	545233	908 E 5th St	cleanout cap			23-Oct-13	Yes	pop-up
178	545233	2018 S Sidney Ave	cleanout cap			24-Oct-13	Yes	plug
179	545233	2017 S Tampa Ave	cleanout cap			24-Oct-13	Yes	plug
180	545233	2108 S Tampa Ave	cleanout cap			24-Oct-13	Yes	plug
181	545233	2107 S Tampa Ave	cleanout cap			24-Oct-13	Yes	cap
182	545233	2006 S Tampa Ave	cleanout cap			24-Oct-13	Yes	cap
183	545233	1716 S Tampa Ave	cleanout cap			24-Oct-13	Yes	pop-up
184	545233	1916 E 12th St	cleanout cap			24-Oct-13	Yes	pop-up

**Cleanout Cap Program
Infiltration Contributors List**

185	545233	Woodbrook Apt Q	cleanout cap	24-Oct-13	Yes	pop-up
186	545233	Woodbrook Apt T	cleanout cap	24-Oct-13	Yes	plug
187	545233	Woodbrook Apt F	cleanout cap	24-Oct-13	Yes	pop-up
188	545233	Woodbrook Apt G	cleanout cap	24-Oct-13	Yes	pop-up
189	545233	Woodbrook Apt E	cleanout cap	24-Oct-13	Yes	pop-up
190	545233	912 S Pittsburg Ave	cleanout cap	24-Oct-13	Yes	pop-up
191	545233	1527 E 11th Cv	cleanout cap	30-Oct-13	Yes	plug
192	545233	1533 E 11th Cv	cleanout cap	30-Oct-13	Yes	pop-up
193	545233	1503 E 11th Cv	cleanout cap	30-Oct-13	Yes	pop-up
194	545233	1529 E 13th St	cleanout cap	30-Oct-13	Yes	pop-up
195	545233	1311 E 13th St	cleanout cap	30-Oct-13	Yes	plug
196	545233	1402 E 13th St	cleanout cap	30-Oct-13	Yes	plug
197	545233	1306 E 13th St	cleanout cap	30-Oct-13	Yes	plug
198	545233	1407 E 13th St	cleanout cap	30-Oct-13	Yes	plug
199	546911	616 E 23rd St	cleanout cap	18-Nov-13	Yes	pop-up
200	546911	2111 S Ithaca Ave	cleanout cap	15-Nov-13	Yes	pop-up
201	546911	1819 S Cleveland Ave	cleanout cap	16-Dec-13	Yes	plug

APPENDIX Y

OVERFLOW RESPONSE PLAN



CITY CORPORATION
RUSSELLVILLE, ARKANSAS

**CITY CORPORATION –
RUSSELLVILLE WATER AND SEWER SYSTEM**

**CAO LIS No 09-146
AFIN 58-00105**

NPDES Permit No. AR0021768

OVERFLOW RESPONSE PLAN

Prepared By:

CWB Engineers, Inc.

February 2010

**City Corporation – Russellville Water and Sewer System
SANITARY SEWER OVERFLOW RESPONSE PLAN**

I. BACKGROUND INFORMATION

City Corporation entered into a Consent Administrative Order (CAO) with the Arkansas Department of Environmental Quality (ADEQ) with an effective date of December 25, 2009. As a result of this CAO, City Corporation was required to establish and implement an Overflow Response Plan. The following document establishes the Overflow Response Plan of Russellville City Corporation.

II. NPDES PERMIT

- A. National Pollutant Discharge Elimination System (“NPDES”)
NPDES Permit # AR0021768
AFIN 58-00105
CAO LIS No. 09-146
Issued by Arkansas Department of Environmental Quality**

III. GENERAL

The Sanitary Sewer Overflow Response Plan (SSORP) is designed to ensure that every report of a confirmed sewage overflow is immediately dispatched to the appropriate crew so that the effects of the overflow can be minimized with respect to impacts to public health, beneficial use, quality of surface waters, and customer service. The SSORP further includes provisions to ensure safety pursuant to the directions provided by the ADEQ and that notification and reporting is made to the appropriate local, state, and federal authorities. For purposes of this SSORP, “confirmed sewage spill” is also sometimes referred to as “sewer overflow,” “overflow,” or sanitary sewer overflow “SSO”. The effective date of this plan will be **February 23, 2010**.

A. Objectives

The primary objectives of the SSORP is to protect public health and the environment, comply with regulatory agencies and waste discharge permit conditions, and minimize risk of enforcement actions against Russellville City Corporation.

Additional objectives of the SSORP are as follows:

- Provide appropriate customer service;
- Protect wastewater treatment plant and collection system personnel;

- Protect the collection system, wastewater treatment facilities, and all appurtenances; and
- Protect private and public property beyond the collection and treatment facilities.

This plan shall not supersede existing emergency plans or standard operating procedures (SOPs).

B. Organization of Plan

The key elements of the SSORP are addressed individually as follows:

Section IV	Overflow Response Procedure
Section V	Public Advisory Procedure
Section VI	Regulatory Agency Notification Plan
Section VII	Media Notification Procedure
Section VIII	Distribution and Maintenance of SSORP

C. SSO Tracking

A procedure to track the frequency, type, and location of SSOs has been prepared under Appendix A.

Data on each SSO occurrence is maintained in a database that can be analyzed based on certain SSO parameters. The database is maintained and organized by the Network Operations Center/Safety Director.

IV. OVERFLOW RESPONSE PROCEDURE

The Overflow Response Procedure presents a strategy for Russellville City Corporation to mobilize labor, materials, tools, and equipment to correct or repair any condition which may cause or contribute to an unpermitted discharge. The plan considers a wide range of potential system failures that could create an overflow to surface waters, land, or buildings.

A. Receipt of Information Regarding an SSO

A SSO may be detected by employees or by others. The Customer Service Representatives are primarily responsible for receiving phone calls from the public of possible SSOs from the wastewater collection system, and forwarding service requests to the Network Operations Center/Central Dispatch (NOC). The Network Operations Center will then dispatch the appropriate Response Crew.

Generally, Customer Service Representatives receive telephone calls from the public reporting possible SSOs. However, a telephone call received after hours will be directed to the 24-hour emergency phone line. A phone call of this type will be received by the After Hours Emergency Crew, which will be the Response Crew.

1. The Network Operations Center obtains all relevant information available regarding the possible overflow including:
 - a. Time and date call was received;
 - b. Specific location;
 - c. Description of problem;
 - d. Time and date overflow was observed;
 - e. Caller's name and phone number;
 - f. Observations of the caller (e.g., odor, duration, back, or front of property); and
 - g. Other relevant information that will enable the responding Emergency crews to quickly locate, assess and stop the SSO.

The Network Operations Center then records/inputs the possible SSO information and creates a service request for assignment to the proper Response Crew.

2. Pump station failures are monitored and received by operators on duty at the Wastewater Treatment Plant. The operator on duty immediately conveys all information regarding alarms to the Operations Manager to initiate the investigation. The Investigating Crew determines if failure resulted in an overflow and reports to Network Operations Center, if a SSO has occurred. A completed overflow form shall be sent, via e-mail or interoffice mail to the Network Operations Center for documentation.
3. SSOs detected by any personnel in the course of their normal duties are reported immediately to the Network Operations Center who records all relevant SSO information and dispatches an Emergency crew and additional response crews, as needed.

4. After hours emergency crew or response crew confirms the SSO. Until verified, the report of a possible spill will not be referred to as a "sewer overflow."

If an overflow has occurred, the crew leader completes the appropriate Overflow Report form (See Figure IV-1). Within 24 hours of the sewer investigator's confirmation, overflow report information is forwarded to the Network Operations Center, or designated back-up personnel, who then enters the data into the SSO database. The Pretreatment Coordinator is responsible for complying with all ADEQ notification reporting requirements. Table IV-1 summarizes the SSO response tracking protocol.

TABLE IV-1. SSO RESPONSE TRACKING PROTOCOL

SSO RESPONSE TRACKING

1. Crew that locates overflow notifies Network Operations Center.
2. Crew that locates overflow completes overflow report.
3. Response Crew cleans and sanitizes.
4. Response Crew installs warning signs.
5. Construction Supervisor or Network Operations Center verifies overflow report is correct.
6. Response Crew takes photographs before cleanup.
7. Construction Supervisor verifies cleanup is done correctly.
8. Construction Supervisor removes warning signs.
9. Construction Supervisor takes photographs after cleanup.
10. Construction Supervisor verifies overflow reports are turned into Network Operations Center (Immediately following cleanup or first business day following cleanup, if after hours).
11. Network Operations Center down loads photographs into database.
12. Network Operations Center enters overflow information into the SSO database.
13. Pretreatment Coordinator or Network Operations Center reports SSO data to ADEQ and other departments as required by NPDES Permits

B. Dispatch of Appropriate Crews to Site of Sewer Overflow

Failure of any element within the wastewater collection system that threatens to cause or causes an SSO triggers an immediate response to isolate and correct the problem. Crews and equipment are available to respond to any SSO location 24-hours a day. Additional maintenance personnel are designated "on call" in the event extra crews are needed. Appendix B summarizes the SSO Response Plan.

1. Dispatching Crews

- Network Operations Center receives notification of possible SSOs as outlined in Section IV.A “Receipt of Information Regarding an SSO” and dispatch a Response crew or the appropriate crews and resources as required.
- Network Operations Center notifies the appropriate Supervisor, Coordinator, or Manager by phone or radio regarding SSOs and field crew locations.

2. Crew Instructions

- The Construction Supervisor coordinates with the Network Operations Center on a daily basis as to the appropriate Response Crews. Additionally, the Construction Supervisor provides instructions regarding appropriate materials, supplies, and equipment needed.
- All employees being dispatched to the site of a SSO proceed immediately to the site of the overflow. Report any delays or conflicts in assignments immediately to the Network Operations Center for resolution.
- In all cases response crews report their findings, including possible damage to private and public property to the Network Operations Center immediately upon making their investigation. If Network Operations Center has not received findings from the field crew within 1 hour, they shall contact the response crew to determine the status of the investigation.

3. Additional Resources

- Network Operations Center receives and conveys to appropriate parties requests for additional personnel, material, supplies, and equipment from crews working at the site of a SSO.

4. Preliminary Assessment of Damage to Private and Public Property

- The focus is to resolve the problem. The response crews use discretion in assisting the property owner/occupant as reasonably as they can. Be aware that Russellville City Corporation could face increased liability for any further damages inflicted to private property during such assistance. In the event the SSO occurs inside a structure,

the Construction Supervisor shall be notified. The Construction Supervisor shall personally assess and document all damages as well as notify Operations Manager of event. The response crew shall enter private property for purposes of assessing damage. Crew shall take appropriate still photographs, if possible, of the area of the SSO and impacted area in order to thoroughly document the nature and extent of impact.

5. Field Supervision and Inspection

- The Construction Supervisor, visits the site of the SSO, if possible, takes photos and installs warning sign to ensure that provisions of this overflow response plan and other directives are met.

6. Coordination with Hazardous Material Response

- Upon arrival at the scene of a SSO, should a suspicious substance (e.g., oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g., gasoline) not common to the sewer system be detected, the responding crew should secure the immediate area; then, contact the Safety Manager. **Remember that any vehicle engine, portable pump or open flame (e.g., cigarette lighter) can provide the ignition for an explosion or fire if flammable fluids or vapors are present. Keep a safe distance and observe caution until assistance arrives.**
- Only after the Safety Manager determines it is safe and appropriate for personnel to resume activities can they then proceed under the SSORP with the containment, clean-up activities and remediation.

C. **Overflow Correction, Containment, and Clean-Up**

SSOs of various volumes occur from time to time in spite of concerted prevention efforts. Spills may result from blocked sewer lines, pipe failures, or mechanical malfunctions among other natural or man-made causes. Russellville City Corporation is constantly on alert and ready to respond upon notification and confirmation of an overflow.

This section describes specific actions to be performed by the crews during a SSO.

The objectives of these actions are:

- To protect public health, environment and property from sewage overflows and restore surrounding area back to normal as soon as possible;
- To promptly notify the regulatory agency's communication center of preliminary overflow information and potential impacts;
- To contain the SSO to the maximum extent possible including preventing the discharge of sewage into surface waters; and
- To minimize the Russellville City Corporation exposure to any regulatory agency penalties and fines.

Under most circumstances, Russellville City Corporation handles all response actions with its own maintenance forces. They have the skills and experience to respond rapidly and in the most appropriate manner. An important issue with respect to an emergency response is to ensure that the temporary actions necessary to divert flows and repair the problem do not produce a problem elsewhere in the system. For example, repair of a force main could require the temporary shutdown of the pump station and diversion of the flow at an upstream location. If the closure is not handled properly, sewage system backups may create other overflows.

Circumstances may arise when the Russellville City Corporation could benefit from the support of private-sector construction assistance. This is especially true in the case of large diameter pipes buried to depths requiring sheet piling and dewatering. Russellville City Corporation may also choose to use private contractors for open excavation operations that might exceed one day to complete.

1. Responsibilities of Response Crew Upon Arrival

It is the responsibility of the first personnel who arrive at the site of a SSO to protect the health and safety of the public by mitigating the impact of the SSO to the extent possible. If the SSO is discovered to be a private overflow and not the responsibility of Russellville City Corporation, the Response Crew will notify the resident of the situation and recommend they contact a private plumber to mitigate the problem. Russellville City Corporation will dispatch a Plumbing Inspector to inspect and monitor the site to insure the resident has taken the appropriate action to correct the problem.

Upon arrival at an SSO, the response crew:

- Determines the cause of the overflow: sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.;

- Identifies and requests, if necessary, assistance or additional resources to correct the overflow or to assist in the determination of its cause;
- Takes immediate steps to stop the overflow, e.g. relieves pipeline blockage, manually operates pump station controls, repairs pipe, etc. Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off of private property into the public right-of-way); and
- Requests additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the SSO.

2. Initial Measures for Containment

Initiate measures to contain and/or recover the overflowing sewage in order to minimize the impact to public health or the environment.

- Determine the immediate destination of the SSO, e.g. storm drain, street curb gutter, body of water, creek bed, etc.;
- Identify and request the necessary materials and equipment to contain or isolate the overflow, if not readily available; and
- Take immediate steps to contain the overflow, e.g., block or bag storm drains, recover through vacuum truck, divert into downstream manhole, etc. if conditions allow as determined by the Response Crew.

3. Additional Measures - Prolonged Overflow Conditions

In the event of a prolonged sewer line blockage or a sewer line collapse, it may be necessary to set up a portable bypass pumping operation around the obstruction.

- Take appropriate measures to determine the proper size and number of pumps required to effectively handle the sewage flow.
- Implement continuous or periodic monitoring of the bypass pumping operation, as required.
- Address regulatory agency issues in conjunction with emergency repairs.

4. Cleanup

SSO sites are to be thoroughly cleaned after an overflow. No readily identified residue (e.g., sewage solids, papers, rags, plastics, rubber products) is to remain.

- Where practical, thoroughly flush the area and remove any sewage or wash-down water. Solids and debris are to be swept, raked, picked-up, and transported for proper disposal.
- Secure the overflow to prevent contact by members of the public until the site has been thoroughly cleaned. If posting is required, refer to Section V.
- Where appropriate, disinfect and deodorize the overflow site.
- Where sewage has resulted in ponding, pump the pond dry and dispose of the residue in accordance with applicable regulations and policies.
- If a ponded area contains sewage which cannot be pumped dry, it may be treated with bleach. If sewage has discharged into a body of water that may contain fish or other aquatic life, do not use bleach or other appropriate disinfectant and contact the Arkansas Game & Fish Commission for specific instructions.
- Use of portable aerators may be required where complete recovery of sewage is not practical and where severe oxygen depletion in existing surface water is expected.

D. Overflow Report

Response crew completes an Overflow Report Form (See Figure IV-1). Response crew promptly notifies Network Operations Center when the SSO is eliminated. Information regarding the SSO includes the following:

- Indication that the SSO reached surface waters, i.e., all SSO where sewage was observed running to surface waters, or there was obvious indication (e.g. sewage residue) that sewage flowed to surface waters.
- Indication that the SSO reached and discharged without containment into a storm drain, ditch, drop inlet, or catch basin.
- Indication that the SSO had not reached surface waters. Guidance in characterizing these overflows to include:
 - a. SSO to covered storm drains (with no public access) where personnel verify, by inspection, that the entire volume is contained

in a sump or impoundment and where complete cleanup occurs leaving no residue.

- b. Preplanned or emergency maintenance jobs involving bypass pumping if access by the public to a bypass channel is restricted and subsequent complete clean up occurs leaving no residue. Any preplanned bypass under these circumstances will not be considered an overflow; and
 - c. SSOs where observation or on-site evidence clearly indicates all sewage was retained on land and did not reach a surface water and where complete cleanup occurs leaving no residue.
- Determine the start time of the SSO by one of the following methods:
 - a. Date and time information received and/or reported to have begun and later substantiated by the Response Crew;
 - b. Visual observation; or
 - c. Pump station and lift station flow charts and other recorded data.
 - Determine of the stop time of the SSO by one of the following methods:
 - a. When the blockage is cleared or flow is controlled or contained; or
 - b. The arrival time of the Response Crew, if the SSO stopped between the time it was reported and the time of arrival.
 - Visual observations

An estimation of the rate of SSO in gallons per minute (GPM) by one of the following criteria

 - a. Direct observation of the overflow. See Appendix C for guidance on estimating sewer overflow rates.
 - b. Measurement of actual overflow from the sewer main.
 - Determination of the volume of the SSO:
 - a. When the rate of overflow is known, multiply the duration of the overflow by the overflow rate; or
 - b. When the rate of overflow is not known, investigate the surrounding area for evidence of ponding or other indications of overflow volume.

- Photographs of the event, before and after cleanup, when possible.
- Assessment of any damage to the exterior areas of public/private property. Personnel shall enter private property only for purposes of estimating damage to structures, floor and wall coverings, and personal property.

E. Customer Satisfaction

When a SSO is reported by a citizen, the Network Operations Center will notify the Front Office or Customer Service Representatives when all work is completed on the SSO. The Customer Service Representative will then contact the reporting citizen and discuss the actions taken and the resolution of the problem.

V. PUBLIC ADVISORY PROCEDURE

This section describes the appropriate actions of Russellville City Corporation, in cooperation with ADEQ and the Arkansas Department of Health to limit public access to areas potentially impacted by unpermitted discharges of pollutants to surface water bodies from the wastewater collection system. Temporary and permanent public notice will be provided as indicated below. Sample notices are provided in Appendix D.

A. Temporary Public Notice

Russellville City Corporation has primary responsibility for determining when to post notices of polluted surface water bodies or ground surfaces that result from uncontrolled wastewater discharges from its facilities. The postings do not necessarily prohibit use of recreational areas, unless posted otherwise, but provide a warning of potential public health risks due to sewage contamination.

Table V-1 outlines the decision process to recommend to the General Manager that posting of a confirmed SSO be undertaken or that there is reasonable potential for an SSO to occur thus the need to post in advance. If posting is deemed necessary, ADEQ shall be notified.

B. Permanent Public Notice

Russellville City Corp shall place a permanent notice at manholes located on City owned property that may experience SSO's more than once in any twelve-month period. A list of applicable manholes has been provided in Appendix A, Table A-1.

Table V-1. Decision Matrix to Post Temporary Signage

Action Taken
1 Construction Supervisor or Response Crew confirms SSO that is not posted has resulted in ponded wastewater (ground surface or ditch ponding), or direct discharge to body-contact recreational waters between May 1st and September 30th.
2 Construction Supervisor notifies Network Operations Center and provides relevant SSO information. a) SSO Location b) Remedial actions being taken
3 Network Operations Center consults with Construction Supervisor on remedial actions and posting requirements, if necessary.
4 Network Operations Center consults General Manager for final decision on posting
5 If General Manager decides posting is required, Manager directs Construction Supervisor to post warning sign(s).
6 Warning sign(s) is/are posted by Construction Supervisor or Response Crew.

C. Other Public Notification

If the General Manager determines additional public notification is needed, the Network Operations Center will make said notifications under the General Manager's direction.

VI. REGULATORY AGENCY NOTIFICATION PLAN

The Regulatory Agency Notification Plan establishes procedures that Russellville City Corporation follows to provide formal notice to the ADEQ as necessary in the event of SSOs. The reporting criteria below explains to whom various forms of notification should be made, and lists agencies/individuals to be contacted.

Agency notifications will be performed in parallel with other internal notifications. The procedures for notifying the media of an SSO is presented in Section VII - Media Notification Procedure. Internal notification and mobilization of personnel are detailed in Section IV - Overflow Response Procedure.

A. Immediate Notification

Upon data entry of a SSO event, the Network Operations Center will make the proper notifications as detailed in the following section. For reference, the applicable NPDES Permit reporting requirements are reprinted below.

“The permittee shall report all overflows with the Discharge Monitoring Report (DMR) submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: The date, time, duration, location, estimated volume, and cause of overflow; observed environmental impacts from the overflow; action taken to address the overflow; and ultimate discharge location if not contained (e.g. storm sewer system, ditch, tributary). Overflows, which endanger health or the environment, shall be orally reported to this department (Enforcement Section of Water Division) within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment, shall be provided within 5 days of the time the permittee becomes aware of the circumstance.”

The Network Operations Center is responsible for meeting the 24-hour oral or fax notification requirement. The name, mailing address, e-mail address, telephone and fax number for 24-hour reporting to ADEQ is provided below:

ADEQ – Water Enforcement
P.O. Box 8913
Little Rock, Arkansas 72219-8913
Telephone: (501) 682-0639
Fax: (501) 682-0910
Email: WaterEnfSSO@adeq.state.ar.us

B. Secondary Notifications

After those parties identified in Section A. Immediate Notification have been contacted, the Network Operations Center will notify other federal, state, and local agencies, as well as other interested and possibly impacted parties as directed by the General Manager.

VII. MEDIA NOTIFICATION PROCEDURE

When a SSO has been confirmed and is a threat to public health, take the following actions, if necessary, to notify the media:

- A. Response Crew verifies overflow and reports back to the Network Operations Center.

- B. The Network Operations Center informs the Operations Manager and the General Manager. The primary contact should be the General Manager. Table VII-1 provides contact names and numbers for the appropriate notification.
- C. All media requests received should be referred immediately to the General Manager.
- D. The following personnel are authorized to be interviewed by the media and are the designated spokespersons:
 - 1. Craig Noble, General Manager
 - 2. Larry Collins, Operations Manager

Table VII-1. Russellville City Corporation Media Contacts

Contact	Contact Name	Office	Mobile
Primary	Craig Noble, General Manager	(479) 968-2080 Ext 113	(479) 747-2710
Backup	Larry Collins, Operations Manager	(479) 968-2080 Ext 132	

VIII. DISTRIBUTION AND MAINTENANCE OF SSORP

Annual updates to the SSORP reflect all changes in policies and procedures as may be required to achieve its objectives.

A. Submittal and Availability of SSORP

Distribute copies of the SSORP and any amendments to the following positions:

- Manager
- Operations Manager
- Pretreatment Coordinator
- Construction Manager
- Legal Counsel
- Engineering Consultants

Familiarize all other personnel who may become incidentally involved in responding to overflows with the SSORP.

B. Review and Update of SSORP

Review the SSORP annually and amend as appropriate. Russellville City Corporation should:

- Update the SSORP with the issuance of a revised or new NPDES permit or state waste discharge permit;
- Conduct annual review and training with appropriate personnel; and
- Review and update, as needed, the various contact person lists included in the SSORP.

C. Practical Resources

There will be small laminated pocket guides printed and furnished to all employees that are involved with the SSO Response Plan, which will provide an overview of the of procedures as well as essential phone numbers. There is also a reference for estimating sewer overflow volumes in Appendix C.

D. Training

A copy of the SSO Response Plan will be distributed to all employees involved in the Overflow process. A review of the plan will be conducted with each employee in a group setting or individually as determined by the employee's supervisor. This training should take place annually or when revisions occur, so that all personnel are brought up to date of any changes that may occur. Each division should also review their response efforts at these annual training sessions and take suggestions to revise procedures. These suggestions will then be submitted to all divisions for review to determine if revisions are required.

APPENDIX A SSO MONITORING AND TRACKING

The procedure to track the frequency and location of SSOs will be as defined below:

- A. All SSOs will be tracked in the Russellville City Corporation Overflow database.
- B. SSOs will be defined as Wet-Weather: (SOW = Sewer Overflow Wet-Weather), Dry-Weather: (SOD = Sewer Overflow Dry-Weather), or Private: (SOP = Sewer Overflow Private). The definition of a dry-weather overflow will be one that overflows due to an obstruction in the main line or equipment failures. The definition of a wet-weather overflow is one that has insufficient carrying capacity to handle inflow and/ or infiltration during a storm event. The definition of a private overflow is one that occurs prior to reaching the public sewer main, such as an overflow from a cleanout cap. City Corporation will maintain and update a list of SSOs.
- C. The database will include the manhole number to identify the overflow locations, which will always be the upstream manhole number of blockage or defect on the sewer main.
- D. The SSO database will contain all information required for regulatory reporting. Reports generated from the database will have the capability of pulling SSO locations based upon dates, locations, and number of occurrences within a set time frame.
- E. Monthly reports will be prepared from the database giving the number of wet-weather and dry-weather SSOs. These reports will be presented by the Operations Manager monthly at the City Corporation Board Meeting.
- F. An initial list of reported capacity related SSOs is being developed for inclusion in the Permanent Signage phase of this SSORP. The list will be developed through field investigation of City Corporation staff during rainfall events. This list shall be maintained and updated annually as conditions and overflow mitigation efforts work to improve capacity related deficiencies in the collection system. Table A-1 provides an example of the information that will be included as the list is developed.

Table A-1. SSOs Eligible for Permanent Signage

SSO Manhole Number	Subbasin Number	General Description of Location

G. A second list has been developed that defines each potential capacity related SSO manhole by its respective Storm Level. Two levels have been defined for simplicity in tracking the collection system’s response to varying rainfall intensities. Storm Level A indicates an event that exceeds one inch of rainfall in a 24-hour period. These SSO manholes are early indicators of the collection system’s response to wet weather conditions. Storm Level B, are SSO manholes that only trigger in excess of a two year frequency storm event. Rainfall amounts will be monitored by City Corporation and respond when Storm Level A or B has been reached. The following list, Table A-2, provides the known, or suspected, SSO manholes that have the potential to discharge during wet weather events. Initially, all overflows will be categorized as Storm Level A. Additional information will be gathered to properly categorize the manholes with their respective Storm Levels.

Table A-2. Capacity Related SSOs by Storm Level

Status	Manhole	Address	Total # of Occurrences (Since 2006)
Active	1043	400 N Vancouver	1
Active	1108	W 2nd Place & S Phenoix	1
Active	1200	1105 Resimont Cv	1
Active	1219	601 G St	1
Active	1295	Hartford & E Parkway	1
Active	1315	3rd & Vancouver	3
Active	1333	4th & Waco	4
Active	1341	1310 Ridgewood Dr	2
Active	1465	ATU Pasture	2
Active	1466	ATU Pasture	1
Active	1468	West N & N Glenwood	2
Active	1487	410 W Parkway	1
Pending	1510	400 S. Commerce	1
Active	1513	5th & Commerce	1
Private	1564	Marina Rd	1
Active	1567	Behind Robertson's Furniture	3
Active	1568	107 N Boston Pl	1
Active	1593	601 E 7th St	1
Active	1608	E B St & N Detroit Ave	1
Pending	1624	110 E Street	1
Pending	1675	1310 E M St	1
Active	1704	K St & Parker Rd	4

Active	1705	1023 Parker Rd	2
Active	1706	1020 Parker	2
Active	1711	1003 E J St	1
Active	1725	E G & Greenwich	3
Active	1728	904 N Frankfort Ave	1
Pending	1735	M St & Frankfort	1
Active	1823	City Mall	2
Active	1825	City Mall	4
Pending	1848	1514 N. Jackson	1
Active	1850	1507 Knoxville Ave	1
Active	1852	1506 N Jackson Ave	1
Active	1996	906 W 16th St	1
Active	2023	508 W 8th St	2
Active	2024	108 W Birch St	7
Active	2028	Birch and Commerce	2
Active	2032	Birch and Commerce	1
Active	2035	Honda of Rsvl, Lakefront Dr	1
Active	2036	220 Lakefront Dr	5
Active	2040	Harrell Dr	1
Active	2042	Red Hill & N Phoenix Ave	1
Active	2043	ATU Softball Field	6
Active	2046	West R & N Glenwood	1
Active	2048	ATU Pasture	8
Active	2050	West O & Glenwood	6
Active	2276	ATU Pasture	1
Active	2314	ATU Softball Field	2
Active	2808	E 5th & S Erie Ave	1
Active	2814	S Phoenix & W 2nd St	1
Active	2815	ATU Pasture	2
Active	2816	ATU Pasture	2
Active	2817	ATU Pasture	2
Pending	2859	311 W. B	1
Active	3026	2501 W 2nd St.	1
Active	3027	2507 W 2nd St.	2
Active	3043	N Hunter Ridge Ln	1
Active	3052	102 N Fairbanks	2
Active	3075	3801 W Main	2
Active	3094	Portland & Main	2
Pending	3114	106 S. Hastings	1
Active	3133	243 Enid Ave	1
Active	3191	John Trusty Lane	1
Active	3193	John Trusty Lane	9
Active	3283	104 Sunset Dr	1
Active	4009	2005 E Main St	1
Pending	4015	1215 E. Main	1
Pending	4019	1611 E. Main St.	1
Active	4020	Automatic Auto Finance	2
Pending	4023	2209 E. Main	1
Active	4043	502 Knoxville	1
Active	4058	1400 E F St	1
Pending	4107	200 S El Mira	1
Pending	4116	713 E. 4th St.	1
Active	4127	515 S Ithaca	5
Active	4138	719 S Ithaca	1
Active	4182	1200 East E St.	1
Active	4213	Waste Management	2
Active	4214	Waste Management	2
Active	5005	916 W 16th St	1
Active	5018	S Commerce Ave & W 12th st	1
Active	5032	E. 11th and Boston Av	10

Active	5043	109 E 13th Street	1
Active	5054	1418 S Boston Av	2
Active	5102	105 Western Drive	1
Pending	5120	11th and Glenwood	1
Pending	5136	601 Arkansas Ave	1
Active	5164	E 11th St & Boston Pl	1
Pending	5668	219 W 23rd	1
Active	6035	1106 12th St	1
Active	6085	1328 S Sidney Ave	1
Pending	6088	1312 S Sidney Ave	1
Active	6108	1204 S Utica Ave	1
Pending	6231	3510 E. 4th St.	1
Active	6399	1519 Knoxville Ave	1
Pending	6415	300 Industrial	1
Active	6478	404 Jimmy Lile Rd	4
Pending	7017	106 Lakeshore Dr.	1
Active	7035	110 Lakeview Dr	1
Pending	7053	Lift Station B	1
Active	8046	Pollution Control Works	1
Pending	8048	Pollution Control Works	5
Active	9016	Shadow Valley PS	1
Active	Old Post	Old Post Lift Station	2
Active	PCW	Pollution Control Works	1

Status provides an indication of the confidence level in the potential for this manhole to experience an SSO. “Active” means a confirmed SSO was experienced, “Investigate” means non-verified information has lead to the inclusion on this listing and shall require field conformation, while “Pending” indicates a rehabilitation effort has been conducted with field conformation to follow to conclude positive mitigation.

- H. An annual report will be prepared by City Corporation, which shall include a review of all capacity related overflows, as well as determine updates to the two tables above for permanent signage and potential capacity related SSO manholes. These updated capacity related SSO lists shall be included for amendment to this SSORP.

APPENDIX B SSO RESPONSE PLAN SUMMARY

Public Notification of possible SSO

Notification during working hours

Customer Service Representatives (CSR) receive notification of a possible SSO from the public. The CSR will route the call to the Network Operations Center at which time all relevant information is collected, as outlined in Section IV-A. NOC will then dispatch the appropriate Response Crew to the site to verify if an SSO has occurred. The Response Crew will report findings back to NOC.

Response Crew determines if SSO has occurred and attempts to resolve problem. Response Crew completes the Overflow Report Form, takes photographs before clean-up is started, and places warning sign(s) at the site, as required. Construction Supervisor verifies Overflow Report, problem resolution, and signage have been appropriately addressed.

Response Crew begins cleanup and disinfection of the affected area. Response crew will notify Network Operations Center when cleanup is complete. NOC will dispatch Construction Supervisor to verify cleanup is completed, take photographs and remove warning signs.

Notification after hours

After Hours Emergency Crew receives direct notification of possible SSO from public at which time they collect all relevant information as outlined in Section IV-A and proceed to location. (After Hours Emergency Crew mans emergency phone after business hours)

Emergency crew determines if SSO has occurred and attempts to resolve problem then takes photographs before cleanup and places warning signs at site, as required. Emergency Crew is to fill out Overflow Report Form and turn in with their paper work at the beginning of the next workday.

Emergency crew then begins clean-up and disinfection of the affected area. When cleanup is completed, crew is to take photographs and remove warning signs.

If the SSO occurred within a structure the Construction Supervisor is to verify cleanup has been completed in a satisfactory manner. Site visit is to be performed the first work day after the overflow occurrence.

Internal Notification of possible SSO

All City Corporation personnel are directed to immediately report any potential overflow to the Network Operations Center and provide all relevant information as outlined in Section IV-A. After the overflow has been reported, all procedures will be the same as with a public notification of possible SSO above.

Rain events that are one-inch or greater will trigger our Response Crews to investigate possible recurring SSO sites to verify if an overflow has occurred. These crews will be furnished a list of possible SSO sites (see Table A-2), which has been determined as being locations that have potential to overflow. After crews have completed a check of the entire list, they will begin clean-up at each site.

APPENDIX C SSO FLOW and VOLUME DETERMINATION

As indicated previously in this SSORP, each SSO actively discharging shall be evaluated for flow and ultimately total volume discharged, each of which is to be included as part of the reporting requirements. City Corporation has included a flow estimating system that is derived from the reaction of the manhole lid in relation to the amount of flow exiting the collection system. This system is easily field estimated without the need for measuring devices, which in most instances provide inadequate data.

The three-category rating system is outlined below:

0 – 10 gpm (gallons per minute)

This rate covers the light discharge experienced in the upper reaches of the collection system, usually with a small number of residential connections. The visual indicator would be a light flow (about the rate of a standard faucet) from around the manhole lid with no visible release of debris or solids, and no movement or lifting of the lid itself.

10 – 100 gpm

This rate covers the moderate discharge experienced in the lower reaches of the collection system, usually along the larger collector or outfall type sewer mains (typically 10" and larger mains) and in some capacity related SSOs. The visual indicator would be a noticeable flow from around the manhole lid, slight debris or solids release, and a rocking or slight lifting of the manhole lid.

Greater than 100 gpm

This rate covers the heavy discharge experienced along the major outfall sewers and larger capacity related SSOs. The visual indicator is the definite release of debris or solids, and the complete lifting or displacement of the manhole lid.

SSO volumes are computed by estimating the flow from the above data and multiplying by the duration of discharge. If the exact length of discharge is unknown, criteria for determining an estimated time has been established in the Section IV-D. Overflow Report.

**APPENDIX D
SIGNAGE FOR OVERFLOWS**

The following language shall be used on signs located on existing SSO sites during cleanup and on notices attached to homes adjacent to SSO sites:

**NOTICE OF
SANITARY SEWER OVERFLOW**

*Please avoid contact with this
sanitary sewer facility due to the
possibility of adverse health effects
until cleanup can be completed.*

**For Additional Information
Contact Keith Gray – City Corporation
(479) 968-2080 ext 134**

The following language shall be used on signs located on potential SSO sites that occur more than once in a twelve-month period:

**NOTICE OF
SANITARY SEWER OVERFLOWS
WHICH MAY OCCUR AT THIS LOCATION**

*Please avoid contact with this
sanitary sewer facility during an
Overflow condition due to the
possibility of adverse health effects
until cleanup can be completed.*

**For Additional Information
Contact Keith Gray – City Corporation
(479) 968-2080 ext 134**

APPENDIX 1

BUDGET PROCESS AND SCHEDULE



APPENDIX 9

CREEK CROSSING LIST WITH INSPECTIONS



CREEK CROSSINGS

<u>LOCATION</u>	<u>MH</u>	<u>MH</u>	<u>PIPE SIZE</u>	<u>COMMENTS</u>	<u>CONDITION</u>
1 EAST "L" & UNIVERSITY	1673	1671		8 DUCTILE IRON EXPOSED ABOVE CREEK	GOOD
2 2ND ST. & PHEONIX	1095	1108		8 REPLACED WITH DUCTILE IRON WHEN PHEONIX WAS WIDENED	GOOD
3 EAST CIRCLE DRIVE	1130	1129		12 REPLACED	GOOD
4 400 SOUTH JONESBORO	1159	1151		10 REPLACED WITH DUCTILE IRON	GOOD
5 N OF 10TH LIFT STATION	5006	1535		8 REPLACED	GOOD
6 MUSKOGEE NEAR THE RAILROAD	1012	WEST		6 NEW DUCTILE LINE AND GOES FROM 1012 NOW	GOOD
7 500 BLOCK OF "F" STREET	1737	1641		8 DUCTILE SPANNING CREEK	GOOD
8 300 BLOCK N BOSTON	1567	1617		10 OLD DUCTILE OR STEEL THAT MAY NEED TO BE REPLACED	BAD
9 400 BLOCK N BOSTON	1620	1625		15 UNDER CONCRETE IN BOTTOM OF CREEK	GOOD
10 400 BLOCK N BOSTON	1618	1632		12 UNDER CONCRETE IN BOTTOM OF CREEK	GOOD
11 400 BLOCK N BOSTON	1634	SOUT		6 LINE LOOKS GOOD	GOOD
12 N. OF ERIE & "E" STREET	1737	1636		8 NO CREEK OR DITCH HERE	GOOD
13 500 BLOCK OF "E" STREET	1635	1636		8 BETWEEN ERIE AND DETROIT ON NORTH SIDE OF CREEK	GOOD
14 100 BLOCK OF N. LAREDO	1057	1055		6 CAN'T FIND MANHOLE NUMBERS ON MAP	GOOD
15 DIKE RD	2036	2077		8 CAMERAED LOOKS GOOD	GOOD
16 MAIN AND LOREDO	1070	1071		6 NEEDS CAMERAED	UNK
17 100 BLOCK OF S. LOREDO	1084	1085		18 1084 BURIED IN STREET-LINE GOES BESIDE CREEK	GOOD
18 FARGO & "P" TECH PASTURE	1466	2049		10 WEST OF WEST "O" STREET & NORTH GLENWOOD---CLAY	GOOD
19 E. 16TH 600' E. OF EL MIRA	6294	6295		24 NEEDS CAMERAED	UNK
20 2000 BLOCK OF EL MIRA	6317	6316		24 HAS GOOD CLAY LINE	GOOD
21 PITTSBURG CIRCLE	6153	6152		36 HAS NEW 36" PVC ENCASED WITH CONCRETE	GOOD
22 PITTSBURG CIRCLE	6153	6131		15 NEEDS CAMERAED	UNK
23 PITTSBURG & ALEWINE ON 17	6133	6134		10 6340 NOT NUMBERED	GOOD
24 200 BLOCK OF E. 16TH	6073	6082		10 LINE IS UNDER GARAGE AREA OF CM VENDING	GOOD
25 EAST 16TH ST. & ITHICA	6066	6067		8 NEEDS CAMERAED	UNK
26 6TH & ARKANSAS	1526	1522		6 UNDER CENTER OF STATE HIGHWAY S. ARKANSAS	GOOD
27 800 BLOCK OF 8TH STREET	1238	1242		8 NEED MORE INFO	UNK
28 12TH ST. & MUSKOGEE	1257	1258		8 NEEDS REPLACED FROM 1257 TO 1242	BAD
29 WEST MAIN & MODESTO	3109	3067		AL 3090 TO 3089-NEEDS CAMERAED	UNK
30 100 BLOCK OF EAST 6TH STREET	1539	1540		8 NUMBERS DO NOT MATCH	UNK
31 11TH ST. & BOSTON AVE.	5032	WEST		6 REPAIRED	GOOD
32 105 EAST 8TH ST.	1537	WEST		6 NUMBERS DO NOT MATCH	UNK

CREEK CROSSINGS

33	100 BLOCK OF EAST 8TH ST.	1536	SOUT	8	HAS DUCTILE	GOOD
34	10TH ST. & DENVER	5013	5124	8	NEEDS CAMERAED	UNK
35	12TH ST. & MUSKOGEE	1264	1265	8	NEEDS CAMERAED	UNK
36	MAIN ST. LIFT STATION	4000	4001	18	TOO MUCH FLOW	UNK
37	10TH ST. LIFT STATION	5007	STATI	8	REPLACED WITH NEW LIFT STATION	GOOD
38	OMAHA & SECOND	1091	1094	8	UNDER CONCRETE IN BOTTOM OF CREEK	UNK
39	OMAHA & SECOND	1092	1095	15	UNDER CONCRETE IN BOTTOM OF CREEK	UNK
40	2ND PLACE & MUSKOGEE	1120	1119	12	NEEDS CAMERAED	UNK
41	900 BLOCK OF E. "J"	1653	1152		UNDER CONCRETE IN CREEK AND WAS VIDEOED BEFORE CONSTRUCTION	UNK
42	2ND & UTAH	1115	SOUT	6	CAMERAED LOOKS GOOD	GOOD
43	2ND & UTAH	1115	1114	8	CAMERAED LOOKS GOOD	GOOD
44	412 N. JOPLIN	3076	3077	12	UNDER STREET--NEEDS 3077-3079 & 3077-3078	UNK
45	900 BLOCK OF E. "J"	1653	1654	8	CAMERAED LOOKS GOOD	GOOD
46	"H" ST. IN ADJOINING FIELDS	1648	1649	8	NUMBERS DO NOT MATCH	UNK
47	NEAR HARTFORD & EAST "H"	1646	1647	6	LOOKS GOOD	GOOD
48	"G" & GREENWICH	1725	1642	8	VERY BAD IN NEED OF REPLACEMENT	BAD
49	LOUISVILLE & UNIVERSITY	1655	1659	8	1655-1660	UNK
50	EAST CIRCLE DRIVE	1128	2104	12	DOES NOT NEED REPLACING	GOOD
51	100 BLOCK S. LOREDO	1085	1128	12	RUNS BESIDE CREEK AT KROGER - WEST MAIN	UNK
52	WEST "C" ST. & MUSKOGEE	1030	1031	15	HAS CAST IRON OR DUCTILE	UNK
53	EAST OF EL PASO	1826	1824	18	NOT SURE	UNK
54	100 BLOCK EAST "D"	1621	1619	6	DUCTILE EXPOSED UNDER BRIDGE	UNK
55	"B" ST. & GREENWICH	4002	1605	18	OVER FLOW LINE FOR PRAIRIE CREEK	UNK
56	"B" ST. & GREENWICH	2064	2065	10	UNDER CONSTRUCTION	GOOD
57	"B" ST. & GREENWICH	4007	4033	10	UNDER CONSTRUCTION	GOOD
58	KNOXVILLE & "C" ST.	4027	EST&	15	NEW DUCTILE ACROSS CREEK	GOOD
59	710 N. EL PASO	1827	1826	18	BEEN RENEWED	UNK
60	PRAIRIE ST. BOOSTER STATION	1818	1000	15	TOO MUCH FLOW	UNK
61	BEHIND TYSON HATCHERY	6289	6290	24	RIGHT OF WAY NEEDS CLEARED	UNK
62	NORTH OF THE RAILROAD	6289	6269	18	RIGHT OF WAY NEEDS CLEARED	UNK
63	NEAR TYSON HATCHERY	6291	6290	24	RIGHT OF WAY NEEDS CLEARED	UNK
64	INTERSECTION HWY 324	6266	6261	8	NUMBERS DO NOT MATCH	UNK
65	TYSON HATCHERY	6292	6293	24	RIGHT OF WAY NEEDS CLEARED	UNK
66	100 BLOCK SOUTH MUSKOGEE	1089	1088	15	NOT LIKE SHOWN ON MAP	UNK

CREEK CROSSINGS

67	NORTH OF THE RAILROAD	6268	6267	18	RIGHT OF WAY NEEDS CLEARED	UNK
68	TYLOR RD.	6270	6331	10	NEEDS CAMERAED	UNK
69	1700 EL PASO	5065	5067	8	NEEDS CAMERAED	UNK
70	1600 S. COMMERCE	5062	5029	6	NEEDS CAMERAED	UNK
71	10TH & DENVER	5014	5013	12	IN STREET UNDER BRIDGE	UNK
72	800 4TH PLACE	1162	1158	8	RUNS BESIDE CREEK AT KROGER - WEST MAIN	UNK
73	S. LOREDO MEADOWVIEW	1257	1242	8	NEEDS REPLACED FROM 1257 TO 1242	BAD
74	FIELD S. OF HONEYSUCKLE	2101	2100	10	NEW PVC SOUTH WACO BETWEEN W. 7TH & W. 8TH	GOOD
75	WEST 12TH & ARLINGTON	2115	2114	10	PVC	GOOD
76	BRADLEY LANE & VANCOUVER	????	????	10	1316-SOUTH	UNK
77	3RD CT. & VANCOUVER	1315	1332	10	NEEDS CAMERAED	UNK
78	S. ARK & 2ND ST.	1494	1495	8	IN ALLEY BETWEEN BOULDER AND ARKANSAS	UNK
79	KNOXVILLE & 16TH ST.	6073	6071	15	UNDER MIDDLE OF 16TH ST. EAST OF KNOXVILLE	UNK
80	8TH & GLENNWOOD	1229	1232	6	NEW MAIN	GOOD
81	4TH PL. & HOUSTON PL.	1163	1214	10	NEEDS REPLACED ON JAMES PARK SIDE OF CREEK	BAD
82	100 BLOCK S. MUSKOGEE	1087	1091	8	NEEDS CAMERAED	UNK
83	MAIN ST. & MUSKOGEE	1087	1072	12	TOO MUCH FLOW	UNK
84	18TH & COMMERCE	5069	5065	6	NEEDS CAMERAED	UNK
85	AREA IN 100 BLOCK N. ARK.	????	????	??	BEHIND ROBERSON AUCTION	UNK
86	200 WEST 13TH	5019	5021	8	NEEDS REPLACED	BAD
87	WEST "T" & N. GLENNWOOD	2044	2046	10	CREEK IS BETWEEN 2044 & 2043 CLAY LINE	UNK

APPENDIX 11

EFFLUENT FLOW SPREADSHEET



Effluent Flow

1 Effluent flow

Date	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013
1	6.538	7.658	8.377	10.172	5.968	5.127	3.444	4.318	4.564	4.483	4.815	3.616
2	6.045	7.488	6.504	8.029	5.660	8.558	3.965	4.276	4.233	4.369	4.350	3.790
3	6.108	7.124	6.234	10.551	7.118	6.807	3.728	3.950	4.483	4.595	4.090	4.408
4	6.198	7.176	5.830	10.888	7.003	6.559	3.937	3.985	4.860	4.381	3.635	4.728
5	6.493	7.670	6.837	10.185	6.996	6.032	3.190	4.017	4.934	4.459	5.123	4.382
6	5.090	6.456	6.840	9.395	6.123	5.566	2.188	4.605	4.922	4.702	7.008	6.586
7	4.600	7.435	6.704	7.984	6.412	5.516	3.195	4.075	4.901	4.071	7.537	7.446
8	5.121	7.357	6.721	6.931	6.200	5.790	3.039	4.106	4.729	4.212	5.982	7.043
9	5.833	7.489	6.742	7.659	5.959	5.911	3.821	4.339	4.330	4.450	6.438	6.498
10	6.961	7.370	6.183	6.834	6.203	5.735	3.777	4.843	5.024	4.201	5.367	6.687
11	6.840	7.885	8.927	12.840	5.356	5.067	4.360	4.872	4.099	4.372	4.819	6.294
12	5.858	7.845	7.538	11.162	5.993	5.381	4.132	3.873	4.415	4.208	5.064	6.344
13	13.023	8.095	8.918	8.937	5.765	4.462	1.525	4.465	4.623	3.626	4.454	6.029
14	7.982	7.846	7.502	7.657	6.007	4.417	3.738	5.356	4.497	3.553	4.418	6.984
15	7.548	7.458	7.088	6.858	6.169	3.826	3.295	4.391	4.100	4.188	5.412	7.209
16	7.690	7.465	6.997	7.066	6.070	4.216	3.840	4.774	3.720	6.988	4.417	6.604
17	7.419	7.448	6.693	6.586	6.003	3.666	3.862	3.693	4.271	5.527	4.817	5.934
18	6.903	7.046	6.491	6.260	5.690	4.625	4.060	3.449	4.142	4.671	4.348	5.692
19	6.470	7.513	6.736	7.510	5.391	4.357	4.111	3.495	4.198	5.000	4.481	5.659
20	6.295	6.904	6.484	7.502	5.194	4.302	3.942	4.158	4.472	3.737	4.552	5.793
21	6.858	7.549	6.814	6.564	5.964	4.351	3.444	4.605	5.377	3.623	4.415	6.446
22	7.502	9.947	6.407	5.595	7.062	4.006	3.254	4.733	3.890	4.977	5.241	10.435
23	6.707	11.362	7.164	6.022	6.846	3.774	3.613	5.524	3.549	4.861	5.335	6.844
24	6.409	9.164	7.247	6.489	6.217	3.471	4.069	4.177	4.408	4.459	5.053	7.362
25	6.713	8.152	7.130	6.434	5.547	4.075	4.214	4.345	4.267	4.390	4.192	6.682
26	6.693	11.335	6.969	6.279	5.501	4.031	4.848	4.219	4.330	4.178	5.145	5.952
27	6.396	10.570	6.629	6.583	5.639	4.129	4.139	4.995	4.328	4.268	5.034	6.348
28	5.987	8.388	6.352	7.084	5.994	4.152	4.227	5.087	4.208	3.836	4.737	6.133
29	7.198		6.202	6.530	6.098	3.939	3.955	4.815	4.627	4.266	3.475	6.717
30	7.703		6.752	6.378	5.316	3.756	4.174	5.040	4.106	4.336	3.717	6.485
31	8.596		10.193		4.977		4.465	4.875		4.852		6.835
Minimum	4.600	6.456	5.830	5.595	4.977	3.471	1.525	3.449	3.549	3.553	3.475	3.616
Maximum	13.023	11.362	10.193	12.840	7.118	8.558	4.848	5.524	5.377	6.988	7.537	10.435
Total	211.777	225.195	218.205	234.964	186.441	145.604	115.551	137.455	132.607	137.839	147.471	193.965
Average	6.832	8.043	7.039	7.832	6.014	4.853	3.727	4.434	4.420	4.446	4.916	6.257

Daily Average

5.734

APPENDIX 12

NEWSPAPER ADS AND ARTICLES FOR 2012



New City Corp. GM glad to be home

by Howard West

01.18.13 - 08:23 am

City Corp. has a new general manager to replace Craig Noble, who took a job running the water department for the city of Rogers last year.

Steve Mallet Jr. said Wednesday he is excited to be back in Russellville at the city's water utility. He had previously worked at the utility before taking a position in Hot Springs.

Mallet was the acting City Corp. chief operations officer until late December of last year. He transitioned into his new position at the beginning of January.

He is originally from Morrilton and attended Arkansas Tech University's engineering program, where he received his bachelor of science degree in 1993 with a focus on wastewater treatment.

During his academic career, he worked part-time for City Corp. He said the experience was beneficial, but looked forward to acquiring additional professional knowledge in his position with the city of Hot Springs.

In the Spa City, Mallet started as an engineer and worked his way up through the ranks and ultimately landed as the deputy city manager. His job included managing the public works and utilities departments, as well as parks and recreation, water, sewage and animal control. According to Mallet, the job began in public works and then grew to encompass the deputy manager position.

Mallet said he enjoyed working for City Corp. and is glad to be back. He liked Hot Springs because there was lots to do and he will miss the festivities and events like the Harley-Davidson parade.

Mallet said he is aware of the coming needs the city of Russellville will have for a larger water supply and he has working ideas for solutions to that need.

"I am very appreciative of the staff and board at City Corp. and am looking forward to working with the city of Russellville," he said.

Former City Corp. Board Chairman Tommy Richardson attended his last meeting as a board member on Tuesday.

"I started as a junior board member," Richardson said. "I spent the last five years moving up on the board. It was an enjoyable time, and I learned a lot, and I hope I did some good. We are extremely lucky to get Steve Mallet once we found out Noble was moving."

Richardson said Mallet is a perfect fit because he is familiar with City Corp. because of his past work history with the utility.

“He is a super nice young man and will have a good working relationship with the city,” Richardson said.

According to Richardson, Mallet’s starting annual pay is \$110,000.

“This is a small wage for the level of responsibility he has. He is not just a manager, he is also a professional engineer (P.E.). He has a vast knowledge of the water and sewer industry,” Richardson said.

© couriernews.com 2013

City Corp. talks budget, project needs

by Whitney Snipes
05.25.13 - 07:00 am

The head executive at Russellville's water utility recently addressed the City Council about several looming expenditures.

City Corp. General Manager Steve Mallett told aldermen at the Council's May meeting there must be ongoing discussions to determine the best way to fund these projects.

For 2014-18, there are more than \$40 million in projected capital needs, he said. Of that, \$20.8 million is for wastewater collection system improvements, \$9.5 million for water treatment plant expansion and upgrades and \$1.75 million for water distribution piping replacement.

During that period, only \$7 million in capital funds is estimated to be generated, leaving a large deficit.

In addition to the capital projects, there are approximately \$50 million in identified needs for unbudgeted future projects. These needs include \$10.6 million in wastewater collection system improvements, \$35 million in water pipe replacements and \$4.3 million in fire flow improvements.

Mallett also noted City Corp. has a deadline of 2022 to achieve compliance in accordance with the federally mandated consent administrative order.

Not included in any of these projects are the identification and development of a secondary water source — the Huckleberry Reservoir is designed to meet the city's water needs through 2035, wastewater plant improvements that may be necessary to address phosphorus limits or any other limits that may be imposed at a future date and a wastewater outfall line to the river as an alternative to future wastewater plant expansion.

Mallett also outlined funding options for these upcoming expenditures. First, he said City Corp. can utilize reserve funds, currently at \$13 million. Mallett said if City Corp. tried to do a "pay as you go" approach to capital improvements, funds would be down to only \$2.3 million after 2014.

He did suggest the reserve could be used to fund new debt issues such as bonds or loans. City Corp. staff is working with a consultant to look at ways to utilize these funds to fund capital improvements while maintaining a sufficient level of reserve funds.

Another funding proposal, Mallett said, would be to decrease expenses. This could be done by reducing annual operating and maintenance budgets by eliminating non-essential goods and services, evaluate staffing levels and evaluating professional services contracts; reducing annual capital budgets by

prioritizing, eliminating or postponing projects that are non-critical, continuing to value engineer all current and future projects and utilizing in-house engineering and construction forces to design or construct smaller projects; or take advantage of energy efficiency incentive programs.

The third and final funding option Mallett presented was to increase revenues.

This could be done in several ways, including participating with the city in future sales tax campaigns, increase water sales, or modify water or wastewater rates and fees.

He noted services fees, such as late charges, have not been adjusted since the 1980s.

© couriernews.com 2013

Some Russellville residents live without city water, sewer services

by [Whitney Snipes](#)

04.15.13 - 09:16 am

While Russellville's tap water has won awards in years past for its taste, some city residents still don't have access to it.

John Srutka has a home on the eastern end of town, just north of the recent Russell Road extension, and though the property was annexed into the city many years ago, it still has no city water or sewer service.

He isn't the only one. Although precise numbers are hard to pinpoint, evidence shows hundreds of Russellville residents could be without city water — and many more than that do not have city sewer service.

As of March, City Corp. had 10,231 residential water customers, but only 9,238 residential sewer customers. This indicates there are nearly 1,000 customers that have water service from City Corp., but no sewer service.

Determining how many homes do not have city water service is more difficult. However, 2010 Census figures reported 11,124 housing units in Russellville, or nearly 900 more units than City Corp. provides water to.

Some Russellville residents who live in annexed portions of the city may continue to receive water from the Tri County Regional Water Distribution District. Others, like Srutka, have wells.

Gaining access to city utilities doesn't come cheap. Srutka said running water to his property could cost \$10,000, and sewer would be a whopping \$180,000. Unless a water improvement district is created to share the cost burden among other nearby homes, the cost of obtaining these services would fall solely on the homeowner.

Steve Mallett, general manager at City Corp., said his organization focuses on operation and maintenance of city water and sewer lines, but does not have the budget to expand those services.

"We're just not financially set up to run water and sewer main to undeveloped property," he said.

The city isn't shelling out the cash, either, as indicated by an October 2012 letter from Mayor Bill Eaton to Srutka.

"Without an improvement district being established where costs would be shared, the full cost ... would be yours alone," the letter concluded.

Other than the possibility of foul well water, which may not be drinkable, there

are financial impacts of owning property within the city boundaries — and paying city taxes — but lacking vital services. Srutka claims an offer to buy the home fell through after potential buyers learned of the lack of city services and the cost to install them.

Cliff Goodin, executive broker at River Valley Realty, said lack of city water services especially can significantly impact the value of a home, though he said the number of homes in the city without water service was low.

It is unclear why water, at least, has not been run to properties like Srutka's. City Attorney Trey Smith said annexation ordinances generally state utilities will be provided within a certain time frame, usually 3-5 years. The ordinance referring specifically to the annexation of Srutka's property could not be located by a reporter on Friday afternoon, but he said the property was annexed more than 10 years ago.

Help could be coming soon. At a meeting last week to discuss the city's 1-cent sales tax, Alderman Martin Irwin asked whether proceeds from the tax could be used to help expand city water and sewer services to more residents. Plans for allocation of those funds are still pending.

© couriernews.com 2013

New City Corp. GM glad to be home

by [Howard West](#)

01.18.13 - 08:23 am

City Corp. has a new general manager to replace Craig Noble, who took a job running the water department for the city of Rogers last year.

Steve Mallet Jr. said Wednesday he is excited to be back in Russellville at the city's water utility. He had previously worked at the utility before taking a position in Hot Springs.

Mallet was the acting City Corp. chief operations officer until late December of last year. He transitioned into his new position at the beginning of January.

He is originally from Morrilton and attended Arkansas Tech University's engineering program, where he received his bachelor of science degree in 1993 with a focus on wastewater treatment.

During his academic career, he worked part-time for City Corp. He said the experience was beneficial, but looked forward to acquiring additional professional knowledge in his position with the city of Hot Springs.

In the Spa City, Mallet started as an engineer and worked his way up through the ranks and ultimately landed as the deputy city manager. His job included managing the public works and utilities departments, as well as parks and recreation, water, sewage and animal control. According to Mallet, the job began in public works and then grew to encompass the deputy manager position.

Mallet said he enjoyed working for City Corp. and is glad to be back. He liked Hot Springs because there was lots to do and he will miss the festivities and events like the Harley-Davidson parade.

Mallet said he is aware of the coming needs the city of Russellville will have for a larger water supply and he has working ideas for solutions to that need.

"I am very appreciative of the staff and board at City Corp. and am looking forward to working with the city of Russellville," he said.

Former City Corp. Board Chairman Tommy Richardson attended his last meeting as a board member on Tuesday.

"I started as a junior board member," Richardson said. "I spent the last five years moving up on the board. It was an enjoyable time, and I learned a lot, and I hope I did some good. We are extremely lucky to get Steve Mallet once we found out Noble was moving."

Richardson said Mallet is a perfect fit because he is familiar with City Corp. because of his past work history with the utility.

“He is a super nice young man and will have a good working relationship with the city,” Richardson said.

According to Richardson, Mallet’s starting annual pay is \$110,000.

“This is a small wage for the level of responsibility he has. He is not just a manager, he is also a professional engineer (P.E.). He has a vast knowledge of the water and sewer industry,” Richardson said.

© couriernews.com 2013

CAO amendment proposed for City Corp.

by [Whitney Snipes](#)

12.18.13 - 07:00 am

Russellville's water utility expects to hear soon if it will receive an extension on deadlines for compliance with environmental regulations.

City Corp. entered into a consent administrative order (CAO) to address compliance issues with federal and state regulations. City Corp. was not able to meet deadlines set out in that order to resolve issues, but is currently in the process of implementing construction projects to come into compliance.

General Manager Steve Mallett told the City Corp. board during its December meeting on Tuesday that he spoke to Alan Anderson, City Corp.'s enforcement officer with the Arkansas Department of Environmental Quality (ADEQ), who said ADEQ staff is reviewing a draft amendment that would extend the deadline to January 2016 for certain compliance issues.

The extended deadline would coincide with City Corp.'s current deadline to address nitrates and give them an additional year past their projected contract completion date, which would allow for time to work out any operational wrinkles with the new plant.

According to Mallett, Anderson said City Corp. would be able to review the draft amendment and discuss with ADEQ staff prior to a final order being issued.

"From what they're telling me, we'll have plenty of opportunity to meet with them," Mallett said.

There has not yet been any mention of a penalty as part of the proposed amendment, Mallett said.

In other business Tuesday, the board also approved a \$30,000 contract with Garver Engineers to provide design and engineering work for a bypass system for the valve that feeds the water treatment plant.

Currently, the valve has no backup and a failure would have serious implications, blocking all water into the treatment plant. The valve was installed in 1996, staff said.

Preliminary construction cost estimates the cost of the valve bypass to be \$166,000.

City Corp. approves engineering contract

by Whitney Snipes

11.22.13 - 08:58 am

The City Corp. Board of Directors on Tuesday approved a contract for engineering services.

The contract was awarded to CWB Engineers for the amount of \$107,544 to provide construction engineering services during the construction of wastewater improvements.

In September, the Board approved a contract with Building and Utility Contractors for wastewater improvements in four basins.

The contract has a 300-day time for completion, but the contractor has indicated that he is mobilizing three crews to begin the work in hopes of significantly reducing the time needed. CWB Engineers submitted a contract to provide construction engineering services which includes construction observation, pay requests, as-builts, etc.

“We feel that the presence of a CWB inspector on the East Second (Street) job contributed to the many coordinated field changes that resulted in savings of over \$316,000 on the project,” the proposal prepared for the Board by City Corp. staff stated.

“We feel that due to the nature of the work in mostly residential areas, the possibility for change orders and property owner complaints is high and a full time inspector is warranted and may provide similar savings.”

In other business Tuesday, the board approved a bid of \$99,661.80 by Denali Water Solutions to remove sludge from water plant ponds and approved a renewal of a CD with Liberty Bank, which submitted the high bid.

© couriernews.com 2013

Russellville voters say 'yes' to 'Pennies for progress'

by [Whitney Snipes](#)

09.11.13 - 09:39 am

Russellville voters said "yes" Tuesday to the extension of the city's 1-cent sales tax for an additional seven years.

The measure passed with 59.61 percent of voters in favor of the extension and 40.39 percent against. Ballots were cast by 1,528 voters, 859 of those during early voting.

The revenues from the tax will be distributed as follows: Sales tax proceeds derived from the sale of aviation fuel at Russellville Municipal Airport will be used for capital or operating costs of the airport.

Of the remaining citywide collections, 6.25 percent will be used for economic development and capital improvement purposes and 12.5 percent will be set aside for water and sewer improvements.

The remaining 81.25 percent of net collections will be divided as follows: \$7 million for construction, operation and maintenance of an aquatic center; \$1.3 million for parks and recreation capital projects; \$6.5 million for a new central fire station; and the balance will be dedicated for streets and drainage. At least \$25 million is expected to be directed to streets and drainage.

Russellville residents and shoppers have paid a 1-cent sales tax since 1993, though the city itself has only received revenues from the tax since 2003. From 1993-2002, a one-cent citywide sales tax was in place, but funds were used for a number of expansion projects and debt retirement for City Corp., the city's water and sewer utility.

An extension of the tax for use by the city was approved by vote in 2002, with collections beginning in 2003, when the previous tax for City Corp. expired. The tax approved by voters called for seven-eighths of each cent to be dedicated to street and drainage projects and the other one-eighth to economic development efforts.

In 2007, that tax was up for renewal. Again, voters said "yes" to the continuation of the city's 1-cent sales tax for six more years. Margins for this extension passed with the support of 79 percent of the 1,968 total voters.

The 2007 ordinance called for the money to be split in several different directions.

For two years, the tax was divided with 62 percent to street and drainage, 16 percent for the proposed convention center and hotel, 12 percent for economic development, 6 percent for the city's Recreation and Parks Department and 4 percent for the renovation of City Hall.

In March 2010, the collections for the convention center, Recreation and Parks and City Hall expired. At that point, the one-cent tax reverted back to the original seven-eighths for street and drainage and one-eighth for economic development.

Turnout for Tuesday's election was lower than that of the special election conducted last month to determine whether to approve or deny a zoning ordinance that would allow for construction of a Walmart Neighborhood Market. That election saw 2,924 voters, 1,696 of those during early voting.

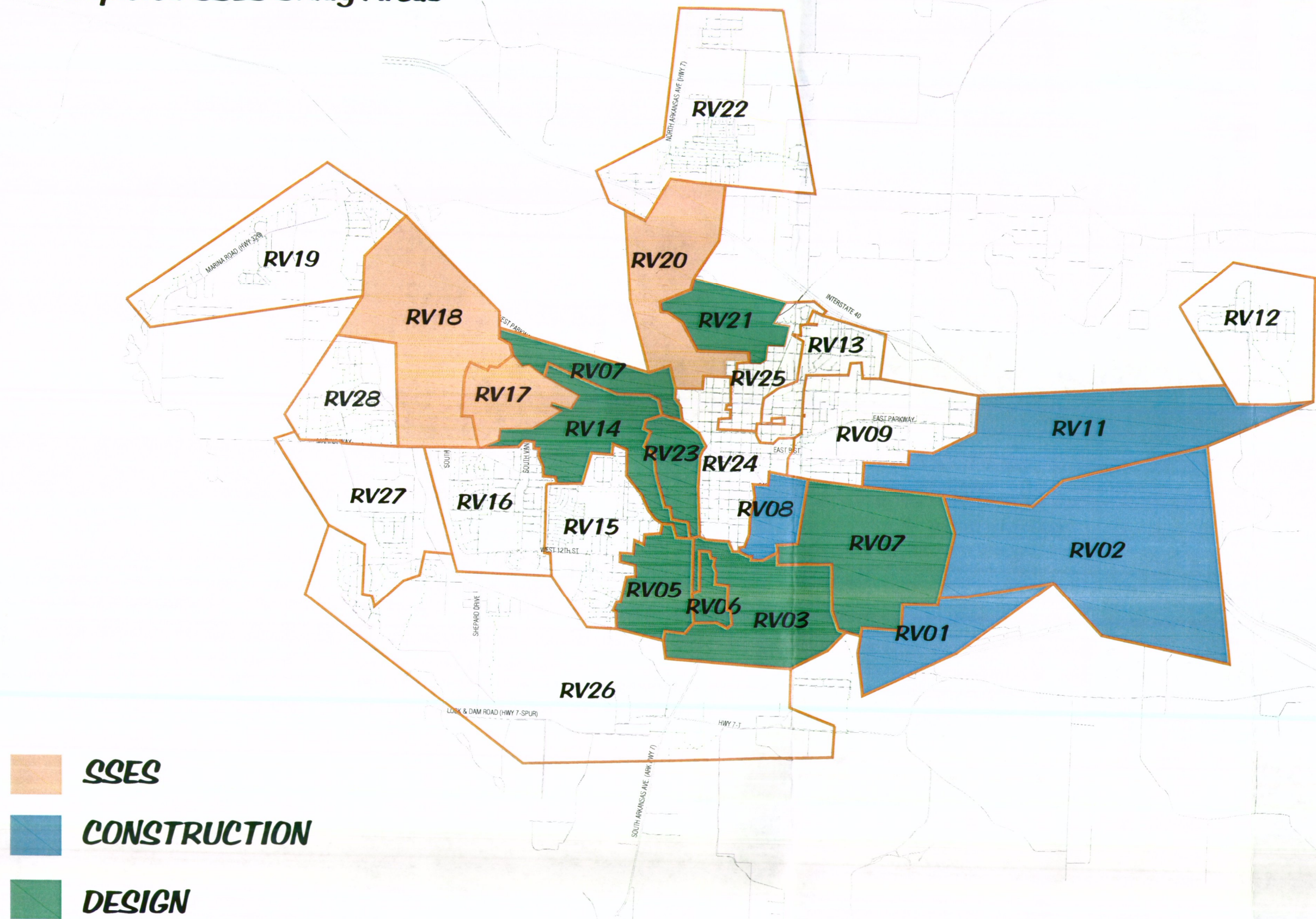
© couriernews.com 2013

APPENDIX 13

COMPLETED SSES SUBBASINS



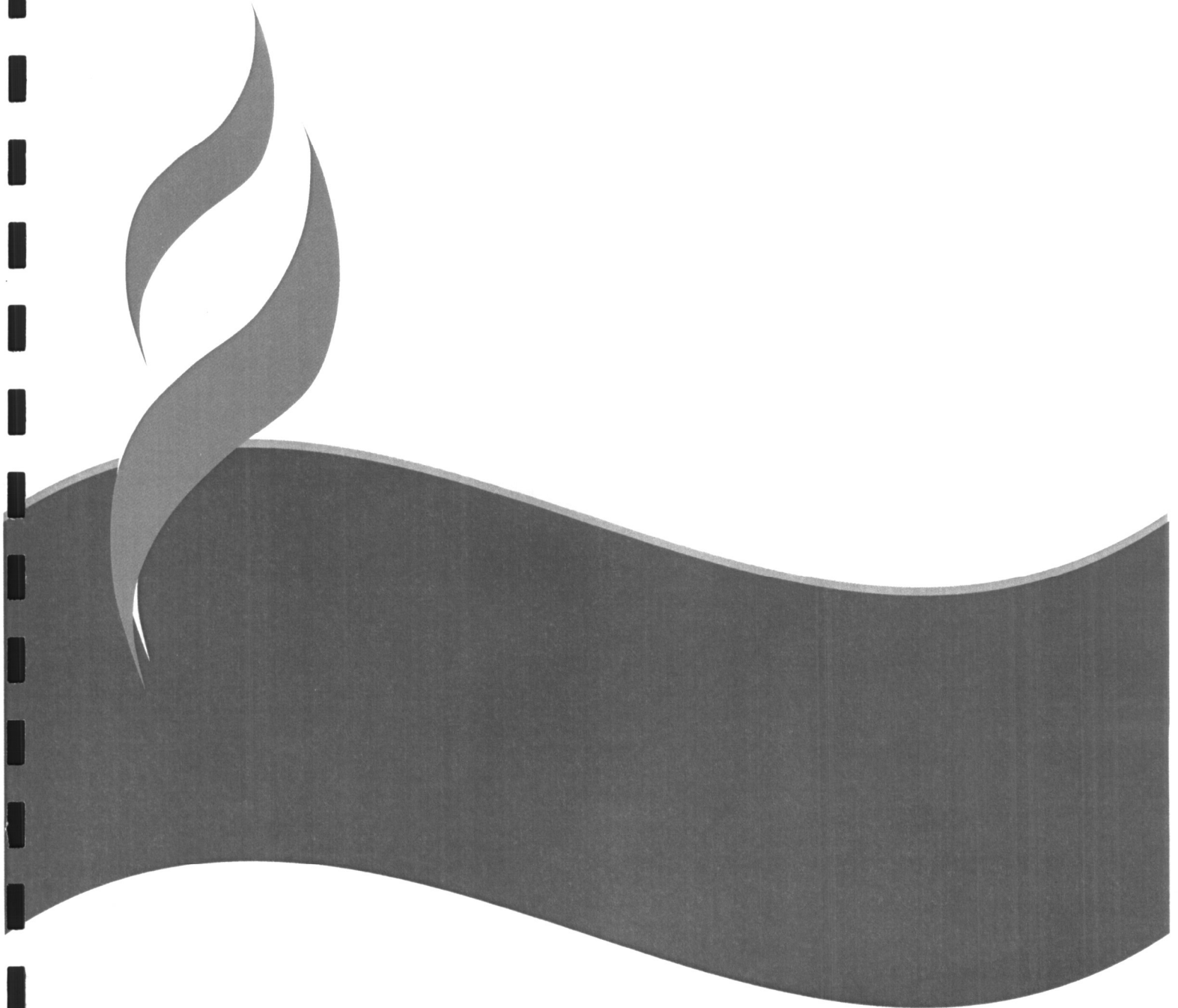
APPENDIX 13
Completed SSES Study Areas



-  **SSES**
-  **CONSTRUCTION**
-  **DESIGN**

APPENDIX 14

ORGANIZATIONAL CHART

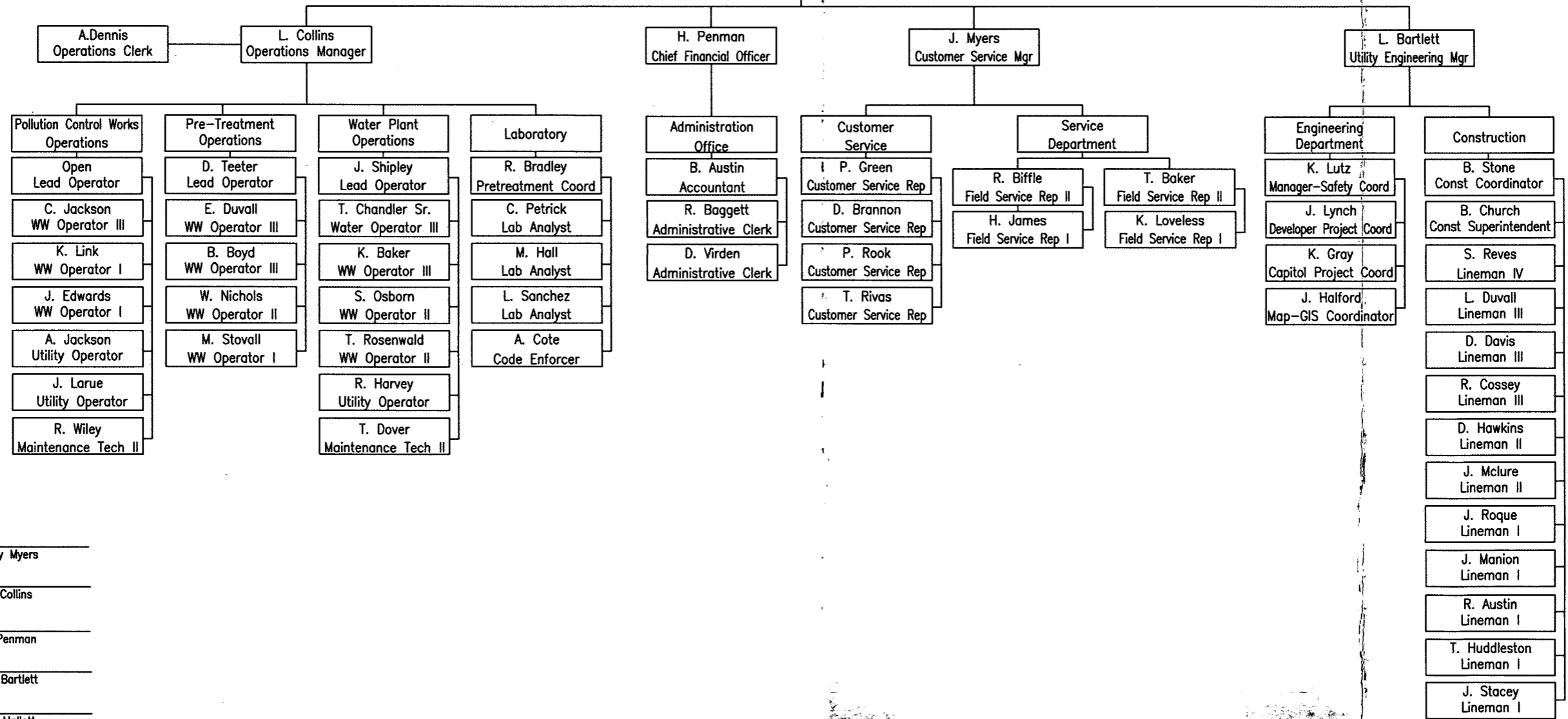


CITY CORPORATION
ORGANIZATIONAL CHART

City Corporation
Customers

Art Jones/14 Chairman
Frank Russenberger/15 Vice Chairman
Luke Duffield/16 Secretary
Harold Barr/17 SR Board Member
William Harmon/18 JR Board Member

R. Taylor HR-Admin Assistant
S. Mallett General Manager
S. Bishop Network Control Opr



Jeremy Myers

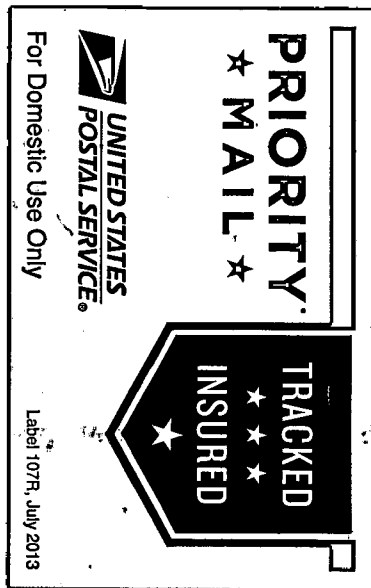
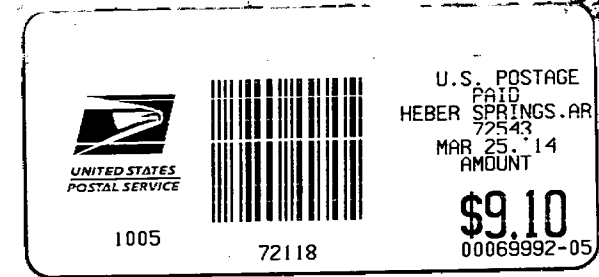
Larry Collins

Hope Penman

Lance Bartlett

Steve Mallett

CWB Engineers, Inc.
1903 Hwy 25B
Heber Springs, AR 72543



Mr. Alan Anderson
Water Enforcement Branch
Arkansas Department of Environmental Quality
5301 North Shore Drive
North Little Rock, Arkansas 72118-5317

CERTIFIED MAIL

