



CWB
Engineers, Inc.

Designing a Better Arkansas

March 15, 2018

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 2018 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



Prepared By:

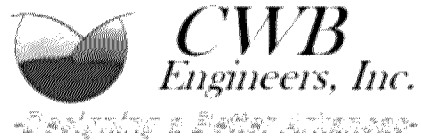


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ACRONYMS

ADEQ- Arkansas Department of Environmental Quality
CAO- Consent Administrative Order
CAP – Corrective Action Plan
CEU- Continuing Education Units
CMOM – Capacity, Management, Operations and Maintenance
COOP- Continuity of Operations Program
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
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 two hundred (200) miles of sanitary sewer and eighteen (18) 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.

The CAO was amended on June 2nd 2014. An executed copy of the amended CAO can be found in Appendix A-1.

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. The Pollution Control Works (PCW) is located at 404 Jimmy Lile Road and construction was completed in 1965. In 1973 and 1978 two (2) major expansions greatly increased the pretreatment capacity and enabled the plant to comply with more stringent treatment limits. Between 1990 and 2010, seven (7) smaller upgrades and expansions were completed. In 2014, as required to comply with a Consent Administrative Order (CAO) issued in 2009, a third major upgrade and expansion was completed.

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 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

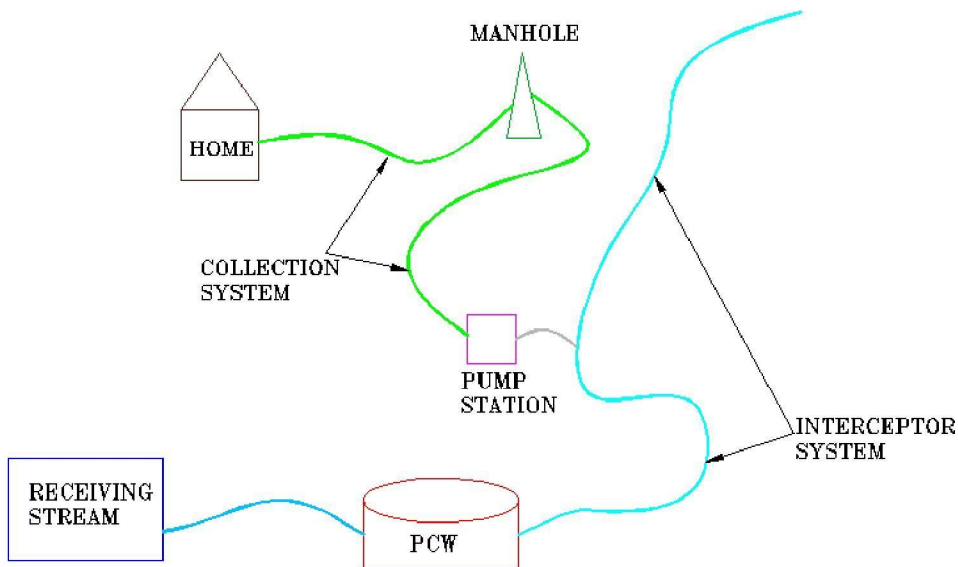
On average the PCW treats 5.5 MGD and has the capacity to treat 7.3 MGD. During significant rain events the plant can treat up to 13 MGD for a short period of time. The collection system comprises 18 sewer lift stations, 3653 sewer manholes, roughly 181 miles of gravity mains, and 18 miles of force mains 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:

4° 6' 0" 0 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	10,948
Residential Customers	9,440
Other Customers	1,508
Treatment Plant Name(s)	City Corporation Pollution Control Works
Plant Design Capacity	7.3 MGD
Average Daily Flow 2017	4.98 MGD
Miles of Public Gravity Sewers	181
Miles of Force Mains	18.2
Number of Pump Stations	18
Number of Public Manholes	3653
Number of Employees	59

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.

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As a result of the terrain in Russellville, the system consists of 18.2 miles of force mains, and 18 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 - Breakdown of Pipe Material

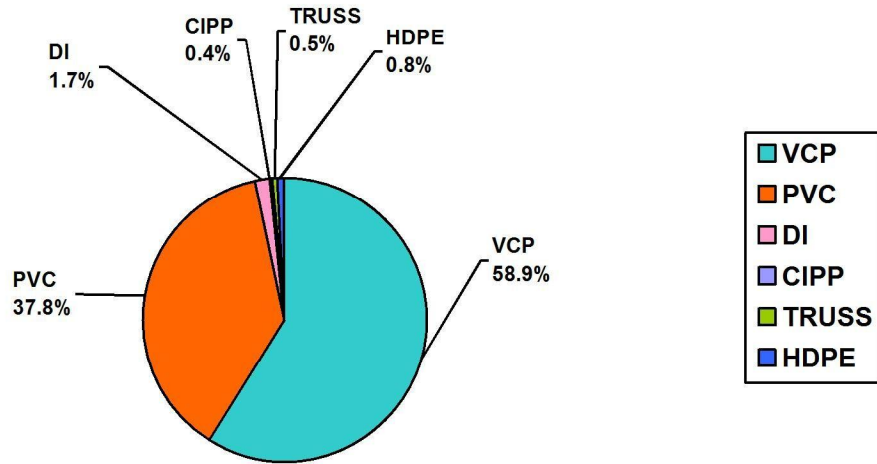
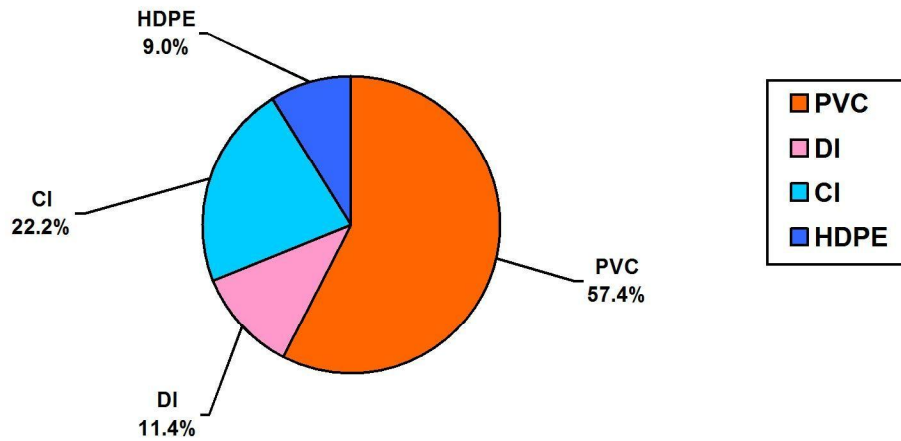
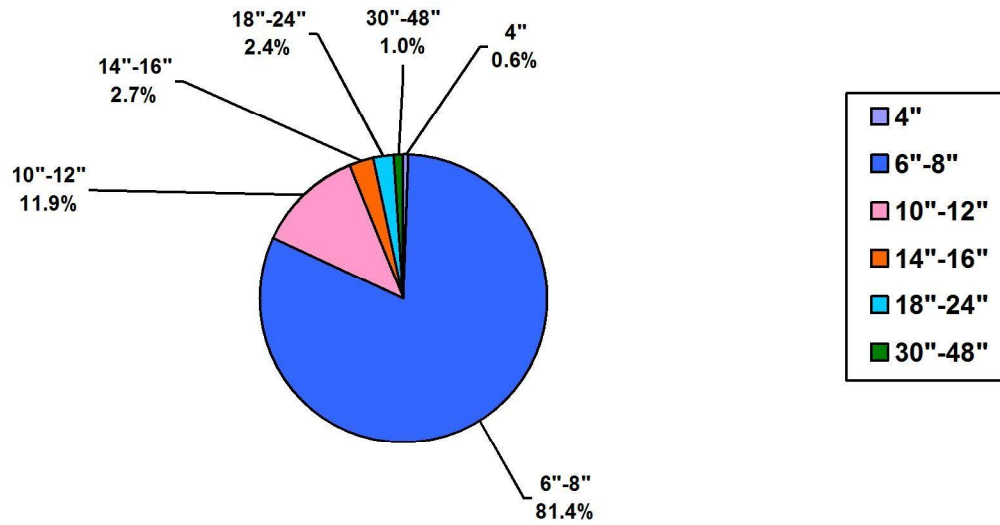


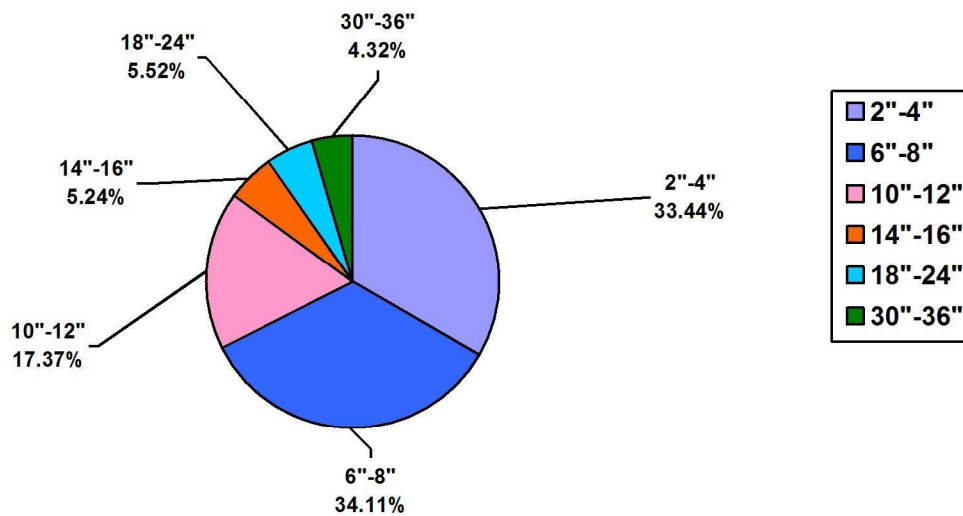
Chart 3 - Breakdown of Pipe Material



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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 Chief Executive Officer (CEO), who oversees the entire utility and reports directly to the board. The following positions report to the Chief Executive Officer (CEO): Chief Operations Officer, Chief Financial Officer, and the Engineering/Construction Director. The Chief Operations Officer oversees the WW Operations Manager and the Water Operations Manager located at Pollution Control Works. The Chief Financial Officer oversees the Customer Service Manager and the IT Manager. The Engineering/Construction Director oversees the Engineering Department and Construction Department. 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 63 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 directly 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 5:30 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 5:30 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 has completed a PR campaign 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 for the year 2017 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 2194-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
- Ordinance 2044 -Amended Sewer User Rate 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 permit became effective September 1, 2016. The expiration of this permit is August 31, 2021. 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.

3.3 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.

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4.1 Maintenance Facilities and Equipment

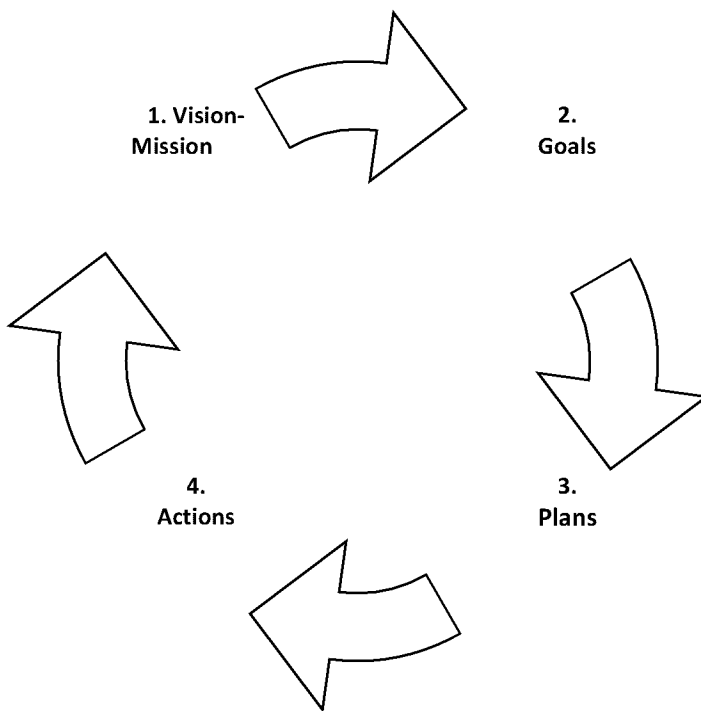
City Corporation maintains several facilities to support the collection system program. Administrative activities are conducted at the Administrative Office, which houses the Human Resources, Administration, Customer Service, and Engineering Department. The Pollution Control Works Facility houses all 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 & Strategic Planning

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.

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.

4.1.2 SCADA

The Maintenance Operations of City Corporation maintains 18 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 City Corporation's computer.

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, to supply the necessary materials to make the repairs.

4.2 Engineering

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. 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 crews that complete new services, maintenance, and repairs on the water and sewer system. Also, crews perform 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 televised and all new manholes are vacuum tested.

4.2.4 Construction/Recording Procedure

- Retrieved all drawings from Russellville and Engineers
- Labeled all with a numbering system (Example: Year-project name)
- Scanned all drawings
- Listed in an access database for easy searching and usage

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. The latest Drug Take Back event was held on Saturday October 22, 2016.

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 due to loss of power, localized flooding, water contaminations and acts of sabotage. City Corporation has developed a COOP (Continuity of Operations Program). A team is currently working on a comprehensive emergency management plan that is in the approval process. The Plan Maintenance Schedule can be viewed in Appendix O-1. In Appendix P-1 you will find the Training, Testing and Maintenance Chart.

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 is considering the current SSES efforts and resulting data as the 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.

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 smoke testing and/or CCTV 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 181 miles of publicly maintained gravity sewer ranging in size from 6" to 36" in diameter, approximately 3653 manholes, 18 lift stations of various pumping capacities and 18.2 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

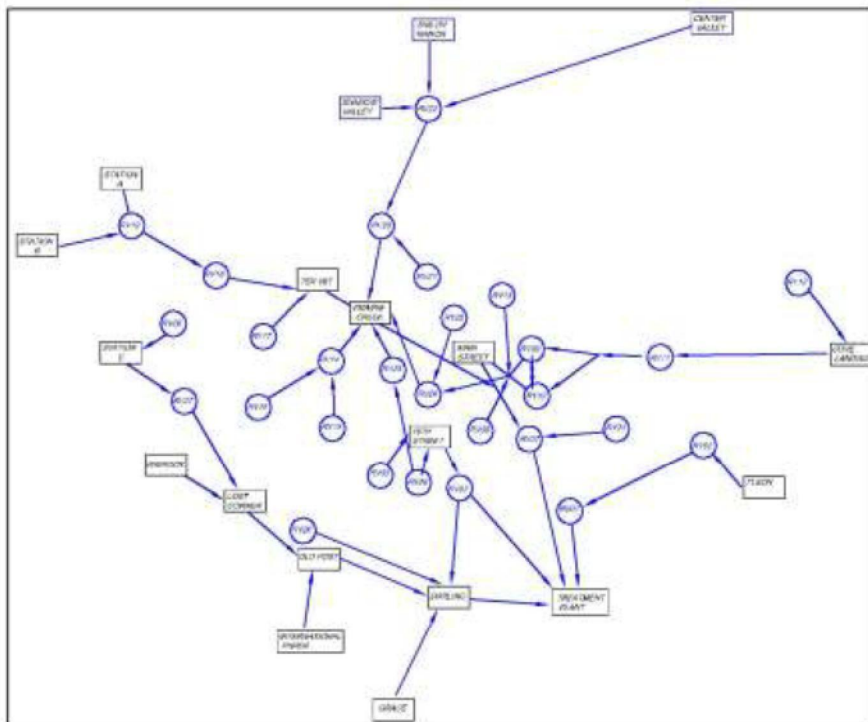
It is anticipated that an expansion of I/I reduction efforts, as outlined above, will be effective in reducing peak flow rates.

5.4 Lift Stations

5.4.1 Operation & Monitoring

The collection system includes 18 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 (16) capable of accepting a portable generator. All 18 lift stations have Genset quick connections installed. Fifteen of the eighteen 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	S4Q3000M4-4	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. 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:

5.5.2 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.

5.5.3 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.

5.6 System Rehab

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.

5.6.1 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.

5.6.2 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.

5.6.3 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
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

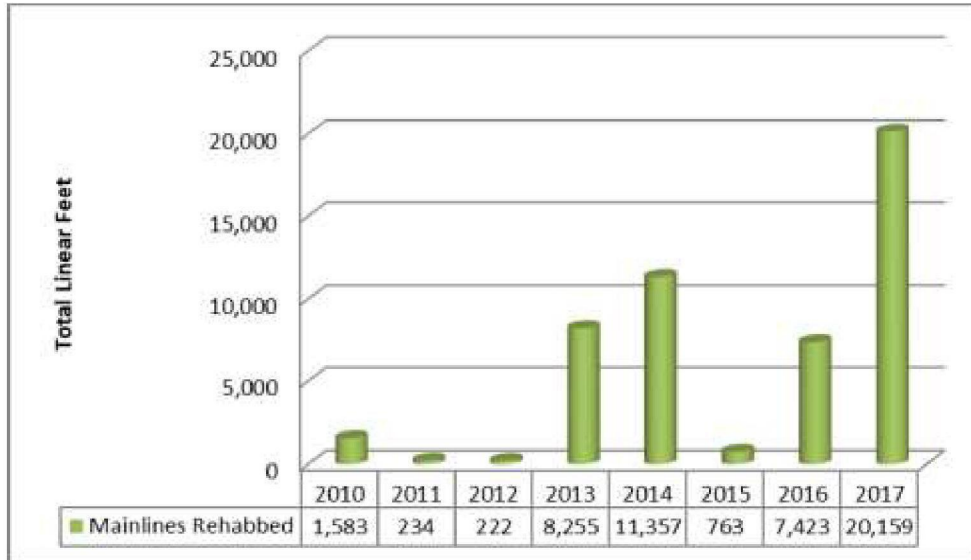
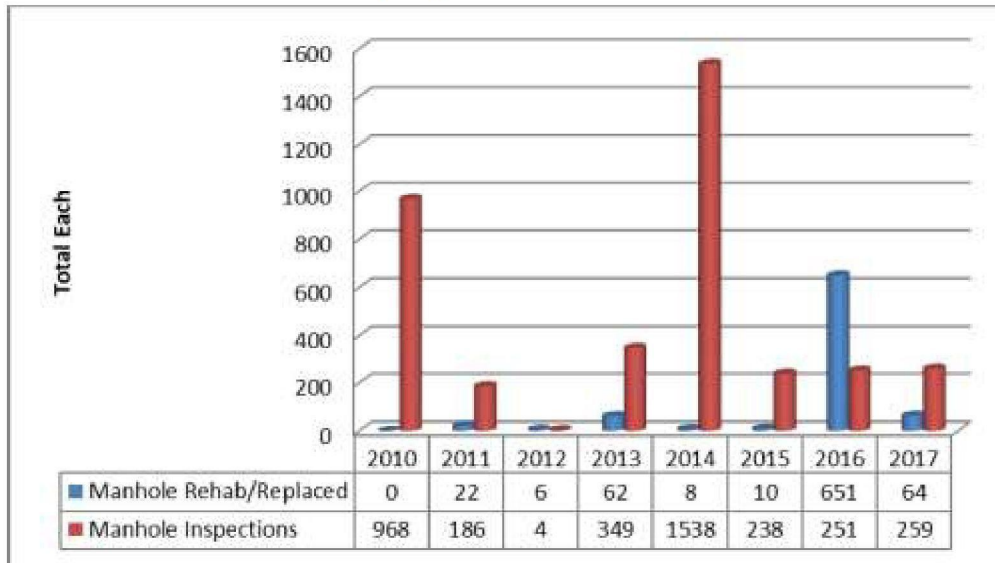


Chart 5-2: Manholes Rehabbed/Inspected



5.6.4 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:

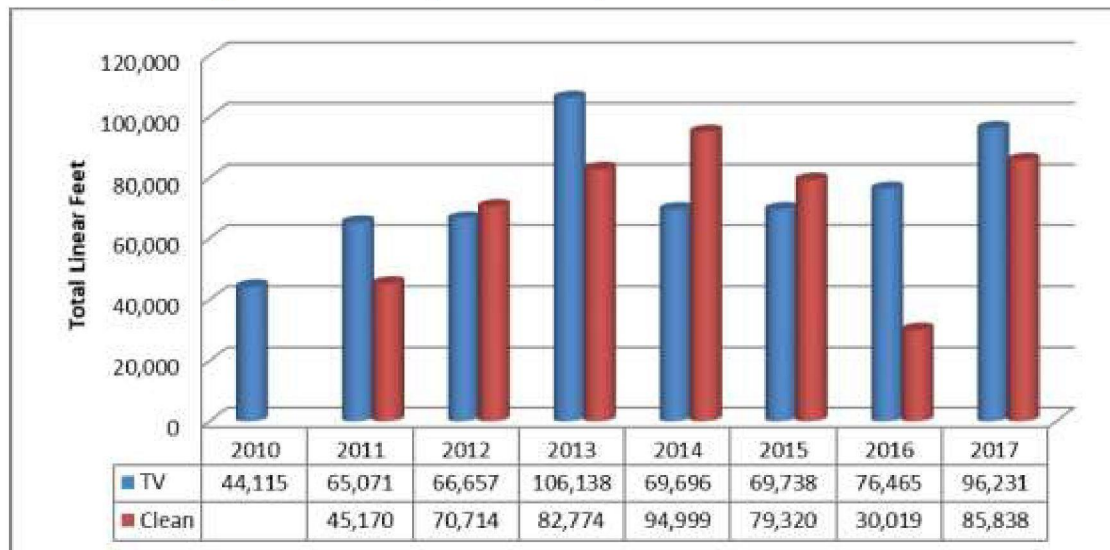
- system equipment inoperable for extended period
- manpower shortage
- unusually high cleaning demand due to unforeseen circumstances
- large flows or difficult conditions requiring specialized expertise or equipment

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.

Chart 5-3: Cleaning/Television Inspection 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.

City Corporation has obtained 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 treated 56,210 linear feet of the collection system in 2014. The following is a breakdown of the targeted areas:

- 26,586 linear feet of 6" pipe
- 24,828 linear feet of 8" pipe
- 4,796 linear feet of 10" pipe

City Corp treated 53,333 linear feet of the collection system in 2015. The following is a breakdown of the targeted areas:

- 26,912 linear feet of 6" pipe
- 17,363 linear feet of 8" pipe
- 5,127 linear feet of 10" pipe
- 2,036 linear feet of 12" pipe
- 1,895 linear feet of 15" pipe

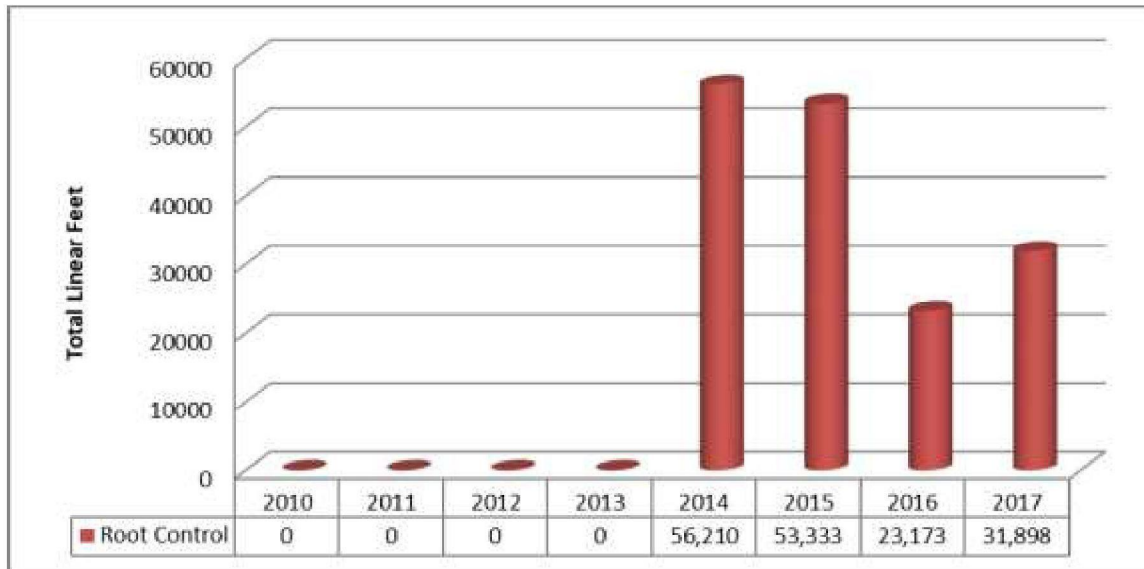
City Corp treated 23,173 linear feet of the collection system in 2016. The following is a breakdown of the targeted areas:

- 19,191 linear feet of 6" pipe
- 3,730 linear feet of 8" pipe
- 1,008 linear feet of 10" pipe
- 224 linear feet of 12" pipe

City Corp treated 31,898 linear feet of the collection system in 2017. The following is a breakdown of the targeted areas:

- 24,826 linear feet of 6" pipe
- 4,609 linear feet of 8" pipe
- 2,219 linear feet of 10" pipe
- 244 linear feet of 12" pipe

Chart 5-4: Root Control Completed



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 is in the process of amending the current grease ordinance to improve the FOG program.

5.9.1 FOG Commercial

City Corporation currently has 171 grease traps. All of the following information is located on City Corporation web site so that it is available to all of their customers. Grease traps or Grease Interceptors are used at any FSE (food service establishment) that has the potential of discharging FOG into the sewer system. When no grease trap is present or if traps become overly full FOG is discharged into the sewer where overflows can occur in the business or in the streets as a result of stoppages. Proper use and maintenance of grease traps are the key to preventing this from happening. The traps need to be pumped at least every 90 days or less based on the amount of FOG that is discharged from the facility. This schedule is located in Appendix R. Manifest or receipts should be sent to the control authority as soon as the trap is cleaned. Training employees to follow BMPs can help to reduce pumping frequency for the facility and save the facility money. FSEs must keep cleaning manifests on file for a minimum of 5 years. A current grease trap detail drawing is located in Appendix U.

BMPs or best management practices are ways that a business or a company can help to reduce the amount of FOG that a business discharges. BMPs will include items such as employee training to help stop the amount of FOG that gets put down the drain and in turn introduced to the sewer system. Also, another BMP includes verifying that drain screens are properly installed to prevent food and other debris from entering the sewer system and insuring that employees know to never remove these screen for the purpose of sweeping debris down the drains. The drains screens should only be removed to empty any debris that has become caught in the screen into the appropriate receptacles. A full list of BMPs is located in Appendix 4.

5.9.2 FOG Residential

FOG stands for fats, oil, and grease. FOG is a byproduct from cooking. It comes from a variety of foods such as

- Sauces and Condiments
- Food scraps
- Baking goods
- Dairy products
- Shortening
- Butter and margarine
- Meat fats
- Lard

FOG enters the system from various sources such as homes, apartments, restaurants, and other public facilities.

After FOG enters the sewer system it starts to accumulate on the walls of the pipes as it cools. After a while the buildup can become bad enough that it will start to restrict the flow of the sewer system which can lead to backups in the home or sewer overflow in the streets. With any sewer backup that becomes an overflow, it can become a health hazard to the public and the environment because of the sanitary issue. You can help reduce the amount of FOG going into the system by doing the following:

- Scrape as much residue, grease, and food scraps off of the pans, plates, and cooking utensils into the garbage. Install screens in the sink drain to help catch any debris that may go down the drain and then dispose of the debris in the garbage.
- Use a paper towel to wipe out remaining grease before washing.
- FOG can be poured into containers such as old coffee cans. When solidified, it can be thrown in the trash.

A diagram of how FOG clogs pipes is located in Appendix 3. And a diagram of how to throw FOG into the trash is located in Appendix 5.

5.10 Aerial Stream Crossing Inspection

City Corporation operates and maintains approximately 181 miles of gravity sanitary sewer with approximately 73 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 crossings. The log sheet and current findings are located in Appendix 9. City Corporation had developed an aerial sewer stream crossing inspection and operation & maintenance program. This program includes 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. A copy of a sample inspection sheet is included in Appendix 6. 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.

5.11 Pipe Patch

City Corporation has bought a Pipe Patch “No dig” pipe repair system. A copy of the Brochure is located in Appendix 23. This allows City Corporation to make internal point repairs to pipes sized 6”-10” in diameter. The following is a breakdown of the Pipe Patch Repairs:

	2015	2016	2017
Patch Size	Total Number Complete	Total Number Complete	Total Number Complete
6”x24”	2	4	3
6”x48”		2	
8”x24”	1	3	7
8”x48”	2	8	
10”x48”		1	1

5.12 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 2017 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 (2017): 4.98 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 (May-Oct) (Nov-Apr)	10 mg/L 15 mg/L	15 mg/L 22.5 mg/L
TSS (May-Oct) (Nov-Apr)	15 mg/L 20 mg/L	22.5 mg/L 30.0 mg/L
pH	6.0 S.U. Min to 9.0 S.U. Max	
Fecal Coliform	1000/100 mL	

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)	542.0	10.0	15.0
Total Residual Chlorine (TRC)	N/A	<0.1 (Inst. Max)	

5.13 Private Defect Program SOP

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.

City Corp has developed a new program to help locate and rehab their private defects. The following is the procedure followed:

First, A letter is sent and any attachments detailing defect with a 30 day repair request- If the owner notifies City Corp, we will work with them toward the goal of repair. This may include further investigation or testing at the expense of the customer/owner.

Second, A notice is sent only if no contact and/or attempt has been made to repair defect within the 30 days. The second notice says they must contact us within 5 business days with a plan of action or we will disconnect services and impose a penalty. City Ordinances and Policies and Procedures are included and is sent registered mail so a signature is required.

If there remains to be no attempt of contact, then we notify the code enforcement for the city and ask them to make a courtesy contact with the customer.

Last resort is to disconnect services until repairs are made.

Fees associated with helping the customer:

Camera- \$25

Smoke- \$25

Crew- \$25

Verification of repair w/o request- \$25 (forced check after first 30 days and no contact is maintained)

Verification of repair with request- no charge (if repair completed)

Verification of repair with request- \$25 (if repair is not completed)

Please understand there are circumstances that may require deviation from this process. They have to be evaluated on a case by case basis.

In all cases with the exception of circumstances that would require a B report, the customer has a minimum of 35 days before disconnection. We are only required to give a written notice of 5 business days before disconnection.

Chart 5-5: Private Defects Rehabbed

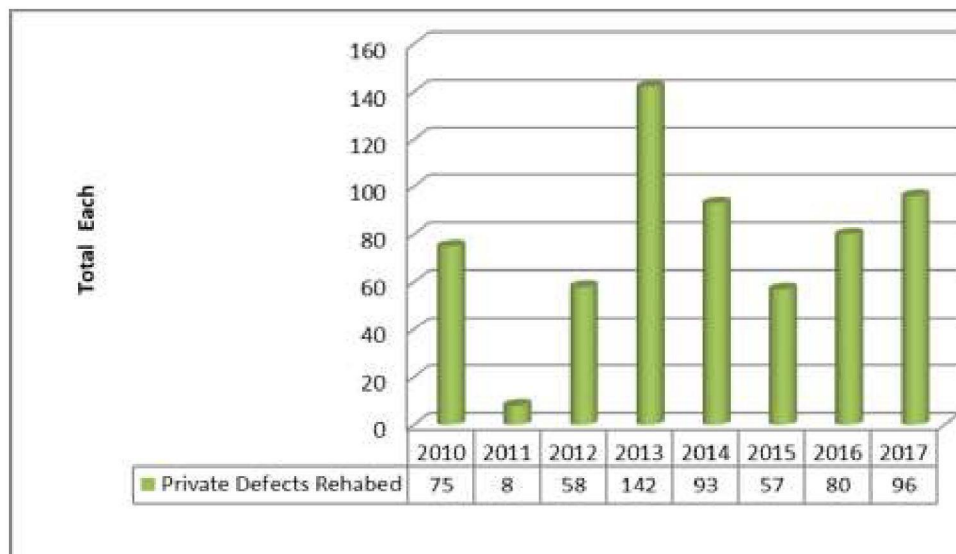
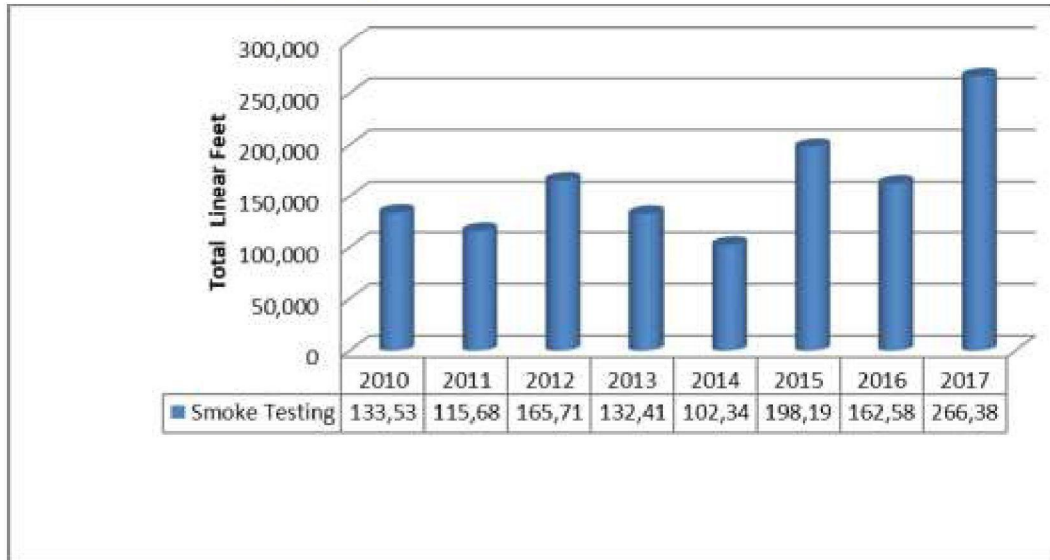


Chart 5-6: Smoke Testing Completed



5.14 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).

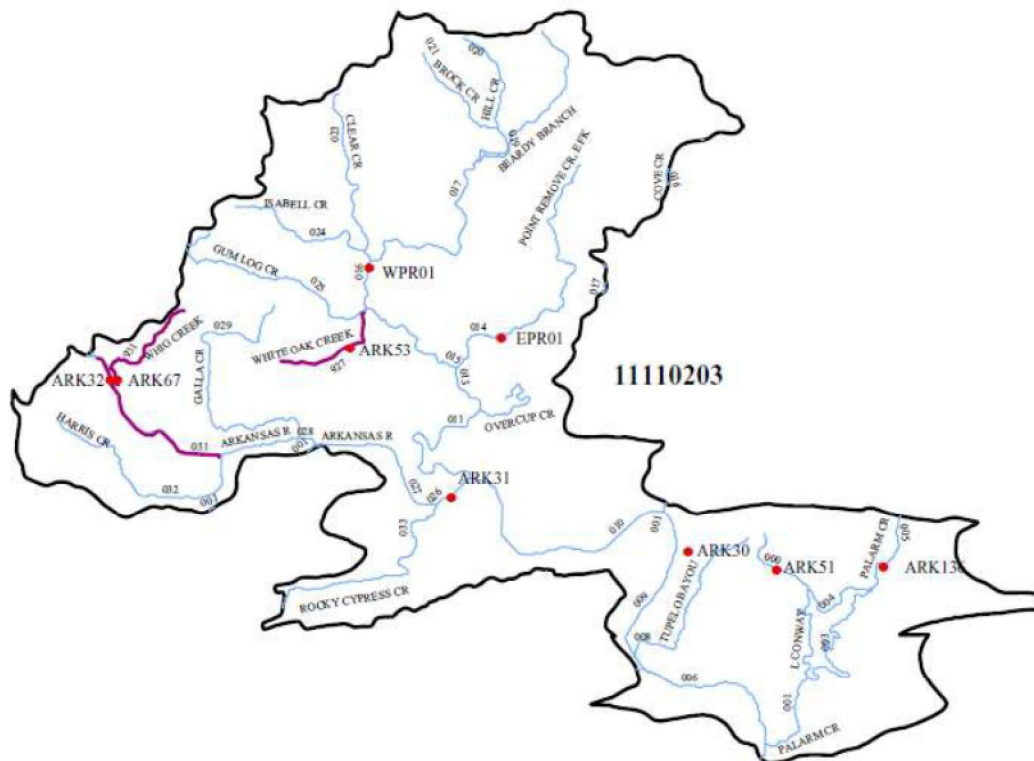
The 2004 Integrated Water Quality Report by ADEQ states that "Region Whig Creek continues to be impaired by point source discharges. Both municipal and industrial discharges exist in Whig Creek. A TMDL has been completed for this water body." The following table shows the report and the location of the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

Parameter	Valid Data Points	Mean	Minimum	Maximum	Standard Deviation
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



5.15 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, which have been removed, 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. The rain gauge specifications are located in Appendix V.

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

5.16 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. 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. Plans 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, one of which has since been abandoned and removed, as discussed in 6.1.3 below.

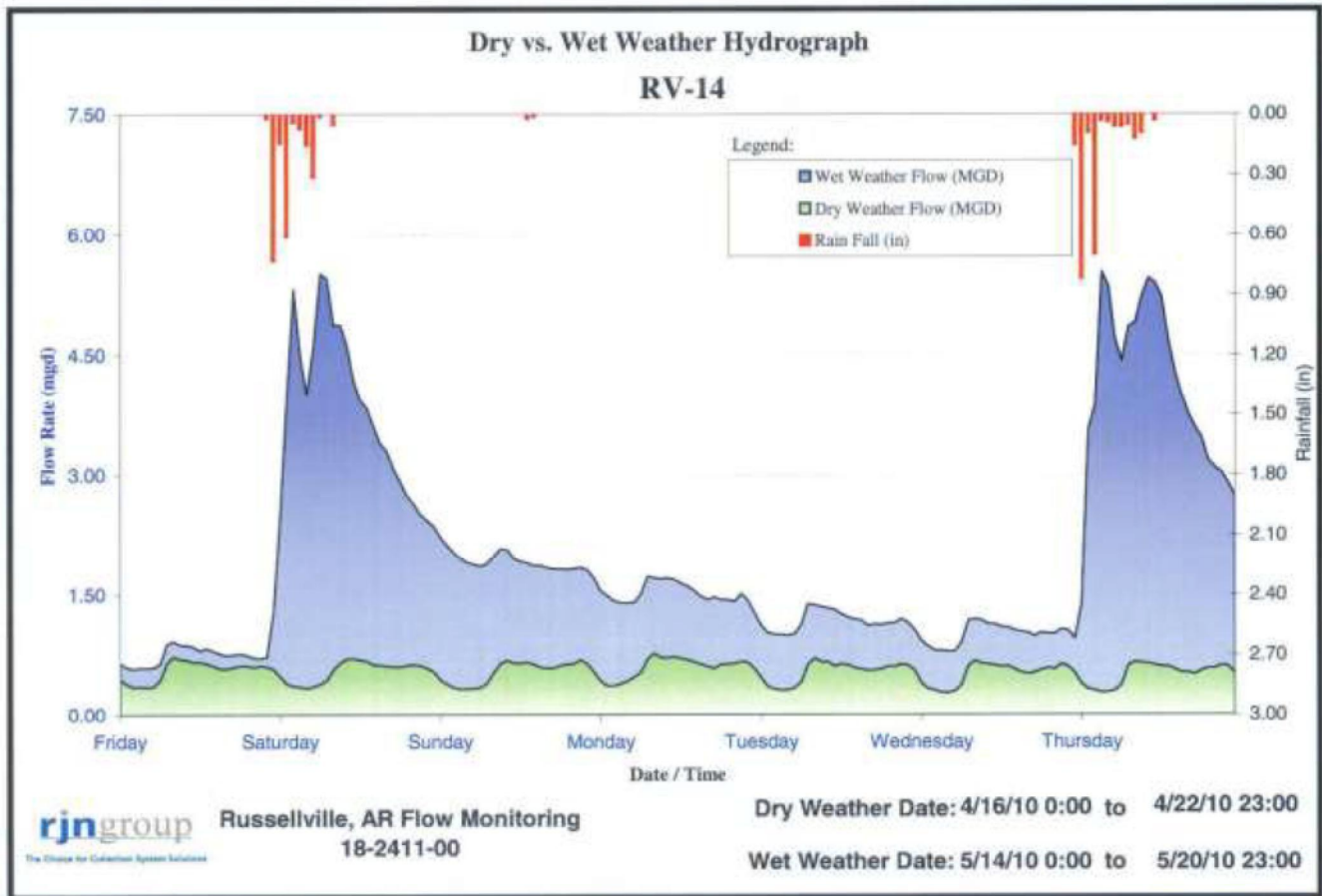
RJN has developed a detailed report for all Phase I activities. The report provides the results of the flow monitoring and capacity analysis including recommendations for further investigation. The recommendations are based on the amount of inflow and infiltration contribution from each subbasin. The 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.

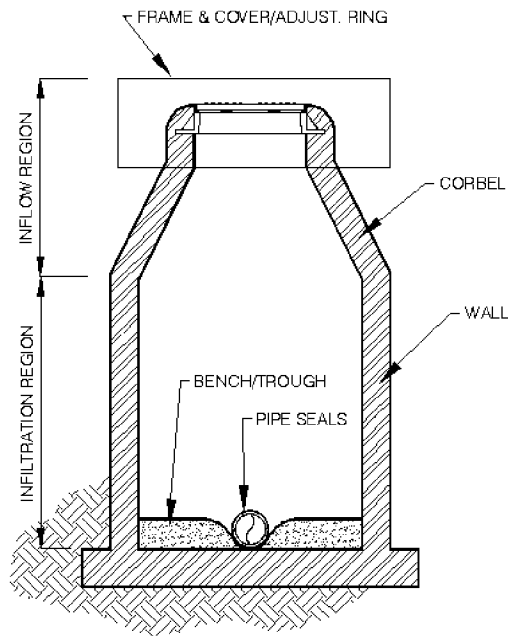
Figure 6-1: Hydrograph



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: Cross-section 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.

4° 6' 6-1Y2* . - ° ARO° & QIS OR ≥ 0°)

Basin	Total	Inspected	Not Found	Buried	Inaccess- sible
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.

4° ç'' 6-2ÿ2*. - ° AED° \$• ¶ EÆ 0® ≥•)

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 , ¶3¶ ¶QÆ/°° µ° ¶QÆ

R/N 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 has completed the recommended rehab by R/N.

4° 6'' - -Y2*. 2° 50' ≠ • AS° YQAE TZE, (N 3P YQAE) ≠ ∞SDB° ≠ • ASB

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 (Darling)
Lift Station "A"	Alleviating the drainage issues within the vault and correcting rust concerns	Repairs were completed
Lift Station "B"	Alleviating the drainage issues within the vault and correcting rust concerns	Repairs were completed
Lift Station "C"	None	
Center Valley	None	
Cove Landing	None	
South Frankfort (Darling)	None	
Grace	None	
International Paper	Repair any corroded or rusted components	Pump Station was Rebuilt
Lost Corner	None	Improvements Scheduled for 2018
Main Street	Replace Pump 1 and provide reliable emergency option, evaluate condition of wet well and ventilation system	Removed Comminutor and Cleaned Pump Station-Full Rehab Scheduled for 2018
Old Post	Rehab wet well	Pump Station was Rebuilt
Prairie Creek	Repair wall leak, Evaluate condition of wet well and ventilation system	Installed new 215HP Flygt pump on 12/30/2016
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	Repairs were completed
Tyson	Schedule more frequent removal of Grease	

~~_____~~

RN 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 RN has made and the future or current project the lines will be associated with and their proposed design time.

~~_____~~

Project Name	Improvements Recommended	Status
10 th Street FM	Upsize 5,664 LF 10" Force Main to 12"	Design 2018
Prairie Creek FM	Upsize 8,616 LF Force Main to 24"	Design 2019
Hydraulic Capacity Improvements	Upsize 2,055 LF 8"-10" Upsize 1,676 LF 10"-12"	Designed
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"	Complete
ATU North/South	Upsize 14,650 LF	Designed by Garver/2018

~~_____~~

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 basin 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. A detailed map of the basins is located in Appendix 13. The goals for all Phase II study areas are:

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

The three basins included a total of 146,868 linear feet of sanitary sewer lines. R/JN Group, Inc. has finished an extensive study of the collection system in basins 7, 14, 23. The following is a summary of the work performed and the defects found in the SSES report:

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

Defects Found	Quantity	Units
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

This project area was broken down into just Basins 7 & 14. Basin 23 is located in Downtown Russellville, and will be constructed during a water and wastewater combination project. The projects bid price was \$2,768,130.35 and the projects final construction cost was \$2,180,965.75. The following is a brief description of the work completed:

Description	Quantity	Units
CIPP Existing 8"	2123	LF
CIPP Existing 10"	1269	LF
CIPP Existing 12"	1191	LF
CIPP Existing 15"	1082	LF
CIPP Existing 18"	402	LF
CIPP Services	45	EA
Pipe Burst 6"-8"	6205	LF
Pipe Burst 10"-10"	1954	LF
Relay/Install 8"	4513	LF
Reinstate Services	122	EA
Construct Manholes	69	EA

Basin 23 is currently in design. The entire basin area was televised for defects and will be rehabbed during the Basin 23 Water & Wastewater project.

6.2.3 Basin 23 Water & Wastewater Project

The four basins included a total of 126,967 linear feet of sanitary sewer lines. R/N Group, Inc. has finished an extensive study of the collection system in basins 1,2,8,11. The following is a summary of the work performed and the defects found during the Phase II study:

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

Defects Found	Quantities	Units
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 projects bid price was \$1,141,322 and the projects final construction cost was \$1,106,569. The following is a brief description of the work completed:

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

6.2.3 - (A) Construction

Three SSES Phase II areas (1,2,8,11/3,5,6/7,14,23) were combined into a Manhole Rehab project. The project bid was \$721,695. The project is complete, the final construction cost was \$768,826.30. The following is a summary of the work completed.

Work Performed	Quantities	Unit
Replace Manhole Ring and Lid	547	EA
Grout Lower 18"	107	EA
Grade Adjustment	18	VF
Chimney Seal	260	EA
Cementitious Coating	1238	VF
Epoxy Coating	214	VF

6.2.4 (B) Design WAS #045100E

The four Basins included a total of 115,919 linear feet of sanitary sewer lines. RJN Group, Inc. has finished an extensive study of the collection system in basins 3,5,6,21. The following is a summary of the work performed and the defects found during this Phase II study:

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

Defects Found	Quantities	Units
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

Basin 21 was removed from this project and placed with basin 17,18,20 because of the proximity to the basins. The Basins 3,5,6 project bid amount was \$1,998,714.50 and the projects final construction cost was \$1,680,690.78. The following is a summary of the work completed.

Description	Quantity	Units
Pipe Burst 6"-8"	7232	LF
Pipe Burst 8"-8"	1357	LF
Relay/Install 8"-12"	4465	LF
Relay/Install 24"	43	LF
Relay/Install 14" Force Main	1466	LF
Reinstate Services	160	EA
Construct Manholes	36	EA

6.2.5 Basin 17, 18, 20 33% & 33% of Basin #01 Excluded

The three basins included a total of 121,689 linear feet of sanitary sewer lines. RJN Group, Inc. has finished an extensive study of the collection system in basins 17, 18, 20. The following is a summary of the work performed and the defects found:

Work Performed	Quantities	Units
Manhole Inspections	483	EA
Smoke Testing	117,372	LF
Dyed Water Testing	11	Areas
TV Inspection	26,566	LF

Defects Found	Quantities	Units
Root Growth	51	Locations
Longitudinal Cracks	3	Locations
Circular Cracks	44	Locations
Collapsed Pipe	3	Locations
Offset Pipe	43	Locations
Broken Pipe	8	Locations
Manhole Defects	103	Locations
Building Lateral Defects	32	Locations
Defective Cleanout	51	Each

This project is currently in construction. Basin 21 was added to this project because of the proximity to the basins. The project bid price was \$2,260,647.25 The following is a brief description of the work scheduled for this project area. The project is scheduled to be complete in April 2018.

Description	Quantity	Units
Pipe Burst 6"-8"	10459	LF
Pipe Burst 8"-8"	1590	LF
Pipe Burst 8"-10"	1974	LF
Relay/Install 8"	2132	LF
Reinstate Services	217	EA
Construct Manholes	60	EA

6.2.6 Basin 9, 15, 25 33% & 33% of Basin #01 Excluded

The three basins included a total of 128,987 linear feet of sanitary sewer lines. RJN Group, Inc. has finished an extensive study of the collection system in basins 9, 15, 25. The following is a summary of the work performed and the defects found:

Work Performed	Quantities	Unit
Manhole Inspections	459	EA
Smoke Testing	128,987	LF
Dyed Water Testing	8	Areas
TV Inspection	6,388	LF

Defects Found	Quantities	Unit
Root Growth	53	Locations
Longitudinal Cracks	1	Locations
Circular Cracks	44	Locations
Collapsed Pipe	2	Locations
Offset Pipe	0	Locations
Broken Pipe	2	Locations
Manhole Defects	223	Locations
Building Lateral Defects	7	Locations
Defective Cleanout	74	Each

This project is in the final design phase and review. The following is a brief description of the work planned for rehab in this area:

Description	Quantity	Units
CIPP 6" Pipe	3141	LF
CIPP 8" Pipe	666	LF
CIPP 10" Pipe	1894	LF
CIPP 15" Pipe	791	LF
Pipe Burst 6"-8"	8369	LF
Pipe Burst 8"-8"	1712	LF
Pipe Burst 8"-10"	929	LF
Relay/Install 8"	499	LF
Reinstate Services	237	EA
Construct Manholes	38	EA

6.2.7 Basin 13, 16, 26

The three basins included a total of 117,810 linear feet of sanitary sewer lines. RJN Group, Inc. has finished an extensive study of the collection system in basins 13,16,26. The following is a summary of the work performed and the defects found:

Work Performed	Quantities	Unit
Manhole Inspections	494	EA
Smoke Testing	114,975	LF
Dyed Water Testing	6	Areas
TV Inspection	11,795	LF

Defects Found	Quantities	Unit
Root Growth	119	Locations
Cracked Pipe	90	Locations
Collapsed Pipe	6	Locations
Broken Pipe	1	Locations
Sag	3	Locations
Offset	3	Locations
Manhole Defects	627	Locations
Building Lateral Defects	21	Locations
Defective Cleanout	57	Each

This project is in preliminary phase. CWB Engineers is developing a scope of work and conceptual plan for the design.

6.2.8 ~~2017~~ - ~~2018~~

Qty Corporation generally holds a 10' minimum permanent easement along its sewer lines. While some other individual or entity normally owns the underlying property, Qty 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. Qty Corporation has started a 5 year program to fund the Right of way Clearing throughout the Qty. The following is a breakdown of the areas to be cleared:

Basins	Quantities	Year	Bid Amount
1,2,8,11	7.55 acres	2018	\$65,000
26,13	6.85 acres	2019	
12,19,24,3,5,7,9,14,15,20	8.0 acres	2020	
18,22,27,28	5.85 acres	2021	
All (waterlines)	10.97 acres	2022	

6.2.9 ~~2017~~ - ~~2018~~

CWB Engineers is currently putting together a post flow monitoring report for Basins 1,2,8,11,3,5,6,7, & 14. The report will show hydrographs and I/I reduction in the basin areas listed above. These basins have undergone significant rehab work on the line segments and manholes.

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 collect relevant information, as outlined in Section IV-A. The appropriate Response Crew will be dispatched to the site to verify if an SSO has occurred.

Response Crew determines if SSO has occurred and attempts to resolve problem. Response Crew uses their tablets to complete the application electronically. They then take 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. The Construction Supervisor will verify cleanup is completed, take photographs and remove warning signs.

All private overflow calls are directed directly to the field crews. 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 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 uses tablet application and a report is generated electronically to the administrative staff.

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 field crews. 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 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

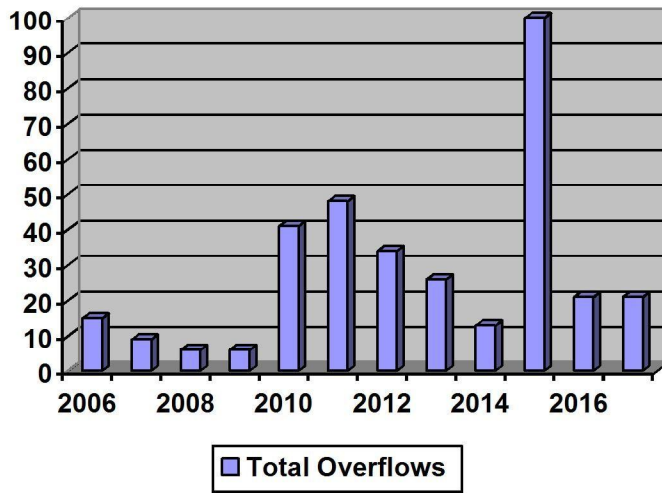
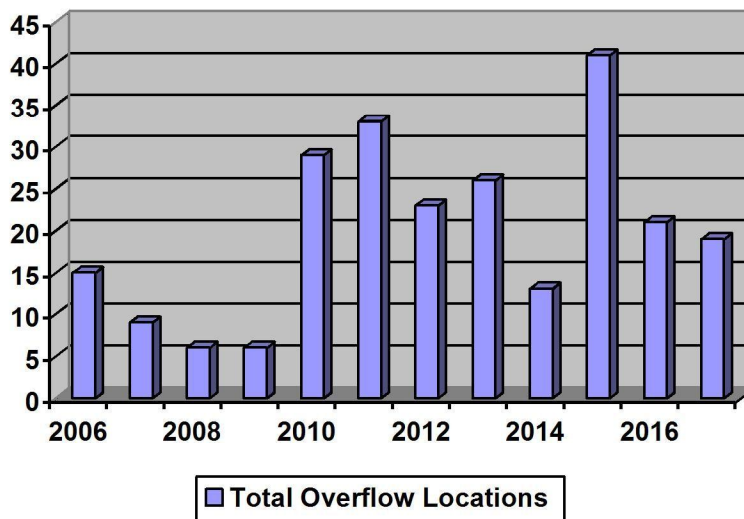


Chart 7-2: Total Overflow Locations



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

Usage	Inside City Limits	Outside City Limits
First 1,000 Gallons Per Month	\$11.86 Per Month	\$17.79 Per Month
1,001-20,000 Gallons Per Month	\$4.60 Per 1,000 Gallons	\$6.90 Per 1,000 Gallons
20,001- and Over Per month	\$3.92 per 1,000 Gallons	\$5.88 Per 1,000 Gallons

There will be an additional monthly charge of \$15.91 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.

8.3 Rate Study

City Corporation completed a rate study in 2014. The study is located in Appendix P. Economist.com was hired to analyze the existing water and sewer rates, and to make recommendation for implementing City Corp's Capital Improvement Plan for the next ten years. City Corp has developed a ten-year Capital Improvement Plan with the help of staff and consulting engineers. The plan has identified \$41 Million in improvements to water infrastructure and \$54 million in wastewater infrastructure improvements. Economist.com has recommend funding the needed improvements through a combination of rate increases and bonds. City Corporation is currently working with the City Council and civic organizations to garner support for the needed improvements. The council approved the necessary rates and the initial bonds for the first three years of the plan have been issued. The capital improvement plan and rate study presentation is included the Appendix T.

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 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. The city grid will be ¼ mile grids with direction and #. The system assets will be numbered as follows, AN-N1E1-0000. Where AN= asset name (MH, V, FH, etc.), N1E1= direction and quadrant of location and 0000 will be number assigned. We elected to have the number assigned match the originals for existing assets so we can preserve the historical data.

10.2 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.

10.3 Record Keeping

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.

10.4 Right of Way Clearing

City Corporation has embarked on an annual right of way clearing effort throughout the city. It is recommended that City Corp continues to fund and implement these efforts.

10.5 GIS

City Corporation continues to implement and improve it's GIS system. CWB Engineers recommends that the utility maintain a strong effort to improve the quality of it's mapping and asset location.

[print](#)

Dover City Council addresses sewer issues, approves transfer of funds

by BY STEVE LEAVELL sleavell@cswnet.com

10.03.17 - 10:00 am

Sewer issues were the major focus at the September monthly meeting of the Dover City Council.

Mayor Pat Johnson told the council that because of increasing treatment costs charged by Russellville's City Corp and the fact that September spanned three pay periods, the city's sewer account was very low with a balance of \$5,200. He requested that the council approve a special transfer of \$5,000 from the water and sewer revenue account to the sewer operations account to ensure payment of monthly expenses. The council approved the transfer.

Jeremy Stone of Civil Engineering Associates, project manager for the city's proposed sewer treatment plant, told the council all current application paperwork on the project would be submitted by the end of the month. He is waiting, he said, for formal approval from the state engineer. With October marking the start of a new fiscal year for state agencies, financing options should be open, he said.

Stone has also inspected the city's water treatment facilities and reported that major updates and upgrades to the system's pumps and pipes would soon be necessary. He estimated the cost of the needed improvements at \$127,000.

Stone said he would return to the council's October meeting with more information on both projects.

In other matters, the council approved the second reading of an ordinance amending the city's zoning code by simplifying the permit process for moving buildings.

It approved final adjustments to the Fire, Reserve, and Lo-fi budget documents for fiscal year 2016.

Paul Harvel of the Arkansas Valley Alliance for Economic Development addressed the council and asked for the involvement of the city in the alliance's mission of recruiting retail establishments to the area.

Johnson reported on the completion of the remodeling of the stage area at the city park into a second pavilion for various events, done in partnership with the Dover Area Chamber of Commerce. The council discussed the process for groups reserving the facilities and the possibility of charging fees, but no action was taken.

He reported on the city's final Legislative Audit for 2015 and said that the three findings on Dover's financial tracking had been corrected.

The council discussed plans for a Christmas party for city employees to be paid for by elected officials.

Dover branch librarian Sherry Simpson reported on an after school tutoring program at the library and the acquisition of a new storage building.

Utilities supervisor Yancy Poynter reported on routine maintenance to the street, water and sewer systems and the installation of electrical service to the new stage pavilion at the city park.

Assistant Fire Chief Lewis Dixon reported three drills and two controlled burns during the month.

Chief Marshal Barry Walker reported 506 total calls, 375 public contacts, 778 property checks, and 217 extra patrols for the month.

All council members including Pat McAlister, Chris Loper, Roger Lee, Ila Anderson, Carl Wetzel, and Fred Standridge were present.

The council's next regular meeting is scheduled for Tuesday, Oct. 17.

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ORDINANCE NO. 1075

AN ORDINANCE REGULATING THE USE OF PUBLIC AND PRIVATE SEWERS AND DRAINS, PRIVATE SEWAGE DISPOSAL, THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, AND THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM; AND PROVIDING PENALTIES FOR VIOLATIONS THEREOF; IN THE CITY OF RUSSELLVILLE, COUNTY OF POPE, STATE OF ARKANSAS.

PREAMBLE

Whereas the City of Russellville, State of Arkansas wishes to provide for the maximum possible beneficial public use of the City's facilities through adequate regulation of sewer construction, sewer use and industrial waste water discharges, and to provide procedures for complying with requirements placed upon the City by other regulatory bodies, it is hereby ordained and enacted by the City Council of the City of Russellville, State of Arkansas, as follows:

ARTICLE I

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance shall be as follows:

Sec. 1: BOD (denoting Biochemical Oxygen Demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at 20C, expressed in milligrams per liter.

Sec. 2: Building Drain shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer, beginning five (5) feet (1.5 meters) outside the inner face of the building wall.

Sec. 3: Building Sewer shall mean the extension from the building drain to the public sewer or other place of disposal.

Sec. 4: Combined Sewer shall mean a sewer receiving both surface runoff and sewage.

Sec. 5: Garbage shall mean solid wastes from the domestic and commercial preparation, cooking, and dispensing of food, and from the handling, storage, and sale of produce.

Sec. 6: Industrial Wastes shall mean the liquid wastes from industrial manufacturing processes, trade, or business as distinct from sanitary sewage.

Sec. 7: Major Contributing Industry shall mean a nonresidential user that: (a) has a flow of 25,000 gallons or more per average work day; or (b) has a flow greater than 5 percent of the flow carried by the sewer system; or (c) has in its waste, a toxic pollutant; or (d) discharges wastewater that is found by the Superintendent, or the NPDES permit issuance authority in connection with the issuance of a NPDES permit to the public wastewater treatment system receiving the waste, to have significant impact, either singly or in combination with other contributing industries, on the wastewater treatment system or upon the quality of effluent therefrom.

Sec. 8: Natural Outlet shall mean any outlet into a watercourse, pond, ditch, lake, or other body of surface or groundwater.

Sec. 9: Person shall mean any individual, firm, company, association, society, corporation, group, partnership, copartnership, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine. The singular shall include the plural where indicated by the context.

Sec. 10: pH shall mean the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

Sec. 11: Properly Shredded Garbage shall mean the wastes from the preparation, cooking, and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half ($\frac{1}{2}$) inch (1.27 centimeters) in any dimension.

Sec.12: Public Sewer shall mean a sewer in which all owners of abutting properties have equal rights, and is controlled by public authority.

Sec.13: Sanitary Sewer shall mean a sewer which carries sewage and to which storm, surface, and groundwaters are not intentionally admitted.

Sec. 14: Sewage shall mean a combination of the watercarried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface, and stormwaters as may be present.

Sec. 15: Sewage Treatment Plant shall mean any arrangement of devices and structures used for treating sewage.

Sec. 16: Sewage Works shall mean all facilities for collecting, pumping, treating, and disposing of sewage.

Sec. 17: Sewer shall mean a pipe or conduit for carrying sewage.

Sec. 18: Shall is mandatory; May is permissive.

Sec. 19: Slug shall mean any discharge of water, sewage, or industrial waste which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four hour concentration or flows during normal operation.

Sec. 20: Storm Drain (sometimes termed storm sewer) shall mean a sewer which carries storm and surface waters and drainage, but excludes sewage and industrial wastes, other than unpolluted cooling water.

Sec. 21: Superintendent shall mean the Superintendent of Sewage Works and/or Water Pollution Control of the City of Russellville, or his authorized deputy, agent, or representative.

Sec. 22: Suspended Solids shall mean solids that either float on the surface of, or are in suspension in water, sewage, or other liquids, and which are removable by laboratory filtering.

Sec. 23: Watercourse shall mean a channel in which a flow of water occurs, either continuously or intermittently.

Sec. 24: Normal Domestic Sewage shall mean sewage which, when analyzed, shows by weight a daily average of not more than 350 parts per million of suspended solids and/or not more than 350 parts per million BOD.

Sec. 25: User shall mean any user who discharges an effluent into the City of Russellvilles Sewage Treatment Plant by means of pipes, conduits, pumping stations, force mains, constructed drainage ditches, intercepting ditches, and all constructed devices and appliances appurtenant thereto.

Sec. 26: Categorical Pretreatment Standards shall mean the National Pretreatment Standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged or introduced into a POTW by specific Industrial Dischargers.

Sec. 27: Act shall mean the Clean Water Act (33 U.S.C. 1251 et seq), as amended.

Sec. 28: City shall mean the City of Russellville, Arkansas, the local governmental entity enacting and enforcing this Ordinance.

Sec. 29: Permit is defined as set forth in Articles IV and VIII of this Ordinance.

ARTICLE II

Sec. 1: It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the City of Russellville, or in any area under the jurisdiction of said City, and human or animal excrement, garbage, or other objectionable waste.

Sec. 2: It shall be unlawful to discharge to any natural outlet within the City of Russellville, or in any area under the jurisdiction of said City, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this ordinance.

Sec. 3: Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault,

septic tank, cesspool, or other facility intended or used for the disposal of sewage.

Sec. 4: The owner of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the City and abutting on any street, alley, or right-of-way in which there is now located or may in the future be located a public sanitary or combined sewer of the City, is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this ordinance, within ninety (90) days after date of official notice to do so, provided that said public sewer is within one hundred (100) feet (30.5 meters) of the property line.

ARTICLE III

Sec. 1: Where a public sanitary or combined sewer is not available under the provisions of Article II, Section 4, the building sewer shall be connected to a private sewage disposal system complying with the provisions of this article.

Sec. 2: Before commencement of construction of a private sewage disposal system the owner shall first obtain a written permit signed by the Superintendent. The application for such permit shall be made on a form furnished by the City, which the applicant shall supplement by any plans, specifications, and other information as are deemed necessary by the Superintendent. A permit and inspection fee of \$10.00 dollars shall be paid to the City at the time the application is filed.

Sec. 3: A permit for a private sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Superintendent. He shall be allowed to inspect the work at any stage of construction and, in any event, the applicant for the permit shall notify the Superintendent when the work is ready for final inspection and before any underground portions are covered. The inspection shall be made within twenty-four (24) hours of the receipt of notice by the Superintendent.

Sec. 4: The type, capacities, location, and layout of a private sewage disposal system shall comply with all recommendations of the Department of Public Health of the State of Arkansas. No permit shall be issued for any

private sewage disposal system employing subsurface soil absorption facilities share the area of the lot is less than 15,000 square feet (1,394 square meters). No septic tank or cesspool shall be permitted to discharge to any natural outlet.

Sec. 5: At such time as a public sewer becomes available to a property served by a private sewage disposal system, as provided in Article III, Section 4, a direct connection shall be made to the public sewer in compliance with this ordinance, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be abandoned and filled with suitable material.

Sec. 6: The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times; at no expense to the City.

Sec. 7: No statement contained in this article shall be construed to interfere with any additional requirements that may be imposed by the Health Officer.

Sec. 8: When a public sewer becomes available, the building sewer shall be connected to said sewer within sixty (60) days and the private sewage disposal system shall be cleaned of sludge and filled with clean bank-run gravel or dirt.

ARTICLE IV

Sec. 1: No authorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Superintendent.

Sec. 2: There shall be two (2) classes of building sewer permits: (a) for residential and commercial service, and (b) for service to establishments producing industrial wastes. In either case, the owner or his agent shall make application on a special form furnished by the City. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgement of the Superintendent. A permit and inspection fee of \$150.00 dollars for a residential or commercial building sewer permit and \$500.00 dollars for an industrial building sewer permit shall be paid to the City at the time the application is filed.

Sec. 3: All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the City from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

Sec. 4: A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

Sec. 5: Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Superintendent, to meet all requirements of this ordinance.

Sec. 6: The size, slope, alignment, materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing, and backfilling the trench, shall all conform to the requirements of the building and plumbing code or other applicable rules and regulations of the City. In the absence of code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of the A. S. T. M. and W. P. C. F. Manual of Practice No. 9 shall apply.

Sec. 7: Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

Sec. 8: No person shall make connection of roof down spouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer.

Sec. 9: The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and

regulations of the City, or the procedures set forth in appropriate specifications of the A.S.T.M. and the W.P.C.F. Manual of Practice No. 9. All such connections shall be made gas tight and watertight. Any deviation from the prescribed procedures and materials must be approved by the Superintendent before installation. Sec. 10: The applicant for the building sewer permit shall notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the Superintendent or his representative.

Sec. 11: All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the City.

ARTICLE V

Sec. 1: No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer.

Sec. 2: Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the Superintendent. Industrial cooling water or unpolluted process waters may be discharged, on approval of the Superintendent, to a storm sewer, combined sewer, or natural outlet.

Sec. 3: No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers: (a) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas. (b) Any waters or wastes containing toxic or poisonous solids, liquied, or gases in sufficient quantity either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the sewage treatment plant. (c) Any waters or wastes having a pH lower than 6.0 or higher than 9.0, or having any othe rcorrosive property

capable of causing damage or hazard to structures, equipment and personnel of the sewage works.

(d) Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works such as, but not limited to, ashes, ciners, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, etc. either whole or ground by garbage grinders.

Sec. 4: No person shall discharge or cause to be discharged the following described substances, materials, waters, or wastes if it appears likely in the opinion of the Superintendent that such wastes can harm either the sewers, sewage treatment process, or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property, or constitute a nuisance. In forming his opinion as to the acceptability of these wastes, the Superintendent will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant, and other pertinent factors. The substances prohibited are:

(a) Any wastewater having a temperature which will inhibit biological activity in the POTW pretreatment plant resulting in Interference, but in no case wastewater with a temperature at the introduction into the POTW which exceeds 40C (104F) unless the POTW treatment plant is designed to accommodate such temperature.

(b) Any water or waste containing fats, wax, grease, or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two (32) and one hundred fifty (150)F (0 and 65C).

(c) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (3/4) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the Superintendent.

(d) Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

(e) Any waters or wastes containing toxic materials or

heavy metals in concentrations exceeding the following limits:

Element	mg/l
Arsenic	0.05
Barium	5.0
Boron	1.0
Cadmium	0.02
Chromium	0.5
Copper	0.2
Lead	0.1
Manganese	1.0
Mercury	0.005
Nickel	0.8
Selenium	0.02
Silver	0.1
Zinc	0.05
Cyanide	0.05

In addition, waters or wastes containing any measurable trace of the following:

Antimony	Rhenuim
Beryllium	Strontium
Bismuth	Tellurium
Cobalt	Pesticides
Molybdenum	Herbicides
Tin	Fungicides
	Uranylion

(f) Any waters or wastes containing phenols or other taste or odor-producing substances, in such concentrations exceeding limits which may be established by the Superintendent as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal or other public agencies of jurisdiction for such discharge to the receiving waters.

(g) Any radioactive wastes or isotopes of such halflife or concentration as may exceed limits established by the Superintendent in compliance with applicable State or Federal regulations.

(h) Deleted

(I) Materials which exert or cause:

(1) unusual concentrations of inert suspended solids (such as, but not limited to, Fullers earth,

lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

(2) Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

(3) Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.

(4) Unusual volume of flow or concentration of wastes constituting slugs as defined herein.

(j) Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

Section 5: If any waters or wastes are discharged, or are proposed to be discharged to the public sewers, which waters contain the substances or possess the characteristics enumerated in Section 4 of this Article, and which in the judgement of the Superintendent, may have a deleterious effect upon the sewage works, processes, equipment, or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the Superintendent may:

(a) Reject the wastes,

(b) Require pretreatment to an acceptable condition for discharge to the public sewers,

(c) Require control over the quantities and rates of discharge, and/or

(d) Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges under the provisions of Section 10 of this article.

If the Superintendent permits the pretreatment of equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the Superintendent, and subject to the requirements of all applicable codes, ordinances, and laws.

Sec. 6: 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.

Sec. 7: Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

Sec. 8: When required by the Superintendent, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer and/or other monitoring facilities together with such necessary meters and other appurtenances to facilitate observation, sampling, and measurement of the wastes. Such facilities, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the Superintendent. The facilities shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

Sec. 9: All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this ordinance shall be determined in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, and shall be determined at the control manhole or monitoring facility provided, or upon suitable samples taken at said control manhole or monitoring facility has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewage works and to determine the existence of hazards to life, limb, and property. (The particular analyses involved will determine whether a twenty-four (24) hour composite of all out falls of a premise in appropriate or whether a grab sample or samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from 24-hr composites of all out falls whereas pHs are determined from periodic grab samples.

Sec. 10: National categorical pretreatment standards as promulgated by the U.S. Environmental Protection Agency (EPA) pursuant to the Act shall be met by all Industrial Users of the regulated industrial categories. An application for modification of the national categorical pretreatment standards may be considered for submittal to the Regional Administrator by the Superintendent, when the wastewater treatment systems achieves consistent removal of the pollutants as defined by 40 CFR 403.7. State requirements and limitations on discharge to the Publicly Owned Treatment Works (POTW) shall be met by all Industrial Users which are subject to such standards in any instance in which they are more stringent than federal requirements and limitations or those in this or any other applicable ordinance.

Sec. 11: No statement contained in this ordinance shall be construed as preventing any special agreement or arrangement between the city and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the City for treatment, subject to payment therefore, by the industrial concern, provided that the industrial concern continues to comply with all applicable State and Federal requirements and standards.

ARTICLE VI

Sec. 1: No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the sewage works. Any person, violating this provision shall be subject to immediate arrest under charge of disorderly conduct.

ARTICLE VII

Sec. 1: The Superintendent and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all properties at all reasonable times for the purpose of inspection, observation, measurement, sampling, testing and the performance of their duties, including inspection of all records maintained, in accordance with the provisions of this ordinance. The Superintendent or his representatives shall have no authority to inquire into any processes including metallurgical, chemical, oil, refining, ceramic,

paper, or other industries beyond that point having a direct bearing on the kind and source of discharge to the sewers or waterways or facilities for waste treatment. However the Superintendent or his representative shall have the right to set up on the users property such devices as are necessary to conduct sampling or metering operations. When such a user shall make necessary arrangements so that upon presentation of suitable identification, the Superintendent or his representative will be permitted to enter without delay for the purpose of performing their specific responsibilities.

Sec. 2: While performing the necessary work on private properties referred to in Article VII, Section 1 above, the Superintendent or duly authorized employees of the City shall observe all safety rules applicable to the premises established by the company and the company shall be held harmless for injury or death to the City employees and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Article V, Section B.

Sec. 3: The Superintendent and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all private properties through which the City holds a duly negotiated easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the sewage works lying within said easement. All entry and subsequent work, if any, on said easement, shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.

Sec. 4: Information and data on a user obtained from applications, permits, monitoring programs and inspections shall be available to the public or any government agency without restriction unless the user specifically requests and is able to demonstrate to the satisfaction of the Superintendent that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets. When requested by the person furnishing a report, and until such time as the

information is determined not to be confidential, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to this ordinance and/or pretreatment programs; provided that, such portions of a report shall be available for use by the City or any City agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics shall not be recognized as confidential information. Information accepted by the Superintendent as confidential shall not be transmitted to any governmental agency by the superintendent until and unless a ten (10) day notification is given to the person furnishing the information.

ARTICLE VIII

Sec. 1: A permit issued under Article IV of this ordinance to a major contributing industry shall be subject to all the provisions of this ordinance and in addition such a permit may contain any or all of the following:

- (a) The average and maximum wastewater constituents and characteristics.
- (b) Limits on rate and time of discharge and requirements for flow regulations and equalization.
- (c) Requirements for installation of inspection and monitoring facilities.
- (d) Pretreatment requirements.
- (e) Specifications for monitoring programs which may include sampling, number, types and standards for tests and reporting schedule.
- (f) Compliance schedules.
- (g) Requirements for notification to and acceptance by the Superintendent of any new introduction of wastewater constituents or of any substantial change in the volume or character of the wastewater constituents being introduced into the wastewater system.
- (h) Requirements for disposal of sludges, floats and skimmings.
- (I) Requirements for submission of technical reports or discharge reports, including frequency of submission.
- (j) Requirements for maintaining plant records relating to wastewater discharge as specified by the Superintendent

and affording the Superintendent or his representative access thereto.

(k) Mean and maximum mass emission rates, or other appropriate limits when incompatible pollutants are proposed or present in the Major Contributing Industry's wastewater discharge.

(l) Additional requirement as determined by the Superintendent.

Section 2: Permits are issued to a specific user for a specific operation. Such a permit shall not be reassigned or transferred or sold to another owner, another user, or different premise, nor shall it be transferred to a new or significantly changed operation. At the time the Superintendent determines that a person qualifies as a Major Contributing Industry, the Superintendent shall order that person to obtain a permit of the type set forth in Section 1 of this Article. Major Contributing Industries shall complete and file with the Superintendent, a permit application therefor in the form prescribed by the Superintendent, and accompanied by the fee of \$200. Existing users shall apply for a permit within 60 days after the Superintendent's order. Proposed new Users who will be classified as Major Contributing Industries as defined in Article I of this ordinance shall apply at least 120 days prior to connecting to or contributing to the POTW. The Superintendent will evaluate the data furnished by a Major Contributing Industry and may require additional information. After evaluation and acceptance of the data furnished, the Superintendent will issue a Major Contributing Industry Wastewater Discharge Permit subject to terms and conditions provided herein.

Sec. 3: Any user who violates any section of this ordinance, or applicable State and/or Federal regulations, or any of the following conditions which are hereby made part of every permit, whether stated therein or not, is subject to having his permit revoked:

(a) The user shall actually report the wastewater constituents and characteristics of his discharge.

(b) The user shall report significant changes in operation, or in wastewater constituents and characteristics.

(c) The user shall allow reasonable access to his premises for the purposes of inspection or monitoring.

(d) The user shall comply with each and every term and

condition of the permit.

Sec. 4: The Superintendent shall be responsible for the enforcement of the provisions of this Article and shall have authority to serve notices of violations thereof, to issue orders and impose penalties as authorized therein, and to establish limits for the discharge of toxic or objectionable substances.

Sec. 5: Any person found to be violating any provision of this Article, Superintendents order, or condition of an industrial permit shall be served by the Superintendent or other agent of the City with written notice stating the nature of the violation. Within thirty (30) days after the date of the notice, unless a shorter time is necessary due to the nature of the violation, a description of successful corrective action taken or a plan for the satisfactory correction of the violation shall be submitted to the Superintendent. If the violation is not corrected by timely compliance, or a satisfactory correction plan submitted within the specified time, the Superintendent may order any user to show cause before him why enforcement action should not be taken. A written notice shall be served specifying the time and place of a hearing, the reason why the action is to be taken and the proposed enforcement action. The Superintendent may propose to take any enforcement action reasonably necessary to abate the violation, including termination of sewer service. Based upon the evidence presented at the hearing, the Superintendent shall determine the enforcement action which should be taken, if any. This determination may be appealed to a board or representative of the City designated to hear such appeals by filing a written petition with such board or representative within ten (10) days of the Superintendents ruling. The board or representative shall fix a reasonable time for hearing the appeal, at which the appelliant may be represented by counsel, and give written notice to the parties stating the time and place for the hearing. The board or representative shall decide the appeal within a reasonable time and notify the parties of its decision.

Sec. 6: The Superintendent may revoke any permit, or terminate or cause to be terminated wastewater treatment system service to any property, if a violation of any provision of this ordinance is found to exist or if a discharge of wastewater causes or threatens to cause a

condition of contamination, pollution, or nuisance as defined in this ordinance. This provision is in addition to any other provision set forth for violations of this ordinance.

Sec. 7: Users shall notify the Superintendent immediately of any discharges or highway spills of wastes in violation of this Ordinance to enable countermeasures to be taken by the City to minimize sewage to the wastewater treatment system and/or the receiving waters. This notification shall be followed, within 5 days of the date of occurrence, by a detailed written statement from the user describing the causes of the discharge and the measures being taken to prevent its future occurrence. Such notification will not relieve users of liability for any consequential expense, loss or damage to the wastewater treatment system or for any fines and/or penalties imposed on the City which result from the violative discharge. Users shall make available to their employees copies of this ordinance and together with such other wastewater information and notices which may be furnished by the Superintendent from time to time directed toward more effective waste pollution control. A notice shall be furnished and permanently posted by the user in a conspicuous place advising employees whom to call in case of any discharge in violation of this ordinance.

Sec. 8: When the Superintendent finds that a discharge of wastewater, in violation of this ordinance, or the provisions of a permit issued to a Major Contributing Industry, has taken place or threatens to take place, the Superintendent may issue an order to cease and desist, and direct that those persons not complying therewith shall:

- (a) Comply forthwith,
- (b) Comply in accordance with a time schedule set forth by the Superintendent, or
- (c) Take appropriate remedial or preventive action in the event of a threatened violation.

Sec. 9: When the City finds that a discharge of wastewater, in violation of this ordinance, or wastewater source control requirements, effluent limitations or pretreatment standards or the provisions of a permit, has been taking place, the Superintendent may require the user to submit for approval, with such modifications as the Superintendent deems necessary, a detailed time schedule of specific actions which the user shall take in order to prevent the

discharge or correct the violation of requirements resulting therefrom.

Sec. 10: Any person who violates any provision of this Article or any condition of a permit issued to a Major Contributing Industry, or who violates any case and desist order, prohibition, effluent limitation, or pretreatment or toxicity standard, issued or established to implement this ordinance shall be liable civilly to a penalty not to exceed \$100 for individuals and \$100 for corporations. Each day in which a violation occurs shall be considered a separate violation. The Superintendent may assess a penalty of up to \$50 for each such violation and add such penalty to the users charges and fees. Such assessment shall be offset against any subsequent penalty otherwise imposed for the same violation. Civil penalties in excess of \$50 shall be assessed by Municipal Court. An such penalty imposed shall not be construed as liquidated damages, and shall accrue in addition to any liability for any consequential damages or additional operating expenes resulting from the violation for which the penalty is imposed. Consequential damages shal include but not be limited to, fines and penalties imposed upon the City by other public authorities.

Sec. 11: Any person who violates any provision of this Article or any condition of a permit issued to a Major Contributing industry, effluent limitation, or pretreatment or toxicity standard, issued or establisehd to implement this ordinance shall be liable upon conviction to a sum not to exceed \$1,000 for each day in which such violation occurs, or to imprisonment for not more than 6 months, or both.

Sec. 12: All users subject to this ordinance shall retain and preserve for no less than three (3) years, any records, books, documents, memoranda, reports, correspondence and any and all summaries thereof, relating to monitoring, sampling and chemical analyses made by or in behalf of a user in connection with its discharge. All records which pertain to matters which are the subject of enforcement or litigation activities brought by the City shall be retained and preserved by the user until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Sec. 13: Any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Article, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method shall upon conviction be punished as provided in Section 11 of this Article.

Sec. 14: No user shall increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with any local, state, or federal discharge standard.

Sec. 15: The City reserves the right to amend any permit issued hereunder in order to assure compliance by the City with applicable laws and regulations, to comply with modification with the limitations and requirements of Article V, or if other just cause exists. Within 180 day of the promulgation of a National Categorical Pretreatment Standard, all industrial Users subject to such standards shall submit to the City a baseline report as stipulated in Part 403.12(b) of the Federal Register. This report shall be in addition to any other reports, applications, or questionnaires required or previously submitted. Within 9 months of the promulgation of a National Categorical Pretreatment Standard, the permit of each industrial User subject to such standards shall be revised to require compliance with such standards within the time frame prescribed by such standards. All National Categorical Pretreatment Standards adopted after the promulgation of this Ordinance shall be adopted by the City as part of this Ordinance. Where an Industrial User, subject to a National Categorical Pretreatment Standard, has not previously submitted an application for a Major Contributing Industry Permit as required by Section 1 and 2 of this Article, the industrial user shall apply for a Major Contributing Industry Permit from the City within 60 days after the promulgation of the applicable National Categorical Pretreatment Standard by the U.S. EPA. The Industrial User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

Sec. 16: All permits shall be issued for perpetual duration, subject to amendment or revocation as provided in this Ordinance. Under extraordinary circumstances, a permit may be issued for a stated period or may be stated to expire on a specific date.

Sec. 17: Major Contributing Industries are required to provide and operate at the Users own expense, a monitoring facility to allow inspection, sampling, and flow easurement of each sewer discharge to the City. Each monitoring facility shall be situated on the Users premises, except where such a location would be impractical or cause undue hardship on the User, the City may concur with the facility being constructed in the public street or sidewalk area providing that the facility is located so that it will not be obstructed by landscaping or parked vehicles. There shall be ample rom in or near such monitoring facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the User. All monitoring facilities shall be constructed and maintained in accordance with all applicable local construction standards and specifications. Construction shall be completed within 120 days of receipt of a Major Contributing Industry Permit. The City may inspect the monitoring facilities of any User to determine complinace with the requirements of this Ordinance. The User shall allow the City or its representatives to enter upon the premises of the User at all reasonable hours, for the purposes of inspection, sampling, or records examination. The City shall have the right to set up on the Users property such devices as are necessary to conduct sampling, inspection, compliance monitoring, and/or metering operations.

ARTICLE IX

Sec. 1: Any person found to be violating any provision of this ordinance except Article VI and Article VIII shall be served by the City with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the eperiod of time stated in such notice, permanently cease all violations.

Sec. 2: (a) Any person who shall continue any violation beyond the time limit provided for in Article IX, Section 1, shall be guilty of a misdemeanor, and on conviction thereof shall be fined in the amount not exceeding Three Hundred Dollars (\$300) for each violation. Each day in which any such violaton shall continue shall be deemed a separate offense.

(b) In the event the prescribed sewer service charge is declared delinquent and has not been paid in full within four (4) months of the initial due date, the City shall at its option disconnect the sanitary sewer from the sewer collection line. The location of the disconnect shall be at the discretion of the City. The sewer may be re-connected to the Citys collection sysetm by the affected property owner who shall bear the entire expense of all costs for the reconnect provided that the delinquent account has been paid in full and that the City has been reimbursed in full for all costs borne by the City resulting from the disconnecting of the sewer. Further the City shall have the option in addition to any penalties set forth in this Ordinance to disconnect the sewer for any violation of this Ordinance in the use the sanitary sewer.

Sec. 3: Any peron violating any of the provisions of this ordinance shall become liable to the City for any expense, enforcement cost, loss, or damage occasioned the City by reason of such violation.

Sec. 4: A list of the users which were significantly violating provision of this ordinance during the 12 previous months shall be annually published by the Superintendent in a local newspaper. The notification shall also summarize any enforcement action atken against the user during the same 12 months. For the purpose of this Section, significant violations are those violations which remain uncorrected beyond any time limit set for correective action; which are part of a pattern of noncompliance over a 12 month period; or which involve a failure to accurately report noncompliance.

Sec. 5: Either as an alternative to any procedure established in this Ordinance or as an enforcement action therunder, the Superintendent may seek unjunctive relief to restrain the violation of, or attempted violation of, any provision of this ordinance.

ARTICLE X

Sec. 1: All ordinance or parts of ordinances in conflict herewith are hereby repealed.

Sec. 2: The invalidity of any section, clause, sentence, or provision of this ordinance shall not affect the validity of any other part of this ordinance which can be given effect without such invalid part or parts.

Sec. 3: The City reserves the right to amend the requirements set forth in this ordinance in any manner and to establish more stringent limitations or requirements where deemed necessary to comply with the objectives set forth in the Preamble to this ordinance.

ARTICLE XI

Sec. 1: This ordinance shall be in full force and effect from and after its passage, approval, recording, and publication as provided by law.

PASSED: May 12, 1983



Customer Comment/Complaint Form

Date: _____

Time: _____

Customer Name: _____

Customer Address: _____

Phone Number: _____

Best time to contact customer: _____

Comment/Complaint:

For a complaint, choose an item from the following list that best describes the problem:

Odor Discolored Bad Taste

Particles Low Pressure Other: _____

Describe/Explain item selected:

Mail form to: City Corporation, PO Box 3186, Russellville, AR 72811-3186

A written response will be submitted within 10 business days from date received from customer.

FOR OFFICE USE ONLY:

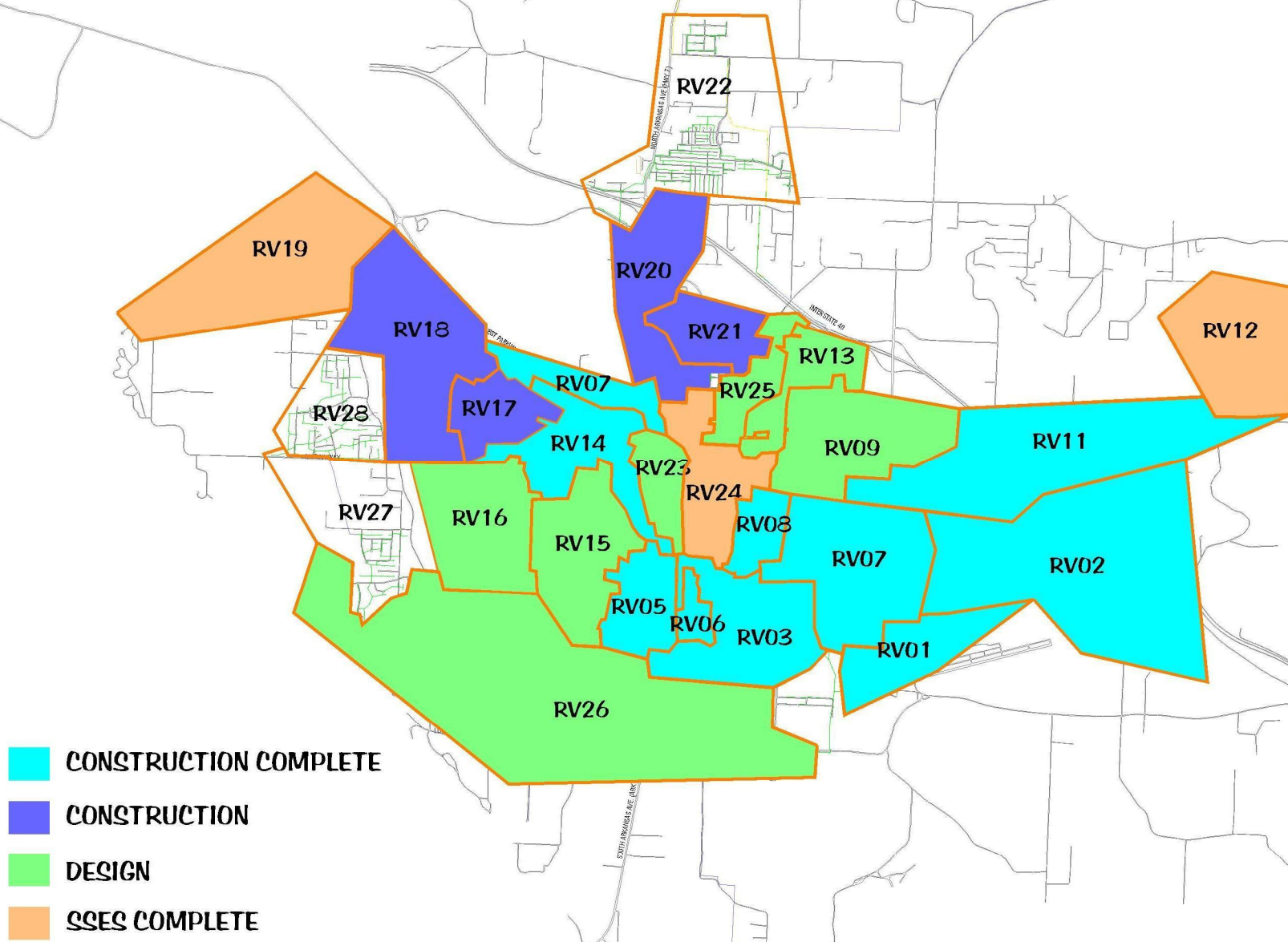
Completed by: _____

Received by: _____ Date: _____ Time: _____

Plant Flow

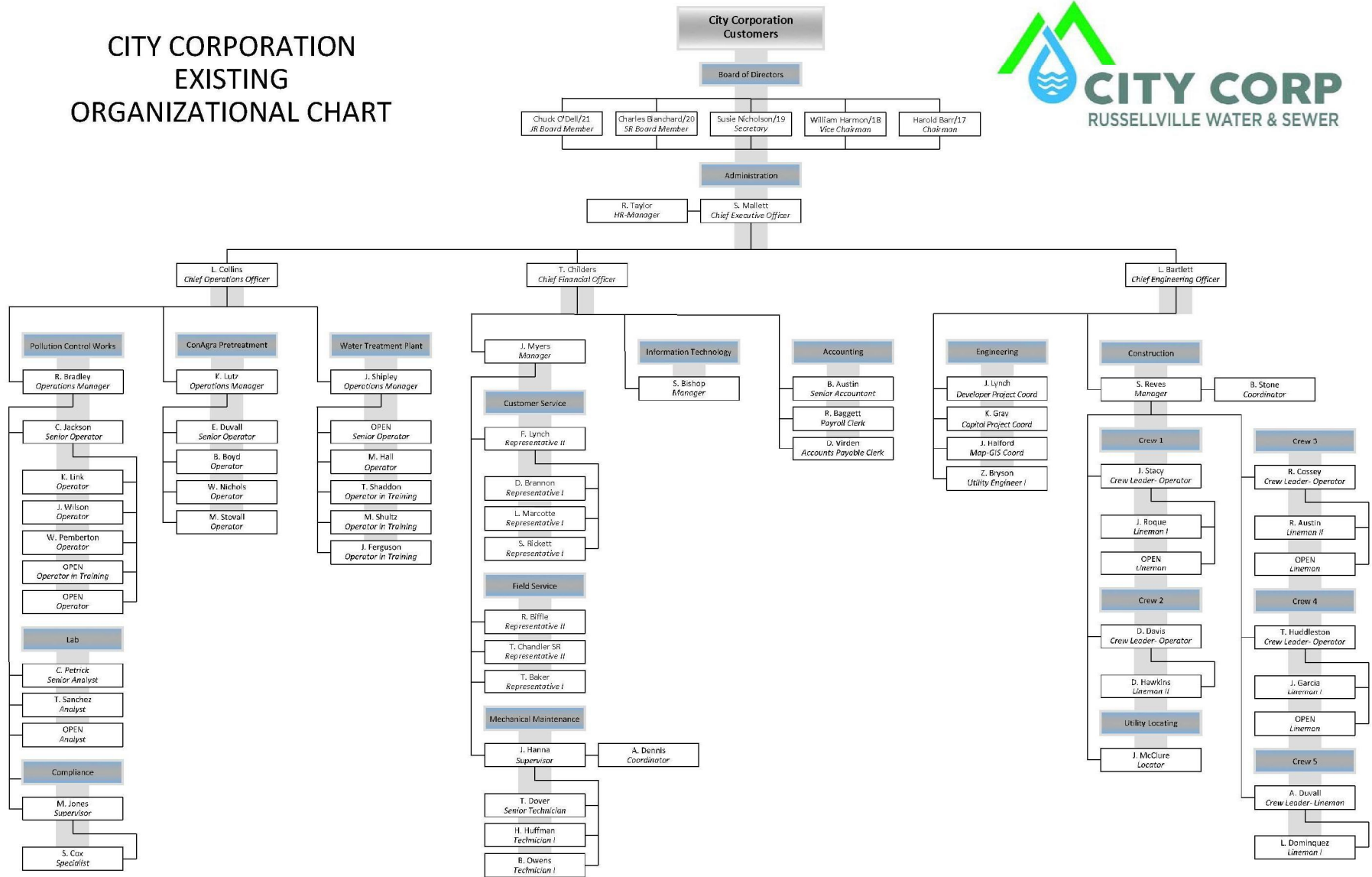
1 Effluent flow

Date	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017
1	3.787	5.050	5.543	8.101	13.159	6.585	6.260	4.441	5.246	3.931	4.344	4.218
2	3.382	4.239	6.072	7.013	9.404	5.904	5.377	4.501	4.943	3.430	4.887	4.006
3	4.376	4.995	5.424	7.450	8.249	4.640	5.099	4.660	4.015	4.044	4.733	3.941
4	4.832	4.716	5.132	8.847	12.683	5.751	7.327	3.979	3.652	5.128	4.523	3.968
5	4.570	4.479	4.931	10.875	11.391	8.928	6.558	4.297	3.945	4.689	4.466	5.170
6	4.603	4.113	4.770	9.014	9.015	11.351	5.749	4.165	5.190	3.967	4.049	4.639
7	4.438	4.748	5.549	7.764	8.587	8.656	5.932	5.153	4.724	4.053	4.460	4.391
8	4.173	5.731	6.881	6.865	7.971	7.184	6.693	4.947	3.574	4.097	4.542	4.051
9	4.036	5.386	7.098	6.000	7.890	7.535	7.196	4.664	4.996	3.338	4.439	4.038
10	4.617	4.907	6.630	5.620	7.270	7.113	7.029	3.924	4.739	3.414	4.265	4.059
11	4.720	4.975	6.791	6.290	7.124	6.406	5.981	4.489	4.557	5.850	4.078	3.568
12	4.694	4.779	6.516	6.347	7.552	4.810	6.389	4.896	5.108	4.386	3.911	4.250
13	4.706	3.929	6.018	5.898		5.099	5.757	4.362	4.883	4.251	3.433	4.599
14	4.351	4.597	7.005	5.801	7.189	5.120	6.601	4.693	4.500	4.124	4.053	4.601
15	4.449	5.017	6.103	4.995	5.545	6.125	5.540	5.680	4.466	3.959	4.542	4.971
16	3.972	5.364	6.379	4.810	5.903	6.349	4.497	9.966	4.362	4.017	5.090	4.550
17	5.721	5.305	6.229	4.810	5.601	6.260	4.235	6.976	4.074	4.100	4.490	5.127
18	5.718	5.215	5.959	8.341	5.581	6.160	6.650	7.994	3.602	4.415	4.738	4.978
19	5.608	5.186	5.307	6.628	5.236	6.227	6.880	7.539	4.435	4.374	4.228	5.026
20	5.276	4.749	4.699	6.082	5.697	5.978	6.292	7.102	4.303	4.316	3.594	5.392
21	5.168	5.167	6.423	5.713	7.829	5.820	5.340	5.709	4.301	4.503	4.102	6.552
22	5.175	7.927	6.076	7.412	6.901	5.318	5.320	5.830	4.313	4.840	4.459	5.342
23	7.123	5.779	5.261	8.937	6.169	5.287	3.975	5.822	4.249	4.346	4.111	8.360
24	7.392	6.597	5.151	6.607	5.424	5.594	3.695	6.877	4.067	4.264	3.115	7.278
25	6.497	5.782	5.478	6.938	5.311	4.770	4.193	6.069	3.895	4.410	3.180	5.751
26	6.404	5.261	7.303	7.224	5.136	3.904	4.249	6.245	4.231	4.425	3.291	5.125
27	5.996	4.508	6.992	10.972	4.892	4.602	4.427	6.202	4.268	4.427	3.433	5.304
28	5.688	5.174	8.305	9.549	5.753	4.630	4.388	5.641	4.391	4.263	4.048	5.540
29	5.252		9.100	8.242	6.466	3.870	5.760	5.540	4.278	3.867	4.360	5.382
30	4.505		8.916	8.313	5.421	5.390	4.487	6.808	4.020	3.471	4.334	5.488
31	5.141		10.155		5.725		3.776	5.885		4.137		4.806
Minimum	3.382	3.929	4.699	4.810	4.892	3.870	3.695	3.924	3.574	3.338	3.115	3.568
Maximum	7.392	7.927	10.155	10.972	13.159	11.351	7.327	9.966	5.246	5.850	5.090	8.360
Total	156.370	143.675	198.196	217.458	216.074	181.366	171.652	175.056	131.327	130.836	125.298	154.471
Average	5.044	5.131	6.393	7.249	7.202	6.046	5.537	5.647	4.378	4.221	4.177	4.983

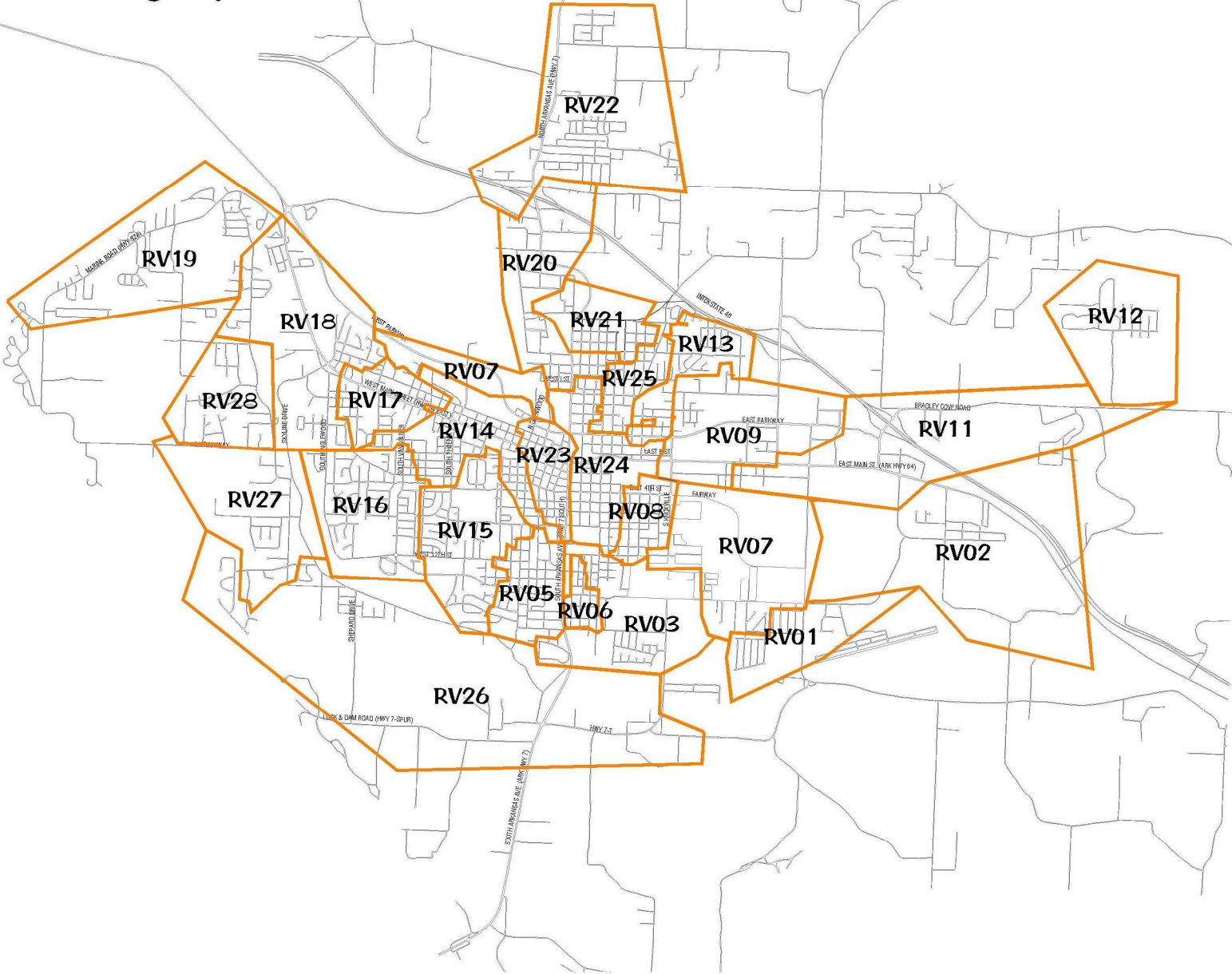


- CONSTRUCTION COMPLETE
- CONSTRUCTION
- DESIGN
- SSES COMPLETE

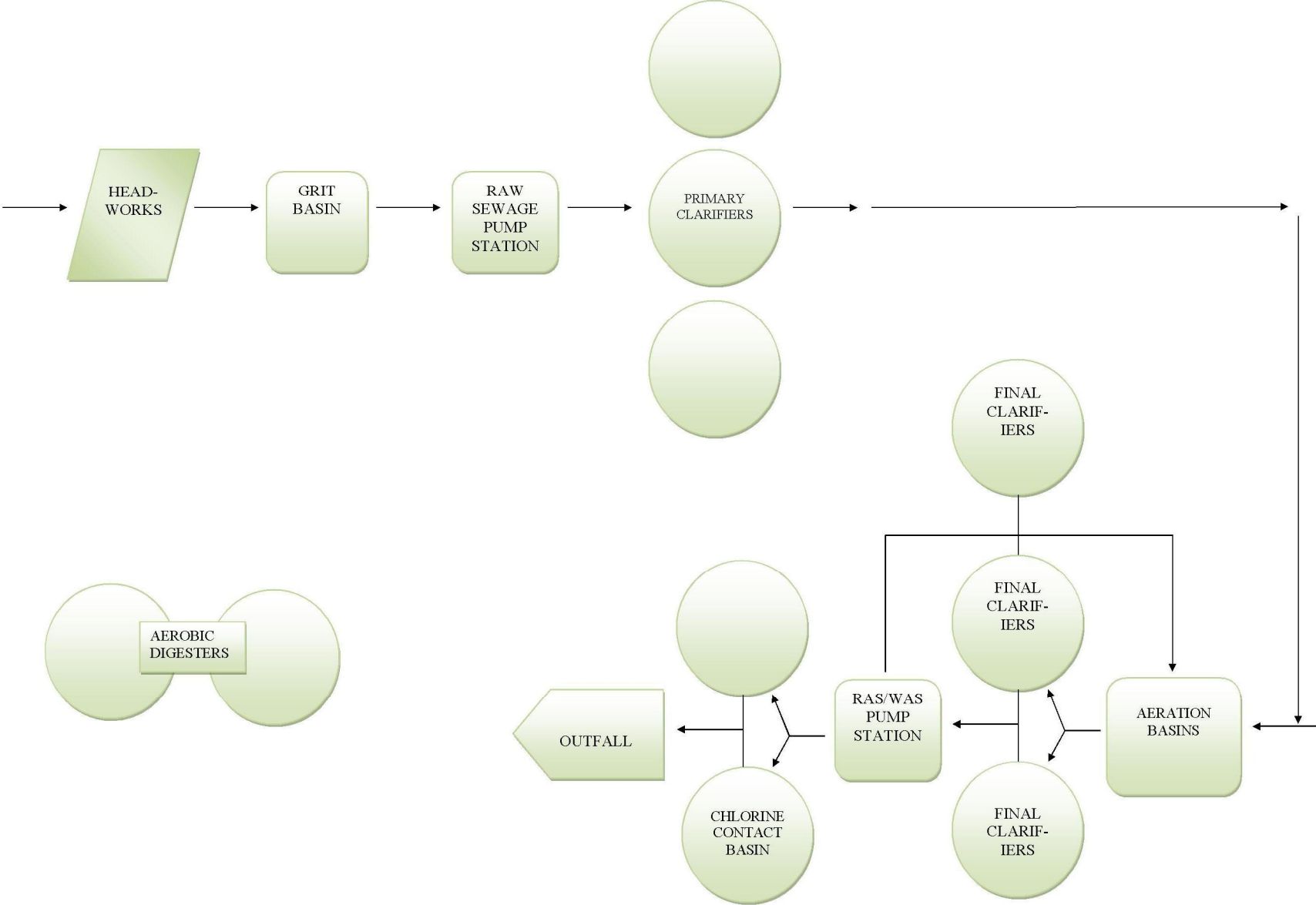
CITY CORPORATION EXISTING ORGANIZATIONAL CHART



APPENDIX 15
Subbasin Boundary Map

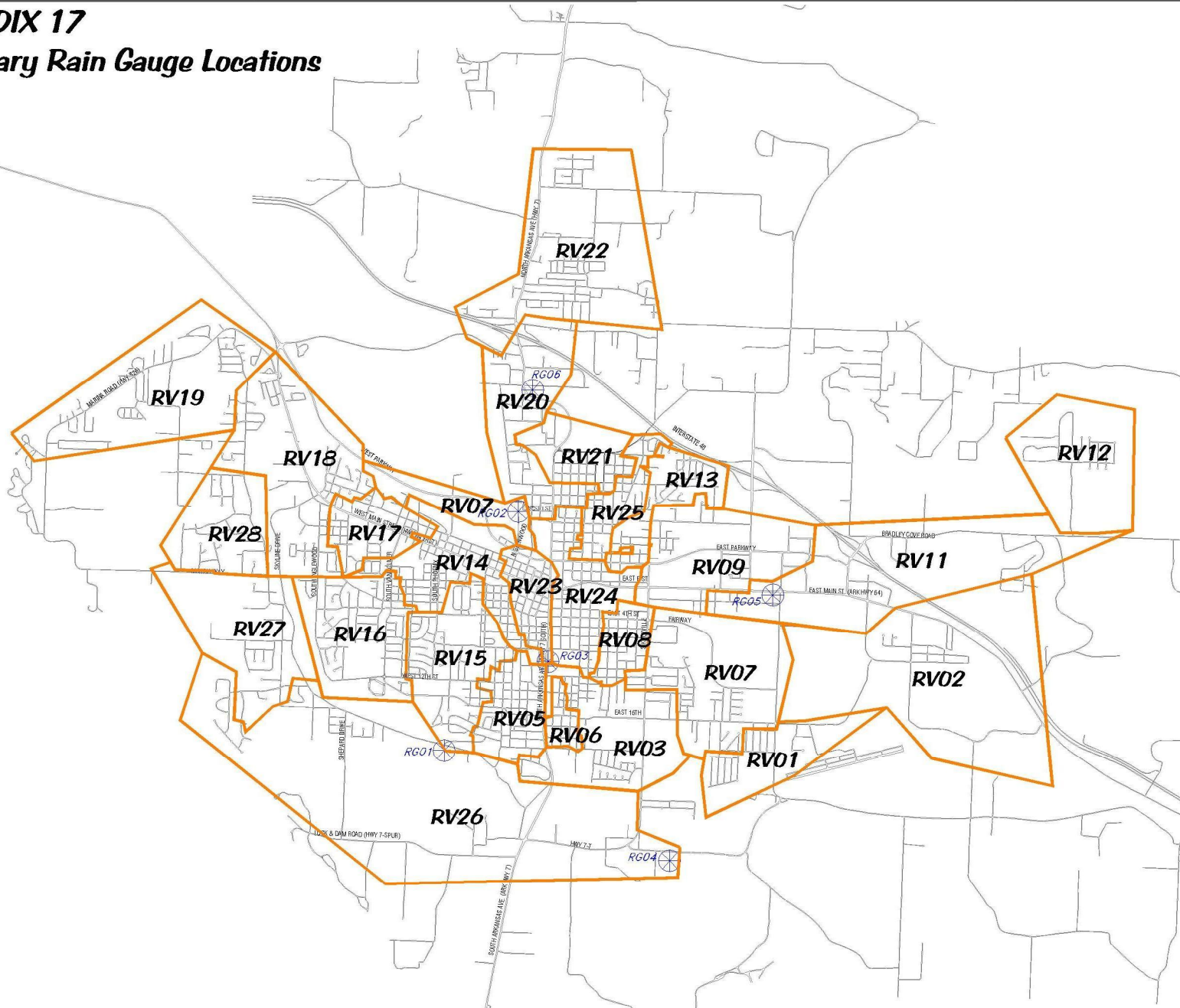


16- TREATMENT PLANT LAYOUT



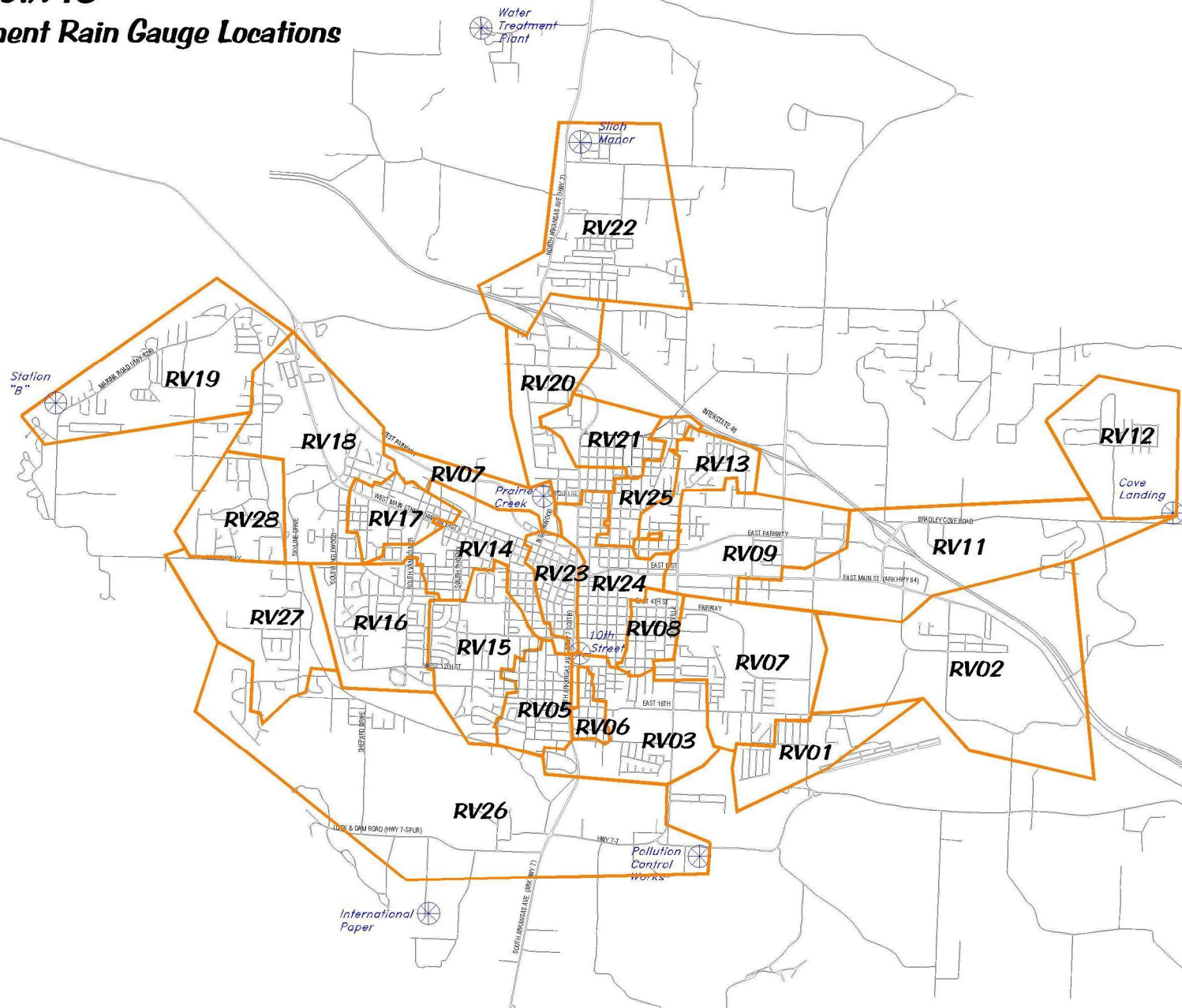
APPENDIX 17

Temporary Rain Gauge Locations



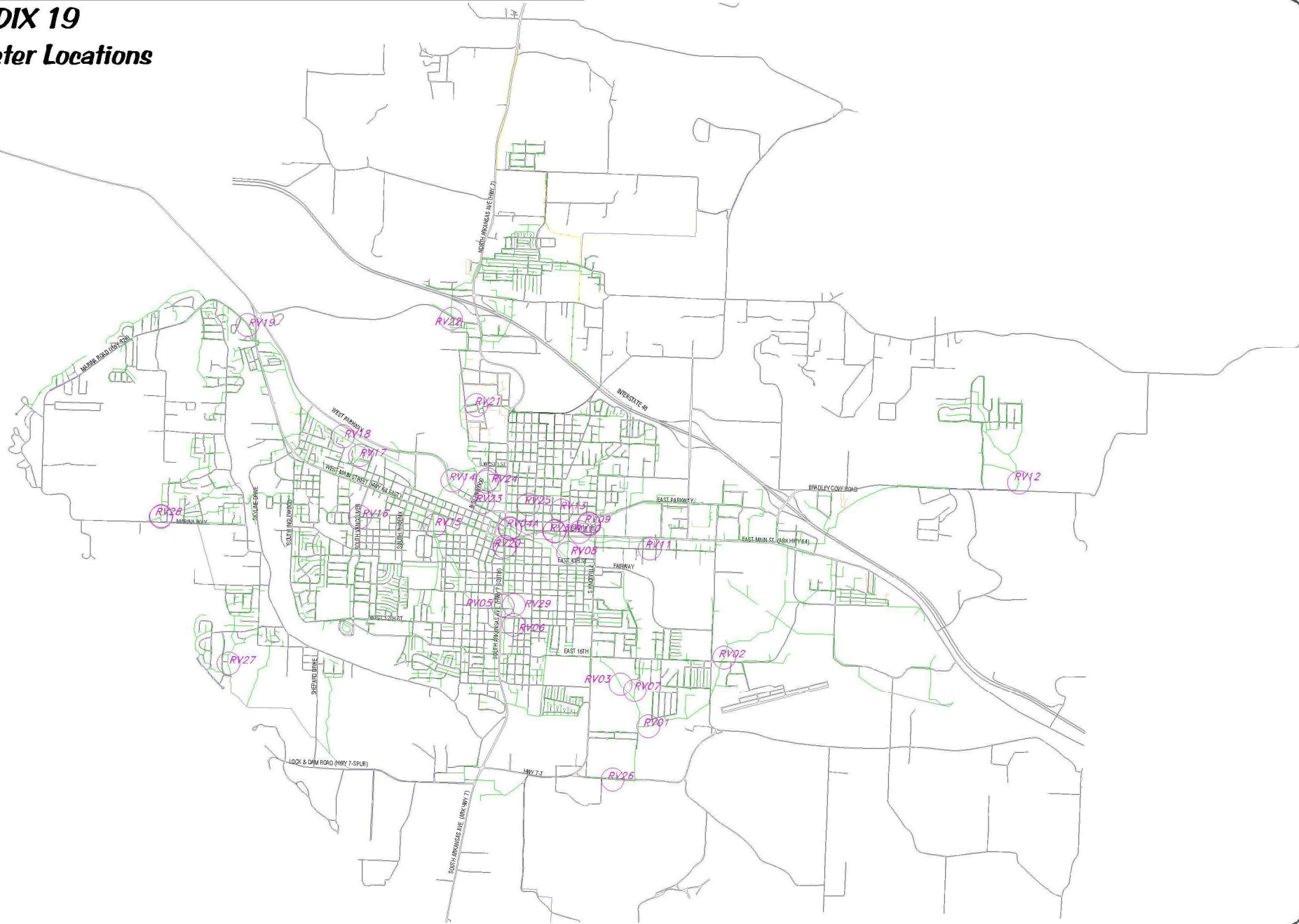
APPENDIX 18

Permanent Rain Gauge Locations



APPENDIX 19

RJN Meter Locations



**CITY CORPORATION
2018-2019 BUDGET SCHEDULE**

Departmental Planning:

Payroll Budget

due: February 19, 2018

Payroll sheets will be sent out approx. Jan 30th. to the mgrs. and team leads. They will have all current staff positions on there by dept. as well as current hourly rate with a 2% COLA included. If they have an anniversary before June 30, we have added a 3% adj to their current pay to compensate for merit raises to occur. On top of that, the spreadsheet will add in a 3% raise on their respective anniversary. Please check and verify your staff needs for next year, make any adds/subtractions for staff, verify or adjust approximate overtime/holiday/premium pay hours and remit that adjusted spreadsheet back to Renee Baggett by Feb 19. Overtime/Holiday/Premium Pay hours are being initially loaded to match the hours that were budgeted for FY18

Months with 3 pay periods - October 2018, May 2019

Operating Expense Budget (Mainframe Data Entered)

due: February 19, 2018

Operating expenses will be handled fairly close to the way previous years were handled. We will pass out spreadsheets the same as before, with the only difference being that we have automatically filled in FY19 budgets with an exact copy of the FY18 budget. Anticipating that most of the budget items will be close if not the same as this year, we thought it easiest to prepopulate and let you simply worry about the items that are needing adjustment.

Secure Appropriate Approvals & Key Into Computer before due date

Initial reports should be distributed by Approximately January 31

Non-Bond Proposed O & M Budget Review:

Larry Collins, Jonathan Shipley, Randy Bradley (WTP, WTP Lab)
Larry Collins, Randy Bradley, Kenny Lutz (LAB, WWTP & Con Agra)
Lance Bartlett, Steve Reves, Keith Gray, Jim Lynch (Const., Engineering)
Jeremy Myers (Business, Service) Joey Hanna (Maintenance)
Rena Taylor (General Mgmt.)
Shawn Bishop (IT Dept)
Brenda Austin (Gen. Mgmt., Admin, Business Office, Acct., Revenues)

These will be set up to occur in early March if management needs this type of review.

Proposed Capital Budget Review:

due: March 5, 2018

All capital requests should be submitted to Brenda A. by March 5 to allow time for budgets be pulled together and prepared for review. Please also include any prior year projects that will be left open and continue into FY18. Please note approx. FY19 amount for each.

Management will review & approve in late March or early April

Accounting Review with John Shoptaw:

Early May 2018

Board of Directors Review:

To be arranged

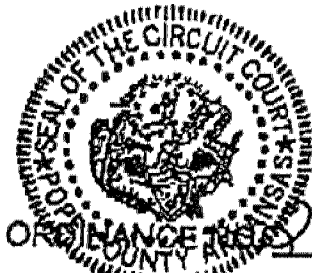
Distribute Proposed Budget to Board:

May Board Meeting

Board of Directors Approval:

June Board Meeting

This Instrument Prepared By:
 ROBERT W. HARDIN, P.A.
 Attorney at Law
 P.O. Box 886
 Russellville, AR 72811
 (479)988-5333



CLERKS CERTIFICATE OF RECORD
 STATE OF ARKANSAS - COUNTY OF POPE
 I, FERN TUCKER, Circuit Clerk and Recorder of
 the County attested do hereby certify that this
 instrument was filed for record the 12/29/2008 at
 16:53:18 AM, and the same is now
 duly recorded in Miscellaneous Book 2808-78 Page
 240 - 241

Witness my hand and the seal of said court this
 the 12/29/2008
 Fern Tucker - Circuit Clerk and Recorder
 By *[Signature]* D.C.

**AN ORDINANCE AMENDING ORDINANCE NO. 949
 AS AMENDED BY ORDINANCE NOS. 1022, 1294, AND 1372
 TO REVISE THE SCHEDULE OF RATES AND CHARGES
 FOR THE SEWER SYSTEM, AND FOR OTHER PURPOSES**

BE IT ORDAINED by the City Council of the City of Russellville, Arkansas:

Section 1: That Section 6 of Ordinance No. 949 as amended by Ordinance Nos. 1022, 1294, and 1372, is amended to read as follows:

Section 6: That the following schedule of charges for the payment of the proper and reasonable expense of operation, repair, replacements, and maintenance of the works will be implemented:

	2009 Billing Rate to commence 1/1/09 or as soon thereafter as this ordinance becomes effective:	2010 Billing Rate to commence 1/1/10	2011 Billing Rate and thereafter to commence 1/1/11
Minimum Bill:	\$4.45 per mo.	\$5.56 per mo.	\$6.67 per mo. 6,67
<u>Volume Charge</u>			
First 1 Mg per mo.	Minimum Bill	Minimum Bill	Minimum Bill
Next 19 Mg per mo.	\$1.73 per Mg	\$2.16 per Mg	\$2.59 per Mg 2.59
Over 20 Mg per mo.	\$1.47 per Mg	\$1.84 per Mg	\$2.20 per Mg 2.20
Mg - Thousand Gallons			
mo. - Month			

Section 2: Miscellaneous. (a) The provisions of this Ordinance are severable and if any provision shall for any reason be held illegal or invalid, such holding shall not affect the validity of the remainder of the Ordinance.

08-70-240

(b) All ordinances and resolutions or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

(c) If this Ordinance, as a whole, shall for any reason be held illegal or invalid, defeated upon referendum or otherwise invalidated or repealed, such illegality, invalidity, defeat or repeal shall not affect the validity of Ordinance No. 949 as amended by Ordinance Nos. 1022, 1294, and 1372.

Section 3: This Ordinance, being necessary for the proper operation of the City of Russellville Sanitary Sewer System and being necessary for the preservation of the ~~public health and safety, an emergency~~ is hereby deemed to exist and this Ordinance shall be in full force and effect after its passage.

PASSED this 18 day of December, 2008.

APPROVED:

TYRONE WILLIAMSON
Tyrone Williamson, Mayor

ATTEST:

Kathy Collins
Kathy Collins, City Clerk

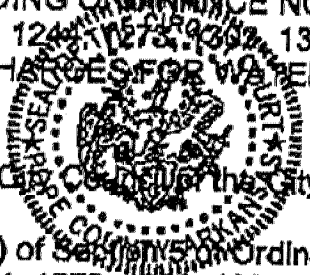


08-170-241

ORDINANCE NO. 2044

CLERKS CERTIFICATE OF RECORD
STATE OF ARKANSAS - COUNTY OF POPE
I, FERN TUCKER, Circuit Clerk and Recorder of
the County attested do hereby certify that this
instrument was filed for record the 12/29/2009 at
10:53:18 AM, and the same is now
duly recorded in Miscellaneous Book 2008-76 Page
242-244
Witness my hand and the seal of said court this
29th day of December 2009
By: Fern Tucker Clerk and Recorder
P.C.

AN ORDINANCE AMENDING ORDINANCE NO. 1078 AS AMENDED BY ORDINANCE NOS. 1080, 1210, 1244, 1273, 1302, 1308 AND 1590 TO REVISE THE SCHEDULE OF RATES AND CHARGES FOR WATER, AND FOR OTHER PURPOSES.



BE IT ORDAINED by the City Council of the City of Russellville, Arkansas:

Section 1: Subsection (a) of Section 5 of Ordinance No. 1078 as amended by Ordinance Nos. 1080, 1210, 1244, 1273, 1302, 1308, and 1590 is amended to read as follows:

Section 5: Rates and Charges. (a) The following schedule of rates and charges, which the City Council hereby finds are reasonable and necessary for operating and maintaining the system, are hereby fixed as the rates and charges for water furnished and services rendered by the system:

Monthly Meter Charge

Each customer shall pay a monthly charge based on the size of the customer's water meter, as follows:

	2009 Billing Rate to commence 1/1/09, or as soon thereafter as this ordinance becomes effective	2010 Billing Rate and thereafter commencing 1/1/10
5/8" meter	\$ 7.76	\$ 8.69
1" meter	\$ 10.74	\$ 12.03
1 1/2" meter	\$ 20.41	\$ 22.86
2" meter	\$ 26.78	\$ 29.99
3" meter	\$ 43.93	\$ 49.20
4" meter	\$140.60	\$157.48
6" meter	\$173.44	\$194.26

Monthly charge for meters larger than 6" in diameter shall be based on the actual cost of the meter and appurtenances.

Additional Charge for Water Usage

In addition to the monthly meter charge, each customer shall be required to pay for water usage in accordance with the following schedules:

This Instrument Prepared By:
ROBERT W. HARDIN, P.A.
Attorney at Law
P.O. Box 856
Russellville, AR 72811
(479)968-5353

08-70-242

	2009 Billing Rate to commence 1/1/09, or as soon thereafter as this ordinance <u>becomes effective</u>	2010 Billing Rate and thereafter <u>commencing 1/1/10</u>
RESIDENTIAL	\$1.52 per thousand for the first 2,000 gallons	\$1.71 per thousand for the first 2,000 gallons
"	\$1.74 per thousand for all over 2,000 gallons	\$1.94 per thousand for all over 2,000 gallons
COMMERCIAL	\$1.59 per thousand gallons	\$1.78 per thousand gallons
INDUSTRIAL	\$1.33 per thousand gallons	\$1.49 per thousand gallons
PUBLIC AUTHORITY	\$1.78 per thousand gallons	\$1.99 per thousand gallons
MUNICIPAL	\$1.37 per thousand gallons	\$1.53 per thousand gallons

PRIVATE FIRE PROTECTION (Fire Hydrants and Sprinkler Systems)

Size of Service Connection

Net Annual Rate

	2009 Billing Rate to commence 1/1/09, or as soon thereafter as this ordinance <u>becomes effective</u>	2010 Billing Rate and thereafter <u>commencing 1/1/10</u>
6"	\$338.11	\$378.68
8"	\$601.98	\$674.21
10"	\$939.75	\$1,052.52

Surcharge for Customers Within the City

In addition to the monthly meter charge and the additional charge for water usage, each customer whose premises are located within the corporate limits of the City shall be required to pay a surcharge (the "Surcharge") equal to 4.5% of the monthly charge to the customer for (i) monthly meter charge and (ii) additional charge for water usage.

Rates for Customers Outside the City Limits of Russellville

Each customer outside the city limits of Russellville, Arkansas, shall be required to pay one and one-half (1½) times the monthly meter charge for customers inside the city limits. In addition, each customer outside the city limits of Russellville, Arkansas, shall be required to pay one and one-half (1½) times the rate for water usage inside the city limits except for residential users outside the

08-70-243

city limits which shall be as follows:

	2009 Billing Rate to commence 1/1/09, or as soon thereafter as this ordinance <u>becomes effective</u>	2010 Billing Rate and thereafter <u>commencing 1/1/10</u>
RESIDENTIAL	\$3.15 per thousand for the first 2,000 gallons \$3.48 per thousand for all over 2,000 gallons	\$3.52 per thousand for the first 2,000 gallons \$3.90 per thousand for all over 2,000 gallons

Section 2: Ordinance No. 1078 as amended by Ordinance Nos. 1080, 1210, 1244, 1273, 1302, 1308 and 1590 is hereby amended and shall continue in full force and effect.

Section 3: Miscellaneous. (a) The provisions of this Ordinance are severable and if any provision shall for any reason be held illegal or invalid, such holding shall not affect the validity of the remainder of the Ordinance.

(b) All ordinances and resolutions or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

(c) If this Ordinance, as a whole, shall for any reason be held illegal or invalid, defeated upon referendum or otherwise invalidated or repealed, such illegality, invalidity, defeat or repeal shall not affect the validity of Ordinance No. 1078 as amended by Ordinance Nos. 1080, 1210, 1244, 1273, 1302, 1308 and 1590.

Section 4: This Ordinance, being necessary for the operation of the City of Russellville Water System and being necessary for the preservation of the public health and safety, an emergency is hereby deemed to exist and this Ordinance shall be in full force and effect after passage.

PASSED this 18 day of December, 2008.

APPROVED:

TYRONE WILLIAMSON
Tyrone Williamson, Mayor

ATTEST:

Kathy Collins
Kathy Collins, City Clerk
(SEAL)



Prepared by:
William F. Smith III
Russellville City Attorney
P.O. Box 428
Russellville, AR 72811
Sponsor: Steuber
NB#3, OB # 2



CLERKS CERTIFICATE OF RECORD
STATE OF ARKANSAS - COUNTY OF POPE
I, FERN TUCKER, Circuit Clerk and Recorder of
the County attested do hereby certify that this
instrument was filed for record the 08/28/2009 a
12:22:11 PM, and the same is now
duly recorded in Miscellaneous Book 2009-48 Page
427 - 428
Witness my hand and the seal of said court this
the 08/28/2009
Fery Tucker, Circuit Clerk and Recorder
By William Steuber D.C.

ORDINANCE NO. 2060

AN ORDINANCE AMENDING ORDINANCE NOS. 973 AND 976, CLARIFYING THE RESPONSIBILITY OF MAINTENANCE OF SEWER LINES WITHIN THE CITY OF RUSSELLVILLE, ARKANSAS, AND FOR OTHER PURPOSES

WHEREAS, the City Council desires to clarify the responsibility of maintenance of sewer lines with the City of Russellville, Arkansas.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF RUSSELLVILLE, ARKANSAS:

SECTION 1: Ordinance No. 973, Section 6, and Ordinance No. 976 are hereby amended to read as follows:

SECTION 6: "It will be the property owner's responsibility to maintain the house sewer service line from the dwelling to the owner's property line. Also, the property owner will be responsible for the clean out of any stoppage of the sewer service line from the sewer main to the dwelling or other types of structures. City Corporation ~~The Sewer Department~~ will be responsible for repairs of sewer service line from main to edge of the owner's property line. In the event of new construction, where it is necessary to cross the street with the house service line the property owner shall notify City Corporation ~~Russellville Sewer Department~~ and City Corporation ~~Russellville Sewer Department~~ shall give an estimate of cost to the property owner and upon the deposit of said estimate with City Corporation ~~Russellville Sewer Department~~ will proceed to extend the sewer service from main to customers property line according to City Corporation ~~Russellville Sewer Department~~ specifications. Upon the completion of the line, should the estimate be too high the balance will be refunded to the property owner, and should the estimate be too low the property owner shall reimburse City Corporation ~~Russellville Sewer Department~~.

09-18-427

Prepared by:
William F. Smith III
Russellville City Attorney
P.O. Box 428
Russellville, AR 72811
Sponsor: Steuber
NB#3, OB # 2

In the event a property owners sewer service line should cross the property of an adjoining property owner before reaching the sewer main that sewer service shall be treated as a prescriptive easement and shall be maintained by City Corporation.

Should the sewer service line crossing the property of neighboring property owner ever need to be relocated that expense to relocate shall be paid by the person or firm needed the line to be relocated.”

SECTION 2: All ordinances or parts of ordinances in conflict with the provisions of this Ordinance are hereby repealed or amended so as to be consistent with the intent of this Ordinance.

ORDAINED, this 20th day of August, 2009.

TYRONE WILLIAMSON
TYRONE WILLIAMSON, MAYOR

ATTEST:

Kathy Collins
KATHY COLLINS, CITY CLERK

I, Kathy Collins, City Clerk of Russellville, Arkansas, hereby certify that the above and foregoing is a true and correct copy of Ordinance No. 2060 passed by the City Council of the City of Russellville, Pope County, Arkansas, on the 20th day of August 2009.

APPROVED AS TO FORM:

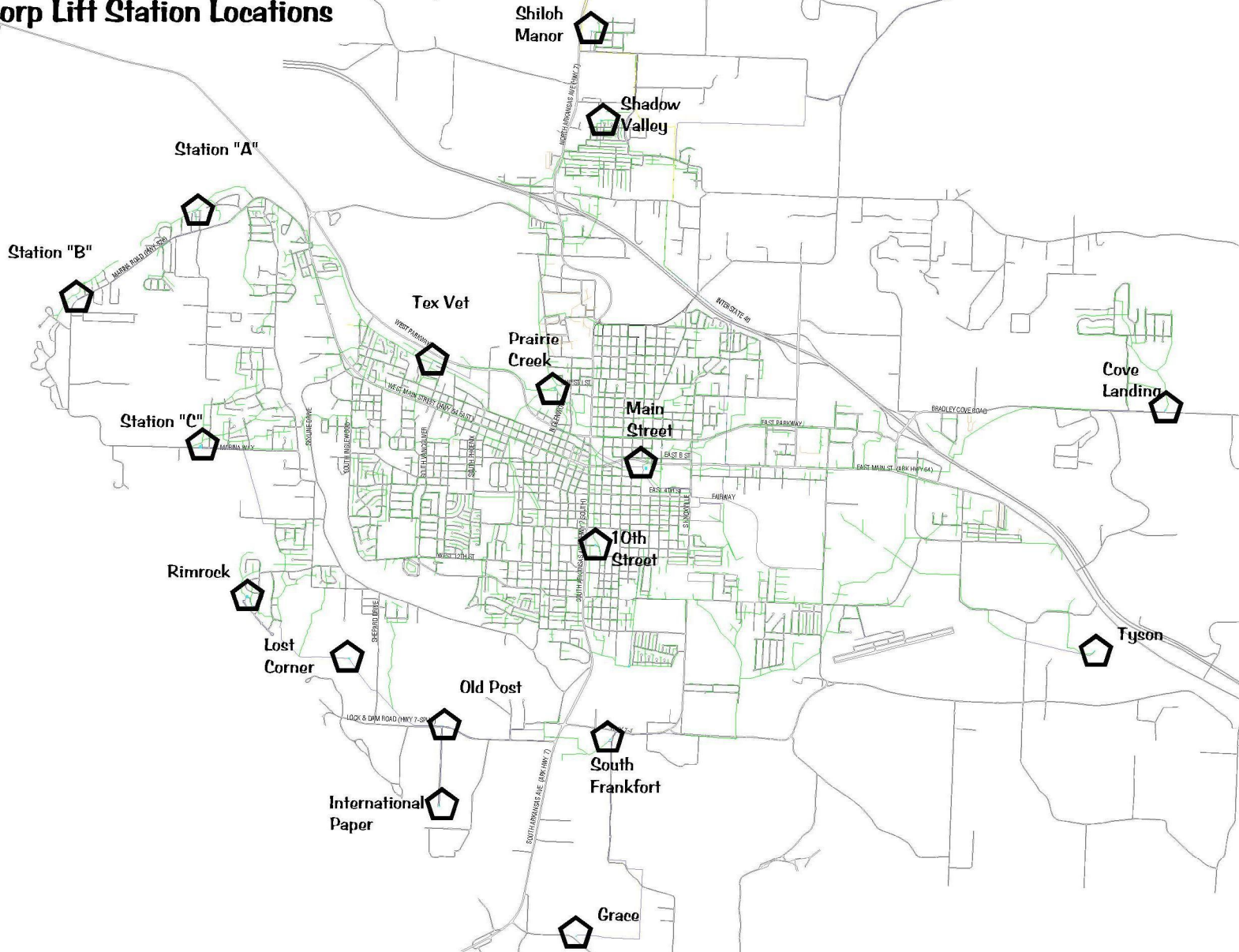
William F. Smith III
WILLIAM F. SMITH III, CITY ATTORNEY



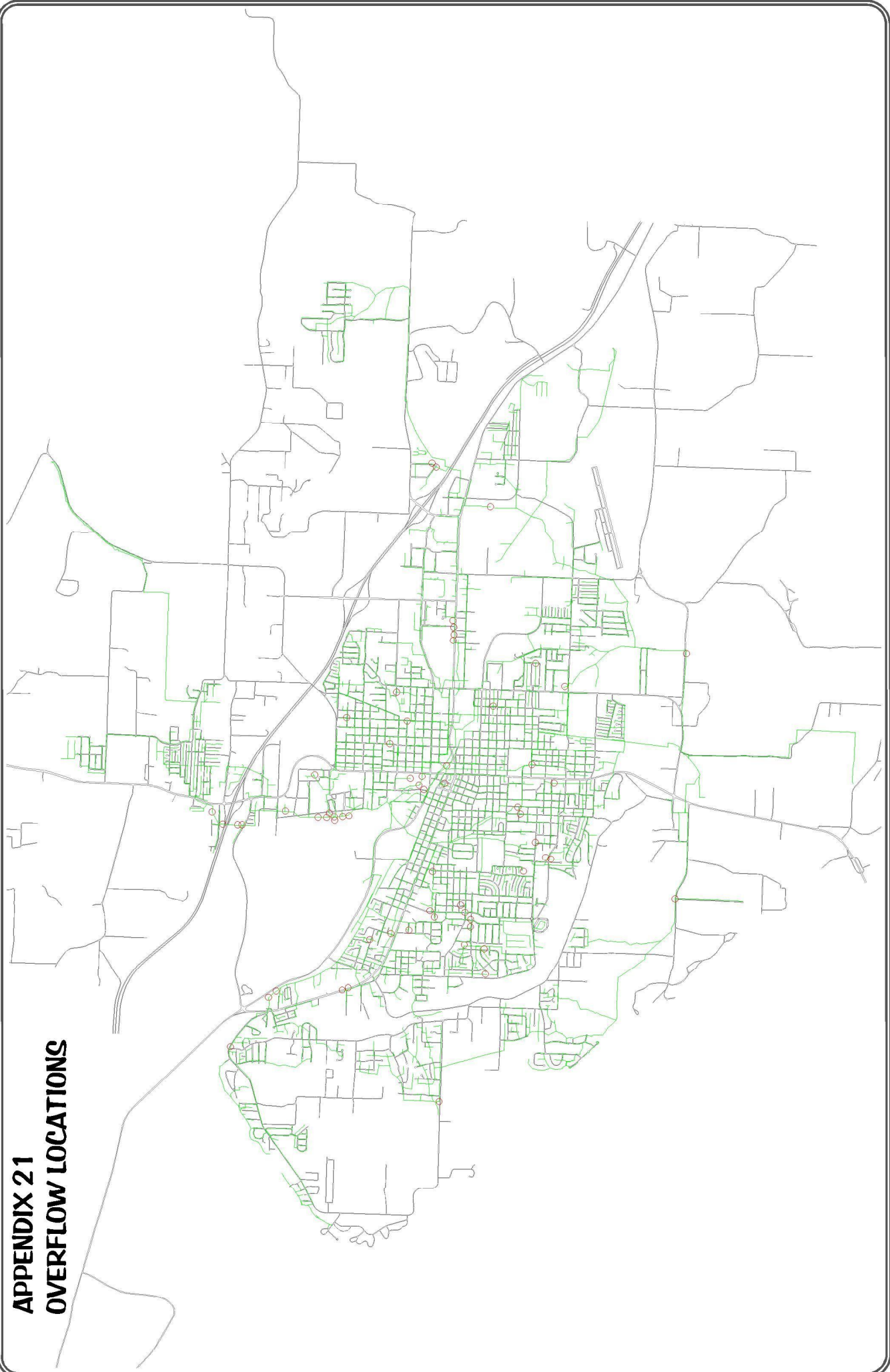
09-48-428

APPENDIX 20

City Corp Lift Station Locations



**APPENDIX 21
OVERFLOW LOCATIONS**



1. Vision-Mission

Protecting the environment and providing for the future!

2. Goals

Protect the Environment

Prevent Sanitary Sewer Overflows

Provide Adequate Capacity

Prolong Sewer System

Provide Effective Resource Management

Provide Effective Communication

3. Plans

Rehabilitation

Root Control

Inspections

Evaluation

Overflow Recording

Rain Gauge Usage

Recording Methods

Operating Practices

Easement Clearing

Public Education/ Outreach

4. Actions

Prioritize Sanitary Sewer Lines

Annual Root Control Program

1. Manholes
2. Stream Crossing

RJN Phase II

Spreadsheet Log to watch for improvement and how they were achieved

1. New Program
2. As built

1. Design
2. Maintenance

1. Equipment
2. Crews

1. Brochures
2. Posters

15-09011

PipePatch[®]

NO DIG Pipe Repair System



Before Repair



Elbow Packers



Flow-Thru packers



Convenient repair kits



After Repair

Premier Point Repair Technology

Say goodbye to costly and time consuming excavations and get right to the point of trenchless pipe repair with the **PipePatch[®] NO DIG Pipe Repair System**. *Call us today to learn more!*



Your 1 Source For Infrastructure & Water Management Solutions

Phone: 810-412-4740 • www.S1Eonline.com

AVERAGE TENSILE STRENGTH: 24,500 psi
 AVERAGE FLEXURAL STRENGTH: 27,500 psi
 AVERAGE FLEXURAL MODULUS: 1,345,000 psi



TECHNICAL DATA

- Odorless and ideal for working in confined spaces
- Outstanding bonding properties to most materials
- Resistance to 63+ chemicals and oils
- Non-flammable, making it ideal for hotels, airports, hospitals, etc.
- Non-hazardous, so no transport or disposal problems
- Resin cures in the presence of water
- Structural properties exceed the minimum requirements of ASTM F 1216

ENVIRONMENTALLY SAFE

- PipePatch contains no VOCs or Styrenes
- Safe for storm and sanitary sewers
- PipePatch resin does not get hot
- Maximum temperature may reach 105° F
- Safe to touch and safe on packers

APPLICATION ADVANTAGES

- Available to repair 2" - 24" diameter pipe in 24" and 48" lengths
- Flow-thru packers prevent backups during repairs
- No more costly, disruptive and time consuming excavations
- No more road closures or traffic back ups during repairs
- Only standard sewer cleaning and inspection equipment required
- Small repair crews - as few as 1 to 3 people
- Short repair times - several can be done in one day
- Field tested for over 10 years with a durable 50 year repair life



Your 1 Source For Infrastructure
& Water Management Solutions

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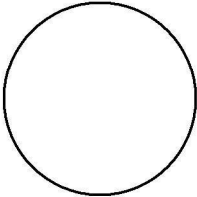


MANHOLE NUMBER: _____

DATE: _____ TIME: _____

CREW: _____

MANHOLE INSPECTION FORM

<u>UNIT TYPE</u> NON-STANDARD STANDARD (4ft)	<u>LOCATION</u> ALLY CURB REST ALRW DRRW STRW CLST GUTT UTRW COMM RESI	<u>SURFACE COVER</u> ASPH CONC LAKE SOD BLDG CREE LNDS STRC BRSH DTCH MRSH WOOD BURD GRAV PAVED-DITCH	<u>PRECIPITATION</u> HEAVY RAIN LIGHT RAIN SNOW NONE
<u>BARREL DIA (IN)</u> _____			
<u>COVER TYPE</u> STLN BOLT OTHR STPH STLB LWC	<u>COVER CONDITION</u> SOUND CRACKED BROKEN	<u>COVER /RIM FIT</u> POOR FAIR SEALED	<u>COVER DIAMETER</u> _____ <u># HOLES IN COVER</u> _____
<u>FRAME CONITION</u> SOUND CRACKED BROKEN	<u>FRAME ADJUSTMENT</u> BLOCK NONE POURED BRICK OTHER PRECAST	<u>FRAME TO CORBEL SEAL</u> SOUND CRACKED NONE OFFSET DETERIORIATED	<u>EVIDENCE OF SURCH</u> YES NO
<u>STEP CONSTRUCTION</u> CONC CIRN RBBR NONE	<u>STEP CONDITION</u> SOUND LEAKING	<u>PONDING/SHEETING</u> PONDING SHEETING NONE	<u>CONE CONSTRUCTION</u> BRICK NONE CONC PCST GLAS UNKN
<u>CONE CONDITION</u> SOUND LEAKING DET CRACKED ROOTS MISSING BRICKS	<u>WALL CONSTRUCTION</u> BRCK CLAY GLAS NONE PCST CIRN CONC UNKN	<u>WALL CONDITION</u> SOUND INFILTRATION CRACKED ROOTS LEAKING JOINTS DET	<u>BENCH & CHANNEL CONSTRUCTION</u> BRCK CONC PCST GLAS
<u>BENCH & CHANNEL CONDITION</u> SOUND CRACKED INFILTRATION DET UNFINISHED ROOTS		<u>COMMENTS:</u> _____ _____ _____ _____ _____	

[print](#)

City Corp. board gets rate study updates

by [Sean Ingram](#)

03.03.17 - 10:00 am

The City Corporation Board of Directors received updated studies on its water and wastewater rates during their February meeting Tuesday.

Dan Jackson told the board and audience that good news is created by some utilities, even though City Corporation's board and personnel had to make some difficult decisions during the past few years. That included a multi-year rate plan introduced in 2014 that implemented specific annual adjustments through 2019, then a 3 percent annual increase afterward.

Jackson said the average utility has increased its rates 6 percent every year. An AWWA study projected that water and sewer rates would triple in the next 15 years.

Even though 30-40 percent of utilities across the country charge rates that do not cover their costs, many reasons for rate increases are beyond a utility's control and include inflation, environmental regulations, etc. Costs of repairing and maintaining systems have increased significantly in recent years.

Jackson pointed out the purpose of this analysis was to determine whether the current rate plan remained sufficient to fund additional \$25 million in debt intended to be issued in 2018 to fund additional construction and maintenance.

Statistics provided by Jackson indicated that the average water customer in Russellville will use about 5,000 gallons a month that will cost \$21.18, and the state median is \$34.41. Sewer charges for average customers (5,000 gallons) would be charged \$30.39, while the state median is \$20.37.

The study indicated it expected City Corporation's growth rate to increase about 57 accounts a year, even though monthly usage per residential city meter has trended down since a high of 5,688 in the 2012 fiscal year to 4,386 in the 2016 fiscal year.

Most expenses are expected to increase 3 percent per year, Jackson said, while some expenses increase at higher rates. The study also provided the board a look at long-term debt required to fund the capital improvement plan (CIP) from 2017-2021, as well as forecasts of revenues and expenses with the current rate plans.

Jackson said the adopted rate plan is forecast to continue to be sufficient to cover existing and projected expenses for 2017 and beyond. The capital outlays provide a sufficient margin to meet coverage requirements. A forecast water fund revenue shortfall will be covered by sewer fund contingency. He recommended that another review be conducted when bonds are issued.

The rate plan will enable City Corporation to continue to provide a high quality of service, to fully fund the needs of the CIP over the next five years, including \$25 of new debt, and will result in a rate plan that will keep rates at or below the state average for the next decade, according to Jackson.

Board member Bill Harmon said it was very important to continue to talk about the quality of the city's drinking water and investing in your system results in great-tasting water.

The board congratulated personnel for getting closer to opening up the utility's first in-house laboratory, which will be the sixth certified lab in the state. Testing should begin in a few weeks. They said this has been a project and goal that has been 10 years in the making.

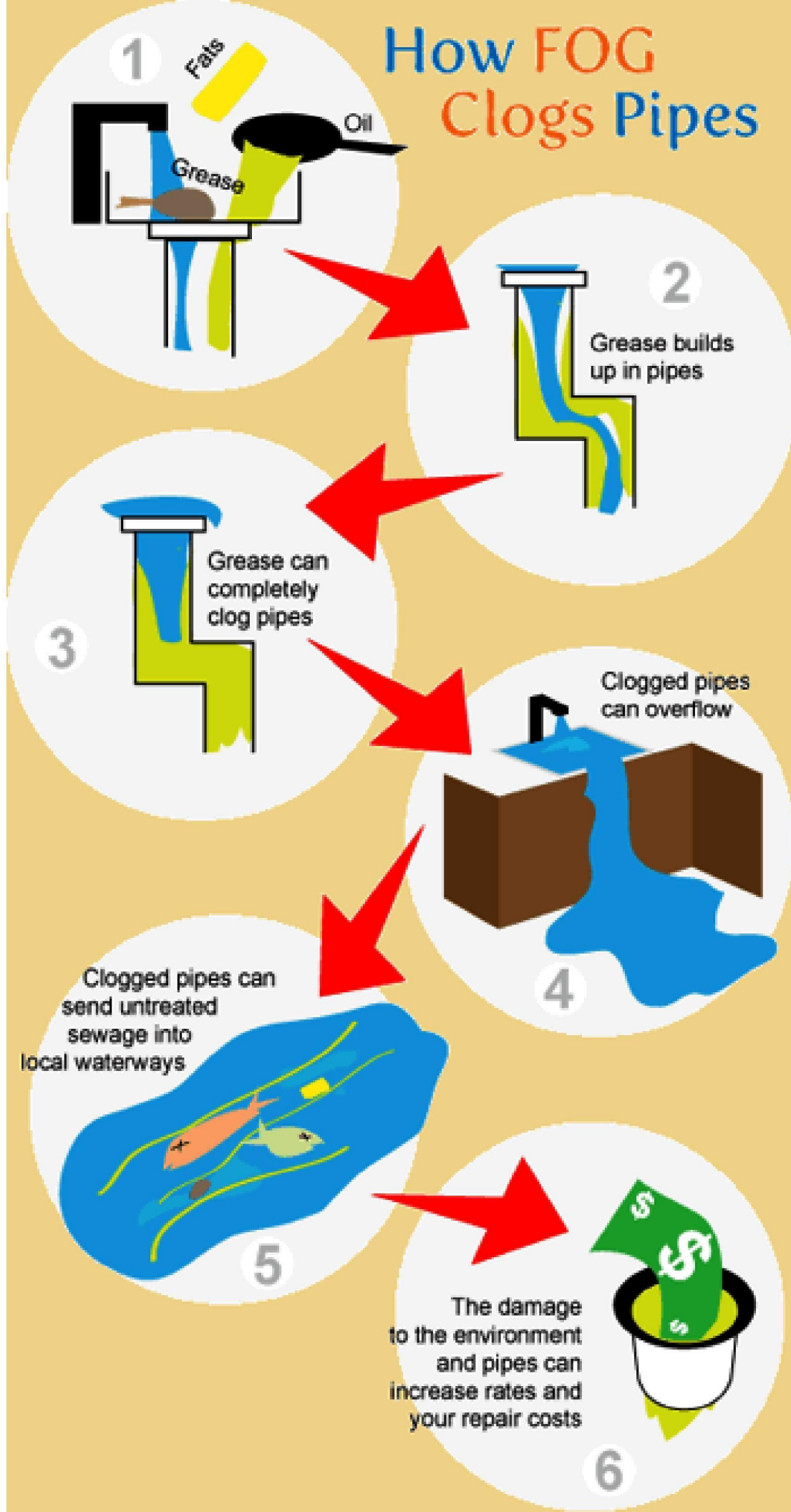
Financial reports indicated net income was down, but also were expenses. Combined income was about \$75,000 lower than projections. Major categories in both water and sewer departments were lower than expected, as was overall water usage.

Harmon, Harold Barr, Chip Blanchard and Susie Nicholson welcomed new member Chuck O'Dell to his first meeting.

The City Corporation board's next meeting is scheduled for 3 p.m. Tuesday, March 21 at the wastewater treatment plant.

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How FOG Clogs Pipes










FACT SHEET

Best Management Practices (BMPs) for Fats, Oils, and Grease (FOG)



The best way to prevent sewer stoppages from FOG is to use “Best Management Practices.” The most common BMPs for Food Service Establishments are listed below.

BMP	Reason For	Benefit
Train the employees on Best Management Practices (BMPs) including the proper methods of FOG disposal. Provide refresher trainings regularly. TRAINING	Employees are more willing to support an effort if they understand the importance of implementing BMPs to prevent sewer spills.	Subsequent benefits of BMPs will have a better chance of being implemented.
Display the appropriate “No Grease” signs or posters prominently. 	Signs serve as a constant reminder for employees working in kitchens.	These reminders will help minimize grease discharge to the traps and interceptors and reduce the cost of cleaning and disposal.
 Install screens on all kitchen drains. Screens should be removable for easy cleaning. The holes should be less than 3/16”.	Drain screens prevent food particles containing FOG from entering into the sewer system and causing sewer blockages.	This will reduce the amount of material going to grease traps and interceptors. As a result grease traps and interceptors will require less frequent cleaning, thus reducing maintenance costs.
Scrape or dry-wipe excess food and solidified grease from pots, pans, fryers, utensils, screens and mats, then dispose of it in the trash. 	By dry-wiping pots, pans and dishware and disposing food wastes in garbage receptacles, the material will not be sent to the grease traps and interceptors, but instead go to the landfill.	This will reduce the amount of material going to grease traps and interceptors, which will require less frequent cleaning, thereby reducing maintenance cost.
 Dispose of food waste by recycling and/or solid waste removal.	Some recyclers will take food waste for animal feed in the absence of such recyclers, the food waste can be disposed as solid waste in landfills by solid waste haulers.	Recycling of food waste will reduce the cost of solid waste disposal. Solid waste disposal of FOG will reduce the frequency and cost of grease trap and interceptor cleaning.
Hot water over 140°F from cooking or cleaning should not be put down a drain that is connected to a grease trap or interceptor.	Temperatures in excess of 140°F will dissolve grease which may re-congeal or solidify in the wastewater collection system as the water-cools down in temperature.	Using water less than 140°F where applicable will reduce gas or electric energy costs for heating the water. This will also prevent FOG “pass through” in grease interceptors.

BMP	Reason For	Benefit
<p>When transporting used FOG, don't overfill containers and use covers.</p> 	<p>If containers are overfull or lack covers, the FOG may spill over.</p>	<p>This will prevent FOG drips and spills.</p>
<p>Pour all cooking grease (yellow grease) and liquid oil from pots, pans, and fryers into a covered grease container for recycling. Use a permitted waste collection service or authorized rendering/recycling center and keep a log.</p>	<p>Recycling reduces the amount of FOG discharged to the sewer. There are some places in Arkansas that recycle the grease (reference the waste hauler and recycler sheet).</p>	<p>Sometimes, some organizations will pay for yellow grease.</p> 
<p>Use "Spill Kits" - make your own spill kits with absorbent material such as absorbent pads or kitty litter. Keep them well-marked and accessible for cleaning spills. Dispose of used absorbent in the trash. Designate a key employee on each shift to monitor cleanup and restock kits.</p>	<p>Absorbent materials can serve as effective agent to absorb grease and oil.</p> 	<p>Keeping grease off the floor will help prevent slips and falls. This can also prevent grease from going down the drain and into traps and interceptors, which will require less frequent cleaning, reducing maintenance costs.</p>
<p>Routinely clean kitchen exhaust system filters/hoods. Dispose of waste from hoods and filters by emptying it into a drain connected to grease interceptors if you have one, or have the hoods professionally maintained.</p>	<p>If grease and oil escape through the kitchen exhaust system, it accumulate on the roof of the establishment and eventually enter the storm drain system when it rains.</p>	<p>The discharge of grease and oil to the storm drain system will degrade the water quality of the receiving streams.</p>

[print](#)

City Corp. board hears Weir Road update

by [Sean Ingram](#)

04.29.17 - 10:00 am

City Corporation's Board of Directors heard an update on the Weir Road corridor water and sewer improvement project during its April meeting at the Water Treatment Plant.

According to Dave Garza of Barrett & Associates, Kraus Construction was given a partial notice to proceed on the sewer project and delivered all sewer pipe to the staging area. Plans have been approved by the Arkansas Department of Health.

Work continues to acquire easements of the construction areas. They lack one more easement before a notice to proceed can be given to Willis Parks for the water line construction, he said.

In other business, board members were told during the financial report that water revenue for March was \$40,000 less than anticipated or down 8 percent. The decrease was driven by both residential sales and wholesale sales. Water revenue is down 5 percent for the fiscal year through March.

Sewer revenue was up 18 percent (\$85,000) for March and raised the year-to-date revenue to 1 percent better than anticipated.

The total combined revenue was \$45,000 over budget, and combined expenses were \$36,000 over budget. The combined net income for the month was \$14,000 higher than anticipated in the 2016-17 budget.

For the year, total combined revenue was \$211,000 lower than anticipated, and expenses are \$21,000 higher than budget for the fiscal year, which ends June 30. The combined net income through March is \$158,000 lower than anticipated.

The board tabled its lone agenda item.

Board members include chairman Bill Harmon, Harold Barr, Chip Blanchard, Susie Nicholson and Chuck O'Dell. Steve Mallett is the general manager.

The next meeting of the City Corporation Board of Directors will begin at 3 p.m. at the Huckleberry Reservoir on Tuesday, May 16.

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[print](#)

City Corp. approves water line contract

by [Sean Ingram](#)

05.20.17 - 10:00 am

City Corporation's Board of Directors approved contracts for water line replacement on the city's east side and root control during its regular meeting and dinner Tuesday at the Huckleberry Reservoir.

Bids were opened May 10 for the construction contract to replace all galvanized and some cast iron water lines on the east side of town, one of the projects identified in the 2015 bond issue.

Five companies submitted bids, the lowest from Willis Parks Construction of Russellville at a cost of \$1,575,109.51. Other bidders included:

n Red Rock Construction LLC, \$1,908,096.07;

n Duncan Construction Co., \$1,913,321.14;

n Carstensen Contracting Inc., \$2,208,683.14;

n Kraus Construction Inc., \$2,448,796.

Approximately \$3.59 million is left from the original allocation in the 2015 bond issue for both the east side and west side projects. The total of the engineering and construction contracts is \$1.73 million.

The board also accepted the engineering contract with Crafton Tull for \$112,000, because the waterline replacement contract required a resident project representative and contract administrative services.

Board members learned that City Corporation's engineering staff identified 30,567 linear foot of sewer mains infested with roots and prepared a 25-sheet set of plans to identify and to measure proposed mains to treat.

The board approved a bid from \$41,116.77 from Duke's Root Control. \$60,000 was originally allocated in the 2016-17 operations and maintenance budget, but fewer mains needed treatment than anticipated.

Six area banks submitted bids to provide general banking services for the water and sewer utility through 2022. The board accepted the bid from Centennial Bank and anticipated annual savings and earnings of approximately \$104,473. The other bidders included Regions Bank, First State Bank, First Security Bank, Bank of the Ozarks and Arvest.

The total combined revenue for April was \$35,000 over budget with combined expenses \$21,000 under budget. The combined net income was \$61,000 higher than anticipated.

For the year, the total combined revenue is \$176,000 worse than anticipated with combined expenses less than \$1,000 over budget. The combined net income was

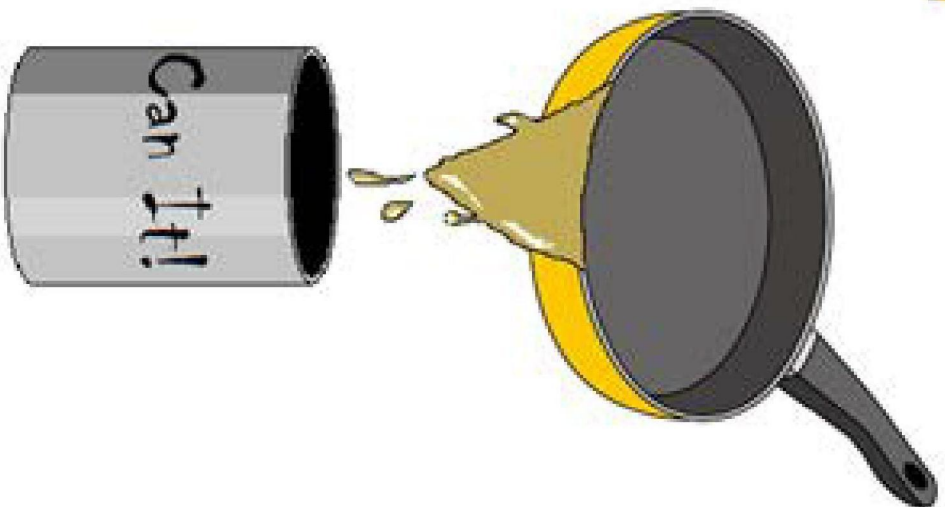
\$98,000 lower than budget for the fiscal year to date that ends June 30 and begins July 1.

General Manager Steve Mallett said the board planned a budget work session for the 2017-18 budget on June 6.

City Corporation board members include chairman Bill Harmon, Harold Barr, Chip Blanchard, Susie Nicholson and Chuck O'Dell. The next meeting will begin at 3 p.m. on Tuesday, June 20.

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1.

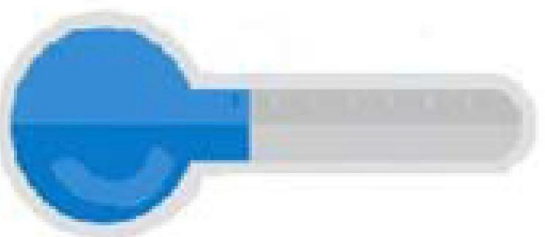


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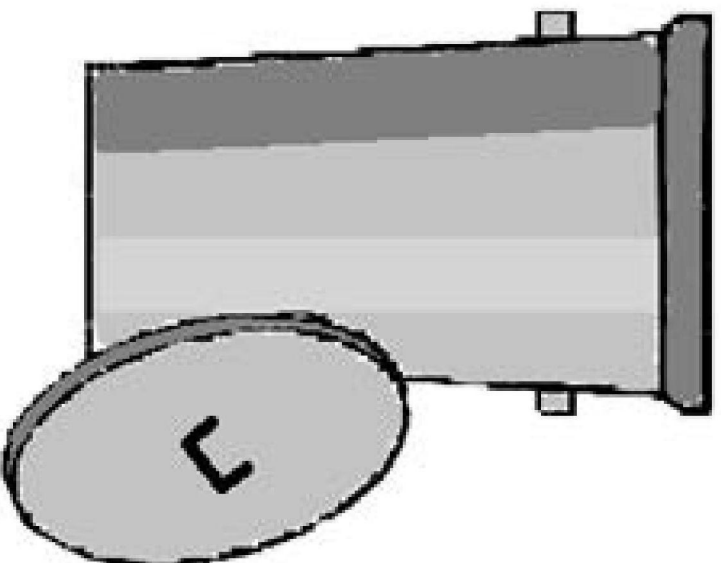
Cap It!

3.



Cool It!

4.



Trash It!



NAME: _____

DATE: _____

Evaluation of crossing shall include stabilization of stream banks, bed, pipe supports, encasements, erosion, etc.

Sewer Stream Crossing Inspection

Upstream Manhole: _____

Downstream Manhole: _____

Pipe Diameter: _____

Pipe Material: _____

Crossing Condition

	GOOD	FAIR	POOR	COMMENTS
Stabilization of Bank-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stabilization of Bed-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pipe Supports-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pipe Encasement-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Erosion-----	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Type of Crossing

Aerial-----	<input type="checkbox"/>
Exposed-----	<input type="checkbox"/>
Below Creek Level-----	<input type="checkbox"/>
Encased-----	<input type="checkbox"/>

Debris

None-----	<input type="checkbox"/>
Light-----	<input type="checkbox"/>
Medium-----	<input type="checkbox"/>
Heavy-----	<input type="checkbox"/>

Additional Comments:

[print](#)

City Corp. approves budget; \$3 million for capital projects

by [Sean Ingram](#)

06.22.17 - 10:00 am

The board of directors for City Corporation unanimously approved the water and sewer utility's budget for the 2017-2018 fiscal year during its regular meeting Tuesday.

The combined water and sewer system budgets reflect a total projected revenue of \$13,696,842 with a total operation and maintenance budget excluding all bond costs, less depreciation, of \$7,561,451.

Projected net income for 2017-18 is \$6,135,391. Anticipated annual debt service for the 2015 bonds is projected to be \$3,087,018, leaving \$3,048,373 available for capital projects and will be added to reserve accounts.

City Corporation staff stated during Tuesday's meeting the \$3 million is an increase in funds available for capital projects of \$1,000,291 or 48.8 percent compared to capital funds for the 2016-17 fiscal year, which ends June 30 and begins July 1.

"We continue to be very proud of our staff's effort across all departments with regards to trimming waste, shopping materials and services, negotiating contracts and generally being more cognizant of the day-to-day operations," a statement read. "We vow to continue to be good stewards of the funds and responsibilities bestowed upon us by the Board of Directors, Russellville City Council and the citizens of the Arkansas River Valley."

Staff members said they were pleased with the progress made near the end of the second year of capital improvements funded by the 2015 bond issue. They said they are on track to complete the majority of the projects originally identified in the first three years.

The utility has completed four water projects utilizing bond funding and remains on schedule with the other projects listed in the capital improvements plan. They have spent \$9.3 million

of the \$20 million in water funding and recently entered into construction contracts in excess of \$1.7 million. They have completed seven wastewater bond projects, spent \$10.3 million and have executed contracts for future projects for approximately \$9.3 million.

Staff member Taryn Childers reported to the board that the combined net income for the month was \$83,000 lower than expected, and the combined net income for the fiscal year was \$181,000 less than expected.

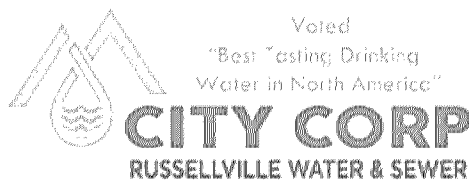
Year-to-date residential and wholesale water sales were down 6 percent, or \$349,000 less than expected in the 2016-17 budget. Revenues for May were \$486,000 but down \$65,000 or 7 percent, according to a budget summary. Sewer revenues for May were \$583,000, up 16 percent from May 2016.

[print](#)

Wastewater plant violations discussed

by [Sean Ingram](#)

06.23.17 - 10:00 am



It's a good problem to have, but City Corporation has no choice now but to come up with a study that will determine what needs to be fixed at the Wastewater Treatment Plant (WTP) over the next three to five years and its cost.

The City Corp. Board of Directors discussed and approved items related to moving up its PCW rehabilitation project during its meeting Tuesday. General Manager Steve Mallett said the Arkansas Department of Environmental Quality (ADEQ) confirmed with the water and sewer utility that there were "several violations" over the last three months.

"We let them know we were very aware of the issues and have already embarked on a plan to address them," Mallett explained. "We are going to walk hand in hand with the ADEQ through the process, as we did the last time we received an amended order."

Since the ADEQ issued a Consent Administrative Order in 2009 for violations at the WTP, the utility has spent the last few years making millions of dollars of improvements that were funded through a rate increase and the 2015 bond issue.

Recent violations were the result of loading rates delivered to the plant that increased substantially and was not projected or addressed in recent plant improvements. The plant is consistently operating above its design loading at the rated flow of 7.3 million gallons per day, which means the plant doesn't have the biological capacity to process and treat the loading on a daily basis, according to Mallett.

"The loading we have on our plant has grown and increased more than what we expected and more than what we projected. It's a good problem to have," Mallett said. "We have a lot of growth. Some of our industries have ramped up their production, and that has an impact on us.

"Obviously, we want to support growth and our local industries. We don't want to get into a position where we have to limit growth or expansion anywhere. We want to be ahead of the curve and be in position us to be able to handle anything - our current customer base plus anything we may have down the road."

Mallett explained the 3-5-year work plan at the WTP will address the utility's needs for the next 25 years.

"We knew this was a short-range project. We just didn't realize it was an immediate project," he said. It was a project we would have had to deal with at some time, but we are going to deal with it sooner than later.

"The good news is that we are hoping that we can fund this project with existing bond funds and projected bond funds, so the impact on the ratepayer is basically

neutral. We are not ruling out the fact we may have to do something else to acquire additional funding. But until we do our preliminary study, we won't know what that number is."

The Board approved Garver Engineers to construct a model of the plant and develop a list of options and estimated costs, so funding sources can be identified and prioritized.

In other business, Duncan Construction of Dover was awarded the construction contract for rehabilitation work on the sewer system in Basins 17, 18, 20 and 21. Their low bid was \$2,260,647.25. The 2015 bond issue allocated \$2.44 million for the basin improvements. CWB Engineers was also approved by the board to provide a resident project representative and contract administrative services.

The board approved CWB Engineers to come up with an engineering contract for sewer rehabilitation work known as Basin 13, 16, & 26 wastewater improvements. It will include the design of approximately 18,050 linear feet of sewer main rehabilitation. Construction is expected to be completed during the second round of the 2015 bond issue.

The board approved a motion for an engineering contract that will evaluate the treatment processes and identify the capacities of each process. The study will provide staff with a capital

improvement plan (CIP) that prioritizes any necessary upgrades at the wastewater treatment plant.

Board members also approved an extension of the utility's contract with Denali Water Solutions for residual and disposal at the wastewater treatment plant. The final cycle of the contract should cost approximately \$82,536.

The board accepted a bid from First State Bank for a 12-month certificate of deposit and approved a contract with Shoptaw Labahn and Co. for 2017 auditing services in an amount not to exceed \$16,000. Board member approved the utility's one-year lease with the city of Russellville.

Board members include chairman Bill Harmon, Harold Barr, Chip Blanchard, Susie Nicholson and Chuck O'Dell. Their next meeting will begin at 3 p.m. on Tuesday, July 18.

[print](#)

Grease is a beast that can be contained

by [Sean Ingram](#)

07.15.17 - 10:00 am



City Corporation, the water and wastewater utility for Russellville, needs your help to eliminate grease in the city's sewer lines.

Why? In the long run, it will build up in your pipes and can completely clog them up, which will cause them to overflow. Clogged pipes can also send untreated sewage into local waterways.

Bottom line: The damage to the environment and pipes can increase sewer rates and repair costs.

Lance Bartlett, chief engineering officer at City Corporation, said the utility averages about 50 stoppages a year due to grease blockages. That's 50 times when personnel have to stop whatever they are doing and take care of damages or repairs that could easily be prevented.

"This number would be much higher without the grease interceptor program and the help we get from the public disposing of their grease through the 'Let's Can the Grease' program," he explained. When they do occur, stoppages can result in raw sewage discharged on the ground, into streams or backed up in residences or businesses.

"These situations are very unpleasant and unacceptable to public and governing agencies. One is too many. We need to eliminate grease stoppage altogether."

A grease interceptor is a device that collects oils and greases from commercial businesses and prevents them from solidifying in the public sewer system and collecting line stoppages.

These backups are not acceptable to the Arkansas Department of Environmental Quality (ADEQ) or the Environmental Protection Agency (EPA).

Any food service establishment where the Arkansas Department of Health (ADH) requires a three-compartment sink is required to have a grease interceptor. Other commercial businesses can be required to install one to remove grease, grit, oil, glass or other viscous or solid substances from dishwashers, floor and trench drains, mop sinks and other public fixtures that could back up lines or hinder treatment of sewage.

"The list price of our minimum size grease interceptor is a little over \$3,000," Bartlett said. "The size is based on the establishment's plumbing requirements. Trying to retrofit an existing building can be costly. New construction installation will be less than retrofits."

City Corporation requires new strip malls to install a "stub out" in their plumbing for a future grease interceptor. And for those in the private sector, there are

simple ways to prevent clogged pipes and untreated sewage flowing into yards and waterways.

The utility offers a free cap for cans available at the City Corporation office at 205 W. Third Place. Residents are encouraged to pour out any unused grease into an ordinary can and cap them with the free grease can cap.

Cans must sit and let cool to room temperature or be put in a refrigerator or freezer before they can be placed in the trash or solid waste service company cart.

Additional information on the utility's "Let's Can the Grease" program can be obtained by calling 479-968-2080 or online at www.citycorporation.com.

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[print](#)

ADEQ, City Corp. to meet in August

by [Sean Ingram](#)

07.20.17 - 10:00 am

The general manager of City Corporation told the utility's Board of Directors that staff will meet with the Arkansas Department of Environmental Quality (ADEQ) on Aug. 3 to start talking about possible changes to the current Consent Administrative Order (CAO).

Steve Mallett explained they were not sure the ADEQ would go in that direction, but they were preparing for such action.

"I sent an email to Alan Anderson outlining the steps we have taken to date and included a copy of the contract with Garver to perform a plant assessment and develop a computer model to provide a diagnostic and predictive tool, which could also be used in operations moving forward," Mallett said. "Our hope is to have a positive dialogue with ADEQ on Aug. 3 and walk in step with them as we move forward."

During its June meeting, the board approved items related to moving up its Pollution Control Works (PCW) rehabilitation project after the ADEQ confirmed with that there had been several violations over the last three months.

Since the ADEQ issued a Consent Administrative Order in 2009 for violations at the WTP, the utility has spent the last few years making millions of dollars of improvements that were funded through a rate increase and the 2015 bond issue.

City Corporation will undertake a study that will determine what needs to be fixed at the Wastewater Treatment Plant (WTP) over the next three to five years and its cost. The findings of that study will be announced some time next year.

Operations Manager Larry Collins reported that there were only four violations at the PCW in June, and one had been already corrected.

Mallett also told board members the staff met with Dover Mayor Pat Johnson again and discussed options related to the Dover wastewater system, primarily the collection system that exists and transports wastewater from the Dover to the City Corporation system. They will continue to look at options that could provide benefit for both systems, he said.

The board approved the annual renewal of the CAO and general engineering support contract with CWB Engineers, the water system support contract with Garver Engineers and the wastewater system support contract with Garver.

Board members approved the construction contract to replace all galvanized and some cast iron water lines on the west side of town. The project was identified in the 2015 bond issue and was estimated to cost \$1.75 million.

Lance Bartlett said the low bid from Duncan Construction totaling \$1,142,210 was a difference of over \$607,000, "well under the engineer's estimate." Barrett

& Associates was given the engineering contract and will provide a resident project representative.

The board also approved a change order to the contract totaling \$39,114 to upsize some of the water mains to provide improved water volume to customers in those areas. Bartlett said the low price would allow staff to upgrade approximately 3,500 linear feet of pipe from two-inch to three-inch lines.

David Garza, project manager for Barrett & Associates, reported to the board that Willis Parks Construction was 70 percent complete at the end of June with water line installation along the Weir Road corridor. Kraus Construction was 28 percent done with sewer installation.

The board approved a resolution to make a contribution equal to 10 percent of each employee's salary to the Employee Benefit Plan Fund for all eligible employees for the year ending June 30.

Net income from June water sales was \$163,000, which was 28 percent lower than budget and 9 percent lower than budget for the year to date. Sewer net income for June was \$272,000, 28 percent better than budget, but 1 percent lower than budget for the year to date.

For the month, the total combined revenue was \$24,000 over budget and combined expenses were over budget by \$34,000. Combined net income for the month was \$2,000 lower than budget.

For the year, total combined revenue was \$135,000 lower than anticipated in the fiscal budget, and expenses were \$135,000 over budget. The combined net income was \$183,000 lower than budget.

Board members include chairman Harold Barr, Bill Harmon, Chip Blanchard, Susie Nicholson and Chuck O'Dell. Their next meeting will begin at 3 p.m. on Tuesday, Aug. 15.



P. 479-968-2105
F. 479-968-3265

“Award Winning Water”

WATER & SEWER RATES

Monthly Water Meter Charge

Each customer shall pay a monthly charge based on the size of the customer's water meter, as follows:

<u>Meter Size</u>	<u>Inside City Limits</u>	<u>Outside City Limits</u>	<u>Meter Size</u>	<u>Inside City Limits</u>	<u>Outside City Limits</u>
5/8"	\$10.44	\$15.66	2"	\$36.03	\$54.05
3/4"	\$10.44	\$15.66	3"	\$59.11	\$88.67
1"	\$14.45	\$21.68	4"	\$189.17	\$283.76
1 ½"	\$27.46	\$41.19	6" and larger	\$233.37	\$350.06

Additional Charge for Water Usage

In addition to the monthly meter charge, each customer shall be required to pay for water usage in accordance with the following schedule:

<u>Inside City Limits</u> (per 1,000 gallons)	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Public Authority</u>
0-2,000	\$1.92	\$2.13	\$1.78	\$2.39
2,001-5,000	\$2.30	\$2.13	\$1.78	\$2.39
5,001 and up	\$2.52	\$2.13	\$1.78	\$2.39

<u>Outside City Limits</u> (per 1,000 gallons)	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Public Authority</u>
0-2,000	\$2.88	\$3.20	\$2.67	\$3.59
2,001-5,000	\$3.45	\$3.20	\$2.67	\$3.59
5,001 and up	\$3.78	\$3.20	\$2.67	\$3.59



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“Award Winning Water”

Private Fire Protection Net Annual Rate (Private Fire Hydrants and Fire Sprinkler Services)

<u>Size of Service Connection</u>	<u>Inside City Limits</u>	<u>Outside City Limits</u>
6" and smaller	\$378.68	\$568.02
8"	\$674.21	\$1011.32
10"	\$1052.52	\$1578.78
12" and larger	\$1185.12	\$1777.68

Surcharge for Customers Within City Limits

In addition to the monthly meter charge and the additional charge for water usage, each customer whose premises are located within the corporate limits of the City is required to pay a charge equal to 4.5% of the monthly charge for the meter and the additional charge for water usage, which is a fee City Corporation pays to the City of Russellville, somewhat like a franchise fee for the use of City rights-of-way and their maintenance.

Taxes & Fees

Arkansas State Sales Tax 6.5%, City of Russellville 1.5%, and Pope County Tax 1%.

<u>Service</u>	<u>Fee</u>
Meter Turn On/Off	\$25.00
Returned Check	\$25.00 plus any bank fees incurred
Tampering	\$100 plus time and materials and/or any related expenses
Late Payment	\$10.00
After Hours Service Call	\$75.00
Repeat Trip/Service Call	\$25.00
Shut Off Processing/Collection	\$25.00
Pressure/Volume Check	\$25.00
Meter Re-Read	\$25.00
Check Leak/Stoppage (if customer side)	\$25.00
Water Quality Lab Test Request	\$25.00
Set Fire Hydrant Meter	\$50.00
Sewer Cleanout Cap Replacement	\$50.00
Connection Fee	\$25.00
Service Call (operating hours)	\$25.00
Meter Tests (if found to be accurate and valid)	\$50.00 plus any related expenses

205 W. 3rd Place
PO Box 3186
Russellville, AR 72811
citycorporation.com



P. 479-968-2105
F. 479-968-3265

"Award Winning Water"

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

<u>Usage</u>	<u>Inside City Limits</u>	<u>Outside City Limits</u>
First 1,000 Gallons Per Month	\$11.86 Per Month	\$17.79 Per Month
1,001-20,000	\$4.60 Per 1,000 Gallons	\$6.90 Per 1,000 Gallons
20,001 Gallons and Over Per Month	\$3.92 Per 1,000 Gallons	\$5.88 Per 1,000 Gallons

Grinder Pump Stations

There will be an additional monthly charge of \$15.91 to those customers who require a grinder pump. This charge is in addition to the initial purchase price of the grinder pump and normal installation cost.

Pretreatment Program Permits Fees

For those customers who require a pretreatment permit in compliance with city ordinances shall be subject to the following fees:

New Permit Fee (currently 5 years)	\$500.00
Permit Renewal Fee	\$500.00

Septic Tank Haulers

Septic Tank Haulers dumping septic waste at our facility with approval shall be subject to the following fees:

Permit Fee (currently 1 year)	\$500.00
Annual Permit Renewal Fee	\$500.00
Discharge/Dump Fees	\$1.00 per gallon

[print](#)

City Corp. officials meet with ADEQ

by [Sean Ingram](#)

08.19.17 - 10:00 am

City Corporation officials met with the Arkansas Department of Environmental Quality (ADEQ) earlier this month and discussed recent wastewater violations, steps the water and sewer utility has taken in the past and plans for the future.

General Manager Steve Mallett told the Board of Directors staff from Garver and CWB met with ADEQ officials on Aug. 3 in North Little Rock. Clint Bell from CWB provided the current status of the Consent Administrative Order (CAO) issued by the ADEQ in 2009 and progress made since then.

Aaron Stallman of Garver discussed the utility's plans and a timeline to address the recent violations. City Corporation has spent the last few years making millions of dollars of improvements that were funded through a rate increase and the 2015 bond issue.

Mallett said the ADEQ told him they would either work on an amendment to the current CAO or possibly close the current CAO and combine work left to be done into a new order that will address current violations.

Mallett said City Corporation utility committed its cooperation to the ADEQ.

"We left feeling our efforts to date and commitment moving forward are key factors in the development of the order, as we feel they will involve us in the development of the language and timeline," he said.

Mallett said the goal is to have a preliminary plan and cost estimate in early 2018, so the ADEQ can write the final CAO and the utility can have the information to discuss a future bond issue.

Mallett said he met with the Downtown Master Plan Committee and discussed the utility's water and sewer line replacement project downtown.

An overall preliminary plan needs to be developed that will address all underground and aboveground facilities, so everyone involved in the project can combine their forces for one large project that deals with all utilities and streetscape improvements. Funding and timing decisions will be considered in the future.

The board approved a change order in the amount of \$24,006 to the east side waterline replacement contract. It was requested to upsize some water mains to improve service pressure and volume, based on the number of customers served.

Board members approved the purchase of an SL-RAT, or Sewer Line Rapid Assessment Tool, at a cost of \$25,310. Lance Bartlett explained the acoustic inspection tool sends a sound signal down a sewer main from one manhole to the next. A receiver evaluates the quality of the sound and determines how clean the pipe is.

The utility does not have anything to indicate where preventative maintenance needs to be done, and that makes cleaning activities strictly reactive. Bartlett said

the SL-RAT will be the key component in a plan develop an in-house sewer maintenance program. The board also approved a resolution that waived competitive bidding, although only one company provides the SL-RAT.

The board approved a contract with RJN Group to investigate all vitrified clay pipe in sewer basins 22, 27 and 28, at a cost of \$29,986.

Board members also approved a sole source joint funding agreement with the United States Geological Survey (USGS) for various sampling projects at a cost of \$79,600. Services include equipment provided and maintained by the USGS, who collects, organizes and publishes data that is used by ADEQ and other regulatory agencies to develop permits and assess limits.

Total combined revenue was \$32,000 better than anticipated for the month of July. Expenses were \$426,000 below budget, and the combined net income for July was \$470,000 better than anticipated.

Board members include chairman Harold Barr, Bill Harmon, Chip Blanchard, Susie Nicholson and Chuck O'Dell. Their next meeting will begin at 3 p.m. on Tuesday, Sept. 12.

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[print](#)

Master Plan Committee

by [Sean Ingram](#)

08.09.17 - 10:00 am

The Downtown Master Plan Committee will meet at noon today at the Historic Depot to continue discussion of the plan's five-year update

Jimmy Streett, chairman of the Downtown Master Plan Committee, said following the July committee meeting that the five-year update served two functions. Committee members and interested residents went back and analyzed what has worked and what has not worked, pointed out the successes and looked toward the next steps.

"We looked at changing circumstances over the past five years and will make adjustments based on reality, instead of based on what the reality was five years ago," Streett explained Tuesday. "We have been really successful in a shorter period of time than I think anybody imagined. The whole goal of this was to have the public investment lay the groundwork for the private investment. The private investment came right on the heels of it. It is actively going on right now.

"It's been a great exercise in getting very organized and having public improvement and private improvement running parallel to each other."

Coming out of the July 19 meeting was discussion over the planned downtown water and sewer replacement project. Streett said the extensive infrastructure project will include a lot of excavation downtown. That will mean renovating the look of the downtown streets and sidewalks after the water and sewer lines are installed.

"Most of the cost of some of the things we haven't done in the original plan is built into the excavation," he said. "Everybody agrees that we would be foolish not to try and do a lot of what was built in [the plan] -- above-ground improvements in terms of sidewalks and the potential for underground utilities in some places where it makes sense.

"If you're going to have a project that will require most of the downtown to be excavated over the course of a year or year and a half, you'd be crazy not to do it at that point. City Corporation and Entergy have been incredibly supportive. The next step is to figure out the best framework to go on. How do we engineer a set of plans that is going to respect all the utilities and factors of what has to be done, versus the above-end product we want to end up with."

Streett admitted it was a big project, but it represented a unique opportunity. He gave credit to City Corporation General Manager Steve Mallett and the Board of Directors for their efforts to work with everyone else involved and their vision of the future of the community.

"We have a lot of talented people who have and will continue to step up -- engineers, architects, construction companies, all sorts of service providers," he noted. "We want to come up with a construction schedule that minimizes the effect of all this on the downtown merchants and the effect it will have on traffic.

"We are trying to really come at this far enough ahead of time to really think it through, have everybody at the table so everybody's input can get in there, and come up with a set of plans that we have to do and end up with something that's really amazing at a fraction of the cost.

Streett said the committee has done away with recommendations that became moot when they decided to go another direction, such as back-in parking. He noted parking has always been a hot-button topic and will be continued to be studied for expansion of walkability to include lighting, landscaping and crosswalk safety.

"We still have a fairly significant inventory of parking," Streett said. "It is nontraditional parking, or not parking in front of the business door. It is a product of your success. Having a lot of people trying to come downtown is a great thing. There is certainly room for improvement to get people where they need to be.

"You have to really try to continue to maximize the retail mix downtown between shopping and entertainment. The end goal has been to allow private development to come in and make this a lot more diverse. More than anything else, we are making the downtown sort a walkable, cool, fun place to hang out.

Streett said the reason the implementation of the Downtown Master Plan going back seven years was that everybody bought into the concept of what downtown Russellville could become.

"A large part of that was the downtown businesses that bought into the plan, the citizens, the chamber, the university, the city council, the mayor. Everybody really bought into this on the front end," Streett said. "Everybody was hoping it would take us where we thought it would, that Russellville has this unique character that would kind of create this unique downtown environment, this feel.

"When we started down this road seven years ago, I think there was a lot of skepticism. The mentality here has always been 'There's nothing to do in Russellville.' What everybody has realized looking back, there is incredible potential here. There's really a lot of really cool resources, a lot of motivated and talented people. I think what we struggled with for so long was that there wasn't a level of organization. We had to find ways to maximize the talent and efficiencies."

Streett said the committee looked at other communities who established master plans and were successful or unsuccessful and learned lessons from them.

"We have probably been more successful in a short amount of time. It is really remarkable. It says a lot about our populus, a lot of younger people mixed with a lot of people who have lived here their whole life. We are trying to come up with a historic downtown that when people think of Russellville, they actually have a vision in their head.

Now you have people literally coming to Russellville to spend a day downtown. I think a lot of people may have thought that was a pipe dream. But it is happening within the first five years. This has been a remarkable success story. We still have a long way to go, a lot of room left to cover."

**AUTHORIZATION TO DISCHARGE WASTEWATER UNDER
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND
THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. § 1251 et seq.),

City Corporation
Russellville Water and Sewer System

is authorized to discharge treated municipal wastewater from a facility located as follows: 404 Jimmy Lile Road, Russellville, AR 72802, south of the city of Russellville, two miles south of Highway 64 in Pope County, Arkansas. The applicant's mailing address is: P.O. Box 3186, Russellville, AR 72811.

Facility Coordinates: Latitude: 35° 14' 56" N; Longitude: 93° 06' 58" W

Receiving stream: Whig Creek, thence to the Arkansas River in Segment 3F of the Arkansas River Basin.

The permitted outfall is located at the following coordinates:

Outfall 001: Latitude: 35° 14' 50" N; Longitude: 93° 06' 45" W

Discharge shall be in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit. Per Part III.D.10, the permittee must re-apply 180 days prior to the expiration date below for permit coverage to continue beyond the expiration date.

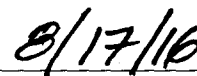
ADEQ Corrections and Response to Comments are attached to this permit.

Effective Date: September 1, 2016

Expiration Date: August 31, 2021



Caleb J. Osborne
Associate Director, Office of Water Quality
Arkansas Department of Environmental Quality



Issue Date

PART I
PERMIT REQUIREMENTS

SECTION A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning on the effective date and lasting until three (3) years from the effective date, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lb/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	once/day	totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Comments ¹	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments ¹	
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)					
(May-Oct)	608.8	10.0	15.0	once/weekday	composite
(Nov-Apr)	913.2	15.0	22.5	once/weekday	composite
Total Suspended Solids (TSS)					
(May-Oct)	913.2	15.0	22.5	once/weekday	composite
(Nov-Apr)	1217.6	20.0	30.0	once/weekday	composite
Ammonia Nitrogen (NH ₃ -N)					
(April-Oct)	133.9	2.2	5.6	once/weekday	composite
(Nov-March)	243.5	4.0	6.0	once/weekday	composite
Dissolved Oxygen (DO)	N/A	6.0 (Inst. Min.)		once/weekday	grab
Fecal Coliform Bacteria (FCB)	N/A	(colonies/100ml)		once/weekday	grab
		1000	2000		
Total Residual Chlorine (TRC) ^{3,6,7}	N/A	< 0.1 (Inst. Max.)		once/weekday	grab
Nitrate (NO ₃ -N)	542.0	10.0	15.0	once/weekday	composite
Arsenic, Total Recoverable ^{2,5}	Report	Report	Report	once/quarter	composite
Copper, Total Recoverable ²	0.45	9.2 µg/l	18.5 µg/l	once/month	composite
Mercury, Total Recoverable ²	0.00082	0.0134 µg/l	0.0269 µg/l	once/month	composite
Zinc, Total Recoverable ²	5.2	85.5 µg/l	171.6 µg/l	once/month	composite
pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/weekday	grab

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lb/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Chronic WET Testing ⁴	N/A	Report		once/quarter	composite
<u>Pimephales promelas (Chronic)⁴</u> Pass/Fail Lethality (7-day NOEC) TLP6C Pass/Fail Growth (7-day NOEC)TGP6C Survival (7-day NOEC) TOP6C Coefficient of Variation (Growth) TQP6C Growth (7-day NOEC) TPP6C <u>Ceriodaphnia dubia (Chronic)⁴</u> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (7-day NOEC)TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		7-Day Average Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report % 7-Day Average Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite composite composite composite composite composite

¹ See Condition No. 5 of Part II (SSO Condition). If there are no overflows during the entire month, report “zero” (0).

² See Condition No. 9 of Part II (Metals Condition).

³ See Condition No. 10 of Part II (TRC Condition).

⁴ See Condition No. 11 of Part II (WET Testing Condition).

⁵ Monitoring required only for one year from the effective date of the permit. See Condition No. 12 of Part II (Arsenic Condition).

⁶ TRC must be measured using any approved test method established in 40 CFR 136 capable of meeting a detection level of 0.033 mg/l or lower. If TRC is not detected at the required detection level (i.e., lab result is “ND”), report “0” on the DMR. Report the detection level achieved if TRC is not detected using a higher detection level. Report the concentration if TRC is detected and measured in the sample.

⁷ The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface, coat the banks and/or bottoms of the waterbody, or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples for flow shall be taken by using the established flow meter and all other samples shall be taken by using the automatic sampler at the effluent chamber, after the chlorine contact chamber.

SECTION A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS: OUTFALL 001 - treated municipal wastewater.

During the period beginning three (3) years from the effective date and lasting until the date of expiration, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below as well as Parts II and III. See Part IV for all definitions and calculations.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lb/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
		Monthly Avg.	Monthly Avg.		
Flow	N/A	Report, MGD	Report, MGD (Daily Maximum)	once/day	totalizing meter
Overflows	Monthly Total SSOs (occurrences/month)			See Comments ¹	
Overflow Volume	Monthly Total Volume of SSOs (gallons/month)			See Comments ¹	
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(May-Oct)	608.8	10.0	15.0	once/weekday	composite
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(Nov-March)	243.5	4.0	6.0	once/weekday	composite
Dissolved Oxygen (DO)	N/A	6.0 (Inst. Min.)		once/weekday	grab
Fecal Coliform Bacteria (FCB)	N/A	(colonies/100ml)		once/weekday	grab
		1000	2000		
Total Residual Chlorine (TRC) ^{3,6,7}	N/A	0.011 (Inst. Max.)		once/weekday	grab
Nitrate (NO ₃ -N)	542.0	10.0	15.0	once/weekday	composite
Arsenic, Total Recoverable ^{2,5}	Report	Report	Report	once/quarter	composite
Copper, Total Recoverable ²	0.45	9.2 µg/l	18.5 µg/l	once/month	composite
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pH	N/A	<u>Minimum</u> 6.0 s.u.	<u>Maximum</u> 9.0 s.u.	once/weekday	grab
Chronic WET Testing ⁴	N/A	Report		once/quarter	composite

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Mass (lb/day, unless otherwise specified)	Concentration (mg/l, unless otherwise specified)		Frequency	Sample Type
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<u>Ceriodaphnia dubia (Chronic)⁴</u> Pass/Fail Lethality (7-day NOEC) TLP3B Pass/Fail production (7-day NOEC) TGP3B Survival (7-day NOEC) TOP3B Coefficient of Variation (Reproduction) TQP3B Reproduction (7-day NOEC) TPP3B		<u>7-Day Average</u> Report (Pass=0/Fail=1) Report (Pass=0/Fail=1) Report % Report % Report %		once/quarter once/quarter once/quarter once/quarter once/quarter	composite composite composite composite composite

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³ See Condition No. 10 of Part II (TRC Condition).

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⁶ TRC must be measured using any approved test method established in 40 CFR 136 capable of meeting a detection level of 0.033 mg/l or lower. If TRC is not detected at the required detection level (i.e., lab result is “ND”), report “0” on the DMR. Report the detection level achieved if TRC is not detected using a higher detection level. Report the concentration if TRC is detected and measured in the sample.

⁷ The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling.

Oil, grease, or petrochemical substances shall not be present in receiving waters to the extent that they produce globules or other residue or any visible, colored film on the surface, coat the banks and/or bottoms of the waterbody, or adversely affect any of the associated biota. There shall be no visible sheen as defined in Part IV of this permit.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. Samples for flow shall be taken by using the established flow meter and all other samples shall be taken by using the automatic sampler at the effluent chamber, after the chlorine contact chamber.

SECTION B. PERMIT COMPLIANCE SCHEDULE

The permittee shall achieve compliance with the permit requirements in accordance with the following schedule:

1. Within sixty (60) days of the effective date of this permit, the permittee shall submit: (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLLs) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, (2) a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLLs will be submitted within 12 months of the effective date of this permit.
2. Compliance with the Final Effluent Limitations for Total Residual Chlorine (TRC) is required three years after the effective date of the permit. The permittee shall submit reports addressing the progress towards attaining the Final Effluent Limitations for TRC according to the following schedule:

<u>ACTIVITY</u>	<u>DUE DATE</u>
Progress Report ^{1,2}	One (1) year from the effective date
Progress Report ^{1,3}	Two (2) years from the effective date
Achieve Final Compliance ^{1,4}	Three (3) years from the effective date

¹ If the permittee is already in compliance with the final permit limit, only documentation demonstrating compliance with the final limit will be required for the progress report.

² If the permittee is not in compliance with the Final Limitation following one (1) year of sampling, the initial Progress Report must detail how the permittee plans to come into compliance with the TRC limit within the remaining two (1) years of the Interim period. Options must be provided that were considered along with which option* was selected. Any Best Management Practices (BMPs) that have been instituted to reduce the TRC levels in the effluent must also be discussed. If a study will be performed, a milestone schedule for the study must be provided.

* The permittee has the option to undertake any study deemed necessary to meet the final limitation during the interim period. Any additional treatment (including chemical addition) must be approved and construction approval granted prior to final installation.

³ The second Progress Report must contain an update on the status of the chosen option from the initial Progress Report. If the facility is not meeting any of the milestones provided in the initial Progress Report, the facility must update the milestone schedule to show how the final limits will be met by the deadline.

⁴ A final Progress Report must be submitted no later than 30 days following the final compliance date and include a certification that the final effluent limits were met on the effective date and that the limits are still being met.

All progress reports must be submitted to the Department at the following address:

Enforcement Branch
Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

PART II OTHER CONDITIONS

1. The operator of this wastewater treatment facility shall be licensed as Class IV by the State of Arkansas in accordance with APCEC Regulation No. 3.
2. For publicly owned treatment works, the 30-day average percent removal for Carbonaceous Biochemical Oxygen Demand (CBOD₅) and Total Suspended Solids (TSS) shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR Part 133.102, as adopted by reference in APCEC Regulation No. 6.
3. In accordance with 40 CFR Parts 122.62 (a)(2) and 124.5, this permit may be reopened for modification or revocation and/or reissuance to require additional monitoring and/or effluent limitations when new information is received that actual or potential exceedance of State water quality criteria and/or narrative criteria are determined to be the result of the permittee's discharge(s) to a relevant water body or a Total Maximum Daily Load (TMDL) is established or revised for the water body that was not available at the time of the permit issuance that would have justified the application of different permit conditions at the time of permit issuance.
4. Other Specified Monitoring Requirements

The permittee may use alternative appropriate monitoring methods and analytical instruments other than as specified in Part I Section A of the permit without a major permit modification under the following conditions:

- The monitoring and analytical instruments are consistent with accepted scientific practices.
- The requests shall be submitted in writing to the Permits Branch of the Office of Water Quality of the ADEQ for use of the alternate method or instrument.
- The method and/or instrument is in compliance with 40 CFR Part 136 or approved in accordance with 40 CFR Part 136.5.
- All associated devices are installed, calibrated, and maintained to ensure the accuracy of the measurements and are consistent with the accepted capability of that type of device. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control (QA/QC) program.

Upon written approval of the alternative monitoring method and/or analytical instruments, these methods or instruments must be consistently utilized throughout the monitoring period. The ADEQ must be notified in writing and the permittee must receive written approval from the ADEQ if the permittee decides to return to the original permit monitoring requirements.

5. Sanitary Sewer Overflow (SSO) Reporting Requirements:

All SSOs are prohibited.

A. A sanitary sewer overflow is any spill, release, or diversion of wastewater from a sanitary sewer collection system including:

- (1) Any overflow, whether it discharges to the waters of the State or not.
- (2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the State.

B. 24-hour Reporting:

Overflows that endanger health or the environment shall be orally reported to the Enforcement Branch of the Office of Water Quality by telephone (501-682-0638) or by e-mail, waterenfssso@adeq.state.ar.us within 24 hours from the time the permittee becomes aware of the circumstance. At a minimum, the following information shall be reported:

- (1) Permit number and AFIN
- (2) Location(s) of overflow
- (3) Receiving water (if there is one)
- (4) Cause of overflow
- (5) Estimated volume (gallons) of overflow
- (6) Total duration of overflow

C. 5-day Follow-Up Written Web Reporting:

If the “total duration of overflow” is unknown when the 24-hour SSO online report is submitted, then a follow-up report (5-day report) giving a detailed account of the overflow and the steps taken to resolve it must be submitted within 5 days of discovering the overflow.

A 5-day follow-up written report can be filled-in or downloaded from the ADEQ Office of Water Quality Enforcement Branch web page at:

<https://www.adeq.state.ar.us/water/enforcement/sso/submit.aspx>

D. 24-hour and 5-day Reporting:

The 24-hour reporting also can be filled in or downloaded from the ADEQ Office of Water Quality Enforcement Branch web page at the above web address. If all information required under Item B of this condition is provided with the 24-hour report, then the 5-day follow-up report is not required.

E. Reporting for All SSOs on DMR

At the end of the month, total the daily occurrences and volumes from all locations on your system and report this number on the DMR. For counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location then you should record two occurrences for that day.

6. Best Management Practices (BMPs), as defined in Part IV.6, must be implemented for the facility along with the collection system to prevent or reduce the pollution of waters of the State from stormwater runoff, spills or leaks, sludge or waste disposal, or drainage from raw sewage. The permittee must amend the BMPs whenever there is a change in the facility or a change in the operation of the facility.
7. Contributing Industries and Pretreatment Requirements
 - A. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403) and the approved POTW pretreatment program submitted by the permittee. The pretreatment program was approved on **January 13, 1984**, modified on **March 10, 1992** and once again modified on **July 29, 2012** to be compliant with the Streamlining revisions to the Federal Pretreatment Regulations in 40 CFR 403. The POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:
 - (1) Industrial user information shall be updated at a frequency adequate to ensure that all IUs are properly characterized at all times;
 - (2) The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User in accordance with 40 CFR 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;
 - (3) The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;
 - (4) The permittee shall control through permit, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements. In the case of Industrial Users identified as significant under 40 CFR 403.3(v), this control shall be achieved through individual control mechanisms, in accordance with 40 CFR 403.8(f)(1)(iii). Control mechanisms must be enforceable and contain, at a minimum, the following conditions:
 - a. Statement of duration (in no case more than five years);

- b. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;
 - c. Effluent limits, including Best Management Practices, based on applicable general Pretreatment Standards, categorical Pretreatment Standards, local limits, and State and local law;
 - d. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored sampling location, sampling frequency, and sample type, based on the applicable general Pretreatment Standards in 40 CFR 403, categorical Pretreatment Standards, local limits, and State and local law;
 - e. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and
 - f. Requirements to control slug discharges, if determined by the POTW to be necessary.
- (5) The permittee shall evaluate, whether each Significant Industrial User needs a plan or other action to control slug discharges, in accordance with 40 CFR 403.8(f)(2)(vi);
- (6) The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and
- (7) The approved program shall not be modified by the permittee without the prior approval of ADEQ.
- B. The permittee shall establish and enforce specific limits to implement the provisions of 40 CFR Parts 403.5(a) and (b), as required by 40 CFR Part 403.5(c). POTWs may develop Best Management Practices (BMPs) to implement paragraphs 40 CFR 403.5 (c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.

The permittee shall submit, within sixty (60) days of the effective date of this permit, (1) a **WRITTEN CERTIFICATION** that a technical evaluation has demonstrated that the existing technically based local limits (TBLLs) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, (2) a **WRITTEN NOTIFICATION** that a technical evaluation revising the current TBLLs will be submitted within 12 months of the effective date of this permit.

All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The specific prohibitions set out in 40 CFR Part 403.5(b) shall be enforced by the permittee unless modified under this provision.

- C. The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table II at least once/year and the toxic pollutants in Table III at least 4 times/year (quarterly). If, based upon information available to the permittee, there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant, known or suspected to adversely affect treatment plant operation, receiving water quality, or solids disposal procedures, analysis for those pollutants shall be performed at least 4 times/year (quarterly) on both the influent and the effluent.

The influent and effluent samples collected shall be composite samples consisting of at least 12 aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR 136. Where composite samples are inappropriate, due to sampling, holding time, or analytical constraints, at least four (4) grab samples, taken at equal intervals over a representative 24-hour period shall be taken.

- D. The permittee shall prepare annually a list of Industrial Users which, during the preceding twelve months (the Pretreatment "Reporting Year") were in significant noncompliance with applicable pretreatment requirements. For the purposes of this Part, significant noncompliance shall be determined based upon the more stringent of either criteria established at 40 CFR Part 403.8(f)(2)(viii) or criteria established in the approved POTW pretreatment program. This list is to be published annually, during the month of **February**, in the newspaper of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW.

In addition, by 4:30 pm (if electronically submitted) OR postmarked on or before the last business day in the month of **February**, the permittee shall submit an updated pretreatment program status report to the ADEQ containing the following information:

- (1) An updated list of all significant industrial users. The list must also identify:
- a. Industrial Users subject to the following categorical Pretreatment Standards [Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) (40 CFR Part 414), Petroleum Refining (40 CFR Part 419), and Pesticide Chemicals (40 CFR Part 455)] and for which the Control Authority has chosen to use the concentration-based standards rather than converting them to flow-based mass standards as allowed at 40 CFR 403.6(c)(6).
 - b. Categorical Industrial Users subject to concentration-based standards for which the Control Authority has chosen to convert the concentration-based standards to equivalent mass limits, as allowed at 40 CFR 403.6(c)(5).

- c. Best Management Practices or Pollution Prevention alternatives required by a categorical Pretreatment Standard or as a local limit requirement that are implemented and documentation to demonstrate compliance, as required at 40 CFR 403 (b), (e), and (h).
- (2) For each industrial user listed the following information shall be included:
- a. Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) code and categorical determination;
 - b. Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous 12 months);
 - c. A summary of all monitoring activities performed within the previous 12 months. The following information shall be reported:
 - i. total number of inspections performed;
 - ii. total number of sampling visits made;
 - d. Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:
 - i. Compliant (C) - no violations during the previous 12 month period;
 - ii. Non-compliant (NC) - one or more violations during the previous 12 months but does not meet the criteria for significantly noncompliant industrial users;
 - iii. Significant Noncompliance (SNC) - in accordance with requirements described in paragraph D above; and
 - e. For significantly noncompliant industrial users, indicate the nature of the violations, the type and number of actions taken (notice of violation, administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. If ANY industrial user was on a schedule to attain compliance with effluent limits, indicate the date the schedule was issued and the date compliance is to be attained;
 - i. A list of all significant industrial users whose authorization to discharge was terminated or revoked during the preceding 12 month period and the reason for termination;
 - ii. A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;

- iii. The results of all influent and effluent analyses performed pursuant to paragraph C above;
- iv. An influent/effluent summary chart containing the monthly average water quality based effluent concentration demonstrating compliance with permit limits or the water quality levels not to exceed as developed in the permittee's approved technically based local limits document.
- v. The information requested may be submitted in tabular form as per the example tables provided for your convenience (See Attachment A, B and C); and
- vi. A copy of the newspaper publication of the significantly noncompliant industrial users giving the name of the newspaper and the date published;

E. The permittee shall provide adequate notice of the following:

- (1) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

Adequate notice shall include information on (1) the quality and quantity of effluent to be introduced into the treatment works, and (2) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

8. Bio-solids Practices

The sludge produced at the treatment plant is aerobically digested, dewatered in a sludge filter press, and may be land applied in bulk under No-Discharge Permit No. 5126-W. Sludge that is additionally treated through lime stabilization to Class A - "Exceptional Quality" (EQ) bio-solid standards may be sold or given away in bags or other containers in accordance with 40 CFR 503.

9. Metals

The permittee may use any EPA approved method, based on 40 CFR Part 136, provided the minimum quantification level (MQL) for the chosen method is equal to or less than what has been specified in chart below:

Pollutant	MQL (µg/l)
Arsenic, Total Recoverable	0.5
Copper, Total Recoverable	0.5
Zinc, Total Recoverable	20
Mercury, Total Recoverable	0.005

The permittee may develop a matrix-specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. A matrix is defined as an environment or material in which something develops; a surrounding medium or structure (e.g., the effluent discharged from a wastewater facility). For any pollutant for which the permittee determines a matrix-specific MDL, the permittee shall send to the ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a matrix-specific MDL was correctly calculated. A matrix-specific MQL shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by the Permits Branch, the matrix-specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

10. Total Residual Chlorine (TRC)

The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. To demonstrate compliance with the TRC limit, the permittee may use any EPA approved method, based on 40 CFR Part 136, provided the minimum quantification level (MQL) for the chosen method is equal to or less than what has been specified in the chart below:

Pollutant	MQL (mg/l)
TRC	0.033

The permittee may develop a matrix-specific method detection limit (MDL) in accordance with Appendix B of 40 CFR Part 136. A matrix is defined as an environment or material in which something develops; a surrounding medium or structure (e.g., the effluent discharged from a wastewater facility). For any pollutant for which the permittee determines a matrix-specific MDL, the permittee shall send to the ADEQ, NPDES Permits Branch, a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that a matrix-specific MDL was correctly calculated. A matrix-specific MQL shall be determined in accordance with the following calculation:

$$\text{MQL} = 3.3 \times \text{MDL}$$

Upon written approval by the Permits Branch, the matrix-specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) calculations and reporting requirements.

11. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

A. SCOPE AND METHODOLOGY

- (1) The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	OUTFALL 001
CRITICAL DILUTION (%):	100%
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 75%, 100%
TESTING FREQUENCY	once/quarter
COMPOSITE SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- (2) The NOEC (No Observed Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity (lethal or sub-lethal) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.
- (3) This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

B. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If a frequency reduction, as specified in Item F, has been granted and any subsequent valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit. In addition:

(1) Part I Testing Frequency Other Than Monthly

- a. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item D of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.
- b. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED: If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Lethal Toxicity Reduction Evaluation (TRE_L) requirements as specified in Item E of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests. A TRE required based on lethal effects should consider any sub-lethal effects as well.
- c. IF SUB-LETHAL EFFECTS ONLY HAVE BEEN DEMONSTRATED: If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item E of this section. The permittee shall notify ADEQ in writing within 5 days of the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.
- d. The provisions of Item B.1.a are suspended upon submittal of the TRE Action Plan.

(2) Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item E of this section when any two of three consecutive monthly toxicity tests exhibit significant toxic effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

C. REQUIRED TOXICITY TESTING CONDITIONS

(1) Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

- a. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.
- b. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
- c. 60% of the surviving control females must produce three broods.
- d. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
- e. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.
- f. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sub-lethal effects are exhibited for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints in the Fathead minnow test.
- g. If a test passes, yet the percent coefficient of variation between replicates is greater than 40% in the control (0% effluent) and/or in the critical dilution for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test, the test is determined to be invalid. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.
- h. If a test fails, test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%.

- i. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;
- j. A PMSD range of 12 - 30 for Fathead minnow growth.

(2) Statistical Interpretation

- a. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or the most recent update thereof.
- b. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013, or the most recent update thereof.
- c. If the conditions of Test Acceptability are met in Item C.1 above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item D below.

(3) Dilution Water

- a. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.
- b. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item C.1), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - i. a synthetic dilution water control which fulfills the test acceptance requirements of Item C.1 was run concurrently with the receiving water control;
 - ii. the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

- iii. the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item D below; and
- iv. the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

(4) Samples and Composites

- a. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item A.1 above. Unless otherwise stated in this section, a composite sample for WET shall consist of a minimum of 12 subsamples gathered at equal time intervals during a 24-hour period.
- b. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on a regular or intermittent basis.
- c. The permittee must collect all three flow-weighted composite samples within the monitoring period. Second and/or third composite samples shall not be collected into the next monitoring period; such tests will be determined to be invalid. Monitoring period definitions are listed in Part IV.
- d. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to between 0 and 6 degrees Centigrade during collection, shipping, and/or storage.
- e. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item D of this section

- f. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in Item A.1 above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.
- g. If chlorination is part of the treatment process, the permittee shall not allow the sample to be dechlorinated at the laboratory. At the time of sample collection the permittee shall measure the TRC of the effluent. The measured concentration of TRC for each sample shall be included in the lab report submitted by the permittee.

D. REPORTING

- (1) The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA-821-R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of Part III.C.7 of this permit. The permittee shall submit full reports. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.
- (2) A valid test for each species must be reported on the DMR during each reporting period specified in Part I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of WET test data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. The full reports for all invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for Agency review.
- (3) The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with Part III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.
 - a. *Pimephales promelas* (Fathead minnow)
 - i. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C
 - ii. Report the NOEC value for survival, Parameter No. TOP6C
 - iii. Report the NOEC value for growth, Parameter No. TPP6C

- iv. If the NOEC for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C
- v. Report the highest (critical dilution or control) Coefficient of Variation for growth, Parameter No. TQP6C

b. *Ceriodaphnia dubia*

- iii. If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B
- iv. Report the NOEC value for survival, Parameter No. TOP3B
- v. Report the NOEC value for reproduction, Parameter No. TPP3B
- vi. If the NOEC for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B
- vii. Report the higher (critical dilution or control) Coefficient of Variation for reproduction, Parameter No. TQP3B

E. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of 75% or lower.

- (1) Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:
- a. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts

Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

- b. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;
 - c. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and
 - d. Project Organization (e.g., project staff, project manager, consulting services, etc.).
- (2) The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

- (3) The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:
 - a. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
 - b. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and
 - c. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at the critical dilution.
- (4) The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming toxicity in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant toxicity at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.
- (5) Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

F. MONITORING FREQUENCY REDUCTION

- (1) The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters or first twelve consecutive months (in accordance with Item A.1) of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Ceriodaphnia dubia*).
- (2) CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in Item C.1 above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

- (3) SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

12. Total Recoverable Arsenic

The requirement to monitor and report the Monthly Average and Daily Maximum values of Mass and Concentration of Total Recoverable Arsenic in the effluent, in accordance with the requirements in Part IA of the permit, is applicable for one year from the effective date of the permit. After the results of four (4) samples have been reported, in accordance with the above requirements, the permittee may cease the monitoring and reporting of Total Recoverable Arsenic.

PART III STANDARD CONDITIONS

SECTION A – GENERAL CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; and/or for denial of a permit renewal application. **Any values reported in the required Discharge Monitoring Report (DMR) which are in excess of an effluent limitation specified in Part I shall constitute evidence of violation of such effluent limitation and of this permit.**

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:

- A. Violation of any terms or conditions of this permit.
- B. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
- C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.
- E. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees) as required by Part III.A.11 herein.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4. **Toxic Pollutants**

Notwithstanding Part III.A.3, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitations on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standards or prohibition and the permittee so notified.

The permittee shall comply with effluent standards, narrative criteria, or prohibitions established under APCEC Regulation No. 2, as amended, or Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. **Civil and Criminal Liability**

Except as provided in permit conditions for “Bypass of Treatment Facilities” (Part III.B.4), and “Upset” (Part III.B.5), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state and federal statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

6. **Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

7. **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

8. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

9. **Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. **Applicable Federal, State, or Local Requirements**

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal such as endangered species, state or local statute, ordinance or regulation.

11. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for wastewater discharge permits as described in APCEC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR Parts 122.64 and 124.5(d), as adopted in APCEC Regulation No. 6 and the provisions of APCEC Regulation No. 8.

SECTION B – OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. **Proper Operation and Maintenance**

- A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- B. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

2. **Need to Halt or Reduce not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control

production or discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power for the treatment facility is reduced, is lost, or alternate power supply fails.

3. **Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment or the water receiving the discharge.

4. **Bypass of Treatment Facilities**

A. Bypass not exceeding limitation

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.B and 4.C.

B. Notice

1. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part III.D.6 (24-hour notice).

C. Prohibition of bypass

1. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal or preventive maintenance.
 - (c) The permittee submitted notices as required by Part III.B.4.B.
2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part III.B.4.C(1).

5. **Upset Conditions**

- A. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part III.B.5.B of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- B. Conditions necessary for demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that the permittee can identify the specific cause(s) of the upset.
 2. The permitted facility was at the time being properly operated.
 3. The permittee submitted notice of the upset as required by Part III.D.6.
 4. The permittee complied with any remedial measures required by Part III.B.3.
- C. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. **Removed Substances**

- A. Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State. The Permittee must comply with all applicable state and Federal regulations governing the disposal of sludge, including but not limited to 40 CFR Part 503, 40 CFR Part 257, and 40 CFR Part 258.
- B. Any changes to the permittee's disposal practices described in Part II of the permit will require at least 180 days prior notice to the Director to allow time for additional permitting. Please note that the 180 day notification requirement may be waived if additional permitting is not required for the change.

7. **Power Failure**

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators, or retention of inadequately treated effluent.

SECTION C – MONITORING AND RECORDS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge during the entire monitoring period. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director. Intermittent discharge shall be monitored.

2. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +/- 10% from true discharge rates throughout the range of expected discharge volumes and shall be installed at the monitoring point of the discharge.

Calculated Flow Measurement

For calculated flow measurements that are performed in accordance with either the permit requirements or a Department approved method (i.e., as allowed under Part II.3), the +/- 10% accuracy requirement described above is waived. This waiver is only applicable when the method used for calculation of the flow has been reviewed and approved by the Department.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals frequent enough to insure accuracy of measurements and shall insure that both calibration and maintenance activities will be conducted. An adequate analytical quality control program, including the analysis of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory. At a minimum, spikes and duplicate samples are to be analyzed on 10% of the samples.

4. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

5. **Reporting of Monitoring Results**

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form provided by the Department or other form/method approved in writing by the Department (e.g., electronic submittal of DMR once approved). Monitoring results obtained during the previous monitoring period shall be summarized and reported on a DMR form postmarked no later than the 25th day of the month or submitted electronically by 6:00 p.m. of the 25th, following the completed reporting period beginning on the effective date of the permit. When mailing the DMRs, duplicate copies of the forms signed and certified as required by Part III.D.11 and all other reports required by Part III.D, shall be submitted to the Director at the following address:

Enforcement Branch
Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

If permittee uses outside laboratory facilities for sampling and/or analysis, the name and address of the contract laboratory shall be included on the DMR.

6. **Additional Monitoring by the Permittee**

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated on the DMR.

7. **Retention of Records**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

8. **Record Contents**

Records and monitoring information shall include:

- A. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any.
- B. The individuals(s) who performed the sampling or measurements.
- C. The date(s) and time analyses were performed.
- D. The individual(s) who performed the analyses.
- E. The analytical techniques or methods used.
- F. The measurements and results of such analyses.

9. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D – REPORTING REQUIREMENTS

1. Planned Changes

The Permittee shall give notice to the Director as soon as possible but no later than 180 days prior to any planned physical alterations or additions to the permitted facility [40 CFR 122.41(1)]. Notice is required only when:

- A. The alteration or addition to a permitted facility may meet one of the criteria for new sources at 40 CFR 122.29(b).
- B. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants subject to effluent limitations in the permit, or to the notification requirements under 40 CFR 122.42(b).

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Part III.C.5. **Discharge Monitoring Reports must be submitted even when no discharge occurs during the reporting period.**

5. **Compliance Schedule**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. **Twenty-four Hour Report**

A. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain the following information:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue.
3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. The following shall be included as information which must be reported within 24 hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit.
2. Any upset which exceeds any effluent limitation in the permit.
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part I of the permit to be reported within 24 hours to the Enforcement Branch of the Office of Water Quality of the ADEQ.

C. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours to the Enforcement Branch of the Office of Water Quality of the ADEQ.

7. **Other Noncompliance**

The permittee shall report all instances of noncompliance not reported under Parts III.D.4, 5, and 6, at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.6.

8. **Changes in Discharge of Toxic Substances for Industrial Dischargers**

The permittee shall notify the Director as soon as he/she knows or has reason to believe:

- A. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" described in 40 CFR Part 122.42(a)(1).

- B. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the “notification levels” described in 40 CFR Part 122.42(a)(2).

9. **Duty to Provide Information**

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

10. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated in APCEC Regulation No. 6.

11. **Signatory Requirements**

All applications, reports, or information submitted to the Director shall be signed and certified as follows:

A. All **permit applications** shall be signed as follows:

1. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.
 - (b) The manager of one or more manufacturing, production, or operation facilities, provided: the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively.
 3. For a municipality, State, Federal, or other public agency, by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (a) The chief executive officer of the agency.
 - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. All **reports** required by the permit and **other information** requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
1. The authorization is made in writing by a person described above.
 2. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
 3. The written authorization is submitted to the Director.
- C. Certification. Any person signing a document under this section shall make the following certification:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

12. **Availability of Reports**

Except for data determined to be confidential under 40 CFR Part 2 and APCEC Regulation No. 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

13. **Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part III.A.2 and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

14. **Other Information**

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

PART IV DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act and 40 CFR 122.2 shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. **“Act”** means the Clean Water Act, Public Law 95-217 (33.U.S.C. 1251 et seq.) as amended.
2. **“Administrator”** means the Administrator of the U.S. Environmental Protection Agency.
3. **“APCEC”** means the Arkansas Pollution Control and Ecology Commission.
4. **“Applicable effluent standards and limitations”** means all State and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards of performance, toxic effluent standards and prohibitions, and pretreatment standards.
5. **“Applicable water quality standards”** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303(a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under (APCEC) Regulation No. 2, as amended.
6. **“Best Management Practices (BMPs)”** are activities, practices, maintenance procedures, and other management practices designed to prevent or reduce the pollution of waters of the State. BMPs also include treatment technologies, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw sewage. BMPs may include structural devices or nonstructural practices.
7. **“Bypass”** means the intentional diversion of waste streams from any portion of a treatment facility, as defined at 40 CFR 122.41(m)(1)(i).
8. **“Composite sample”** is a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of 4 effluent portions collected at equal time intervals (but not closer than one hour apart) during operational hours, within the 24-hour period, and combined proportional to flow or a sample collected at more frequent intervals proportional to flow over the 24-hour period.
9. **“Daily Discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.
 - A. **Mass Calculations:** For pollutants with limitations expressed in terms of mass, the “daily discharge” is calculated as the total mass of pollutant discharged over the sampling day.
 - B. **Concentration Calculations:** For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
10. **“Daily Maximum”** discharge limitation means the highest allowable “daily discharge” during the calendar month.
11. **“Department”** means the Arkansas Department of Environmental Quality (**ADEQ**).
12. **“Director”** means the Director of the Arkansas Department of Environmental Quality.

13. **“Dissolved oxygen limit”** shall be defined as follows:
 - A. When limited in the permit as a minimum monthly average, shall mean the lowest acceptable monthly average value, determined by averaging all samples taken during the calendar month.
 - B. When limited in the permit as an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
14. **“E. coli”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For E. coli, report the 7-Day Average as the geometric mean of all “daily discharges” within a calendar week and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, both in units of colonies per 100 ml.
15. **“Fecal Coliform Bacteria (FCB)”** a sample consists of one effluent grab portion collected during a 24-hour period at peak loads. For FCB, report the 7-Day Average as the geometric mean of all “daily discharges” within a calendar week and the Monthly Average as the geometric mean of all “daily discharges” within a calendar month, both in units of colonies per 100 ml.
16. **“Grab sample”** means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.
17. **“Industrial User”** means a nondomestic discharger, as identified in 40 CFR Part 403, introducing pollutants to a POTW.
18. **“Instantaneous flow measurement”** means the flow measured during the minimum time required for the flow-measuring device or method to produce a result in that instance. To the extent practical, instantaneous flow measurements coincide with the collection of any grab samples required for the same sampling period so that together the samples and flow are representative of the discharge during that sampling period.
19. **“Instantaneous Maximum”** when limited in the permit as an instantaneous maximum value, shall mean that no value measured during the reporting period may fall above the stated value.
20. **“Instantaneous Minimum”** an instantaneous minimum value, shall mean that no value measured during the reporting period may fall below the stated value.
21. **“Monthly Average”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month. For E. coli or Fecal Coliform Bacteria (FCB), report the Monthly Average as the geometric mean of all “daily discharges” within a calendar month (see Part IV.14 and IV.15 above, respectively).
22. **“Monitoring and Reporting”**

When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the Discharge Monitoring Report (DMR) shall be submitted by the 25th of the month following the sampling. Where the monitoring requirement for an effluent characteristic is Quarterly, Semi-Annual, Annual, or Yearly, the DMR shall be submitted by the 25th of the month following the monitoring period end date.

 - A. **MONTHLY:**

is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

B. BI-MONTHLY:

is defined as two (2) calendar months or any portion of 2 calendar months for monitoring requirement frequency of once/2 months or more frequently.

C. QUARTERLY:

1. is defined as a **fixed calendar quarter** or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or

2. is defined as a **fixed three month period** (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters are: May through July, August through October, November through January, and February through April.

D. SEMI-ANNUAL:

is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

E. ANNUAL or YEARLY:

is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

23. **“National Pollutant Discharge Elimination System”** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the Clean Water Act.
24. **“POTW”** means a Publicly Owned Treatment Works.
25. **“Reduction of CBOD₅/BOD₅ and TSS in mg/l Formula”**
$$((\text{Influent} - \text{Effluent}) / \text{Influent}) \times 100$$
26. **“Severe property damage”** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in products.
27. **“Sewage sludge”** means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a POTW. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and stormwater runoff that are discharged to or otherwise enter a POTW.
28. **“7-day Average”** also known as “average weekly,” means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
29. **“Treatment works”** means any devices and systems used in storage, treatment, recycling, and reclamation of municipal sewage and industrial wastes, of a liquid nature to implement section 201 of the Act, or necessary to recycle reuse water at the most economic cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and alterations thereof; elements essential to provide a

reliable recycled supply such as standby treatment units and clear well facilities, and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.

30. **Units of Measure:**

“**MGD**” shall mean million gallons per day.

“**mg/l**” shall mean milligrams per liter or parts per million (ppm).

“**µg/l**” shall mean micrograms per liter or parts per billion (ppb).

“**cfs**” shall mean cubic feet per second.

“**ppm**” shall mean parts per million.

“**s.u.**” shall mean standard units.

31. “**Upset**” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. Any upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventive maintenance, or careless or improper operations.

32. “**Visible sheen**” means the presence of a film or sheen upon or a discoloration of the surface of the discharge. A sheen can also be from a thin glistening layer of oil on the surface of the discharge.

33. “**Weekday**” means Monday – Friday.

Final Fact Sheet

This Fact Sheet is for information and justification of the permit limits only. Please note that it is not enforceable. This permitting decision is for renewal of the discharge Permit Number AR0021768 with Arkansas Department of Environmental Quality (ADEQ) Facility Identification Number (AFIN) 58-00105 to discharge to Waters of the State.

1. PERMITTING AUTHORITY.

The issuing office is:

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

2. APPLICANT.

The applicant's mailing address is:

City Corporation - Russellville Water and Sewer System
P.O. Box 3186
Russellville, AR 72811

The facility address is:

City Corporation - Russellville Water and Sewer System
404 Jimmy Lile Road
Russellville, AR 72802

3. PREPARED BY.

The permit was prepared by:

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4. PERMIT ACTIVITY.

Previous Permit Effective Date:	October 1, 2010
Previous Permit Minor Modification Date:	July 29, 2012
Previous Permit Expiration Date:	September 30, 2015

The permittee submitted a permit renewal application on March 4, 2015, with additional information received on March 31, 2015 and April 2, 2015. The current discharge permit is being reissued for a 5-year term in accordance with regulations promulgated at 40 CFR Part 122.46(a).

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

BAT - best available technology economically achievable
BCT - best conventional pollutant control technology
BMP - best management practice
BOD₅ - five-day biochemical oxygen demand
BPJ - best professional judgment
BPT - best practicable control technology currently available
CBOD₅ - carbonaceous biochemical oxygen demand
CD - critical dilution
CFR - Code of Federal Regulations
cfs - cubic feet per second
COD - chemical oxygen demand
COE - United States Corp of Engineers
CPP - continuing planning process
CWA - Clean Water Act
DMR - discharge monitoring report
DO - dissolved oxygen
ELG - effluent limitation guidelines
EPA - United States Environmental Protection Agency
ESA - Endangered Species Act
FCB - fecal coliform bacteria
gpm - gallons per minute
MGD - million gallons per day
MQL - minimum quantification level
NAICS - North American Industry Classification System
NH₃-N - ammonia nitrogen
NO₃-N - nitrate nitrogen
NPDES - National Pollutant Discharge Elimination System
O&G - oil and grease
Reg. 2 - APCEC Regulation No. 2
Reg. 6 - APCEC Regulation No. 6
Reg. 8 - APCEC Regulation No. 8
Reg. 9 - APCEC Regulation No. 9
RP - reasonable potential
SIC - standard industrial classification
TDS - total dissolved solids
TMDL - total maximum daily load
Total Arsenic - total recoverable arsenic

Total Copper - total recoverable copper
Total Mercury - total recoverable mercury
Total Zinc - total recoverable zinc
TP - total phosphorus
TRC - total residual chlorine
TSS - total suspended solids
UAA - use attainability analysis
USF&WS - United States Fish and Wildlife Service
USGS - United States Geological Survey
WET - whole effluent toxicity
WQMP - water quality management plan
WQS - Water Quality standards
WWTP - wastewater treatment plant

Compliance and Enforcement History:

Compliance and Enforcement History for this facility can be reviewed by using the following web link:

https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0021768_Enforcement%20Compliance%20Review_20150624.pdf

5. SIGNIFICANT CHANGES FROM THE PREVIOUSLY ISSUED PERMIT.

The permittee is responsible for carefully reading the permit in detail and becoming familiar with all of the changes therein:

1. The Monthly Total number of Sanitary Sewer Overflows (SSOs) and the Monthly Total Volume of SSOs must be reported on the Discharge Monitoring Reports. This change will simplify the reporting procedures for the permittee. See Condition No. 5.E of Part II for further information.
2. The description of the sampling location in Part IA has been revised to include the specifications provided in the renewal application.
3. Conditions Nos. 8 and 9 in Part II of the previous permit concerning land application of bio-solids have been removed because the facility obtained coverage for this activity under No-Discharge Permit No. 5126-W.
4. The effluent limitation for Total Residual Chlorine (TRC) has been changed. See Section 13 of this Fact Sheet for further explanation.
5. Condition No. 12 in Part II of the permit has been added to require monitoring and reporting of Total Recoverable Arsenic in the effluent for one year. See Section 12.F of this Fact Sheet for more information.
6. The requirement to monitor and report for Total Phosphorus has been removed because an adequate amount of data was collected during the previous permit term for establishing a database of point source loadings of nutrients to waters of the State.

6. RECEIVING STREAM SEGMENT AND DISCHARGE LOCATION.

The outfall is located at the following coordinates based on Google Earth using WGS84:

Latitude: 35° 14' 50" N; Longitude: 93° 06' 45" W

The receiving waters named:

Whig Creek, thence to the Arkansas River in Segment 3F of the Arkansas River Basin. The receiving stream with USGS Hydrologic Unit Code (H.U.C) of 11110203 and reach #931 is a Water of the State classified for secondary contact recreation; raw water source for domestic (public and private), industrial, and agricultural water supplies; propagation of desirable species of fish and other aquatic life; and other compatible uses.

7. 303(d) LIST, ENDANGERED SPECIES, AND ANTI-DEGRADATION CONSIDERATIONS.

A. 303(d) List:

The Arkansas River (reach #031) is on Arkansas's 2008 303(d) List of Impaired Waterbodies for not meeting water quality standards for Total Dissolved Solids (TDS). The listing of TDS is in Category 5f, which is for "waters that are not currently meeting a water quality standard. However, 'the basis for not meeting an applicable water quality standard is not caused by a pollutant, but is attributed to other types of pollution' (EPA, 2005)." APCEC Reg. 2.511(A) specifies a mineral quality criteria of 500 mg/l of TDS for this segment of the Arkansas River. The facility submitted information in the renewal application indicating an average daily discharge of 303 mg/l of TDS and a maximum daily discharge of 350 mg/l of TDS. Therefore, this discharge is being permitted because the facility has provided reasonable assurance that the discharge will not cause or contribute to violations of water quality standards.

B. Applicable Total Maximum Daily Load (TMDL) Reports:

The receiving stream, Whig Creek, is included in two separate TMDL reports; "Whig Creek TMDL for Nitrate," dated December 8, 2000, and "Whig Creek Basin TMDL for Copper," dated November 1, 2003. Effluent limitations based on the loadings established in the two TMDLs were included in previous permits and will be continued in the permit. The 2000 TMDL for Nitrate specifies a Waste Load Allocation (WLA) of 542.0 lb/day of NO₃-N for this facility. The WLA is incorporated into the permit as a Monthly Average Mass Limit of the same value. The 2003 TMDL for Copper specifies a WLA of 0.188 lb/day of dissolved copper for this facility. According to 40 CFR 122.45(c), metal limits in NPDES permits must be expressed in terms of total recoverable metal. Therefore, the WLA for dissolved copper was converted to a value of 0.45 lb/day of Total Copper, using the Translator Mechanism established in the 2000 CPP Appendix D Attachment V.III, for incorporation into the permit. The subject TMDLs can be viewed at the following web links:

Whig Creek TMDL for Nitrate (2000):

http://www2.adeg.state.ar.us/downloads/WebDatabases/Water/TMDL/pdfs/whig_creek_2000_12_08.pdf

Whig Creek Basin TMDL for Copper (2003):

http://www2.adeg.state.ar.us/downloads/WebDatabases/Water/TMDL/pdfs/Whig_Creek_2003_11_01.pdf

B. Endangered Species:

No comments on the application were received from the U.S. Fish and Wildlife Service (USF&WS). The draft permit and Fact Sheet were sent to the USF&WS for their review.

C. Anti-Degradation:

The limitations and requirements set forth in this permit for discharge into waters of the State are consistent with the Anti-degradation Policy and all other applicable water quality standards found in APCEC Regulation No. 2.

8. OUTFALL, TREATMENT PROCESS DESCRIPTION, AND FACILITY CONSTRUCTION.

The following is a description of the facility described in the application:

A. Design Flow: 7.3 MGD

B. Type of Treatment: three (3) aerated flow equalization basins, bar screens, grit removal, three (3) primary clarifiers, three (3) extended aeration activated sludge basins, three (3) final clarifiers, two (2) chlorine contact basins, dechlorination, and aerobic digestion.

C. Discharge Description: treated municipal wastewater

D. Facility Status: This facility is classified as a Major municipal since the design flow of the facility listed above is greater than 1.0 MGD.

E. Facility Construction: This permit does not authorize or approve the construction or modification of any part of the treatment system or facilities. Approval for such construction must be by permit issued under Reg. 6.202.

9. ACTIVITY.

Under the Standard Industrial Classification (SIC) code of 4952 or North American Industry Classification System (NAICS) code of 221320, the applicant's activities are the operation of a sewage treatment plant.

10. INDUSTRIAL WASTEWATER CONTRIBUTIONS.

INDUSTRIAL USERS

This facility receives industrial process wastewater. The pretreatment program was approved on January 13, 1984 and modified on March 10, 1992. During the previous permit term, the facility once again modified the pretreatment program in order to comply with the “Streamlining” revisions to the Federal Pretreatment Regulations in 40 CFR 403. This most recent modification to the pretreatment program was approved on July 29, 2012.

11. SEWAGE SLUDGE PRACTICES.

The sludge produced at the treatment plant is aerobically digested, dewatered in a sludge filter press, and may be land applied in bulk under No-Discharge Permit No. 5126-W. Sludge that is additionally treated through lime stabilization to Class A - “Exceptional Quality” (EQ) bio-solid standards may be sold or given away in bags or other containers in accordance with 40 CFR 503.

12. DEVELOPMENT AND BASIS FOR PERMIT CONDITIONS.

The Arkansas Department of Environmental Quality has determined to issue a permit for the discharge described in the application. Permit requirements are based on federal regulations (40 CFR Parts 122, 124, and Subchapter N), the National Pretreatment Regulation in 40 CFR Part 403 and regulations promulgated pursuant to the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.). All of the information contained in the application, including all of the submitted effluent testing data, was reviewed to determine the need for effluent limits and other permit requirements.

The following is an explanation of the derivation of the conditions of the permit and the reasons for them or, in the case of notices of intent to deny or terminate, reasons suggesting the decisions as required under 40 CFR Part 124.7.

Technology-Based Versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44, the permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44 (a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44 (d), whichever are more stringent as follows:

Parameter	Water Quality-Based		Technology-Based/BPJ		Previous Permit		Permit Limit	
	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l	Monthly Avg. mg/l	7-day Avg. mg/l
CBOD ₅								
(May-Oct)	10.0	15.0	25	40	10.0	15.0	10.0	15.0
(Nov-Apr)	15.0	22.5	25	40	15.0	22.5	15.0	22.5
TSS								
(May-Oct)	N/A	N/A	30	45	15.0	22.5	15.0	22.5
(Nov-Apr)	N/A	N/A	30	45	20.0	30.0	20.0	30.0
NH ₃ -N								
(April-Oct)	2.2	5.6	N/A	N/A	2.2	5.6	2.2	5.6
(Nov-March)	4.0	6.0	N/A	N/A	4.0	6.0	4.0	6.0
DO	6.0 (Inst. Min.)		N/A		6.0 (Inst. Min.)		6.0 (Inst. Min.)	
FCB (col/100 ml)	1000	2000	N/A	N/A	1000	2000	1000	2000
TRC (Inst. Max)	0.011		N/A		< 0.1		0.011	
NO ₃ -N	10.0	15.0	N/A	N/A	10.0	15.0	10.0	15.0
Arsenic, Total (µg/l)	N/A	N/A	Report	Report	N/A	N/A	Report	Report
Copper, Total (µg/l)	9.2	18.5	N/A	N/A	9.2	18.5	9.2	18.5
Mercury, Total (µg/l)	0.0134	0.0269	N/A	N/A	0.0134	0.0269	0.0134	0.0269
Zinc, Total (µg/l)	85.5	171.6	N/A	N/A	85.5	171.6	85.5	171.6
pH	6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.		6.0-9.0 s.u.	

A. Justification for Limitations and Conditions of the Final Permit:

Parameter	Water Quality or Technology	Justification
CBOD ₅	Water Quality	MultiSMP Model dated October 2, 2015, CWA 402(o), and Previous Permit
TSS	Technology	CPP, 40 CFR 122.44(l), and Previous Permit
NH ₃ -N	Water Quality	Reg. 2.512 / MultiSMP Model dated October 2, 2015, CWA 402(o), and Previous Permit
DO	Water Quality	Reg. 2.505 / MultiSMP Model dated October 2, 2015, CWA 402(o), and Previous Permit
FCB	Water Quality	Reg. 2.507, CWA 402(o), and Previous Permit

Parameter	Water Quality or Technology	Justification
TRC ¹	Water Quality	Reg. 2.409, 40 CFR 122.44(l), and Previous Permit
NO ₃ -N	Water Quality	“Whig Creek TMDL for Nitrate” dated December 8, 2000, CWA 402(o), and Previous Permit
Arsenic, Total	Water Quality	2000 CPP: Appendix D – Toxic Control Implementation Procedure, Part IV.C
Copper, Total	Water Quality	“Whig Creek Basin TMDL for Copper” dated November 1, 2003, Reg. 2.508, CWA 402(o), and Previous Permit
Mercury, Total	Water Quality	Reg. 2.508, CWA 402(o), and Previous Permit
Zinc, Total	Water Quality	Reg. 2.508, CWA 402(o), and Previous Permit
pH	Water Quality	Reg. 2.504, CWA 402(o), and Previous Permit

¹ See Section 13 of this Fact Sheet for more information on TRC requirements.

It should be noted that no other effluent limits are being changed with this renewal cycle.

B. Anti-backsliding

The permit is consistent with the requirements to meet Anti-backsliding provisions of the Clean Water Act (CWA), Section 402(o) [40 CFR 122.44(l)]. The final effluent limitations for reissuance permits must be as stringent as those in the previous permit, unless the less stringent limitations can be justified using exceptions listed in CWA 402(o)(2), CWA 303(d)(4), or 40 CFR 122.44 (l)(2)(i).

The permit meets or exceeds the requirements of the previous permit.

C. Limits Calculations

1. Mass limits:

In accordance with 40 CFR 122.45(f)(1), all pollutants limited in permits shall have limitations expressed in terms of mass if feasible. 40 CFR 122.45(f)(2) allows for pollutants which are limited in terms of mass to also be limited in terms of other units of measurement.

The calculation of the loadings (lb per day) for CBOD₅, TSS, NH₃-N, Mercury, and Zinc uses a design flow of 7.3 MGD and the following equation:

$$\text{lb/day} = \text{Concentration (mg/l)} \times \text{Flow (MGD)} \times 8.34$$

The mass limits for Nitrate and Total Copper are based on the respective Waste Load Allocations (WLAs) for this point source specified in the TMDL reports discussed in Section 7.B of this Fact Sheet. The limits in the permit must be consistent with the loadings specified in the TMDL reports according to 40 CFR 122.44(d)(1)(vii)(B).

2. 7-Day Average Limits:

The 7-Day Average limits for NH₃-N (April through October) as well as CBOD₅ and TSS are based on Section 5.4.2 of the Technical Support Document for Water Quality-Based Toxics Control.

7-Day Average limits = Monthly Average limits × 1.5 – 2

The 7-Day Average NH₃-N limits for the months of November through March are based on the requirements of Reg. 2.512.

The 7-Day Average limit for FCB is based on Reg. 2.507.

The 7-Day Average limit for TRC is based on Reg. 2.409.

The 7-Day Average limits for Copper, Zinc, and Mercury are based on the CPP.

D. **Ammonia-Nitrogen (NH₃-N)**

The water quality effluent limitations for Ammonia are based either on DO-based effluent limits or on toxicity-based standards, whichever are more stringent. The toxicity-based effluent limitations are based on Reg. 2.512 and the CPP.

The calculation of effluent limitations for Ammonia for this facility can be reviewed by using the following web link:

https://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0021768_Ammonia%20Calculations_20150729.pdf

E. **208 Plan (Water Quality Management Plan)**

The 208 Plan, developed by the ADEQ under provisions of Section 208 of the federal Clean Water Act, is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. There are no changes to the current 208 Plan.

F. **Priority Pollutant Scan (PPS)**

ADEQ has reviewed and evaluated the effluent in accordance with the potential toxicity of each analyzed pollutant using the procedures outlined in the Continuing Planning Process (CPP).

The concentration of each pollutant after mixing with the receiving stream was compared to the applicable water quality standards as established in the Arkansas Water Quality Standards (AWQS), Regulation No. 2 (Reg. 2.508), and criteria obtained from the “Quality Criteria for Water, 1986 (Gold Book).”

Under Federal Regulation 40 CFR Part 122.44(d), as adopted by Regulation No. 6, if a discharge poses the reasonable potential to cause or contribute to an exceedance above a water quality standard, the permit must contain an effluent limitation for that pollutant. Effluent limitations for the toxicants listed below have been derived in a manner consistent with the Technical Support Document (TSD) for Water Quality-based Toxics Control (EPA, March 1991), the CPP, and 40 CFR Part 122.45(c).

The following items were used in calculations:

Parameter	Value	Source
Discharge Flow = Q	7.3 MGD = 11.28 cfs	Application
7Q10 Critical Flow	0.0 cfs	U.S.G.S.
LTA Background Flow	0.0 cfs	Assumed to be the same as 7Q10
TSS	3.0 mg/l	2000 CPP: Appendix D – Attachment V, TSS for Arkansas River Valley Ecoregion
Hardness as CaCO ₃	25.0 mg/l	2000 CPP: Appendix D – Attachment VI, Hardness for Arkansas River Valley Ecoregion
pH	7.0 s.u.	Neutral pH used in evaluation since no known upstream pH data was found.
C _b , Upstream Concentration	Arsenic, Total 1.08 µg/l	Monitoring Station ID: ARK0067
	Lead, Total 0.8 µg/l	Monitoring Station ID: ARK0067
	Nickel, Total 5.0 µg/l	Monitoring Station ID: ARK0067
Mixing Zone for chronic toxicity (percentage of 7Q10)	67% (7Q10 < 100 cfs)	Reg. 2.508 and 2000 CPP: Appendix D – Mixing Zone Policy
Zone of Initial Dilution (ZID) for acute toxicity (percentage of 7Q10)	33% (7Q10 < 100 cfs)	Reg. 2.508 and 2000 CPP: Appendix D – Mixing Zone Policy

The following pollutants were reported above detection levels:

Pollutant	Concentration Reported, µg/l	MQL, µg/l
Arsenic, Total	0.82 ¹	0.5
Copper, Total	5.66 ²	0.5
Lead, Total	0.36 ¹	0.5
Mercury, Total	0.0045 ²	0.005
Nickel, Total	7.8 ¹	0.5

Pollutant	Concentration Reported, $\mu\text{g/l}$	MQL, $\mu\text{g/l}$
Zinc, Total	37.1 ²	20

¹ Geometric mean of four (4) values.

² These pollutants were reported above detection levels; however, an evaluation was not performed as the permit already contains limitations for these pollutants.

Instream Waste Concentrations (IWCs) were calculated in the manner described in Appendix D of the CPP and compared to the applicable Criteria. The following tables summarize the results of the analysis. The complete evaluation can be viewed on the Department's website at the following address:

https://www.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/AR0021768_PPS_20150921.pdf

1. Aquatic Toxicity Evaluation

a. Acute Criteria Evaluation

Pollutant	Concentration Reported (C_e) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
			Acute, $\mu\text{g/l}$	Acute, $\mu\text{g/l}$	
Lead, Total	0.36	0.77	0.77	62.3	No
Nickel, Total	7.8	16.61	16.61	782.33	No

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

b. Chronic Criteria Evaluation

Pollutant	Concentration Reported (C_e) $\mu\text{g/l}$	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
			Chronic, $\mu\text{g/l}$	Chronic, $\mu\text{g/l}$	
Lead, Total	0.36	0.77	0.77	2.43	No
Nickel, Total	7.8	16.61	16.61	86.88	No

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

2. Human Health (Bioaccumulation) Evaluation

Pollutant	Concentration Reported (C_e) μg/l	$C_e \times 2.13^1$	Instream Waste Concentration (IWC)	Criteria ²	Reasonable Potential (Yes/No)
Arsenic, Total	0.82	1.75	1.75	1.4 ³	Yes
Lead, Total	0.36	0.77	0.77	50 ⁴	No
Nickel, Total	7.8	16.61	16.61	100 ⁴	No

¹ Statistical ratio used to estimate the 95th percentile using a single effluent concentration or the geometric mean of a dataset.

² Criteria are from Reg. 2.508 unless otherwise specified.

³ Criterion is adapted from “National Recommended Water Quality Criteria: 2015 – Human Health Criteria Calculation Matrix”, EPA. The respective WQC from the noted reference are Consumption of Organism Only values. The values from the reference are for a lifetime risk factor of 10^{-6} . These values have been multiplied by 10 to correspond to human health criteria lifetime risk factor of 10^{-5} as stated in Reg. 2.508.

⁴ Criteria are from EPA Quality Criteria for Water [The Gold Book] (1986).

As can be seen in the tables above, the calculated IWC for Arsenic is higher than the EPA Water Quality Criterion. Ark. Code Ann. § 8-4-216 authorizes the Department to require the submission of any information relevant to meeting the requirements of the Arkansas Water and Air Pollution Control Act. A requirement to monitor and report for Arsenic once per quarter for one year has been added to the permit so that, in the event that a WQS for Arsenic is added to Reg. 2.508, data will be available to perform a reasonable potential analysis. This is in accordance with the procedure in Appendix D of the CPP (Appendix D, Part IV – Chemical Specific Standards and Criteria, Section E – Protection of Human Health Criteria of the Discharge Permit, Toxic Control Implementation Procedure).

The CPP requires that for all pollutants for which there are no applicable state water standards, IWCs are to be compared with the EPA Human Health Criteria (fish consumption only). If dilution calculations show that the in-stream concentration exceeds these criteria, the permit will require the permittee to monitor and report for the pollutant of concern once per quarter for one year only. A reopener clause has been included in the permit (see Part II.4) to provide permit limits if state water quality standards are developed for the applicable pollutants, and the data shows that there is a reasonable potential for the discharge to violate those water quality standards.

13. TOTAL RESIDUAL CHLORINE (TRC) REQUIREMENTS.

During the public comment period of the draft permit, the permittee submitted a comment on the revised TRC limit and provided the comprehensive set of TRC monitoring data collected over the previous permit term. The permittee requested that this data be used in the evaluation of the revised limit, rather than the submitted DMR data, which only included the monthly maximum TRC values. A review of the subject monitoring data shows an average TRC concentration of 0.033 mg/l in the effluent. The EPA considers TRC concentrations at the edge of the mixing zone higher than 0.011 mg/l (Chronic Criteria) to be toxic to aquatic organisms. Since the receiving stream has a 7Q10 of 0 cfs, no mixing occurs and the

concentration seen at the edge of the mixing zone at the facility during this time was higher than the aforementioned toxicity criteria (0.033 mg/l > 0.011 mg/l). Therefore, the effluent limitation for TRC is being reduced from <0.1 mg/l to 0.011 mg/l in order to protect water quality for all beneficial uses. The TRC limit must be met at end-of-pipe to comply with APCEC Reg. 2.409, which forbids the discharge of toxic pollutants in amounts that are toxic.

Typically, a schedule of compliance is not included if the facility dechlorinates prior to discharge. However, the review of the DMR data submitted during the previous permit term showed numerous effluent violations, which are currently being addressed through CAO LIS No. 09-146-001. Additionally, decreasing the TRC concentration in the effluent from 0.033 mg/l to 0.011 mg/l would call for an approximate 67% reduction and this amount of change may not be immediately feasible. Therefore, a schedule of compliance is included in Part IB of the permit to allow for any operational adjustments that may be required to meet the final effluent limitation for TRC.

The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. To demonstrate compliance with the TRC limit, the permittee must determine the effluent concentration by using any EPA approved test method established in 40 CFR Part 136 capable of meeting a detection level of 0.033 mg/l or lower. Non-detection (ND) of TRC by an approved test method at the required MQL will be considered in compliance with the permit limit of 0.011 mg/l.

14. **WHOLE EFFLUENT TOXICITY.**

Section 101(a)(3) of the Clean Water Act states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." In addition, ADEQ is required under 40 CFR Part 122.44(d)(1), adopted by reference in Regulation 6, to include conditions as necessary to achieve water quality standards as established under Section 303 of the Clean Water Act. Arkansas has established a narrative criteria which states "toxic materials shall not be present in receiving waters in such quantities as to be toxic to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of aquatic biota."

Whole effluent toxicity (WET) testing is the most direct measure of potential toxicity which incorporates the effects of synergism of effluent components and receiving stream water quality characteristics. It is the national policy of EPA to use bioassays as a measure of toxicity to allow evaluation of the effects of a discharge upon a receiving water (49 Federal Register 9016-9019, March 9, 1984). EPA Region 6 and the State of Arkansas are now implementing the Post Third Round Policy and Strategy established on September 9, 1992, and EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies, revised March 13, 2000. Whole effluent toxicity testing of the effluent is thereby required as a condition of this permit to assess potential toxicity. The whole effluent toxicity testing procedures stipulated as a condition of this permit are as follows:

TOXICITY TESTS

Chronic WET

FREQUENCY

once/quarter

Requirements for measurement frequency are based on the CPP.

Since 7Q10 is less than 100 cfs (ft³/sec) and dilution ratio is less than 100:1, chronic WET testing requirements will be included in the permit.

The calculations for dilution used for chronic WET testing are as follows:

$$\text{Critical dilution (CD)} = (\text{Qd}/(\text{Qd} + \text{Qb})) \times 100$$

$$\text{Qd} = \text{Design flow} = 7.3 \text{ MGD} = 11.3 \text{ cfs}$$

$$7\text{Q}10 = 0.0 \text{ cfs}$$

$$\text{Qb} = \text{Background flow} = (0.67)^* \times 7\text{Q}10 = 0.0 \text{ cfs}$$

$$\text{CD} = (11.3 / (11.3 + 0.0)) \times 100 = 100\%$$

* Mixing zone value is based on the 2000 CPP: Appendix D – Mixing Zone Policy, p. D-11.

Toxicity tests shall be performed in accordance with protocols described in “Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,” EPA/600/4-91/002, July 1994. A minimum of five effluent dilutions in addition to an appropriate control (0%) are to be used in the toxicity tests. These additional effluent concentrations are 32%, 42%, 56%, 75%, and 100% (See the CPP). The low-flow effluent concentration (critical dilution) is defined as 100% effluent. The requirement for chronic WET tests is based on the magnitude of the facility’s discharge with respect to receiving stream flow. The stipulated test species, *Ceriodaphnia dubia* and the Fathead minnow (*Pimephales promelas*) are representative of organisms indigenous to the geographic area of the facility; the use of these is consistent with the requirements of the State water quality standards. The WET testing frequency has been established to provide data representative of the toxic potential of the facility’s discharge, in accordance with the regulations promulgated at 40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen conductivity, and alkalinity shall be reported according to EPA-821-R-02-013, October 2002 and shall be submitted as an attachment to the Discharge Monitoring Report (DMR).

This permit may be reopened to require further WET testing studies, Toxicity Reduction Evaluation (TRE) and/or effluent limits if WET testing data submitted to the Department shows toxicity in the permittee’s discharge. Modification or revocation of this permit is subject to the provisions of 40 CFR 122.62, as adopted by reference in APCEC Regulation No. 6. Increased or intensified toxicity testing may also be required in accordance with Section 308 of the Clean Water Act and Section 8-4-201 of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

Administrative Records

The following information summarized toxicity test submitted by the permittee during the term of the current permit at Outfall 001:

Permit Number: AR0021768 AFIN: 58-00105 Outfall Number: 001
 Date of Review: 9/17/2015 Reviewer: M. Barnett
 Facility Name: City Corporation - Russellville Water and Sewer
 Previous Dilution series: 32, 42, 56, 75, 100 Proposed Dilution Series: 32, 42, 56, 75, 100
 Previous Critical Dilution: 100 Proposed Critical Dilution: 100
Previous TRE activities: None

Frequency recommendation by species

Pimephales promelas (Fathead minnow): once per quarter
Ceriodaphnia dubia (water flea): once per quarter

TEST DATA SUMMARY

TEST DATE	Vertebrate (<i>Pimephales promelas</i>)		Invertebrate (<i>Ceriodaphnia dubia</i>)	
	Lethal NOEC	Sub-Lethal NOEC	Lethal NOEC	Sub-Lethal NOEC
12/31/2010	100	100	100	100
6/30/2011	100	100	100	100
9/30/2011	100	100	100	100
12/31/2011	100	100	100	100
3/31/2012	100	100	100	100
6/30/2012	100	100	100	100
9/30/2012	100	100	100	100
12/31/2012	100	100	100	100
3/30/2013	100	100	100	100
6/30/2013	100	100	100	100
9/30/2013	100	100	100	100
12/31/2013	100	100	100	100
3/30/2014	100	100	100	100
6/30/2014	100	100	100	100
9/30/2014	100	100	100	100
12/31/2014	100	100	100	100
3/31/2015	100	100	100	100
6/30/2015	100	100	100	100
9/30/2015	100	100	100	100

REASONABLE POTENTIAL CALCULATIONS

	Vertebrate Lethal	Vertebrate Sub-lethal	Invertebrate Lethal	Invertebrate Sub-Lethal
Min NOEC Observed	100	100	100	100
TU at Min Observed	1.00	1.00	1.00	1.00
Count	19	19	19	19
Failure Count	0	0	0	0
Mean	1.000	1.000	1.000	1.000
Std. Dev.	0.000	0.000	0.000	0.000
CV	0	0	0	0
RPMF	0	0	0	0
Reasonable Potential	0.000	0.000	0.000	0.000
100/Critical dilution	1.000	1.000	1.000	1.000
Does Reasonable Potential Exist	No	No	No	No

PERMIT ACTION

P. promelas lethal - monitoring
P. promelas sub-lethal - monitoring
C. dubia lethal - monitoring
C. dubia sub-lethal - monitoring

15. STORMWATER REQUIREMENTS.

The federal regulations at 40 CFR 122.26(b)(14)(ix) require major municipal dischargers to have NPDES permit coverage for stormwater discharges from the facility. These requirements include the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to control the quality of stormwater discharges from the facility. In lieu of the development of a SWPPP, the facility may obtain a “No Exposure” Exclusion in accordance with 40 CFR 122.26(g) if several conditions can be certified. This facility was issued stormwater permit coverage under NPDES Tracking number ARR000104.

16. SAMPLE TYPE AND FREQUENCY.

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [40 CFR Part 122.48(b)] and to ensure compliance with permit limitations [40 CFR Part 122.44(i)(1)].

Requirements for sample type and sampling frequency for all parameters except for Arsenic have been based on the current discharge permit. The requirement for sample type for Arsenic is based on those of similar parameters and the requirement for sample frequency is based on Appendix D of the CPP.

Parameter	Previous Permit		Final Permit	
	Frequency of Sample	Sample Type	Frequency of Sample	Sample Type
Flow	once/day	totalizing meter	once/day	totalizing meter
CBOD ₅	once/weekday	composite	once/weekday	composite
TSS	once/weekday	composite	once/weekday	composite
NH ₃ -N	once/weekday	composite	once/weekday	composite
DO	once/weekday	grab	once/weekday	grab
FCB	once/weekday	grab	once/weekday	grab
TRC	once/weekday	grab	once/weekday	grab
NO ₃ -N	once/weekday	composite	once/weekday	composite
Arsenic, Total	N/A	N/A	once/quarter	composite
Copper, Total	once/month	composite	once/month	composite
Mercury, Total	once/month	composite	once/month	composite
Zinc, Total	once/month	composite	once/month	composite
pH	once/weekday	grab	once/weekday	grab

17. PERMIT COMPLIANCE SCHEDULE.

A Schedule of Compliance has been included in this permit for Total Residual Chlorine (TRC). Compliance with all permit requirements is required in accordance with the schedule provided in Part IB of the permit. The Department has chosen to exercise its discretion provided for in APCEC Regulation No. 2 to allow a 3-year Schedule of Compliance for the revised TRC limit. Therefore, the TRC limit will be effective three years after the effective date of the permit. Additionally, the permittee has the option to undertake any study deemed necessary to meet the final limitations for TRC during the interim period. Any additional treatment must be approved and construction approval granted prior to final installation.

A Schedule of Compliance has also been included for this facility's pretreatment program. The permittee shall submit a written certification that a technical evaluation has demonstrated that the existing technically based local limits (TBLLs) are based on current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination. A written notification that a technical evaluation revising the current TBLLs will be submitted. Compliance with all permit requirements is required in accordance with the schedule provided in Part IB of the permit.

18. MONITORING AND REPORTING.

The applicant is at all times required to monitor the discharge on a regular basis and report the results monthly. The monitoring results will be available to the public.

19. SOURCES.

The following sources were used to draft the permit:

- A. Application No. AR0021768 received March 4, 2015, with additional information received on March 31, 2015 and April 2, 2015.
- B. Arkansas Water Quality Management Plan (WQMP).
- C. APCEC Regulation No. 2.
- D. APCEC Regulation No. 3.
- E. APCEC Regulation No. 6 which incorporates by reference certain federal regulations included in Title 40 of the Code of Federal Regulations at Reg. 6.104.
- F. 40 CFR Parts 122, 125, 133, and 403.
- G. Discharge permit file AR0021768.
- H. Discharge Monitoring Reports (DMRs).
- I. "2008 Integrated Water Quality Monitoring and Assessment Report", ADEQ.
- J. "2008 List of Impaired Waterbodies (303(d) List)", ADEQ, February 2008.
- K. "Whig Creek TMDL for Nitrate" dated December 8, 2000.
- L. "Whig Creek Basin TMDL for Copper" dated November 1, 2003.
- M. USGS StreamStats web-based program.
- N. Continuing Planning Process (CPP).
- O. Technical Support Document for Water Quality-based Toxic Control, EPA, March 1991.

P. CAO LIS-09-146-001.

Q. Compliance Review Memo dated June 24, 2015 from Alan Anderson.

R. MultiSMP Model dated October 2, 2015.

20. POINT OF CONTACT.

For additional information, contact:

Adam Yates
Permits Branch, Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317
Telephone: (501) 682-0617

**RESPONSE TO COMMENTS
FINAL PERMITTING DECISION**

Permit No.: AR0021768
Applicant: City Corporation - Russellville Water and Sewer System
Prepared by: Adam Yates

The following are responses to comments received regarding the draft permit number above and are developed in accordance with regulations promulgated at 40 C.F.R. §124.17 as incorporated in APCEC Regulation 6.104(A)(5), APCEC Regulation No. 8 Administrative Procedures, and Ark. Code Ann. §8-4-203(e)(2).

Introduction

The above permit was submitted for public comment on March 6, 2016. The public comment period ended on April 5, 2016.

This document contains a summary of the comments that the ADEQ received during the public comment period. A summary of the changes to the NPDES Permit can be found on the last page of this document.

The following people or organizations sent comments to the ADEQ during the public notice. A total of one (1) comment was raised by one (1) commenter.

Commenter	Number of Comments Raised
City Corporation - Russellville Water and Sewer System	1

COMMENT #1

City Corporation respectfully requests a review of the proposed limit of 0.011 mg/l for Total Residual Chlorine (TRC) and asks that a new determination be made for the reasons cited below.

City Corporation recently constructed new dechlorination at the wastewater treatment facilities per the requirements of Consent Administrative Order (CAO) LIS-09-146. These facilities were constructed and placed into service in November of 2012, at a cost of over \$650,000. The facilities were designed based on meeting the current TRC limit of 0.1 mg/l and are not capable of meeting a 0.011 mg/l limit. Had we been aware that the proposed limit would be reduced to 0.011 mg/l, we obviously would have gone in a whole different direction. If the limit is left as proposed, we will have no choice but to abandon the new facilities and design and construct new dechlorination facilities that are capable of reaching such a limit, or move to a new disinfection system that does not involve chlorine gas. This would mean that another project would have to be eliminated or reduced to add a project of this size. This decision would be unfortunate at best

and would likely be met with concerns from the public, city council, and our board of directors that could call into question our decision making process. This could lead to a lack of confidence and possibly jeopardize future phases of funding that will be necessary to address all requirements cited in the CAO, primarily in the collection system. We have a solid plan and full support of the entire community and would hate to see that change.

During your review, we ask that data used for TRC determination be limited to the data collected since we placed temporary dechlorination equipment in service in November of 2012. It does not seem fair to include TRC values prior to us having any dechlorination facilities as that data is obsolete with regards to the current treatment process. Included with this letter is the spreadsheet showing all daily TRC readings on file. The proposed limit is produced from using only the monthly maximum TRC values, however, utilizing all the sample data from the time we started the dechlorination process produces an average TRC of 0.03 mg/l. We feel this would provide a more representative sample set of data and should be used in the calculation. City Corporation would also point out that during the past permit cycle, we conducted WET testing each quarter and none of the test indicated any toxicity. This is further evidenced by our placement on the reduced monitoring schedule.

RESPONSE #1

The Department, in its review of the TRC monitoring data provided by City Corporation, limited the data used in the evaluation to the data that was collected since dechlorination systems were placed in service in November 2012. The data was analyzed for the post-dechlorination term of the permit as well as the individual years of this term. For some of the calculations, such as geometric mean, assumptions were made with the given data. For instance, values reported as 0.00 mg/l were assumed to be non-detection (ND) of TRC. These ND values were assigned a numerical value of 0.005 mg/l (approximately half of the chronic toxicity criteria of 0.011 mg/l) for the purpose of factoring in the weight of ND to the overall average and geometric mean. Effectively, this provided a better representation of the actual average concentration of TRC in the effluent. The results of the analysis are shown in the table below.

Analysis of TRC Monitoring Data (values below in units of mg/l)				
Statistic	Post-Dechlorination Term (Nov 2012 - Sep 2015)	Third Year (Nov 2012 - Sep 2013)	Fourth Year (Oct 2013 - Sep 2014)	Fifth Year (Oct 2014 - Sep 2015)
Average	0.033	0.040	0.029	0.032
Geometric Mean	0.024	0.034	0.022	0.019
Maximum	0.860	0.470	0.230	0.860
Median	0.030	0.030	0.020	0.020
Minimum	ND	0.010	ND	ND
Standard Deviation	0.051	0.036	0.024	0.075

As can be seen, the Department reached the same conclusion as City Corporation in that on the average, TRC concentration in the effluent is 0.033 mg/l or 0.03 mg/l after rounding. The geometric mean was analyzed as it indicates the central tendency or typical value of the data.

Since the quantity of ND values was factored in to the geometric mean calculation, it can be reasoned that the typical TRC concentration in the effluent is around 0.024 mg/l. The low value for the standard deviation of the data set indicates minimal fluctuation in day-to-day TRC concentrations. The Department notes that occasional spikes in TRC concentrations occur in the discharge. Considering that the dechlorination system for this facility utilizes sulfur dioxide, it may be appropriate to increase dosage and make adjustments to any established control systems. This would help to reduce the number of spikes in concentration and to comply with the instantaneous maximum limit for TRC, which is based on the State of Arkansas Continuing Planning Process (CPP), Appendix D: Discharge Permit, Toxic Control Implementation Procedure – Section V - Chlorination/Dechlorination (ADEQ Office of Water Quality, 2000).

Please note that Condition No. 11 of Part II of the permit allows for a minimum quantification level (MQL) of 0.033 mg/l or lower. This means that non-detection of TRC by an approved test method at the MQL of 0.033 mg/l will be considered in compliance with the permit limit of 0.011 mg/l, as stated in Section 13 of the Fact Sheet. Additionally, the existing TRC limit of <0.1 mg/l cannot be continued in the renewal permit because that would allow for discharges of TRC concentrations in amounts that are toxic to aquatic life, according to the National Recommended Water Quality Criteria (EPA, 2009). However, the Department recognizes that decreasing the TRC concentration in the effluent from an average of 0.033 mg/l to 0.011 mg/l would call for an approximate 67% reduction. This amount of change may not be immediately feasible even with the existing dechlorination system. Therefore, the Department has chosen to exercise its discretion, provided in APCEC Reg. 2.104, to increase the schedule of compliance for the revised TRC limit of 0.011 mg/l from two years to three years. For this case, Reg. 2.104 does not allow for the schedule of compliance to exceed three years from the effective date of the permit. This schedule should provide adequate time for the permittee to develop practices to reduce TRC concentrations in the effluent or evaluate any alternative disinfection processes, if necessary.

Summary of Changes to the Permit				
Part	Draft Permit	Final Permit	Reason	Comment #
IA	N/A	Revised language in paragraphs above 'Effluent Limitations and Monitoring' tables for both interim and final limits.	Allow the permittee one additional year to achieve compliance with revised TRC limit.	1
IB	N/A	Increased total time allotted to Schedule of Compliance for revised TRC limit.	Allow the permittee additional time to plan for compliance with revised TRC limit.	
Fact Sheet	N/A	Revised language in Section 13 on TRC Requirements.	Update information on TRC limit evaluation and include discussion of permittee comments.	

**ADEQ CORRECTIONS
FINAL PERMITTING DECISION**

Permit No.: AR0021768
Applicant: City Corporation - Russellville Water and Sewer System
Prepared by: Adam Yates

The following are ADEQ comments regarding the subject draft permit number. Responses are developed in accordance with regulations promulgated at 40 C.F.R. §122.63 as incorporated in APCEC Regulation 6.104(A)(3) and APCEC Regulation No. 8, Administrative Procedures.

Introduction

The above permit was submitted for public comment on March 6, 2016. The public comment period ended on April 5, 2016.

This document contains a summary of the ADEQ comments and a summary of the changes to the NPDES Permit can be found on the last page of this document.

ADEQ Correction #1

In accordance with new Department policy, Condition No. 1 of Part II of the draft permit is being removed in order to avoid any conflicts with coverage of discharges under other permits. This change has been incorporated into the final version of the permit.

ADEQ Correction #2

In accordance with new Department policy, Condition No. 2 of Part II of the permit is being revised to remove the requirement to monitor the influent CBOD₅ and TSS at least once per year. This change has been incorporated into the final version of the permit.

ADEQ Correction #3

Condition No. 8 of Part II of the permit is being revised to account for the addition of a lime stabilization sludge treatment unit to the existing sludge treatment process. This change is based on State Construction Permit No. AR0021768C3 and has been incorporated into the final version of the permit.

Summary of Changes to the Permit				
Part	Draft Permit	Final Permit	Reason	Correction #
II	N/A	Removal of Condition No. 1 concerning authorized discharges.	Avoidance of conflicting with coverage of discharges under other permits.	1
II	N/A	Revise language of Condition No. 2 concerning influent monitoring.	Department policy no longer requires influent monitoring.	2
II	N/A	Revise language of Condition No. 8 concerning sludge treatment process.	New information received with application for State Construction Permit No. AR0021768C3	3

Creek Crossing List											
Rating	#	Address	MH1	MH2	Size	Material	Date of Next Inspection	Condition/Description	Type	Ticket #	Last Inspection
1 Rating											
1	1	East L & University	1673	1671	8	PVC	August 2017	Good	Buried		
1	2	2nd & Phoenix	1095	1108	6	VCP	August 2017	Good	Buried		
1	3	1103 Bradley Ln	1128	1129	12	PVC	August 2017	Good	Buried		
1	4	N Muskogee and W C St	1030	1031	12	VCP	August 2018	Good	Aerial		16-0610
1	5	500 Blk F St	1737	1641	8	DI	August 2017	Good	Aerial		
1	6	300 Blk N Boston	1567	1617	10	PVC	August 2017	Good	Aerial		
1	7	400 Blk N Boston	1620	1625	15	VCP	August 2017	Good	Buried		
1	8	Lake Frank Dr	2036	2077	8	PVC	August 2017	Good	Buried		
1	9	W 2nd St & S Laredo	1086	1085	6	VCP	August 2017	Repaired 2/20/2015/Good	Buried		
1	10	1812 S Elmira	1462	6316	8	PVC	August 2017	Good	Buried		
1	11	Pittsburg & Alawine on 17th St	6135	6134	12	VCP	August 2017	Good	Buried		
1	12	1300 Blk S Ithaca	6066	6067	6	VCP	August 2017	Good	Buried		
1	13	W Main & Modesto	3090	3388	6 OR 8	VCP	August 2017	Good	Buried		
1	14	W C & N Commerce	1536	1560	6	PVC	August 2017	Good	Buried		
1	15	10th St & Denver	5013	5124	10	HDPE	August 2017	Good	Buried		
1	16	12th St & Muskogee	1264	1265	6	DI	August 2017	Good	Aerial		
1	17	1601 W 2nd St	2814	1095	8	VCP	August 2017	Good	Buried		
1	18	500 Blk E J St	1653	1654	8	VCP	August 2017	Good	Buried		
1	19	G & Greenwald	1729	1642	8	VCP	August 2017	Good	Aerial		
1	20	14th St & Neptune	2137	1276	8	PVC	August 2017	Good	Aerial		
1	21	100 Blk E D St	1621	1619	6	DI	August 2017	Good	Aerial		
1	22	8 St & Greenwald	4207	4039	10	VCP	August 2017	Good	Buried		
1	23	710 N El Paso	1827	1826	18	DI	August 2017	Good	Aerial		
1	24	Near Tyson Hatchery	6291	6290	24	CIPP	August 2017	Good			
1	25	Intercession HWY 324	6266	6261	8	PVC	August 2017	Good	Buried		
1	26	Tyson Hatchery	6292	6293	24	CIPP	August 2017	Good	Buried		
1	27	Tyler Rd	6270	6331	10	PVC	August 2017	Good	Buried		
1	28	1600 S Commerce	5078	5090	10	HDPE	August 2017	Good	Buried		
1	29	10th St & Denver	5014	5013	12	PVC	August 2017	Good	Buried		
1	30	W 12th St & Arlington	2115	2211	10	PVC	August 2017	Good	Buried		
1	31	Bradley Ln & S Vanosover	1316	1317	6	VCP	August 2018	Good	Buried		16-0809
1	32	3rd St & Vanosover	1315	1332	8	VCP	August 2018	Good	Buried		16-1011
1	33	16th St & S Elmira	6310	6309	8	PVC	August 2018	Good	Buried		16-0916
1	34	Main St & Muskogee	1072	1087	12	C	August 2018	Good	Buried		16-0803
1	35	200 W 13th St	3019	3021	8	PVC/DI	August 2018	Good	Buried		16-1028
1	36	1301 E 9th St	2385	2384	8	PVC	August 2018	Good	Buried		16-0726
1	37	1300 E Parkway	4225	4226	12	PVC	August 2018	Good	Buried		16-0727
1	38	100 Blk S Muskogee	2848	1088	15	VCP	August 2018	Good	Buried		16-0617
1	39	W C St & Muskogee	1030	1031	12	Truss	August 2017	Good	Aerial		
1	40	Louisville & University	1660	1655	8	VCP	August 2017	repaired 2015-Pipe Patch	Buried		
1	41	210 E 11th	5032	EOL	6	VCP	August 2018	repaired 01/18/2015/Good-Pipe Patch	Buried		16-0629
1	42	200 Blk N Knoxville	2391	2067	15	VCP	August 2018	Good	Aerial		16-0707
1	43	1601 S Knoxville	6082	6127	15	VCP	August 2017	Good	Buried		
1	44	N Glenwood & W N St	1466	2050	10	VCP	August 2018	Good	Aerial		16-0630
1	45	110 E 8th St	5173	5174	8	PVC	August 2018	Good	Aerial		16-1031
1	46	203 Industrial Blvd	6418	6419	8	PVC	August 2018	Good	Buried		16-0721
1	47	203 Industrial Blvd	6420	6421	8	DI	August 2018	Good	Buried		16-0722
1	48	400 S Independence	1159	1151	10	VCP/DI	August 2018	Repaired in July 2016-Pipe Patch	Buried		16-0712
1	49	1601 S Knoxville	6082	6127	15	VCP	August 2018	Good	Buried		16-0708
1	50	900 Blk E St	1635	1636	12	PVC	August 2018	Replaced in 2016 City Mall Project	Buried		16-1001
1	51	619 E Main St	4280	4279	12	PVC	August 2018	Good			16-1102
1	52		2634	2633	21	PVC	August 2018	Good	Aerial		16-1001
1	53	2nd & Utah	1115	1114	8	VCP	August 2018	Pipe Patched 12/13/2016	Buried		16-1218
2 Rating											
2	1	Prairie Creek Lift Sta	1818	2900	15	VCP	May 2017	Heavy Flow-(Coord with maint in 2017) ATU	Buried		16-0614
2	2	10th St Lift Sta	5006	Sta	8	VCP	May 2017	ABANDONED 3-5-6 PROJECT	Buried		16-0609
2	3	N Glenwood & W N St	1466	2048	15	VCP	May 2017	ATU NORTH & SOUTH Project	Buried		16-0608
2	4	201 E 8th St	5134	Blind Tie	6	CLAY/DI	May 2017	MANHOLE ADDED AT BLIND TIE	Aerial		16-1102
2	5	E 16th St, 600' E of Elmira	6294	6295	24	VCP	May 2017	CIPP 17-18-20-21	Buried		16-0620
2	6	Oydene Stadium	6473	6152	36	PVC	May 2017	Heavy Flow	Buried		16-0620
2	7	N of 10th St Lift Sta	5133	5154	8	VCP	May 2017	ABANDONED 3-5-6 PROJECT	Aerial		16-0627
2	8	400 Blk N Boston	1619	1622	12	VCP/DI	May 2017	Corroded up (FUTURE 12-19-24)	Buried		16-0708
2	9	N Detroit & E E St	1654	EOL	6	C	May 2017	Corroded up (FUTURE 3-15-25)	Buried		16-0613
2	10	Oydene Stadium	6153	6131	15	VCP	May 2017	Heavy Flow	Buried		16-0620
2	11	1610 E Parkway	4280	4277	12	PVC	May 2017	Condition is fair	Buried		16-0722
2	12	8th & Glenwood	2804	2805	8	DI	May 2017	Condition is fair	Aerial		16-1012
2	13	100 Blk S Muskogee (1300 W 2nd Pl)	1087	1091	8	VCP	May 2017	CIPP 7-14	Buried		16-0617
2	14	100 N Detroit	1303	1298	8	DI	May 2017	Repaired 8/20/2015/need to camera repair then go to a 1	Aerial		16-0725
3 Rating											
		600 Blk N El Paso	1738	1726				Abandoned in City Mall Project 2016			
3	1	N Fargo & W I St	1818	2900	15	VCP	scheduled	ATU NORTH & SOUTH Project			
3	2	412 N Jaylin	9079	9077	6	VCP	scheduled	TO BE PIPEBURST 17-18-20-21	Buried		
3	3	Omaha & 2nd St	1091	1094	8	VCP	scheduled	CIPP 7-14	Buried		16-0620

#	Rating
1	Good condition
2	No I&I but needs TLC
3	Immediate repairs needed
0	Not Rated
	Total

May-all #2 crossings annually
 Aug-1/2 of #1 crossings rotating the list annually so each crossing is assessed every other year

Creek Crossing List											#	Rating	
Rating	#	Address	MH1	MH2	Size	Material	Date of Next Inspection	Condition/Description	Type	Ticket #	Last Inspection		
3	4	100 Blk S Arkansas	1495	1569	8	DI	scheduled	Crossing is sound-Being replaced in 28 basin project	Buried				
3	5	110 E 9th St	5139	5136	8	CI	CC Design	PIPEBURST 7-14	Aerial				
3	6	412 N Joplin Pl	3076	3078	12	Truss		Bank is washing and supports could fail	Aerial		16-0608		
Pending Rating													
0		Behind Tyson Hatchery	6289	6290	21			No Access with camera. Need to row cleared.					
0		N of RR	6289	6269	18			No Access with camera. Need to row cleared.					
0		203 Industrial Blvd	6476	2607	8	PVC							
0		203 Industrial Blvd	6475	6446	8	PVC		need to dean and finish			614929		

ORDINANCE NO. 976

An Ordinance amending Ordinance No. 973 of the City of Russellville, Arkansas, and for other purposes,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF RUSSELLVILLE, ARKANSAS, that Section 1 of Ordinance No. 973 is hereby amended to read as follows:

"Section 1. Hereafter the fee for connecting new service lines for the City of Russellville Sanitary Sewer shall be One Hundred Fifty and No/100 Dollars (\$150.00) inside the City limits of the City of Russellville, Arkansas, and Two Hundred Twenty-Five and N City of Russellville, Arkansas."

~~SECTION 2~~ that Section 6 of Ordinance No. 973 is hereby amended to read as follows:

~~It will be the property owner's responsibility to maintain the house sewer service line from the dwelling to the owner's property line. Also, the property owner will be responsible for the clean out of any stoppage of the sewer service line from the sewer main to the dwelling or other types of structures. The Sewer Department will be responsible for repairs of sewer service line from main to edge of the street. In the event of new construction, where it is necessary to cross the street with the house service line the property owner shall notify the Russellville Sewer Department and the Russellville Sewer Department shall give an estimate of cost to the property owner and upon the deposit of said estimate with the Russellville Sewer Department, the Russellville Sewer Department will proceed to extend the sewer service from main to customers property line according to Sewer Department specifications. Upon the completion of the line, should the estimate be too high the balance will be refunded to the property owner, and should the estimate be too low the property owner shall reimburse the City of Russellville Sewer Department.~~

SECTION 3 that Section 7 of Ordinance No. 973 is hereby amended to read as follows"

~~SECTION 7~~ From and after the passage of this Ordinance all house sewer service lines shall be of Vitrified Clay Pipe, extra strength ASTM C700 with ASTM C425 factory molded polyurethane joints, Cast Iron Soil Pipe, ASTM A74-75 or CISP 301-72, or Schedule 40 ABS or PVC Plastic DWV Pipe.

SECTION 4. In the event any lot or group of lots are subdivided to create an additional building site or sites, then said subdivider shall install a sewer tap on the sewer building site or sites.

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:

**Russellville City Corporation
P. O. Box 3186
Russellville AR 72811**

**LIS No. 09-146
AFIN 58-00105
NPDES Permit No. AR0021768**

CONSENT ADMINISTRATIVE ORDER

This Consent Administrative Order (hereinafter "CAO") is issued pursuant to Ark. Code Ann. §8-1-202(b)(2)(B), which authorizes the Director of the Arkansas Department of Environmental Quality (hereinafter "ADEQ" or "Department") to initiate and settle administrative enforcement actions to compel compliance with laws, orders, and regulations charged to the responsibility of the Department, including but not limited to the Federal Water Pollution Control Act, 33 U.S.C §1311 et seq., and the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. §8-4-101 et seq., and all regulations issued thereunder. The Director may also propose the assessment of civil penalties as provided by Ark. Code Ann. §8-4-103(c) and Arkansas Pollution Control and Ecology Commission (hereinafter "APC&EC") Regulation No. 7, Civil Penalties, and take all actions necessary to collect such penalties.

The issues herein having been settled by the agreement of the Russellville City Corporation and ADEQ, it is hereby agreed and stipulated that the following **FINDINGS OF FACT** and **ORDER AND AGREEMENT** be entered herein.

FINDINGS OF FACT

1. Russellville City Corporation (hereinafter "the Permittee") operates a publicly owned treatment works (POTW) in Pope County, Arkansas, pursuant to the conditions of NPDES Permit AR0021768 (hereinafter "the Permit"), issued by the authority of ADEQ and effective April 1, 2005. The POTW discharges treated effluent into Whig Creek.
2. The Permittee has exceeded the effluent characteristic limits in Part I, Section A of the Permit and has therefore violated Ark. Code Ann. §8-4-217(a)(3), which states that it shall be unlawful to violate any provision of a permit issued by ADEQ under the Arkansas Water and Air Pollution Control Act. Violations of the Permit's effluent limits found in Discharge Monitoring Reports (DMRs) submitted by the Permittee to ADEQ since April 2006 are as follows:

<u>DATE</u>	<u>OUTFALL</u>	<u>PARAMETER</u>	<u>REPORTED</u>	<u>PERMITTED</u>
04/30/06	001A	CBOD5 (mo. avg. load)	>414 lb/d	913 lb/d
04/30/06	001A	CBOD5 (mo. avg. conc.)	>9.3 mg/L	15 mg/L
04/30/06	001A	CBOD5 (max. conc.)	>9.5 mg/L	23 mg/L
05/31/06	001A	DO (inst. min.)	3.5 mg/L	6.0 mg/L
05/31/06	001A	TSS (mo. avg. load)	2298 lb/d	913 lb/d
05/31/06	001A	TSS (mo. avg. conc.)	39.7 mg/L	15 mg/L
05/31/06	001A	TSS (7-day avg. conc.)	57.2 mg/L	23 mg/L
05/31/06	001A	CBOD5 (mo. avg. load)	632 lb/d	609 lb/d
05/31/06	001A	CBOD5 (mo. avg. conc.)	10.9 mg/L	10 mg/L
05/31/06	001A	CBOD5 (max. conc.)	17.4 mg/L	15 mg/L
12/31/06	001A	TSS (mo. avg. load)	1931 lb/d	1217 lb/d
12/31/06	001A	TSS (mo. avg. conc.)	33.1 mg/L	20 mg/L
12/31/06	001A	TSS (7-day avg. conc.)	44.2 mg/L	30 mg/L
01/31/07	001A	TSS (mo. avg. load)	1913 lb/d	1217 lb/d
01/31/07	001A	TSS (mo. avg. conc.)	28.8 mg/L	20 mg/L
01/31/07	001A	TSS (7-day avg. conc.)	32.5 mg/L	30 mg/L
01/31/07	001A	Zinc (mo. avg. load)	37 lb/d	5.2 lb/d
01/31/07	001A	Zinc (mo. avg. conc.)	704.1 µg/l	86 µg/l
01/31/07	001A	Zinc (max. conc.)	1800.0 µg/l	172 µg/l
02/28/07	001A	TSS (mo. avg. load)	2487 lb/d	1217 lb/d
02/28/07	001A	TSS (mo. avg. conc.)	54.5 mg/L	20 mg/L
02/28/07	001A	TSS (7-day avg. conc.)	83.7 mg/L	30 mg/L
10/31/07	001A	DO (inst. min.)	5.3 mg/L	6.0 mg/L

<u>DATE</u>	<u>OUTFALL</u>	<u>PARAMETER</u>	<u>REPORTED</u>	<u>PERMITTED</u>
12/31/07	001A	TSS (mo. avg. load)	1551 lb/d	1217 lb/d
12/31/07	001A	TSS (mo. avg. conc.)	27.5 mg/L	20 mg/L
12/31/07	001A	TSS (7-day avg. conc.)	40.3 mg/L	30 mg/L
01/31/08	001A	TSS (7-day avg. conc.)	32.4 mg/L	30 mg/L
02/29/08	001A	TSS (mo. avg. load)	1664 lb/d	1217 lb/d
02/29/08	001A	TSS (mo. avg. conc.)	28.9 mg/L	20 mg/L
02/29/08	001A	TSS (7-day avg. conc.)	33.9 mg/L	30 mg/L
03/31/08	001A	DO (inst. min.)	4.5 mg/L	6.0 mg/L
03/31/08	001A	TSS (mo. avg. load)	5170 lb/d	1217 lb/d
03/31/08	001A	TSS (mo. avg. conc.)	57.3 mg/L	20 mg/L
03/31/08	001A	TSS (7-day avg. conc.)	64.5 mg/L	30 mg/L
03/31/08	001A	FCB (7-day geo mean)	5998 col/100 ml	2000 col/100 ml
03/31/08	001A	CBOD5 (mo. avg. load)	1364 lb/d	913 lb/d
03/31/08	001A	CBOD5 (mo. avg. conc.)	15.1 mg/L	15 mg/L
04/30/08	001A	DO (inst. min.)	5.2 mg/L	6.0 mg/L
04/30/08	001A	TSS (mo. avg. load)	1670 lb/d	1217 lb/d
04/30/08	001A	TSS (mo. avg. conc.)	23.4 mg/L	20 mg/L
04/30/08	001A	TSS (7-day avg. conc.)	46.9 mg/L	30 mg/L
04/30/08	001A	TRC (inst. max.)	0.48 mg/L	0.1 mg/L
05/31/08	001A	TSS (mo. avg. load)	1150 lb/d	913 lb/d
05/31/08	001A	TSS (mo. avg. conc.)	21.7 mg/L	15 mg/L
05/31/08	001A	TSS (7-day avg. conc.)	28.7 mg/L	23 mg/L
05/31/08	001A	TRC (inst. max.)	0.41 mg/L	0.1 mg/L
05/31/08	001A	Copper (mo. avg. load)	0.58 lb/d	0.56 lb/d
05/31/08	001A	Copper (mo. avg. conc.)	11 µg/l	9.24 µg/l
06/30/08	001A	TRC (inst. max.)	0.62 mg/L	0.1 mg/L
06/30/08	001A	Copper (mo. avg. load)	2 lb/d	0.56 lb/d
06/30/08	001A	Copper (mo. avg. conc.)	39 µg/l	9.24 µg/l
06/30/08	001A	Copper (7-day avg. conc.)	39 µg/l	18.54 µg/l
07/31/08	001A	TRC (inst. max.)	0.34 mg/L	0.1 mg/L
07/31/08	001A	NO ₃ -N (mo. avg. conc.)	10.2 mg/L	10 mg/L
07/31/08	001A	Copper (mo. avg. load)	1 lb/d	0.56 lb/d
07/31/08	001A	Copper (mo. avg. conc.)	14 µg/l	9.24 µg/l
08/31/08	001A	TRC (inst. max.)	0.3 mg/L	0.1 mg/L
08/31/08	001A	NO ₃ -N (mo. avg. conc.)	10.9 mg/L	10 mg/L
09/30/08	001A	TRC (inst. max.)	0.41 mg/L	0.1 mg/L
10/31/08	001A	TRC (inst. max.)	0.43 mg/L	0.1 mg/L
10/31/08	001A	NO ₃ -N (mo. avg. conc.)	12.6 mg/L	10 mg/L
11/30/08	001A	TRC (inst. max.)	.45 mg/L	.1 mg/L
11/30/08	001A	NO ₃ -N (mo. avg. load)	643 lb/d	609 lb/d
11/30/08	001A	NO ₃ -N (7-day avg. conc.)	16.4 mg/L	10 mg/L
11/30/08	001A	NO ₃ -N (mo. avg. conc.)	20 mg/L	15 mg/L
12/31/08	001A	TSS (mo. avg. conc.)	21.8 mg/L	20 mg/L

<u>DATE</u>	<u>OUTFALL</u>	<u>PARAMETER</u>	<u>REPORTED</u>	<u>PERMITTED</u>
12/31/08	001A	NO ₃ -N (mo. avg. load)	668 lb/d	609 lb/d
12/31/08	001A	NO ₃ -N (mo. avg. conc.)	14.6 mg/L	10mg/L
12/31/08	001A	NO ₃ -N (7-day avg. conc.)	21.6 mg/L	15 mg/L
12/31/08	001A	TRC (inst. max.)	.52 mg/L	.1 mg/L
01/31/09	001A	TSS (mo. avg. conc.)	24 mg/L	20 mg/L
01/31/09	001A	TSS (7-day avg. conc.)	42.2 mg/L	30 mg/L
01/31/09	001A	TRC (inst. max.)	.39 mg/L	.1 mg/L
01/31/09	001A	NO ₃ -N (mo. avg. conc.)	11.9 mg/L	10 mg/L
02/28/09	001A	TSS (mo. avg. load)	1470 lb/d	1217 lb/d
02/28/09	001A	TSS (mo. avg. conc.)	28.9 mg/L	20 mg/L
02/28/09	001A	TRC (inst. max.)	.47 mg/L	.1 mg/L
02/28/09	001A	NO ₃ -N (mo. avg. conc.)	10.3 mg/L	10 mg/L
03/31/09	001A	TSS (mo. avg. load)	1764 lb/d	1217 lb/d
03/31/09	001A	TSS (mo. avg. conc.)	28.7 mg/L	20 mg/L
03/31/09	001A	TSS (7-day avg. conc.)	35 mg/L	30 mg/L
03/31/09	001A	TRC (inst. max.)	.49 mg/L	.1 mg/L
04/30/09	001A	TSS (mo. avg. load)	3124 lb/d	1217 lb/d
04/30/09	001A	TSS (mo. avg. conc.)	49.1 mg/L	20 mg/L
04/30/09	001A	TSS (7-day avg. conc.)	68.4 mg/L	30 mg/L
04/30/09	001A	TRC (inst. max.)	.52 mg/L	.1 mg/L
04/30/09	001A	Zinc (mo. avg. load)	6 lb/d	5.2 lb/d
04/30/09	001A	Zinc (mo. avg. conc.)	118.3 µg/l	86 µg/l
04/30/09	001A	Zinc (max. conc.)	190 µg/l	172 µg/l
04/30/09	001A	Copper (7-day avg. conc.)	71µg/l	18.54 µg/l
04/30/09	001A	Copper (mo. avg. load)	2 lb/d	.56 lb/d
04/30/09	001A	Copper (mo. avg. conc.)	37 µg/l	9.24 µg/l
05/31/09	001A	TSS (mo. avg. load)	2829 lb/d	913 lb/d
05/31/09	001A	TSS (mo. avg. conc.)	36.7 mg/L	15 mg/L
05/31/09	001A	TSS (7-day avg. conc.)	110.7 mg/L	23 mg/L
05/31/09	001A	TRC (inst. max.)	.5 mg/L	.1 mg/L
06/30/09	001A	TRC (inst. max.)	.4 mg/L	.1 mg/L
07/31/09	001A	Copper (mo. avg. load)	.59 lb/d	.56 lb/d
07/31/09	001A	Copper (mo. avg. conc.)	14.1 µg/l	9.24 µg/l
07/31/09	001A	TRC (inst. max.)	.34 mg/L	.1 mg/L
07/31/09	001A	NO ₃ -N (mo. avg. conc.)	12.1 mg/L	10 mg/L

3. The Permittee failed to submit noncompliance reports with its DMRs for January, July, August, September, and October of 2008 on or before the 25th day of the month following the monitoring period, in violation of Part II, Section D, Paragraph 7 of the Permit and Ark. Code Ann. §§8-4-216(a) and 8-4-217(a)(3).

4. On May 21, 2007, ADEQ and the U.S.E.P.A. conducted a joint routine compliance inspection of the Permittee's POTW in accordance with the provisions of the Federal Clean Water Act, the Arkansas Water and Air Pollution Control Act, and the regulations promulgated thereunder.

A. The inspection revealed the following violations:

- i) The totalizing meter at Outfall 001 was not reading within $\pm 10\%$ of the true discharge rate, in violation of Part II, Section C, Paragraph 2 of the Permit and Ark. Code Ann. §8-4-217(a)(3).
- ii) The Permittee was not conducting monitoring according to test procedures approved under 40 CFR 136, in violation of Part II, Section C, Paragraph 3 of the Permit and Ark. Code Ann. §8-4-217(a)(3), as follows:
 - (1) The facility's lab was not pre-distilling NH₃ samples prior to analysis.
 - (2) Reviewed bench sheets showed that BOD samples were dechlorinated but there was no verification that the dechlorination was complete.

B. In a letter dated June 28, 2007, the Permittee adequately responded to the findings of ADEQ's and the U.S.E.P.A.'s May 21, 2007 inspection.

5. The Permittee has significant problems in its sanitary sewer collection system with inflow and/or infiltration (I/I) that cause sanitary sewer overflows (SSOs) and peak flows well over 200% of the treatment plant's design flow of 7.3 million gallons per day (mgd). A review of the file reveals peak flows as high as 19.8 mgd in January 2007, 17.25 mgd in March 2008, and 18.88 mgd in May 2009. These high flows have contributed in large part to the SSOs the Permittee has experienced since April 2006. The Permittee has reported these SSOs to the Department, as required by the Permit. SSOs violate Ark. Code Ann. § 8-4-217(a)(2), which

makes it unlawful to “place or cause to be placed any sewage . . . or other wastes in a location where it is likely to cause pollution of any waters of this state.” ADEQ acknowledges the State of Arkansas has experienced two abnormally wet years. A list of the SSOs is attached to this CAO and by this reference incorporated herein.

6. The Permittee and ADEQ entered into CAO LIS 06-114, effective September 10, 2006.

A. That CAO addressed the Permittee’s significant problems with I/I and SSOs.

i) The CAO allowed the Permittee, until the corrective actions addressing SSOs were completed or July 31, 2009, whichever came first, to bypass, under certain conditions, its secondary treatment process with any wastewater that exceeds 6.5 mgd.

ii) As required by the CAO, the Permittee submitted a comprehensive plan for eliminating SSOs.

iii) Given the SSOs and continued high peak flows referred to in Paragraph 5 above, it is apparent the comprehensive plan described in Paragraph 6A(ii) above has not adequately addressed the Permittee’s problems with I/I.

B. CAO LIS 06-114 also addressed violations of the Permit, including, in part, forty-three effluent characteristics violations.

i) As required by the CAO, the Permittee submitted a comprehensive plan for achieving compliance with the Permit and eliminating effluent characteristics violations.

ii) Given the numerous effluent characteristics violations listed in Paragraph 2 above, it is apparent the comprehensive plan described in Paragraph 6B(i) above has not adequately addressed the wastewater treatment problems.

7. Part I, Section A of the Permit includes, in part, interim effluent limits for Nitrates (NO₃-N), effective, April 1, 2005 through March 31, 2008, that require the Permittee to monitor and report only. It also includes final limits, effective April 1, 2008 through March 31, 2010 as follows:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/L, unless otherwise specified)	
		Monthly Avg.	Monthly Avg.
Nitrates (NO ₃ -N)	609	10	15
Total Residual Chlorine (TRC)	N/A	0.1 (Inst. Max)	

8. The Permittee has failed to meet the Permit's final effluent limits for NO₃-N and TRC by April 1, 2008 as required by Part I, Section B of the Permit. The Permittee had planned and continues to plan to address these limits by permitting an outfall to the Arkansas River. The Permittee withdrew its permit to develop additional supporting information.

9. The Permittee has taken the following measures and actions to address the violations alleged by ADEQ:

- A. Replaced two hundred fifty-two (252) customer owned and maintained cleanout caps;
- B. Rehabilitated two hundred forty-four (244) manholes;
- C. Rehabilitated the Permittee's primary pump station, Prairie Creek, at a cost of \$560,199;
- D. Rehabilitated the 10th Street Sewer Basin utilizing pipe bursting/slip lining techniques at a cost of \$299,237;
- E. Completed construction of a thirteen million gallon equalization basin at the POTW at a cost of \$4,188,000;
- F. Installed a chemical feed system at the activated sludge process with includes dissolved oxygen (DO), pH, and total suspended solids (TSS) meters at the equalization basins and final clarifiers;

- G. Installed flow metering for the return activated sludge and waste sludge system with will help the Permittee to better control the operation of the activated sludge system process at a cost of \$963,453;
 - H. Replaced the headwork's screening at a cost of \$275,262;
 - I. Established a collection system I/I abatement field crew working full time in smoke testing and dye testing to identify leaking sewer mains and stormwater cross connections to the sanitary sewer system which enable the crew to repair leaking lines and stormwater cross connections as they are identified; and
 - J. Successfully petitioned the Russellville City Council to increase the sewer usage charges to provide sufficient system operation and maintenance funds, as well as to provide approximately \$1,000,000 annually for system improvements, repair, and replacements.
10. Without admitting or denying these Findings of Fact, the Permittee agrees to the following Order and Agreement in full settlement and compromise of the alleged violations as stated herein.

ORDER AND AGREEMENT

Therefore, the parties do hereby stipulate and agree that:

1. Within **thirty (30) days** of the effective date of this CAO, the Permittee shall submit for ADEQ approval a comprehensive Corrective Action Report ("**CAR**") which shall detail the steps the Permittee has taken to achieve full compliance with the terms of the Permit, to eliminate the violations cited in the Findings of Fact, and to prevent future violations.
2. If the Permittee determines that full compliance with the terms of the Permit and correction of the violations cited above in the Findings of Fact cannot be achieved within **thirty (30) days** of the effective date of this CAO, the Permittee shall submit for ADEQ approval a

comprehensive Corrective Action Plan (“CAP”) with a milestone schedule in lieu of the CAR required by Paragraph 1 above. The CAP shall detail the steps the Permittee shall take to achieve such full compliance, to correct the violations, and to prevent future violations. Upon approval by ADEQ, the CAP and milestone schedule shall be incorporated into this CAO by reference and shall be followed by the Permittee. Failure to comply with the schedule as approved by ADEQ shall be subject to the stipulated penalties contained in Paragraph 14 below.

3. Within **ten (10) days** of the effective date of this CAO, the Permittee through the services of an engineer licensed in the State of Arkansas shall develop and submit for ADEQ approval a CAP with a milestone schedule which shall detail the steps the Permittee shall take to expeditiously achieve full compliance with the Permit’s effluent limits for Total Suspended Solids (TSS) and Total Chlorine Residual (TRC) and to prevent future TSS and TRC violations (“CAP for TSS and TRC”). Upon approval by ADEQ, the CAP, including milestone schedule shall be incorporated into this CAO by reference and shall be followed by the Permittee. Failure to comply with the schedule as approved by ADEQ shall be subject to the stipulated penalties contained in Paragraph 14 below.

4. Within **eighteen (18) months** of the effective date of this CAO, with the overall goal of eliminating noncapacity and capacity related SSOs and bypasses, the Permittee through the services of an engineer licensed in the State of Arkansas shall develop and submit for ADEQ approval a Sewer System Evaluation Study (“SSES”) for its sanitary sewer collection system.

A. At minimum, the SSES shall:

- i) Estimate peak flows (including escaped SSO volumes);
- ii) Estimate the capacity of critical system components;

- iii) Identify hydraulic deficiencies, including components of the system with limiting capacity;
- iv) Establish short and long term capacity enhancements to address each hydraulic deficiency;
- v) Evaluate alternatives for corrective action; and
- vi) Prioritize corrective action.

B. The SSES shall include an **SSO Plan** with a milestone schedule which shall detail the steps the Permittee shall take to fully and expeditiously implement the corrective action.

- i) The SSO Plan shall include a **deadline** for the Permittee's achieving **compliance** with the proper maintenance and operation of the wastewater collection system as it applies to noncapacity related SSOs and bypasses (**dry weather overflows**).
- ii) The SSO Plan shall include a **deadline** for the Permittee's achieving **compliance** with the proper maintenance and operation of the wastewater collection system as it applies to capacity related SSOs and bypasses (**wet weather overflows**).

C. Upon approval by ADEQ, the SSES with SSO Plan and milestone schedule shall be incorporated into this CAO by reference and shall be followed by the Permittee. Failure to comply with the schedule as approved by ADEQ shall be subject to the stipulated penalties contained in Paragraph 14 below.

5. Within **thirty (30) days** of the effective date of this CAO, the Permittee shall identify all pumping stations that do not have **direct notification alarms and auxiliary power** and submit for ADEQ approval a milestone schedule for installing them. Upon approval by ADEQ, the milestone schedule shall be incorporated into this CAO by reference and shall be followed by the

Permittee. Failure to comply with the schedule as approved by ADEQ shall be subject to the stipulated penalties contained in Paragraph 14 below.

6. Within **sixty (60) days** of the effective date of this CAO, the Permittee shall establish, implement, and submit for ADEQ approval an **Overflow Response Plan** for the treatment works which shall:

- A. Identify the individual(s) responsible for making the appropriate reports (24-hour notification and monthly tabular reports) to ADEQ;
- B. Ensure that collection system overflows are identified and responded to in a timely manner;
- C. Establish written procedures for cleaning up after SSOs;
- D. Have provisions to notify the affected public of SSOs in parks and other public areas where access is not restricted and a reasonable potential exists for exposure to bacteria and other disease causing agents; and
- E. Have provisions to notify any affected permit holders including municipal separate stormwater sewer permit (MS4) holders.

7. Within **one (1) year** of the effective date of this CAO the Permittee shall establish and maintain a **minimum inventory of spare parts** necessary to make immediate repairs to the pump stations, wastewater lines, and manholes for the POTW. The Permittee will submit this inventory list to ADEQ upon completion of the inventory.

8. Within **ninety (90) days** of the effective date of this CAO, the Permittee shall employ the services of a professional engineer licensed in the State of Arkansas to develop a continuous Capacity, Management, Operation, and Maintenance Program (“**CMOM**”) for its sanitary sewer collection system. The CMOM shall include the following elements:

- A. The CMOM shall enable the Permittee to:
- i) Properly manage, operate, and maintain, at all times, all parts of the collection system the Permittee owns or over which it retains operational control;
 - ii) 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;
 - iii) Provide notification to parties with a reasonable potential for exposure to pollutants associated with an overflow event.
- B. The CMOM shall include a Statement of Major Goals consistent with Paragraph 8(A)(i-iii) above and a schedule for the implementation and achievement of the goals.
- C. The CMOM shall include documentation identifying the Permittee's authority to:
- i) Control private inflow sources;
 - ii) Require that sewers and connections be properly designed and constructed;
 - iii) Ensure proper installation, testing, and inspection of new and rehabilitated sewers (such collector sewers and service laterals);
 - iv) Address flows from satellite municipal collection systems; and
 - v) Implement the general and specific prohibitions of the national pretreatment program which the Permittee is subject to under 40 CFR § 403.5.
- D. The CMOM shall include a list which shall identify the management/administrative personnel responsible for implementing the CMOM program, including lines of authority by organizational chart or similar document. The list shall

also identify the individuals, or positions within its organization, responsible for the following elements:

- i) Lift station operation and maintenance;
- ii) Geographic Information System, a geo-based inventory of collection system assets and associated databases that supports system mapping and other utility operations;
- iii) Maintenance procedures that insure managers and supervisors are provided timely, relevant information from field personnel in order to establish and prioritize collections system activities (such as the elimination of dry weather overflows or overflows into sensitive waters based upon consideration of factors, including: public drinking water supplies and their source waters, swimming beaches and waters where swimming occurs, shellfish beds, designated Outstanding National Resource Waters, waters within federal, state or local parks, and water containing threatened or endangered species or their habitat);
- iv) Computerized Maintenance Management System, an asset information and work management software used to schedule and track all work performed on collection system, lift station, and wastewater treatment plant (WWTP) assets.
- v) Collection system preventive maintenance activities;
- vi) Assessment of the current capacity of the collection system and treatment facilities which the Permittee owns or over which it retains operational control;
- vii) Identification and prioritization of structural deficiencies and the short-term rehabilitation actions to address each deficiency;
- viii) Collection system employee training;

ix) Equipment and replacement parts inventories, including identification of critical replacements parts; and

x) Trap Control Program to abate the impact of fats, oil, and grease (FOG) on the collection system.

E. The CMOM shall establish requirements and standards for the installation of new sewers, pumps, and other appurtenances and rehabilitation and repair projects. The requirements and standards must include the specifications and procedures for testing the installation of new sewers, pumps, and other appurtenances, and for rehabilitation and repair projects.

F. The Permittee shall develop a written summary of the CMOM program. This summary shall be made available to any member of the public upon request.

G. The Permittee shall:

i) Submit to ADEQ on or before March 31st each year annual reports for the previous calendar year on the implementation of each element of its CMOM program and on measurement of the program's effectiveness.

ii) Update CMOM program elements based on monitoring or performance evaluations.

iii) Modify the summary of its CMOM program, as appropriate, to keep it updated and accurate.

9. Upon ADEQ's approval of the CAP for TSS and TRC described in Paragraph 3 of this Order and Agreement, and lasting until such time as the corrective actions required by that paragraph are completed or July 31, 2012, whichever comes first, the Permittee may **bypass** the

activated sludge treatment process with any wastewater that exceeds 6.5 million gallons a day (mgd) under the following conditions:

- A. The Permittee's flow equalization basin must be full and incapable of receiving any additional flows;
 - B. The Permittee shall notify ADEQ of the bypass within 24-hours (one working day) of beginning the bypass and will notify ADEQ no later than 24-hours (one working day) after bypassing has ceased;
 - C. The Permittee shall bypass only those waters that exceed 6.5 mgd. All other waters will be routed through the activated sludge treatment process;
 - D. All wastewater shall be routed through the disinfection process before being discharged;
 - E. The wastewater shall be sampled in accordance with the requirements of the Permit;
 - F. The Permittee shall submit to ADEQ a written follow-up report no later than five days after each bypass has been stopped;
 - G. The Permittee shall publish the five-day reports on the Permittee's website so that they are available for the public to review. These reports shall be published within one (1) week of submittal to the Department; and
 - H. The Director at any time for any reason may withdraw permission to bypass the secondary process or change any of the above conditions upon written notice to the Permittee.
10. Until the date of the deadline(s) set for compliance with effluent limits in the approved CAPs required by Paragraphs 2 and 3 of the Order and Agreement, the following **interim limits**

shall remain in effect. All other limits and monitoring frequencies shall be as stated in the Permit.

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		
	Mass (lbs/day, unless otherwise specified)	Concentration (mg/L, unless otherwise specified)	
		Monthly Avg.	Monthly Avg.
Nitrates (NO3-N)	919.3	15.1	20.4
Total Residual Chlorine (TRC)	N/A	0.55 (Inst. Max)	

11. Upon the effective date of this CAO, CAO LIS 06-114 shall be closed and superseded by this CAO.

12. In compromise and full settlement of the civil penalties for the violations specified in the Findings of Fact, the Permittee agrees to pay to ADEQ the total sum of **Nine Thousand Three Hundred Dollars (\$9,300)** as a voluntary civil penalty. Payment of the penalty shall be made within **thirty (30) days** of the effective date of this CAO, made payable to the Arkansas

Department of Environmental Quality and mailed to the attention of:

The Fiscal Division
 Arkansas Department of Environmental Quality
 5301 Northshore Drive
 North Little Rock, Arkansas 72118

13. All submittals required by this CAO are subject to approval by ADEQ. In the event of any deficiency, the Permittee shall within fifteen (15) days of notification by ADEQ submit any additional information requested. Failure to adequately respond to the notice of deficiency within fifteen (15) days constitutes a failure to meet a deadline and is subject to the civil penalties contained in Paragraph 14 below.

14. Failure to meet the requirements, effluent limits, or construction deadlines of this CAO or the approved schedules provided for herein constitutes a violation of the CAO. If the Permittee

should fail to meet any such requirements, effluent limits or deadlines, the Permittee consents and agrees to pay, on demand, to ADEQ civil penalties according to the following schedule:

- | | |
|---|------------------|
| (a) First day through the tenth day: | \$100.00 per day |
| (b) Eleventh day through the twentieth day: | \$200.00 per day |
| (c) Twenty-first day through thirtieth day: | \$300.00 per day |
| (d) Each day beyond the thirtieth day: | \$500.00 per day |

These stipulated penalties for delays in performance shall be in addition to any other remedies or sanctions which may be available to ADEQ by reason of the Permittee's failure to comply with the requirements of this CAO.

15. If any event, including but not limited to an act of nature, occurs which causes or may cause a delay in the achievement of compliance by the Permittee with the requirements or deadlines of this CAO, the Permittee shall so notify ADEQ, in writing, as soon as reasonably possible after it is apparent that a delay will result, but in no case after the due dates specified in the Permittee's milestone schedule. The notification shall describe in detail the anticipated length of the delay, the precise cause of the delay, the measures being taken and to be taken to minimize the delay, and the timetable by which those measures will be implemented.

16. ADEQ may grant an extension of any provision of this CAO, provided that the Permittee requests such an extension in writing and provided that the delay or anticipated delay has or will be caused by circumstances beyond the control of and without the fault of the Permittee. The time for performance may be extended for a reasonable period but in no event longer than the period of delay resulting from such circumstances. The burden of proving that any delay is caused by circumstances beyond the control of and without the fault of the Permittee and the length of the delay attributable to such circumstances shall rest with the Permittee. Failure to

notify ADEQ promptly, as provided in Paragraph 15 of this section, shall be grounds for a denial of an extension.

17. Nothing in this CAO shall constitute an admission of law or fact, nor evidence of any violation of law or regulations.

18. This CAO constitutes the entire agreement of the parties. All claims and disputes asserted by the parties hereto or capable of assertion in connection with the inspections, alleged violations, or the facts and circumstances related thereto shall be deemed merged into the terms and requirements of this CAO.

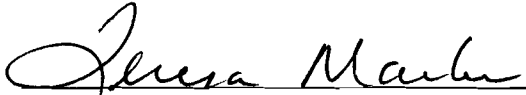
19. This CAO is subject to public review and comment in accordance with Ark. Code Ann. §8-4-103(d) and Arkansas Pollution Control and Ecology Commission Regulation No. 8 and shall not be effective until thirty (30) days after public notice is given. ADEQ retains the right to rescind this CAO based upon the comments received within the thirty-day public comment period. Notwithstanding the public notice requirements, the corrective actions necessary to achieve compliance with the terms of the Permit shall be taken immediately.

20. As provided by APC&EC Regulation No. 8, this matter is subject to being reopened upon Commission initiative or in the event a petition to set aside this CAO is granted by the Commission.

21. Nothing in this CAO shall be construed as a waiver by ADEQ of its enforcement authority over alleged violations not specifically addressed herein. Also, this CAO does not exonerate the

Permittee from any past, present, or future conduct which is not expressly addressed herein, nor does it relieve the Permittee of its responsibilities for obtaining any necessary permits.

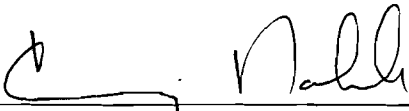
SO ORDERED THIS 6th DAY OF Nov., 2009.



Teresa Marks, Director

APPROVED AS TO FORM AND CONTENT:

Russellville City Corporation

BY: 

(Signature)
CRAIG NOBLE

(Typed or printed name)

TITLE: GENERAL MANAGER

(Typed or printed title)

DATE: November 3, 2009

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:

City Corporation
a/k/a Russellville City Corporation
a/k/a City Corporation - Russellville Water and Sewer System
P.O. Box 3186
Russellville, AR 72811

LIS No. 09-146-001

Permit No. AR0021768
AFIN 58-00105

AMENDED CONSENT ADMINISTRATIVE ORDER

By mutual agreement of City Corporation, a/k/a Russellville City Corporation, and a/k/a City Corporation - Russellville Water and Sewer System (hereinafter "Respondent") and the Arkansas Department of Environmental Quality (hereinafter "ADEQ" or "Department"), the Consent Administrative Order (hereinafter "CAO") LIS 09-146 is hereby amended as follows:

AMENDED FINDINGS OF FACT

1. Paragraph 9 of the Order and Agreement Section of CAO LIS 09-146 established July 31, 2012 as the date on which the Respondent was required to achieve compliance with Total Suspended Solids (hereinafter "TSS").
2. Since August 1, 2012, the Respondent reported violations of the permitted effluent limits for TSS for the months of February, March, and April, 2013.
3. On September 27, 2013, the Respondent submitted a letter to ADEQ requesting that CAO LIS 09-146 be amended to revise the compliance date for TSS to January 10, 2016 to coincide with the compliance date for Nitrates.

4. Additionally, from August 1, 2012 to September 30, 2013, the Respondent reported thirty-eight (38) violations of the permitted effluent limits as documented on the Discharge Monitoring Reports submitted by the Respondent for discharge 001A. The violations are as follows:

a. The Respondent reported four (4) violations of the permitted effluent limits for Carbonaceous Biochemical Oxygen Demand in violation of Part I, Section A of the Permit. This permit condition violation therefore violates Ark. Code Ann. § 8-4-217(a)(3).

b. The Respondent reported five (5) violations of the permitted effluent limits for Total Residual Chlorine in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

c. The Respondent reported one (1) violation of the permitted effluent limits for Fecal Coliform in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

d. The Respondent reported thirteen (13) violations of the permitted effluent limits for Total Recoverable Copper in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

e. The Respondent reported six (6) violations of the permitted effluent limits for Ammonia Nitrogen in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

f. The Respondent reported one (1) violation of the permitted effluent limits for Dissolved Oxygen in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

g. The Respondent reported eight (8) violations of the permitted effluent limits for TSS in violation of Part I, Section A of the Permit and therefore violated Ark. Code Ann. § 8-4-217(a)(3).

5. On May 28, 2013, ADEQ sent a warning letter to the Respondent which detailed the effluent violations reported by the Respondent from August 1, 2011 thru March 31, 2013. The Respondent submitted a response letter to ADEQ on June 4, 2013.

AMENDED ORDER AND AGREEMENT

1. Except as specifically set out herein, all other provisions of CAO LIS 09-146 shall remain in full force and effect.

2. The Respondent shall achieve compliance with the permitted effluent limits for TSS and Nitrates on or before January 10, 2016. The Respondent shall submit a report certifying that compliance with permitted effluent limits has been achieved. The report shall be submitted on or before January 10, 2016.

3. On or before the effective date of this Amended CAO, the Respondent shall achieve compliance with all other permitted effluent limits.

4. On or before May 1, 2017, the Respondent shall submit Sanitary Sewer Evaluation Survey reports for each sub-basin.

5. On or before March 31, 2022, the Respondent shall complete collection system remedial action and re-evaluate the collection system.

6. The Respondent shall immediately operate and maintain the existing treatment system so as to maximize the treatment capability of the system to comply with the effluent limitations found in Part I, Section A of NPDES Permit No. AR0021768.

7. In compromise and full settlement for the violations specified in the Amended Findings of Fact, the Respondent agrees to pay to ADEQ the sum of Twenty Thousand Dollars (\$20,000.00) as a reduced civil penalty. Payment of the penalty shall be made within thirty (30) days of the effective date of this Amended CAO, made payable to the Arkansas Department of Environmental Quality, and mailed to the attention of:

The Fiscal Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

The reduced civil penalty is contingent upon Respondent complying with the requirements of Paragraphs 2 and 3 in the Amended Order and Agreement Section of this Amended CAO. In the event Respondent fails to fully comply with the requirements of Paragraphs 2 and 3 of the Amended Order and Agreement Section of this Amended CAO, or fails to pay the reduced sum of Twenty Thousand Dollars (\$20,000.00), the civil penalty amount will revert back to the original amount of Thirty Thousand Dollars (\$30,000.00), the balance of which will be due and payable immediately to ADEQ. In the event that the Respondent fails to pay the civil penalty within the prescribed time, ADEQ shall be entitled to attorney's fees and costs of collection.

8. This Amended CAO is subject to public review and comment in accordance with Ark. Code Ann. § 8-4-103(d) and Arkansas Pollution Control and Ecology Commission (hereinafter "APC&EC" or "Commission") Regulation No. 8 and shall not be effective until thirty (30) calendar days after public notice is given. ADEQ retains the right to rescind this Amended CAO based upon the comments received within the thirty-day public comment period. Notwithstanding the public notice requirements, the corrective actions necessary to achieve compliance shall be taken immediately. The publication of this Amended CAO shall occur on or about the 10th or 25th day of the month following the date this Amended CAO is executed. As provided by APC&EC Regulation No. 8, this matter is subject to being reopened upon Commission initiative or in the event a petition to set aside this Amended CAO is granted by the Commission.

9. Nothing in this Amended CAO shall be construed as a waiver by ADEQ of its enforcement authority over alleged violations not specifically addressed herein. Also, this Amended CAO does not exonerate the Respondent from any past, present, or future conduct which is not expressly addressed herein, nor does it relieve the Respondent of its responsibilities for obtaining any necessary permits.

10. By virtue of the signature appearing below, the individual represents that he or she is an Officer of Respondent, being duly authorized to execute and bind Respondent to the terms contained herein as attested by the secretary of said entity. Execution of this Amended CAO by an individual other than an Officer of Respondent shall be accompanied by a resolution granting signature authority to said individual as duly ratified by the governing body of the entity.

SO ORDERED THIS 2nd DAY OF June, 2014.

Teresa Marks
TERESA MARKS, DIRECTOR

APPROVED AS TO FORM AND CONTENT:

CITY CORPORATION
RUSSELLVILLE WATER AND SEWER SYSTEM

BY: *[Signature]*
(Signature)

STEVE MALLET, JR.
(Typed or printed name)

TITLE: GENERAL MANAGER

DATE: 5-21-14

CITY CORPORATION
RUSSELLVILLE, ARKANSAS

CITY CORPORATION WASTEWATER TREATMENT PLANT

CAO LIS No. 09-146

AFIN 58-00105

NPDES Permit No. AR0021768

COMPREHENSIVE CORRECTIVE ACTION PLAN

Prepared for: The Arkansas Department of Environmental Quality
21 January 2010

Revision 1 – Incorporating ADEQ Comments
9 April 2010

Revision 2 – Incorporating Additional ADEQ Comments
17 May 2010

Revision 3 - Table Revised
28 May 2010

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

CRAIG NOBLE, General Manager
CITY CORPORATION

1. General

This Comprehensive Corrective Action Plan (CAP) is intended to address paragraph Two (2.) of the Order and Agreement section of the Consent Administrative Order LIS No. 09-146.

2. City Corporation Wastewater Plant Inspection Deficiencies noted by ADEQ

As noted in the Findings of Fact within the CAO, City Corporation took actions to correct the deficiencies identified in the May 21, 2007, ADEQ and U.S.E.P.A. inspection. City Corporation adequately responded to the findings of that inspection with a letter to ADEQ dated June 28, 2007.

3. NPDES Permit Violations

3.1. Nature of Violations: One hundred and two (102) NPDES Permit violations are noted in the CAO beginning on 04/30/06 through 07/31/09. These violations include the following:

- Eight (8) CBOD₅.
- Forty two (42) TSS.
- One (1) Fecal Coliform Bacteria.
- Four (4) Dissolved Oxygen
- One (1) pH
- Sixteen (16) Total Residual Chlorine
- Twelve (12) Copper
- Six (6) Zinc, and
- Twelve (12) NO₃-N

3.2. Causes and Corrective Actions:

3.2.1. TSS and CBOD₅ Violations – The CBOD₅ and TSS violations are the direct result of surge flows into the City Corporation Pollution Control Works (PCW) during and following rainfall events. These surges are due to infiltration/inflow of storm waters into the City Corporation sanitary sewage collection system. In a previous corrective action plan City Corporation reported to ADEQ that it had an additional equalization basin under construction which will increase its ability to store in excess of 12 million gallons more of peak wet weather flows. It was hoped (and

expected) that would bring the total storage capacity available at the PCW to a level that would make wet weather surge flows manageable. That basin construction has been completed and the over \$4 Million unit has been in service for some time. Even with a total storage of peak wet weather flows of approximately 20 million gallons available at the PCW, there continues to be storm events which overwhelm the storage available and cause the PCW flows to surge above acceptable levels.

In a separate Corrective Action Plan submitted to ADEQ for approval, City Corporation outlined a plan to evaluate treatment technology which, when proven during a pilot study, will be installed to provide final filtration of the PCW effluent in order to bring the facility into compliance with its NPDES TSS limits. City Corporation has begun that effort as outlined.

It should be noted that each of the CBOD₅ violations noted in the CAO occurred during a month of excessive TSS discharge. That would seem to indicate that the CBOD₅ violations are due to particulate CBOD₅ rather than dissolved CBOD₅. Therefore it is anticipated that the final effluent filtration discussed above for TSS removal will also correct the CBOD₅ violations.

- 3.2.2. Fecal Coliform Bacteria and Dissolved Oxygen – These five (5) violations occurred during times of excessive TSS discharge. With the increased strength of discharge during these times the DO was consumed and the solids provided a shielding effect that caused the fecal coliform bacteria violations. With the implementation of new treatment technologies for TSS treatment as outlined above City Corporation believes the PCW will be in material compliance with permit limits for fecal coliform and dissolved oxygen.
- 3.2.3. pH – The pH violation noted in the CAO is one of failure to report. This occurred by oversight, and is not anticipated to happen again. However, pH control at the PCW is of concern in that the pH tends to be depressed beyond acceptable levels from time to time. This occurs generally when the plant is operating in a heavy nitrifying condition converting ammonia nitrogen to nitrates. This biological activity utilizes alkalinity in the incoming wastewater, thus depressing the pH. The Plant Staff has been accustomed to feeding lime by hand during such plant conditions to avoid effluent pH problems. City Corporation has recently completed construction of a bulk storage tank and automatic feeding equipment for lime at a cost of approximately \$800,000.00. The lime is fed at the influent to the activated sludge facilities where the nitrification is taking place. The control of the lime feed is automated to maintain pH levels in the activated sludge aeration basins. This system will help insure that plant effluent pH excursions do not happen.
- 3.2.4. TRC – Control of the chlorine dosage required to properly disinfect the PCW effluent and thus meet NPDES FCB limits is counterproductive to being able to meet a <0.1 mg/l total residual chlorine limit in the plant effluent. Typically when chlorine is used for disinfection, dechlorination is required to meet the TRC limit. ADEQ has provided an interim limit in the CAO for TRC of <0.55 mg/l. City

Corporation believes that it will be able to comply with such an interim limit. However, as mentioned in 3.2.1 above, City Corporation is evaluating, with the intent to construct, final effluent polishing for TSS and CBOD₅ control. As an insurance measure, City Corporation intends to include dechlorination facilities as outlined in the TSS/TRC CAP as submitted to ADEQ.

3.2.5. Copper and Zinc –

City Corporation is making a concerted effort at copper and zinc control. The PCW does not contain any treatment processes designed for copper or zinc removal. City Corporation has performed significant testing within its potable water treatment and distribution system. Based on those test results, City Corporation has concluded that the copper and zinc are entering the wastewater flow from leaching action in the water distribution system. The tests indicate these metals are coming from the residential customers of City Corporation, not commercial or industrial customers. The City Corporation raw and finished water to and from its water treatment plant have very low alkalinity. Low alkalinity waters are quite aggressive at low pH. As such, City Corporation has already implemented steps at its Water Treatment Plant to raise the finished water pH to make the water less corrosive. This adjustment will be monitored and evaluated as to effectiveness over time. It may be that further changes will be required in the chemical feed practices at the Water Plant such as further adjustment of the finished water target pH, feeding chemical(s) to increase finished water alkalinity, and/or changing types and/or increasing the feed rate of sequestering agents to prevent leaching of these metals from the pipe system. City Corporation will make such adjustments as may be required, and monitor the results as to effectiveness.

3.2.6. Nitrate (NO₃-N) – ADEQ has provided interim limits of 919.3 lb/day, 15.1 mg/l, and 20.4 mg/l (mass, monthly average, and 7-day average, respectively). Based on these interim limits, the twelve (12) NO₃-N violations noted in the CAO would be reduced to two (2) – one (1) 30 day average violation at 16.4 mg/l versus 15.1 mg/l interim limit and one (1) 7-day average at 21.6 mg/l versus 20.4 mg/l interim limit. City Corporation believes the PCW will be in material compliance with the interim limits.

City Corporation will evaluate our existing treatment processes to enhance ammonia and nitrate removal with alternative operational procedures which may result in a reduction of the nitrate nitrogen in the plant effluent. Operational modifications intended for evaluation include, but are not limited to, reduction in air flow delivered to the activated sludge aeration basins by cycling blowers and/or venting portions of the blower discharge periodically; operation of the effluent end of the aeration basins as an anoxic zone; and varying recycle rates around fixed film reactors.

City Corporation will submit an operations modification evaluation program to ADEQ for review and approval by September 1, 2010. City Corporation will

immediately proceed with easily implementable operational changes deemed to have potential of impacting ammonia and nitrate removal. The implementation and testing of potential solutions will proceed from the present through not later than December 31, 2012, to allow evaluation of the effectiveness of the modifications through seasonal changes in wastewater characteristics. If the testing indicates there are no effective means available within the current plant facilities to comply with these parameters, City Corporation will begin by December 31, 2012, the design, bidding, and construction of facilities that will bring their discharge into compliance not later than January 10, 2016. City Corporation will provide ADEQ quarterly progress reports beginning January 10, 2011, as this work proceeds.

4. SSES

As discussed above and in the CAO, City Corporation has made considerable effort and expended significant funds in constructing facilities to manage peak wet weather flows from its collection system. Also as noted, there continue to be instances of NPDES permit violations and overflow from the collection system directly attributable to extreme rainfall events. All overflows will be addressed according to the overflow response plan submitted to ADEQ. As with any wastewater system, the collection system cannot be economically designed to carry all rainfall events. City Corporation will implement a two-year storm event as the basis for hydraulic design in the system. As a result, City Corporation will design all sewer improvements to handle a minimum of a two-year event. Therefore, City Corporation shall evaluate, monitor, and address all overflows resulting from a rainfall event equal to a two-year storm or less. Any overflows occurring as a result of rainfall greater than the two-year storm will be monitored, cleaned, and reported according to City Corporations Overflow Response Plan, but no corrective action will be necessary.

City Corporation intends to proceed with the corrective actions described in the paragraphs below.

4.1. Sanitary Sewer Evaluation Survey (SSES) - Phase I – City Corporation will solicit statements of qualifications, select and enter into a contract with an Engineer licensed in the State of Arkansas to develop and submit for ADEQ approval a System Evaluation and Capacity Assurance Plan (SECAP). The statement of qualifications will be received by City Corporation within 30 days of the approval of this Corrective Action Plan by ADEQ. City Corporation will select an Engineer, execute an agreement for services, and issue the notice to proceed to the Engineer within 30 days of the Engineer's selection. The SECAP will as a minimum include:

4.1.1. The Engineer will obtain City Corporation records on its sewage collection system and will identify drainage sub-basins. (Note –This work is already completed and 27 sub-basins were identified).

4.1.2. Flow monitoring equipment will be installed in each system sub-basin in order to measure and record wet weather and dry weather flows. Using this information, the

Engineer will identify and rank from maximum to minimum each sub-basin's contribution of infiltration and inflow (I/I) to the system. From this ranking, the Engineer will prioritize the sub-basins with excessive I/I. (Note – The flow meters have been installed in 27 distinct sub-basins.)

- 4.1.3. Concurrent with the flow monitoring, the Engineer will update the system maps for all lines 10-inch in diameter and larger. All manholes on these lines will be GPS surveyed to ensure accuracy and each manhole will be inspected for signs of I/I and structural soundness. As a result of the survey information, a hydraulic model network will be 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.
- 4.1.4. As part of the SSES – Phase I, the Engineer will review operating data for each of City Corporation's pump stations to determine normal operating conditions and pumping records following rainfall events, estimate peak flows (including escaped SSO volumes, if any), estimate the capacity of critical system components, identify hydraulic deficiencies (if possible) including components of the system with limiting capacity, evaluate preliminary short and long term capacity enhancements to address each hydraulic deficiency identified, make preliminary evaluation of alternatives for corrective action, and prioritize corrective action.
- 4.1.5. Based on information collected and analyzed in the SSES – Phase I, the Engineer will prepare recommendations for capacity improvements in the system, necessary improvements to the collection system lift stations, and a milestone schedule for the completion of a Sanitary Sewer Evaluation Survey (SSES) – Phase II. City Corporation will require that the Engineer complete the SSES – Phase I portion of the work within the timeframe identified in the Table of Major Actions and Events found at the conclusion of this document. The submittal of the Phase I report by the 18 month deadline will satisfy the requirements for completion of an SSES by City Corporation in regards to the Consent Administrative Order (CAO LIS No. 09-146). As a result of the Phase I report, an SSO Plan with milestone schedule will be developed for all SSES Phase II activities. The remedial action and construction measures resulting from these activities will be included in the milestone schedule.
- 4.1.6. City Corporation will submit to ADEQ the following items at the completion of Phase I:
 - 4.1.6.1. SECAP report detailing necessary capacity improvements, prioritizing sub-basins by I/I contribution, and recommended improvements to the collection system lift stations
 - 4.1.6.2. Milestone Schedule for the completion of SSES Phase II portion of the Corrective Action Plan (CAP) and estimated schedule for the construction of the recommended corrective actions.

- 4.2. SSES – Phase II – The report produced from the SSES – Phase I will identify the priority basins in the collection system which contribute a significant amount of infiltration and inflow (I/I) to the system. These basins will be ranked and prioritized according to the amount of I/I contribution. A milestone schedule detailing the completion of the SSES – Phase II will be developed from the report. Upon approval by ADEQ, the SSES milestone schedule will be incorporated into the CAO by reference. 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 and flow monitoring. The following field activities will be part of the Phase II investigations: manhole inspections, additional flow monitoring, smoke testing, dyed water flooding, cleaning, and television inspection. Phase II will be a multi-year effort of extensive field investigation and the length of this portion of the plan will be dependent on the results of the Phase I studies and the number of high priority basins identified.

A detailed report for each sub-basin studied will be developed by the engineer at the conclusion of the Phase II activities. The report for each sub-basin will include a capital improvement plan. The capital improvement plan will give a detailed description of cost effective improvements recommended for each sub-basin. This plan will identify rehabilitation needs and capacity improvements, and provide a staged priority schedule with associated budget costs. The sub-basin report will also include a narrative description of the hydraulic analysis and field investigations. As stated above, City Corporation would like to clarify that the SSES – Phase II will be a multi-year effort of intense field investigation dependent on the severity of the flow monitoring results in SSES – Phase I. The completion of the SSES – Phase II studies and reporting will be in accordance with the milestone schedule submitted to ADEQ for approval at the completion of Phase I.

- 4.3. Dry Weather Overflows - City Corporation is not aware of any “chronic” overflow areas in its wastewater collection system caused by capacity limitations in transporting dry weather flows. As with any system, City Corporation does experience dry weather overflows on occasion. Essentially all of the dry weather overflows have been caused by blockage in the lines from root intrusion or materials/objects inappropriately discharged into the sewer system. Correction of these type occurrences is reactive and City Corporation dispatches a crew immediately as required to clear the blockage. City Corporation has developed an Overflow Response Plan to direct and guide the utility in responding to overflow situations. City Corporation will continue to monitor the collection system and react in a timely manner to all dry weather overflows. Additionally, City Corporation is currently developing a Capacity, Management, Operation, and Maintenance (CMOM) program for the sanitary sewer system. The program addresses ways in which City Corp will become more proactive in managing the collection system. City Corporation is currently developing a grease trap program and working to reduce the impact of fats, oils, and grease (FOG) on the system. Routine maintenance schedules are being developed for problem areas around the city. City Corporation is increasing its efforts to actively monitor the system, which will also help reduce the possibility of dry weather stoppages and overflows. Also, as City

Corporation continues to correct wet weather overflows, the system as a whole will improve and positively impact the number of occurrences of dry weather overflows.

5. Capacity, Management, Operation, and Maintenance Program

In accordance with the provision in the CAO, City Corporation will employ the services of a professional engineer licensed in the State of Arkansas to supervise City Corporation Staff in the development of a continuous Capacity, Management, Operation, and Maintenance Program (CMOM) for its wastewater collection system. The CMOM shall include the following elements:

- The CMOM shall enable City Corporation to properly manage, operate, and maintain, at all times, all parts of the collection system City Corporation 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 City Corporation 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 City Corporation; and, provide notification to parties with a reasonable potential for exposure to pollutants associated with an overflow event.
- The CMOM shall include a Statement of Major Goals consistent with the bullet next above and a schedule for the implementation and achievement of the goals.
- The CMOM shall include documentation identifying City Corporation's authority to control private inflow sources; require that sewers and connections be properly designed and constructed; ensure proper installation, testing, and inspection of new and rehabilitated sewers (such collector sewers and service laterals); address flows from satellite municipal collection systems; and implement the general and specific prohibitions of the national pretreatment program which City Corporation is subject to under 40 CFR § 403.5.
- The CMOM shall include a list which shall identify the management/administrative personnel responsible for implementing the CMOM program, including lines of authority by organizational chart or similar document. The list shall also identify the individuals, or positions within its organization, responsible for the following elements:
 - Lift station operation and maintenance
 - Geographic Information System, a geo-based inventory of collection system assets and associated databases that supports system mapping and other utility operations;
 - Maintenance procedures that insure managers and supervisors are provided timely, relevant information from field personnel in order to establish and prioritize collections system activities (such as the elimination of dry weather overflows or overflows into sensitive waters based upon consideration of factors,

including: public drinking water supplies and their source waters, swimming beaches and waters where swimming occurs, shellfish beds, designated Outstanding National Resource Waters, waters within federal, state or local parks, and water containing threatened or endangered species or their habitat);

- Computerized Maintenance Management System, an asset information and work management software used to schedule and track all work performed on collection system, lift station, and wastewater treatment plant (WWTP) assets.
 - Collection system preventive maintenance activities;
 - Assessment of the current capacity of the collection system and treatment facilities which City Corporation owns or over which it retains operational control;
 - Identification and prioritization of structural deficiencies and the short-term rehabilitation actions to address each deficiency;
 - Collection system employee training;
 - Equipment and replacement parts inventories, including identification of critical replacements parts; and,
 - Trap Control Program to abate the impact of fats, oil, and grease (FOG) on the collection system.
- The CMOM shall establish requirements and standards for the installation of new sewers, pumps, and other appurtenances and rehabilitation and repair projects. The requirements and standards must include the specifications and procedures for testing the installation of new sewers, pumps, and other appurtenances, and for rehabilitation and repair projects.
 - City Corporation shall develop a written summary of the CMOM program. This summary shall be made available to any member of the public upon request.
 - City Corporation shall:
 - Submit to ADEQ on or before March 31st each year annual reports for the previous calendar year on the implementation of each element of its CMOM program and on measurement of the program's effectiveness.
 - Update CMOM program elements based on monitoring or performance evaluations.
 - Modify the summary of its CMOM program, as appropriate, to keep it updated and accurate.

6. Treatment Plant Operations

Upon ADEQ's approval of the CAP for TSS described in Paragraph 3 of the Order and Agreement, and lasting until such time as the corrective actions required by that paragraph are completed or July 31, 2012, whichever comes first, City Corporation will implement operational procedures providing for bypass of the activated sludge treatment process with any wastewater that exceeds 6.5 million gallons a day (mgd) under the following conditions:

- City Corporation's PCW flow equalization basin must be full and/or incapable of receiving any additional flows;
- City Corporation shall notify ADEQ of the bypass within 24-hours (one working day) of beginning the bypass and will notify ADEQ no later than 24-hours (one working day) after bypassing has ceased;
- City Corporation shall bypass only those waters that exceed 6.5 mgd. All other waters will be routed through the activated sludge treatment process;
- All wastewater shall be routed through the disinfection process before being discharged;
- The wastewater shall be sampled in accordance with the requirements of the Permit;
- City Corporation shall submit to ADEQ a written follow-up report no later than five days after each bypass has been stopped;
- City Corporation shall publish the five-day reports on City Corporation's web site so that they are available for the public to review. These reports shall be published within one (1) week of submittal to the Department; and
- The Director at any time for any reason may withdraw permission to bypass the secondary process or change any of the above conditions upon written notice to City Corporation.

7. Timetable

Following is a timetable of major activities to be undertaken by City Corporation in this effort. The table also shows a projected date for attainment of permit compliance, allowing time after expected completion of construction to provide for potential delays in completion of that work and for start-up of the new facilities.

Table of Major Actions and Events
Revised May 28, 2010
City Corporation Wastewater Treatment Plant
Russellville, Arkansas
NPDES Permit No. AR0021768

Date	Event
December 25, 2009	Effective date of the CAO
January 4, 2010	Submission of Corrective Action Plan for TSS/TRC (TSS/TRC CAP)
January 10, 2010	Solicit qualifications for Engineering Services for SSES Phase I
January 10, 2010	Solicit qualifications for Engineering Services for program management and CMOM preparation
February 15, 2010	ADEQ Approval of TSS/TRC CAP
March 25, 2010	Select Engineer for program management and CMOM preparation, execute agreement, and issue Notice to Proceed
March 31, 2010	Select Engineer for SSES Phase I, execute agreement, issue Notice to Proceed
July 2010	Status Report with Environmental Protection Agency via Conference Call
September 1, 2010	Submission of Operations Modification Evaluation Program to address Nitrate removal to ADEQ
January 10, 2011	First quarterly progress report on operations modifications program for Nitrate removal
February 25, 2011	Complete SSES Phase I report, develop Milestone Schedule for SSES Phase II, and submit to ADEQ for approval
March 31, 2011	First annual report on implementation of CMOM
April 8, 2011	Quarterly progress report on operations modifications program for Nitrate removal

May 1, 2011	ADEQ Approval of SSES Phase I Report and Milestone Schedule for SSES Phase II
July 8, 2011	Quarterly progress report on operations modifications program for Nitrate removal
October 7, 2011	Quarterly progress report on operations modifications program for Nitrate removal
January 13, 2012	Quarterly progress report on operations modifications program for Nitrate removal
March 2012	Begin Collection System Remedial Action
April 6, 2012	Quarterly progress report on operations modifications program for Nitrate removal
July 6, 2012	Quarterly progress report on operations modifications program for Nitrate removal
July 31, 2012	Complete pilot study of disc filter, prepare construction plans and specifications, advertise for bids, award construction contract, complete construction and place facility into service, modify PCW operating procedure to prohibit bypass of activated sludge facilities.
October 5, 2012	Quarterly progress report on operations modifications program for Nitrate removal
December 31, 2012	Final Report on Successful Operations Modifications Program for Nitrate Removal Or, (if Operational Modifications are unsuccessful) Begin design, bidding, and construction of facilities to address nitrate and ammonia removal
January 10, 2016	Final Compliance date for Nitrate
* May 1, 2017 (See Note Below)	Complete SSES Phase II reports for each sub-basin
March 2022	Complete collection system remedial action and re-evaluate system
*Note – City Corporation Sewer System is divided into 30 sub-basins. This date is assuming that City Corporation will have to complete a detailed SSES of every sub-basin in the system.	

CITY CORPORATION
RUSSELLVILLE, ARKANSAS

CITY CORPORATION WASTEWATER TREATMENT PLANT

CAO LIS No. 09-146 AFIN 58-00105

NPDES Permit No. AR0021768

CORRECTIVE ACTION PLAN for TSS & TRC VIOLATIONS

Prepared for: The Arkansas Department of Environmental Quality

December 23, 2009

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

CRAIG NOBLE, General Manager

CITY CORPORATION

I. General

This Corrective Action Plan (CAP) has been prepared by Garver LLC on behalf of City Corporation, Russellville, AR, in order to address the planned solutions for the Russellville 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. TSS and TRC violations have occurred at the PCW over the past few years. This CAP outlines the proposed improvements to address these violations and proposes an implementation schedule for the said improvements.

II. Proposed Improvements

A. Plant Polishing Step

The proposed improvements involve the installation of a plant polishing treatment unit within the existing PCW process train. A disc-filter system is proposed for evaluation to provide solids removal to a final effluent average concentration of ≤ 15 mg/L TSS. The polishing step would be installed at the end of the process train, just prior to chlorination. A hydraulic profile is included in Appendix A, which shows the intended location of the disc-filter units within the process train. The proposed use of the disc-filter system as a plant polishing step may be modified depending upon the pilot plant data. It may be that the unit would serve more effectively as a wet weather by-pass treatment unit and be used to only treat flows above 6.5 mgd that by-pass the activated sludge treatment step. However, preliminary cost figures indicate that the filter equipment necessary to polish the total plant flow is only slightly more expensive than equipment sized to treat only the flow which by-passes the activated sludge system. Filtering of total plant flow versus filtering of only the flow by-passing the activated sludge facilities will be evaluated during the piloting of the proposed filters (discussed below) and during the final design effort.

B. Kruger Hydrotech Disc-filters

The proposed disc-filter equipment is equal to that manufactured by Kruger Hydrotech a division of Veolia Water. The system is composed of three (3) units of model HSF2220-1F to treat a peak flow of 20 mgd and an average flow of 5.7 mgd. The aforementioned effluent concentration of 15 mg/L TSS, or less, is targeted with this design. The units are equipped with automatic backwash and maintain continuous filtration even during a backwash cycle. The units will be furnished with woven polyester disc-filter media with a pore size of 10 μm . The

peak hydraulic loading will remain below 6 gpm/sf, for expected peak flows up to 20 mgd.

C. Pilot Testing

In order to validate and refine the proposed design, a pilot testing study of the proposed equipment is needed. The study results will be used to validate the intended design and refine the equipment parameters, such as filter pore size, design loading rates, potential need for additional coagulation/filtration step, etc..

D. Total Residual Chlorine

Control of the chlorine dosage required to properly disinfect the PCW effluent and thus meet NPDES FCB limits is counterproductive to being able to meet a <0.1 mg/l total residual chlorine limit in the plant effluent. Typically when chlorine is used for disinfection, dechlorination is required to meet the TRC limit. In the past it was anticipated that once the discharge point was moved to the Arkansas River, the PCW effluent would be dechlorinated naturally during the flow time in the outfall, therefore, no dechlorination facilities have been constructed to date. In order to meet the permitted limit of 0.1 mg/L, the installation of a sulfur dioxide feeder is now planned for dechlorination. Gaseous sulfur dioxide will be fed and mixed at the plant effluent prior to the effluent entering the outfall pipe. ADEQ has provided an interim limit in the CAO for TRC of <0.55 mg/l until such time as the dechlorination facilities can be completed. City Corporation believes that it will be able to comply with such an interim limit. The proposed dechlorination facility construction will be a part of the contract for installing the proposed disc-filters as outlined above.

III. Implementation Schedule

Milestone	Time (Days)	Cumulative Time (Days)	Date
CAO Effective Date	0	0	12/25/09
Submittal of CAP for TSS & TRC	10	10	1/04/10
Approval of CAP for TSS & TRC	30	40	2/03/10
Execution of Disc-Filter Pilot Agreement	30	70	3/05/10
Receive Pilot Equipment at PCW	60	130	5/04/10
Install Pilot Equipment and Complete Tests **	30	160	6/03/10
Prepare Construction Plans & Specifications	120	280	10/01/10
Regulatory Agency Review	30	310	11/01/10

Advertise, Bid, & Award Contract	60	370	1/02/11
Complete Construction	270	640	10/03/11
Place Units in Service			10/03/11
Attain TSS & TRC Compliance		not later than 7/31/12	

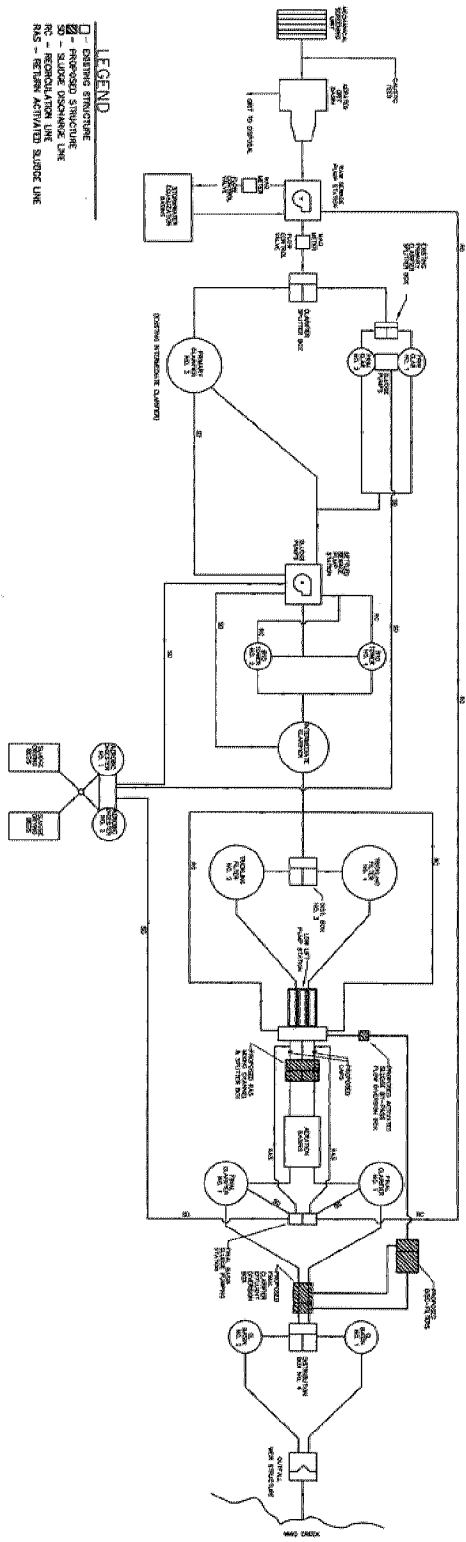
** In the event that the pilot test proves the filters to be ineffective, owner will research other treatment technologies and submit to ADEQ for a revision in this schedule.


The implementation schedule above assumes an effective date for the CAO of December 25, 2009 and is based on reasonable estimates of the time involved for each stage. A large portion of the construction phase will involve the shop drawing review and equipment delivery stages. A conservative estimate for the time involved in the shop drawing/equipment delivery period of the construction phase is 28 weeks (7 months).

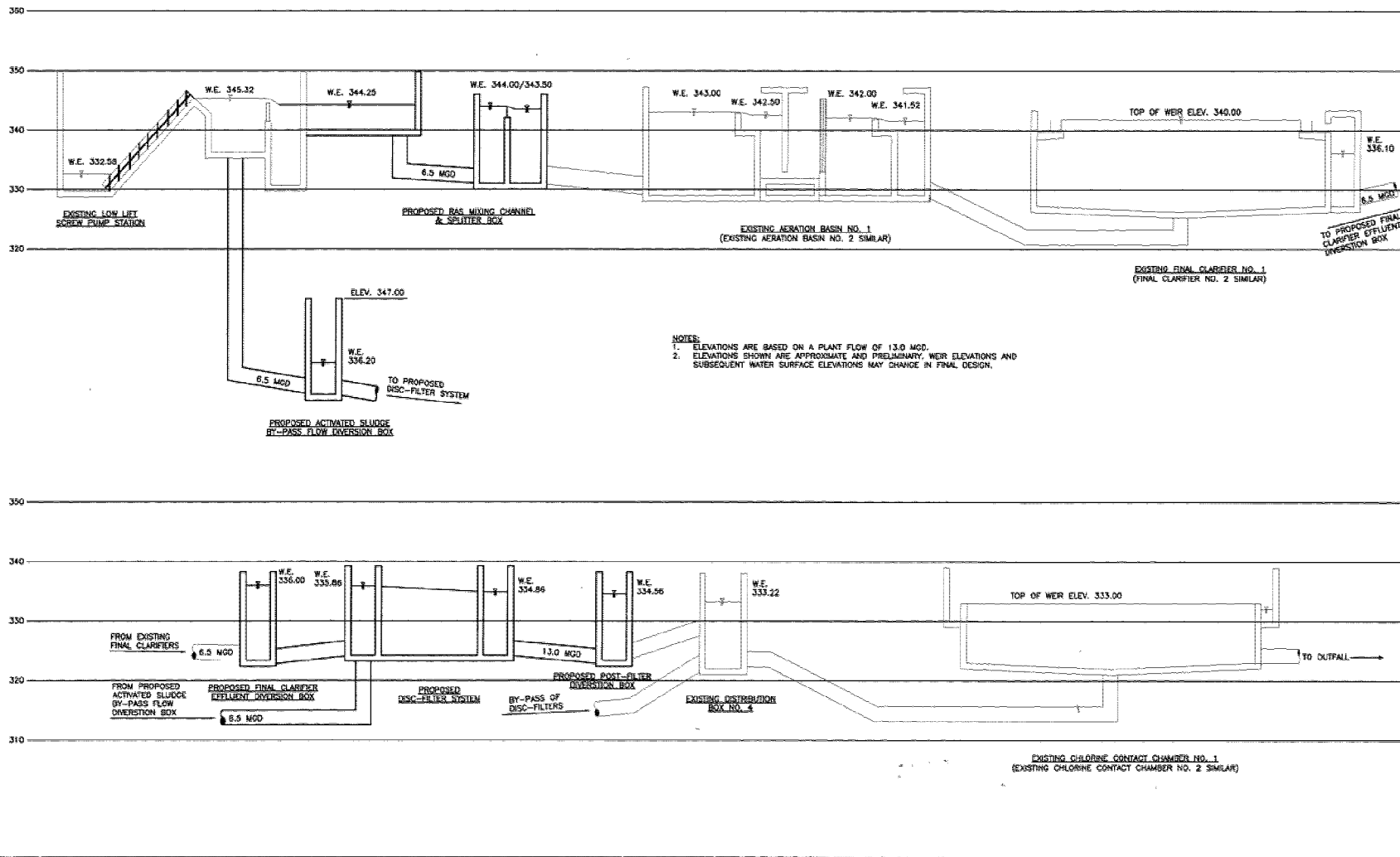
IV. Conclusion

The use of disc-filters as a plant polishing process step is a commonly used solution for treating TSS problems, and, given the success of similar installations, we feel that this would be an appropriate solution to the Russellville PCW TSS problems. The pilot plant study will help to verify these assumptions and provide data necessary to fine tune the disc-filter units for the specific Russellville PCW wastewater characteristics. The project will include the installation of dechlorination facilities utilizing sulfur dioxide, in order to address the TRC violations. The proposed 18 month period between the completion of pilot testing and the completion of construction may be able to be improved upon depending on the lead time of equipment. However, we feel that the milestone schedule above is a good estimate of the time involved for the successful completion of the project.

APPENDIX A



	<p>CITY CORPORATION RUSSELLVILLE, ARKANSAS</p> <p>CORRECTIVE ACTION PLAN FOR TSS COMPLIANCE</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">REV.</th> <th style="width: 10%;">DATE</th> <th style="width: 50%;">DESCRIPTION</th> <th style="width: 10%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV.	DATE	DESCRIPTION	BY												
REV.	DATE	DESCRIPTION	BY															
<p>JOB NO: 09018320 PROJECT: RUSSELLVILLE WASTEWATER TREATMENT PLANT DESIGNED BY: CMB DRAWN BY: CMB</p> <p>DATE: 05/26/08 SCALE: AS SHOWN DRAWING NUMBER: A1</p>																		



REV.	DATE	DESCRIPTION

CITY CORPORATION
 RUSSELLVILLE, ARKANSAS
 CORRECTIVE ACTION PLAN
 FOR TSS COMPLIANCE

PRELIMINARY
 HYDRAULIC
 PROFILE

JOB NO.: D901B320
 DATE: DEC., 2009
 DESIGNED BY: CKB
 DRAWN BY: CKB

THIS IS ONE SET OF
 GRAPHIC DRAWING
 (AS SHOWN ON SHEET)
 IF NOT ONE SET OF
 SET THIS DRAWING
 SCALES ACCORDINGLY

DRAWING NUMBER
A2
 SHEET
 NUMBER

File: L:\2009\0901B320 - Russellville, Ark. - Corrective Action Plan - Hydraulic Profile.dwg, Date: 11/19/2009 12:37 PM, User: jstuart, Job: D:\Russellville, Ark. - Corrective Action Plan - Hydraulic Profile.dwg, Plot Date: 11/24/2009 2:32 PM, Plot User: jstuart, Plot Device: HP DesignJet 5000, Plot Scale: 1.0000

Update 2015 Sample Construction Crew Leader

Job Description

Exempt: No
Department: Water-Sewer System - Lead Operator
Reports To: System Supervisor
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: September 28, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall provide general labor and equipment operating support for crew maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall provide maintenance to equipment, vehicles, office, shop, and yard as required.

This position is an on-call position, in a rotating schedule, to respond to after hours services calls.

This position requires an Arkansas Department of Health Distribution 3 Water System Operator License.

This position is a working supervisory position, with an emphasis on working, of a two (2) to three (3) man crew. It requires hands on work in the trench in addition to equipment operation.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Transport equipment and materials to work locations. This duty is performed daily, about 15% of the time.
2. Repair distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
3. Repair water and sewer services. This duty is performed daily, about 25% of the time.
4. Install of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
5. Install of water and sewer services. This duty is performed as needed, about 5% of the time.
6. Maintain of equipment and vehicles. This duty is performed as needed, about 10% of the time.
7. Maintain office, shop, and yard. This duty is performed as needed, about 10% of the time.
8. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Knowledge of a specialized field (however acquired), such as basic accounting, computer, etc. Equivalent of four years in high school, plus night, trade extension, or correspondence school specialized training, equal to two years of college, plus 3 years related experience and/or training, and 12 to 18 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication. Ability to read and understand simple instructions, short correspondence, notes, letters and memos; Ability to write simple correspondence. Ability to read and understand documents such as policy manuals, safety rules, operating and maintenance instructions, and procedure manuals; Ability to write routine reports and correspondence.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to prepare and interpret bar graphs.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Class A Commercial Driver's License (CDL)

Arkansas Department of Health Distribution 3 Water System Operator License

OSHA Excavation Safety Training (29 CFR 1926.650-652)

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Department of Health Distribution 4 Water System Operator License

SOFTWARE SKILLS REQUIRED

Not indicated.

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general supervision where standard practice enables the employee to proceed alone on routine work, referring all questionable cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work; may also occasionally assist in the planning of work assignments performed by others within a limited area of operation.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance; the latter of which would affect the work operations of other employees and/or clientele to a moderate degree.

MENTAL DEMAND

Moderate mental demand. Operations requiring almost continuous attention, but work is sufficiently repetitive that a habit cycle is formed; operations requiring intermittent directed thinking to determine or select materials, equipment or operations where variable sequences may be selected by the employee.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately structured. Fairly broad activities using moderately structured procedures with only generally guided supervision. Interpolation of learned things in somewhat varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a small group (1-3) of employees in the same or lower classification. Assigns and checks work; assists and instructs as required, but performs same work as those supervised, or closely related work, most of the time. Content of the work supervised is of a non-technical nature and does not vary in complexity to any great degree.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors of internal and external scope would have a moderate effect on the operational efficiency of the organizational component concerned. Errors might possibly go undetected for a considerable period of time, thereby creating an inaccurate picture of an existing situation. Could cause further errors, losses, or embarrassment to the organization. The possibility for error is always present due to requirements of the job.

ACCOUNTABILITY

FREEDOM TO ACT

Standardized. Accepted processes covered by well-defined standardized policies and procedures with supervisory review.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Very small. Job creates a monetary impact for the organization up to an annual level of \$100,000.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Regular contacts with patrons, either within the office or in the field. May also involve occasional self-initiated contacts to patrons. Lack of tact and judgment may result in a limited type of problem for the organization.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are extremely disagreeable working conditions most of the time (e.G. Hot mix paving in constant sun).

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to outdoor weather conditions; occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified

physical demands of the employee.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit, taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample Construction Lineman I

Job Description

Exempt: No
Department: Water-Sewer System - Lineman I - Senior
Reports To: Lead System Operator
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: September 28, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall provide general labor support for crew maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall provide labor to help maintain equipment, vehicles, office, shop, and yard as required.

This position is an on-call position, in a rotating schedule, to respond to after hours services calls.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Assist in the maintenance of office, shop, and yard. This duty is performed as needed, about 10% of the time.
2. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
3. Assist crew in transporting equipment and materials to work locations. This duty is performed daily, about 15% of the time.
4. Assist in repairing distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
5. Assist in repairing water and sewer services. This duty is performed daily, about 25% of the time.
6. Assist in the installation of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
7. Assist in the installation of water and sewer services. This duty is performed as needed, about 5% of the time.
8. Assist in the maintenance of equipment and vehicles. This duty is performed as needed, about 10% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Minimum requirement; general educational background without high school completion, plus 0 to 6 months related experience and/or training. Or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply and divide numbers. Ability to perform these mathematical skills using money and other forms of measurement.

CRITICAL THINKING SKILLS

Ability to use common sense understanding in order to carry out simple multi-step instructions. Ability to deal with standardized situations with limited variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Driver's License

OSHA Excavation Safety Training (29 CFR 1926.650-652)

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

SOFTWARE SKILLS REQUIRED

Not indicated.

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under immediate supervision, with short assignments of work at frequent interval with regular check of work.

PLANNING

Limited responsibility with regard to specific assignments in planning time, method, manner, and/or sequence of performance of own work operations.

DECISION MAKING

Performs work operations which permit infrequent opportunity for decision-making of minor importance and which would only affect the operating efficiency of the individual involved to a slight degree.

MENTAL DEMAND

Light mental demand. Operations requiring intermittent directed thinking to carry out predetermined procedure or sequence of operations of limited variability. Operations requiring intermittent attention to control machine or manual motions.

ANALYTICAL ABILITY / PROBLEM SOLVING

Repetitive. Activities or duties using a pre-determined set of processes or directions coupled with nearby supervision. Learned things in situations where choice is simple or

patterned.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$5,000 to \$150,000.

ACCURACY

Probable errors of internal scope should ordinarily be detected within the department or office in which they occur, but may affect the work of others within the unit, requiring additional expenditure of time to trace errors and make all necessary corrections. Errors would require a moderate amount of time to correct.

ACCOUNTABILITY

FREEDOM TO ACT

Defined. Semi-repetitive prescribed processes and procedures with nearby supervision.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Very small. Job creates a monetary impact for the organization up to an annual level of \$100,000.

IMPACT ON END RESULTS

Minimal impact. Job has little or no impact on the organization's end results. Job is focused on non-decision making activities or inconsequential duties.

PUBLIC CONTACT

Occasional contacts with patrons on routine matters.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are extremely disagreeable working conditions most of the time (e.G. Hot mix paving in constant sun).

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job.

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to outdoor weather conditions; occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job.

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit, taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample Construction Lineman II

Job Description

Exempt: No
Department: Water-Sewer System - Lineman II
Reports To: Lead System Operator
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: September 28, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall provide general labor and equipment operating support for crew maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall provide maintenance to equipment, vehicles, office, shop, and yard as required.

This position is an on-call position, in a rotating schedule, to respond to after hours services calls.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Assist crew in transporting equipment and materials to work locations. This duty is performed daily, about 15% of the time.
2. Assist in repairing distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
3. Assist in repairing water and sewer services. This duty is performed daily, about 25% of the time.
4. Assist in the installation of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
5. Assist in the installation of water and sewer services. This duty is performed as needed, about 5% of the time.
6. Assist in the maintenance of equipment and vehicles. This duty is performed as needed, about 10% of the time.
7. Assist in the maintenance of office, shop, and yard. This duty is performed as needed, about 10% of the time.
8. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Minimum requirement; general educational background without high school completion, plus 12 to 18 months related experience and/or training. Or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply and divide numbers. Ability to perform these mathematical skills using money and other forms of measurement.

CRITICAL THINKING SKILLS

Ability to use common sense understanding in order to carry out simple multi-step instructions. Ability to deal with standardized situations with limited variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Class A Commercial Driver's License (CDL)

OSHA Excavation Safety Training (29 CFR 1926.650-652)

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

SOFTWARE SKILLS REQUIRED

Not indicated.

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general supervision where standard practice enables the employee to proceed alone on routine work, referring all questionable cases to supervisor.

PLANNING

Limited responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work operations.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and which would not only affect the operating efficiency of the individual involved, but would also affect the work operations of other employees and/or clientele to a slight degree.

MENTAL DEMAND

Moderate mental demand. Operations requiring almost continuous attention, but work is sufficiently repetitive that a habit cycle is formed; operations requiring intermittent directed thinking to determine or select materials, equipment or operations where variable sequences may be selected by the employee.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately repetitive. Activities with slight variation using a definite set of processes or directions with some degree of supervision. Choice of learned things in situations which conform to clearly established patterns and modes.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors of internal and external scope would have a moderate effect on the operational efficiency of the organizational component concerned. Errors might possibly go undetected for a considerable period of time, thereby creating an inaccurate picture of an existing situation. Could cause further errors, losses, or embarrassment to the organization. The possibility for error is always present due to requirements of the job.

ACCOUNTABILITY

FREEDOM TO ACT

Defined. Semi-repetitive prescribed processes and procedures with nearby supervision.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Very small. Job creates a monetary impact for the organization up to an annual level of \$100,000.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Frequent contacts with general public, patrons, or other outside representatives, wherein the manner of handling these contacts has a bearing on the organization's position and operation.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are extremely disagreeable working conditions most of the time (e.G. Hot mix paving in constant sun).

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to outdoor weather conditions; occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit, taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample Construction Manager

Job Description

Exempt: No
Department: Water-Sewer System - Supervisor
Reports To: Utility Engineering Manager
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: September 29, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall oversee and manage all crews maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall oversee and manage maintenance to equipment, vehicles, office, shop, and yard as required.

This position requires an Arkansas Department of Health Distribution 4 Water System Operator License.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Manage and oversee transportation including but not limited to: maintenance, budgeting, and purchasing. This duty is performed as needed, about 15% of the time.
2. Manage and oversee repair of distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
3. Manage and oversee repair of water and sewer services. This duty is performed daily, about 25% of the time.
4. Manage and oversee installation of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
5. Manage and oversee installation of water and sewer services. This duty is performed as needed, about 5% of the time.
6. Manage and oversee equipment including but not limited to: maintenance, budgeting, and purchasing. This duty is performed as needed, about 10% of the time.
7. Manage and oversee maintenance of office, shop, and yard. This duty is performed as needed, about 10% of the time.
8. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Knowledge of a specialized field (however acquired), such as basic accounting, computer, etc. Equivalent of four years in high school, plus night, trade extension, or correspondence school specialized training, equal to two years of college, plus 5 years related experience and/or training, and 19 to 23 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication. Ability to read and understand simple instructions, short correspondence, notes, letters and memos; Ability to write simple correspondence. Ability to read and understand documents such as policy manuals, safety rules, operating and maintenance instructions, and procedure manuals; Ability to write routine reports and correspondence.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to prepare and interpret bar graphs.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Class A Commercial Driver's License (CDL)

Arkansas Department of Health Distribution 4 Water System Operator License

OSHA Excavation Safety Training (29 CFR 1926.650-652)

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

SOFTWARE SKILLS REQUIRED

Intermediate: Contact Management, Database, Payroll Systems, Spreadsheet, Word Processing/Typing

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under direction where a definite objective is set up and the employee plans and arranges own work, referring only unusual cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work; may also occasionally assist in the planning of work assignments performed by others within a limited area of

operation.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance; the latter of which would affect the work operations of other employees and/or clientele to a moderate degree.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately structured. Fairly broad activities using moderately structured procedures with only generally guided supervision. Interpolation of learned things in somewhat varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a moderate size group (8-15) of employees, but possibly smaller if difficult, semi-technical work, requiring considerable direction and assistance, is involved. Plans, directs and coordinates work, makes decisions, and performs personally the more difficult aspects of the same broad assignment.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Standardized. Accepted processes covered by well-defined standardized policies and procedures with supervisory review.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Small. Job creates a monetary impact for the organization from \$100,000 to \$1mm.

IMPACT ON END RESULTS

Moderate impact. Job has a definite impact on the organization's end results.

Participates with others in taking action for a department and/or total organization.

PUBLIC CONTACT

Regular contacts with patrons where the contacts are initiated by the employee. Involves both furnishing and obtaining information and, also, attempting to influence the decisions of those persons contacted. Contacts of considerable importance and of such nature, that failure to exercise proper judgment may result in important tangible or intangible losses to the organization.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are disagreeable working conditions part of the time.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, outdoor weather conditions, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Semi-repetitive, low physical. Semi-repetitive type work which requires periods of concentration for varied time cycles as prescribed by the tasks.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit,

taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample Construction Operator

Job Description

Exempt: No
Department: Water-Sewer System - Operator
Reports To: Lead System Operator
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: September 28, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall provide general labor and equipment operating support for crew maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall provide maintenance to equipment, vehicles, office, shop, and yard as required.

This position is an on-call position, in a rotating schedule, to respond to after hours services calls.

This position requires an Arkansas Department of Health Distribution 3 Water System Operator License.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Transport equipment and materials to work locations. This duty is performed daily, about 15% of the time.
2. Repair distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
3. Repair water and sewer services. This duty is performed daily, about 25% of the time.
4. Install of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
5. Install of water and sewer services. This duty is performed as needed, about 5% of the time.
6. Maintain equipment and vehicles. This duty is performed as needed, about 10% of the time.
7. Maintain office, shop, and yard. This duty is performed as needed, about 10% of the time.
8. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Knowledge of a specialized field (however acquired), such as basic accounting, computer, etc. Equivalent of four years in high school, plus night, trade extension, or correspondence school specialized training, equal to two years of college, plus 3 years related experience and/or training, and 12 to 18 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication. Ability to read and understand simple instructions, short correspondence, notes, letters and memos; Ability to write simple correspondence. Ability to read and understand documents such as policy manuals, safety rules, operating and maintenance instructions, and procedure manuals; Ability to write routine reports and correspondence.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to prepare and interpret bar graphs.

CRITICAL THINKING SKILLS

Ability to use common sense understanding in order to carry out detailed written or oral instructions. Ability to deal with problems involving a few known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Class A Commercial Driver's License (CDL)

Arkansas Department of Health Distribution 3 Water System Operator License

OSHA Excavation Safety Training (29 CFR 1926.650-652)

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Department of Health Distribution 4 Water System Operator License

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

SOFTWARE SKILLS REQUIRED

Not indicated.

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general supervision where standard practice enables the employee to proceed alone on routine work, referring all questionable cases to supervisor.

PLANNING

Limited responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work operations.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and which would not only affect the operating efficiency of the individual involved, but would also affect the work operations of other employees and/or clientele to a slight degree.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately structured. Fairly broad activities using moderately structured procedures with only generally guided supervision. Interpolation of learned things in somewhat varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors of internal and external scope would have a moderate effect on the operational efficiency of the organizational component concerned. Errors might possibly go undetected for a considerable period of time, thereby creating an inaccurate picture of an existing situation. Could cause further errors, losses, or embarrassment to the organization. The possibility for error is always present due to requirements of the job.

ACCOUNTABILITY

FREEDOM TO ACT

Defined. Semi-repetitive prescribed processes and procedures with nearby supervision.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget,

proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Very small. Job creates a monetary impact for the organization up to an annual level of \$100,000.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Frequent contacts with general public, patrons, or other outside representatives, wherein the manner of handling these contacts has a bearing on the organization's position and operation.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are extremely disagreeable working conditions most of the time (e.G. Hot mix paving in constant sun).

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to outdoor weather conditions; occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit, taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10

pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

*UPDATE 2015 SAMPLE
Job Description for Construction Operator*

*Printed 3/11/2016 at 08:28 AM
DBCompensation System - www.dbsquared.com*

Update 2015 Sample Construction Operator in Training Job Description

Exempt: No
Department: Water-Sewer System - Lead Operator
Reports To: System Supervisor
Location: 3105 S. Mobile Ave., Russellville, AR 72801
Date Prepared: July 25, 2014
Date Revised: October 06, 2015

GENERAL DESCRIPTION OF POSITION

The holder of this position shall provide general labor and equipment operating support for crew maintaining and installing: distribution and collection mains and appurtenances, water and sewer services. Additionally, the holder shall provide maintenance to equipment, vehicles, office, shop, and yard as required.

This position is an on-call position, in a rotating schedule, to respond to after hours services calls.

This position requires an Arkansas Department of Health Distribution 3 Water System Operator License.

This position is a working supervisory position, with an emphasis on working, of a two (2) to three (3) man crew. It requires hands on work in the trench in addition to equipment operation.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Transport equipment and materials to work locations. This duty is performed daily, about 15% of the time.
2. Repair distribution and collection mains and appurtenances. This duty is performed daily, about 25% of the time.
3. Repair water and sewer services. This duty is performed daily, about 25% of the time.
4. Install of distribution and collection mains and appurtenances. This duty is performed as needed, about 5% of the time.
5. Install of water and sewer services. This duty is performed as needed, about 5% of the time.
6. Maintain of equipment and vehicles. This duty is performed as needed, about 10% of the time.
7. Maintain office, shop, and yard. This duty is performed as needed, about 10% of the time.
8. Perform any other duties as required or assigned. This duty is performed as needed, about 5% of the time.
9. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

High school or GED, plus specialized schooling and/or on the job education in a specific skill area; e.g. data processing, clerical/administrative, equipment operation, etc, plus 3 years related experience and/or training, and 12 to 18 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read a limited number of words and recognize similarities and differences between words and between series of numbers; Ability to write and speak simple sentences as a means for basic communication. Ability to read and understand simple instructions, short correspondence, notes, letters and memos; Ability to write simple correspondence. Ability to read and understand documents such as policy manuals, safety rules, operating and maintenance instructions, and procedure manuals; Ability to write routine reports and correspondence.

MATHEMATICAL SKILLS

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to prepare and interpret bar graphs.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Class A Commercial Driver's License (CDL)

Arkansas Department of Health Distribution 3 Water System Operator License

OSHA Excavation Safety Training (29 CFR 1926.650-652)

OSHA Confined Space Entry Competent Person Certification (29 CFR 1910.146)

AHTD Manual on Uniform Traffic Control Devices (MUTCD): Federal MUTCD - Part 6 - Temporary Traffic Control Training

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Arkansas Department of Health Distribution 4 Water System Operator License

SOFTWARE SKILLS REQUIRED

Not indicated.

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general supervision where standard practice enables the employee to proceed alone on routine work, referring all questionable cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work; may also occasionally assist in the planning of work assignments performed by others within a limited area of operation.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance; the latter of which would affect the work operations of other employees and/or clientele to a moderate degree.

MENTAL DEMAND

Moderate mental demand. Operations requiring almost continuous attention, but work is sufficiently repetitive that a habit cycle is formed; operations requiring intermittent directed thinking to determine or select materials, equipment or operations where variable sequences may be selected by the employee.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately structured. Fairly broad activities using moderately structured procedures with only generally guided supervision. Interpolation of learned things in somewhat varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a small group (1-3) of employees in the same or lower classification. Assigns and checks work; assists and instructs as required, but performs same work as those supervised, or closely related work, most of the time. Content of the work supervised is of a non-technical nature and does not vary in complexity to any great degree.

Supervises the following departments: NA

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors of internal and external scope would have a moderate effect on the operational efficiency of the organizational component concerned. Errors might possibly go undetected for a considerable period of time, thereby creating an inaccurate picture of an existing situation. Could cause further errors, losses, or embarrassment to the organization. The possibility for error is always present due to requirements of the job.

ACCOUNTABILITY

FREEDOM TO ACT

Standardized. Accepted processes covered by well-defined standardized policies and procedures with supervisory review.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Very small. Job creates a monetary impact for the organization up to an annual level of \$100,000.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Regular contacts with patrons, either within the office or in the field. May also involve occasional self-initiated contacts to patrons. Lack of tact and judgment may result in a limited type of problem for the organization.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Outside working environment, wherein there are extremely disagreeable working conditions most of the time (e.G. Hot mix paving in constant sun).

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to outdoor weather conditions; occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, risk of electrical shock, vibration. The noise level in the work environment is usually very loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified

physical demands of the employee.

While performing the functions of this job, the employee is regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, talk or hear; and occasionally required to sit, taste or smell. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include distance vision; color vision; peripheral vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

CITY OF DOVER

"Gateway to the Ozarks"

P.O. Box 258

DOVER, ARKANSAS 72837

1-501-331-3270

September 12, 1991

Mr. Kenneth Lutz
Pre-treatment Coordinator
City Corporation
P.O. Box 458
Russellville, AR 72801

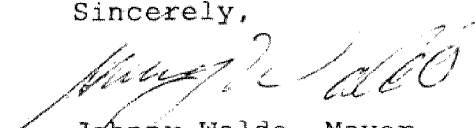
RE: City of Dover

Dear Mr. Lutz:

This is to confirm recent contacts you have had with our City Attorney, David H. McCormick, concerning Dover City Ordinance No. 89-3. This is to formally advise you that the City of Dover intends to pre-treat all sewage to whatever standard may be required by the Arkansas Department of Pollution Control and Ecology. This is to further confirm that Dover will adopt any new ordinance or amend existing ordinances as may be required in order to evidence the fact that they will comply with requirements of the DPC & E.

If you need further confirmation of the above information on behalf of the City, please contact our City Attorney, David H. McCormick, and advise him of what additional information or documentation you need.

Sincerely,



Johnny Waldo, Mayor

RESOLUTION NO. 358

WHEREAS, the CITY OF DOVER has contacted the CITY OF RUSSELLVILLE with reference to the treatment of its sewer wastes; and

WHEREAS, such an agreement is in keeping with the rules and regulations of the Environmental Protection Agency; and

WHEREAS, the CITY OF RUSSELLVILLE, at the present time, is improving the pretreatment plant with assistance of funds provided by the Environmental Protection Agency; and

WHEREAS, it would be in the best interest of the inhabitants of the CITY OF RUSSELLVILLE to treat the sewage waste from the CITY OF DOVER.

NOW, THEREFORE BE IT RESOLVED, that the Mayor and City Clerk of the CITY OF RUSSELLVILLE, ARKANSAS, are authorized, instructed and directed to execute a contract for such waste water treatment with the CITY OF DOVER, a copy of which said agreement is attached and made a part of this resolution; that upon the signing of the agreement by the CITY OF RUSSELLVILLE and the CITY OF DOVER, that this agreement shall be in full force and effect.

This 11th day of January, 1979.



RON RUSSELL, MAYOR

ATTEST: 

CHARLES HOWELL, CITY CLERK

SEWER SERVICE AGREEMENT

BETWEEN

RUSSELLVILLE, POPE COUNTY, ARKANSAS AND
DOVER, POPE COUNTY, ARKANSAS

THIS AGREEMENT made and entered into this 11
day of Jan of 1979, by and between the CITY OF
RUSSELLVILLE, a municipal corporation of Russellville, Pope
County, Arkansas, hereinafter referred to as "RUSSELLVILLE"
and the CITY OF DOVER, a municipal corporation, of Pope County,
Arkansas, hereinafter referred to as "DOVER."

In consideration of the mutual covenants herein
contained, the parties hereto agree as follows:

SECTION I: Scope of Agreement. RUSSELLVILLE will
and shall permit the connection of the sewer service system
of DOVER with the sewer system of RUSSELLVILLE at such
locations as approved by RUSSELLVILLE and will handle and
treat sewage delivered to the RUSSELLVILLE sewage system
through the connection therewith of DOVER sewer under the
terms and conditions hereinafter more specifically set forth.

SECTION II: Extent of Service. DOVER shall limit
its sewer service connections to the residential and commercial
establishments now located along the proposed sewer lines and
shall not permit additional industrial or commercial connections
without the written approval of RUSSELLVILLE, first obtained.

SECTION III: Amount of Charges and Billing Periods.
DOVER agrees to pay to RUSSELLVILLE for all costs incurred in
the handling, transporting and treatment of raw sewage
delivered to the RUSSELLVILLE sewer facilities. Charges for
such services will be billed monthly and shall be based upon
the wholesale rates adopted by RUSSELLVILLE which currently
are established as follows:

A. Two and 25/100 Dollars (\$2.25) per month minimum for the first twenty-five hundred (2,500) gallons. Sixty Eight Cents (\$0.68) per thousand for the next seventeen thousand five hundred (17,500) gallons will be charged. Forty Six Cents (\$0.46) per thousand gallons will be charged for all sewage in excess of twenty thousand gallons (20,000). Said flowage will be metered by the CITY OF RUSSELLVILLE with DOVER installing such meter systems as may be required by RUSSELLVILLE and at the place so designated by RUSSELLVILLE.

B. DOVER will pay all the costes incurred in the administration of this contract. Such costs will include but not be limited to:

- Contract Development
- Legal Fees
- Testing Costs
- Metering Costs

C. If and when replacements or additional facilities are required for the treating, testing or metering of said sewage, DOVER shall, upon notificaion by RUSSELLVILLE, commence forthwith to provide the necessary facilities and equipment.

D. In the event the metering device fails to function, the sewage flow shall be determined based upon the most recent corresponding period to which the meter was in satisfactory operating condition, and if no such period is available, the flow shall be determined by RUSSELLVILLE.

E. The parties herto agree that the sewage delivered to the RUSSELLVILLE system shall be of standard household strength and in satisfactory condition, and should the same not be in satisfactory condition, DOVER will construct such pretreatment facilities as may be required by RUSSELLVILLE. Such facilities shall include but not limited to:

- Chlorinator
- All Expense of Operating such facilities

SECTION IV: Construction of System. DOVER agrees to construct its system in accordance with the plans and

specifications now used by RUSSELLVILLE and shall prevent the infiltration of surface water or storm drainage into the system. RUSSELLVILLE shall have the right to review plans and specifications for sewer system improvements or additions at DOVER, to inspect the DOVER system, and to require such maintenance or repair work as may be necessary to prevent the infiltration of surface water or storm drainage.

SECTION V: Conditional Industrial or Commercial Uses. In the event DOVER desires to connect an industrial or commercial user, RUSSELLVILLE shall be notified forthwith and an investigation shall be made to determine the strength and content of said effluent from said user. In the event it is deemed necessary by RUSSELLVILLE, DOVER shall construct whatever facilities are necessary for the pretreatment of the effluent from such establishment to lower the strength and content down to normal domestic sewage. RUSSELLVILLE shall not arbitrarily withhold approval for the connection of industrial or commercial customers.

SECTION VI: Dumping of Certain Material Prohibited. DOVER shall not discharge or cause to be discharged any of the following described waters or wastes to any public sewers:

- A. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
- B. Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interaction with other wastes to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard. The concentrations of such wastes discharged to the public sewer shall conform to the limitations set forth by the Russellville Sewer Ordinance.
- C. Any waters or wastes having a pH lower than 5.5 or having other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works.
- D. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference

with the proper operation of the sewage works, such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, etc., either whole or ground by garbage grinders.

DOVER shall not discharge or cause to be discharged the following described substances, materials, waters or wastes if it appears likely in the opinion of RUSSELLVILLE, their consulting engineers of the Arkansas Department of Pollution Control and Ecology Board that such wastes can harm either the sewers, sewage treatment process or equipment, have an adverse effect on the receiving stream or can otherwise endanger life, limb, public property or constitute a nuisance. In forming an opinion as to the acceptability of these waters, consideration will be given to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment facilities, degree of treatability of wastes in the sewage treatment facilities and other pertinent factors. The substances are:

1. Any liquid or vapor having a temperature higher than one hundred fifty (150)°F (65)°C.
2. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two (32) and one hundred fifty (150) °F and (65) °C.
3. Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor or three-fourths (3/4) horsepower (0.76 hp metric) or greater shall be subject to review and approval.
4. Any waters or wastes containing strong acid none pickling wastes or concentrated plating solutions whether neutralized or not.

5. Any waters or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment works exceeds the limits established for such materials by State, Federal, or other public agencies of jurisdiction for such discharge to the receiving waters.
6. Any waters or wastes containing phenols or other taste or odor producing substances, in such concentrations exceeding limits which may be established as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal, or other public agencies of jurisdiction for such discharge to the receiving waters.
7. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established in compliance with applicable State or Federal regulations.
8. Any waters or wastes having a pH in excess of (9.5).
9. Materials which exert or cause:
 - a. Unusual concentrations of inert suspended solids (such as, but not limited to, Fuller earth, lime slurries and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).
 - b. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).
 - c. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.
 - d. Unusual volume or flow of concentration of wastes constituting "slugs."
10. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage

treatment processes employed, or are amenable to such treatment only to such degree that the sewage treatment facility effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

SECTION VII: Downspouts and Rain Leaders Not to be Connected to Sewer. DOVER shall not allow, suffer, or permit during the life of this agreement the existence or use of any downspout, rain leader, gutter or drain which is designed to be used or which shall be used in conducting rain or surface waters from any premise connected with the sanitary sewer of DOVER.

SECTION VIII: Penalty for Dumping Prohibited Materials. DOVER expressly agrees that if drainage other than sanitary sewage and waste not detrimental to RUSSELLVILLE sewage system or treatment processes does pass from DOVER'S system to RUSSELLVILLE sewage system, DOVER will pay, within ninety (90) days after written notice requesting such payment, RUSSELLVILLE for any damage incurred by DOVER resulting from such drainage. If DOVER fails to prevent the passage from its sewers into the sewage system of RUSSELLVILLE of any drainage other than sanitary sewage or waste not detrimental to RUSSELLVILLE'S sewage system or treatment processes within thirty (30) days after written notice by RUSSELLVILLE informing DOVER of such drainage, then DOVER will disconnect its sewage system from RUSSELLVILLE'S sewage system within seven (7) days after notice from RUSSELLVILLE to do so. In addition to damages, DOVER will pay RUSSELLVILLE a charge of One Hundred Dollars (\$100.00) per day for such violation from the first date of written notice.

SECTION IX: DOVER to Adopt and Enforce Regulations. DOVER will and shall enact, adopt, and strictly enforce all such resolutions, ordinances or regulations, as the case may be, as may or shall be necessary to give full effect to the stipulations contained in this agreement.

SECTION X: DOVER Must Conform to State Regulations. DOVER will and shall design, plan, lay, install, construct,

maintain, and keep in repair its own sewer facilities so that such facilities shall at all times strictly conform with all rules and regulations issued or promulgated by the STATE OF ARKANSAS and the CITY OF RUSSELLVILLE.

SECTION XI: Liability for Negligence. DOVER shall indemnify and hold harmless RUSSELLVILLE from any and all loss or damage to any property, incurred by RUSSELLVILLE by reason of any act or omission of DOVER, its agents or employees in connection with the operation and maintenance of the sanitary sewer facilities belonging to DOVER, unless the same shall be due to the negligence of RUSSELLVILLE, its agents or employees; and RUSSELLVILLE shall indemnify and hold harmless DOVER by reason of any act or omission on the part of RUSSELLVILLE, its agents or employees, in connection with the operation and maintenance of RUSSELLVILLE'S sanitary sewer system, unless the same shall be due to the negligence of DOVER, its agents or employees.

SECTION XII: Non-Liability of RUSSELLVILLE under Certain Circumstances. RUSSELLVILLE shall exercise diligence in operating its sewage systems, and if it be prevented from receiving and discharging sewage from DOVER, in accordance with the terms of this agreement, by any cause not reasonably within the control of RUSSELLVILLE, including, but not limited to, fire, explosion, flood, strike and unavoidable accident, rupture of pipe resulting from temperature change or ground disturbances, Federal or State interference, RUSSELLVILLE agrees (except in the case of practically total destruction of its properties) diligently to put its works in condition again to dispose of sewage in the manner provided for in this agreement. DOVER shall hold RUSSELLVILLE blameless for any damage or loss resulting from such interruption or suspension.

SECTION XIII: Terms of Agreement. This agreement shall be effective for a period of two (2) years at which time

the charges will be subject to change based upon the cost of providing service related to handling, transporting, and treatment. The length of term thereafter shall be a one (1) year period and shall remain in effect until terminated by mutual agreement of RUSSELLVILLE and DOVER. Should any portion of the charges specified in this agreement not be acceptable to EPA, the charges specified may be revised so that RUSSELLVILLE may conform to EPA requirements.

SECTION XV: Title to Remain with RUSSELLVILLE. It is understood and agreed that the title to the present sewer facilities of the CITY OF RUSSELLVILLE shall remain in RUSSELLVILLE and that title to the DOVER facility shall remain in DOVER. That RUSSELLVILLE shall have the duty for the care and upkeep of its facilities, and DOVER shall have the duty of the care and upkeep of its facilities.

This agreement shall be binding upon and inure to the benefits of the respective successors and assigns of RUSSELLVILLE and DOVER.

IN WITNESS WHEREOF, the CITY OF RUSSELLVILLE has caused this agreement to be signed in duplicate by its Mayor, attested by its Clerk, and its corporate seal to be hereunto affixed, pursuant to a resolution of the City Council of the CITY OF RUSSELLVILLE, a certified copy whereof is hereto annexed, and the CITY OF DOVER has caused this agreement to be executed by its Mayor, attested by its Clerk, and its corporate seal to be hereunto affixed pursuant to a resolution duly adopted by the City Council of DOVER, a certified copy whereof is hereto annexed.

CITY OF RUSSELLVILLE

BY: Bob Russell

MAYOR

ATTEST: Phil Lovell

Update 2016 Sample

Utility Engineer I

Job Description

Exempt: Yes
Department: Utility Engineer I
Reports To: Chief Engineering Officer
Location: 205 W 3rd Place
Date Prepared: August 15, 2016
Date Revised: August 16, 2016

GENERAL DESCRIPTION OF POSITION

Under the direction of the Chief Engineering Officer, assists with planning, construction, growth and reliability of the water and sewer systems. Maintains good rapport with general public, developers, County, State and Federal agencies, civic leaders and other City department heads. Assists the Chief Engineering Officer in managing the Construction and Engineering departments.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Under the supervision of the Chief Engineering Officer, review all proposed water or sewer main extension plans for conformance to City Corporation standards, communicate with developer's engineers, issue approval of plans, supervise inspection of construction and acceptance testing and recommend acceptance of completed extensions for maintenance and service connections. This duty is performed weekly, about 30% of the time.
2. Under the supervision of the Chief Engineering Officer, perform surveys and prepare studies and construction plans for water distribution and sewage collection main extensions. Prepare bidding and contract documents, supervise inspection of construction and administer payments to contractors for capital improvements to the water and sewer system. This duty is performed weekly, about 30% of the time.
3. Responsible for regulatory activities relating to the monitoring, reports and management of the collection system. This duty is performed as needed, about 5% of the time.
4. Prepares regular reports on progress of all activities within assigned areas of responsibility; present reports to Chief Engineering Officer, Chief Executive Officer or City Corporation Board, as directed. This duty is performed monthly, about 5% of the time.
5. Assists with preparation of strategic and operating plans for both water and sewer departments. This duty is performed annually, about 5% of the time.
6. In the absence of the Chief Engineering Officer, directs and coordinates engineering department activities. This duty is performed as needed, about 10% of the time.
7. Assists in overseeing preparation and timely filing of required government reports. Assists in overseeing preparation and timely filing of required government reports. This duty is performed as needed, about 5% of the time.
8. Assists in developing cost control monitoring systems; gathers statistics and prepares reports for Chief Engineering Officer and Chief Executive Officer. This duty is performed as needed, about 5% of the time.
9. Performs other job-related duties as assigned. This duty is performed as needed, about 5% of the

time.

10. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Technical degree required in such disciplines as Computer Engineering, CPA, etc, plus 0 to 6 months related experience and/or training, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read, analyze, and understand common scientific and technical journals, financial reports, and legal documents; Ability to respond to complex or difficult inquiries or complaints from customers, regulatory agencies, or members of the business community.

MATHEMATICAL SKILLS

Ability to work with mathematical concepts such as probability and statistical inference, and fundamentals of plane, algebra, solid geometry and trigonometry.

CRITICAL THINKING SKILLS

Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Must possess valid Arkansas Driver's License

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

State of Arkansas Engineer-in-Training license preferred.

Grade A Surface WAter Operator's License preferred.

Class III-T Wastewater License preferred.

SOFTWARE SKILLS REQUIRED

Intermediate: Spreadsheet, Word Processing/Typing

Basic: Contact Management, Database, Presentation/PowerPoint

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general direction, working from policies and general directives. Rarely refers specific cases to supervisor unless clarification or interpretation of the organization's policy is required.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work, in addition, the organization and delegation of work operations for a group of employees engaged in widely diversified activities.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance, either of which would affect the work operations of large organizational component and the organization's clientele.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately directed. Activities covered by wide-ranging policies and courses of action, and generally directed as to execution and review. High order of analytical, interpretative, and/or constructive thinking in varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a moderate size group (8-15) of employees engaged in important, complex operations, consisting of employees in different classifications who perform a wide variety of duties.

Supervises the following departments:

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Moderately directed. Freedom to act is given by upper level management guided by general policies and objectives that are reviewed by top management.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Small. Job creates a monetary impact for the organization from \$100,000 to \$1mm.

IMPACT ON END RESULTS

Moderate impact. Job has a definite impact on the organization's end results. Participates with others in taking action for a department and/or total organization.

PUBLIC CONTACT

Regular contacts with patrons where the contacts are initiated by the employee. Involves both furnishing and obtaining information and, also, attempting to influence the decisions of those persons contacted. Contacts of considerable importance and of such nature, that failure to exercise proper

judgment may result in important tangible or intangible losses to the organization.

EMPLOYEE CONTACT

Contacts with other departments or offices and also frequently with individuals in middle level positions; consulting on problems which necessitate judgment and tact in presentation to obtain cooperation or approval of action to be taken. Also, important contacts with associates as required in advanced supervisory jobs.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Normal working conditions as found within an office setting, wherein there is controlled temperature and a low noise level, plus a minimum of distractions.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is occasionally exposed to work near moving mechanical parts, outdoor weather conditions. The noise level in the work environment is usually moderate.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Semi-repetitive, low physical. Semi-repetitive type work which requires periods of concentration for varied time cycles as prescribed by the tasks.

While performing the functions of this job, the employee is regularly required to sit; and frequently required to talk or hear; occasionally required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl, taste or smell. The employee must occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision; distance vision; and color vision.

ADDITIONAL INFORMATION

Not indicated.

Update 2016 Sample

Environmental Compliance Supervisor

Job Description

Exempt: No
Department: Operation
Reports To: Wastewater Operations Manager
Location: 404 Jimmy Lile Road
Date Prepared: June 16, 2016
Date Revised: July 22, 2016

GENERAL DESCRIPTION OF POSITION

The incumbent is responsible to administer the pretreatment program, fats, oil & grease (FOG) control program, and Cross-Connection Control programs. Supervise environmental compliance department staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Administer and monitor pretreatment program to assure compliance with all local, state and federal regulations. This duty is performed daily.
2. Administer and monitor FOG program to assure compliance with all local, state and federal regulations. This duty is performed daily.
3. Administer and monitor cross-connection control program to assure compliance with all local, state and federal regulations. This duty is performed daily.
4. Train and supervise work of the environmental compliance department staff, maintains quality control and conducts periodic performance evaluations. This duty is performed as needed.
5. Make necessary changes in pretreatment, FOG and cross-control control programs as directed by state and/or federal authorities. This duty is performed as needed.
6. Conduct inspections of industries and commercial facilities to ensure compliance with pretreatment, FOG and/or cross-connection control requirements. This duty is performed weekly.
7. Assist industrial users with specific pretreatment problems and provide training. This duty is performed as needed.
8. Provide public education about FOG and cross-control control. This duty is performed monthly.
9. Prepare budgets for pretreatment, cross-connection control and FOG programs. This duty is performed annually.
10. Prepare annual pretreatment report to ADEQ as required by NPDES permit AR0021768. This duty is performed annually.
11. Perform other duties as required or assigned. This duty is performed as needed.
12. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Broad knowledge of such fields as accounting, marketing, business administration, finance, etc. Equivalent to a four year college degree, plus 12 to 18 months related experience and/or training, and 12 to 18 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to write reports, business correspondence, and policy/procedure manuals; Ability to effectively present information and respond to questions from groups of managers, clients, customers, and the general public. Ability to read, analyze, and understand common scientific and technical journals, financial reports, and legal documents; Ability to respond to complex or difficult inquiries or complaints from customers, regulatory agencies, or members of the business community. Ability to write speeches and articles for publication that conform to prescribed style and format; Ability to effectively present information to top management, public groups, and/or boards of directors.

MATHEMATICAL SKILLS

Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume. Ability to apply concepts such as fractions, ratios, and proportions to practical situations.

CRITICAL THINKING SKILLS

Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

State of Arkansas Driver's License, Arkansas cross-connection control program specialist certificate, Arkansas Grade IV Water Distribution License, Arkansas Advanced Industrial License

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

SOFTWARE SKILLS REQUIRED

Advanced: Database, Spreadsheet

Intermediate: Alphanumeric Data Entry, Presentation/PowerPoint

Basic: Payroll Systems, Word Processing/Typing

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under direction where a definite objective is set up and the employee plans and arranges own work, referring only unusual cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work, in addition, the work operations of a group of employees, all performing basically the same type of work.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance, either of which would affect the work operations of small organizational component and the organization's clientele.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately directed. Activities covered by wide-ranging policies and courses of action, and generally directed as to execution and review. High order of analytical, interpretative, and/or constructive thinking in varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a small group (1-3) of employees in the same or lower classification. Assigns and checks work; assists and instructs as required, but performs same work as those supervised, or closely related work, most of the time. Content of the work supervised is of a non-technical nature and does not vary in complexity to any great degree.

Supervises the following departments:

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$5,000 to \$150,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Directed. Freedom to complete duties as defined by wide-ranging policies and precedents with mid to upper-level managerial oversight.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Small. Job creates a monetary impact for the organization from \$100,000 to \$1mm.

IMPACT ON END RESULTS

Moderate impact. Job has a definite impact on the organization's end results. Participates with others in taking action for a department and/or total organization.

PUBLIC CONTACT

Regular contacts with patrons where the contacts are initiated by the employee. Involves both

furnishing and obtaining information and, also, attempting to influence the decisions of those persons contacted. Contacts of considerable importance and of such nature, that failure to exercise proper judgment may result in important tangible or intangible losses to the organization.

EMPLOYEE CONTACT

Contacts with other departments or offices and also frequently with individuals in middle level positions; consulting on problems which necessitate judgment and tact in presentation to obtain cooperation or approval of action to be taken. Also, important contacts with associates as required in advanced supervisory jobs.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of complex machines and equipment (desktop/laptop computer and software, road and production machines and equipment, driver's license/cdl, etc.)

WORKING CONDITIONS

Periodically exposed to such elements as noise, intermittent standing, walking, occasionally pushing, carrying, or lifting; but none are present to the extent of being disagreeable.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is occasionally exposed to work near moving mechanical parts, fumes or airborne particles, toxic or caustic chemicals, outdoor weather conditions, extreme heat. The noise level in the work environment is usually moderate.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, low physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which are not as varied as those positions with high-level diversity and decision-making.

While performing the functions of this job, the employee is continuously required to talk or hear, taste or smell; regularly required to stand, walk, sit, use hands to finger, handle, or feel, reach with hands and arms; and occasionally required to climb or balance, stoop, kneel, crouch, or crawl. The employee must occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision; distance vision; color vision; peripheral vision; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

APPENDIX E- OVERFLOW LIST

Status	Manhole	Address	Project Name	Basin	Total # of	
					Occurences (Since 2006)	Date of Last Overflow
Active	1062	W B St & N Phoenix	Basin 7-14	RV14	3	10/27/2015
Active	1106	213 S Phoenix Ave	not in project	RV14	1	5/11/2016
Active	1108	W 2nd Place & S Phenoix	not in project	RV14	2	4/29/2016
Active	1200	1105 Resimont	Basins 9,15 & 25	RV15	2	6/27/2015
Active	1270	1509 S Muskogee	Basins 9,15 & 25	RV15	1	4/15/2016
Active	1273	1401 S Muskogee	Basins 9,15 & 25	RV15	1	2/19/2016
Active	1290	917 W 12th street	Basins 9,15 & 25	RV15	1	1/28/2016
Active	1315	3rd & Vancouver	13-16-26	RV16	13	8/15/2017
Active	1323	2220 W 2nd Pl	not in project	RV14	1	1/26/2015
Active	1333	4th & Waco	13-16-26	RV16	9	12/27/2015
Active	1334	W 4th & Arlington	13-16-26	RV16	2	12/27/2015
Investigate	1341	1310 Ridgewood Dr	Basins 13,16 & 26	RV16	2	3/9/2013
Active	1387	511 S Inglewood Ave	Basins 13,16 & 26	RV16	1	2/22/2016
Active	1399	1103 Ridgewood Dr	Basins 13,16 & 26	RV16	1	4/5/2016
Investigate	1465	ATU	GARVER	RV20	2	12/20/2012
Active	1466	1300 Glenwood-ATU	GARVER	RV20	3	3/10/2016
Active	1472	1705 Bradley Ln	not in project	RV07	1	4/7/2017
Active	1486	404 N El Paso Ave	Basin 23	RV23	1	4/13/2015
Investigate	1567	200 N Arkansa Ave	Hydraulic Cap Improv	RV24	3	4/25/2011
Active	1628	407 N Arkansas, City Mall	City Mall	RV024	1	3/18/2015
Pending	1704	E L st & Parker Rd	Parker Rd	RV25	4	1/25/2012
Pending	1705	1025 Parker Rd	Parker Rd	RV25	2	2/26/2013
Pending	1706	1022 Parker	Parker Rd	RV25	2	12/5/2011
Active	1724	E N ST & N Greenwich	17-18-20-21	RV21	1	12/1/2015
Active	1725	E G & N Greenwich	City Mall	RV25	10	12/28/2015
Active	1750	901 N Detroit Ave	Basin 9,15, 25	RV25	1	3/18/2015
Active	1780	1403 N Boston		RV21	1	6/19/2017
Investigate	1823	603 N Arkansas, City Mall	City Mall	RV24	2	12/5/2011
Investigate	1825	407 N Arkansas, City Mall	City Mall	RV24	5	11/17/2015
Active	1850	1507 Knoxville Ave		RV25	2	12/27/2017
Active	1990	311 W B St	Basin 23	RV23	2	11/14/2017
Active	2024	2807 N Arkansas	GARVER	RV22	20	7/3/2017
Active	2033	W Birch & I-40	GARVER	RV22	3	11/23/2016
Active	2035	Honda of Rsvl, Lakefront Dr	GARVER	RV22	3	5/25/2015
Active	2036	220 Lakefront Dr	GARVER	RV22	8	12/27/2015
Active	2043	ATU Softball Field	GARVER	RV20	12	3/10/2016
Active	2048	ATU Pasture	GARVER	RV20	15	4/30/2017
Active	2050	ATU Pasture	GARVER	RV20	13	4/30/2017
Active	2092	315 S Utah Ave	Basins 13,16 & 26	RV16	1	4/25/2016
Active	2146	1007 W 17th Terrace	not in project	RV15	2	12/22/2017
Active	2355	100 Sagewood Ln		RV22	1	5/30/2017
Active	2815	Arkansas Tech	GARVER	RV20	3	5/13/2015
Active	2816	Arkansas Tech	GARVER	RV20	7	4/30/2017
Active	2817	N Glenwood	GARVER	RV20	5	3/10/2016
Investigate	3027	2502 W 2nd St.	Basins 17,18,20, & 21	RV17	2	7/15/2010
Active	3043	N Hunter Ridge Ln	not in project	RV18	2	5/20/2015
Active	3046	W Main and Cumberland	not in project	RV17	1	4/29/2016
Active	3059	3016 W Main St	not in project	RV18	1	12/7/2017
Active	3075	3801 W Main	not in project	RV18	3	9/12/2017
Investigate	3094	215 S. Portland	not in project	RV18	2	12/8/2010
Active	3191	John Trusty Lane	Hydraulic Cap Improv	RV18	11	7/3/2017
Active	3193	John Trusty Lane	Hydraulic Cap Improv	RV18	9	3/21/2012
Active	3273	Hilltop & Marina Rd	Basins 12,19 & 24	RV19	2	12/27/2015
Active	4009	2005 E Main St	Basins 9,15 & 25	RV09	2	5/13/2015
Active	4019	1611 E. Main St.	Basins 9,15 & 25	RV09	2	5/13/2015
Investigate	4020	E Main & N Sydney	Basins 9,15 & 25	RV09	2	7/17/2013
Active	4021	1819 E Main St	Basins 9,15 & 25	RV09	1	5/13/2015
Active	4078	1002 E I St	Basins 13,16 & 26	RV13	2	5/13/2015
Active	4117	210 HWY 324	Basins 1,2,8 & 11	RV11	1	10/3/2015
Pending	4127	515 S Ithaca	Basins 1,2,8 & 11	RV08	6	4/30/2017
Pending	4213	88 Joyce Lane	Basins 1,2,8 & 11	RV11	3	1/16/2014
Pending	4214	Flying J Truck Stop	Basins 1,2,8 & 11	RV11	2	1/30/2013
Active	4216	Gary Lane	not in project	RV11	1	8/19/2017
Active	5024	107 w 14th st	not in project	RV05	1	3/14/2016
Active	5032	E. 11th and Boston	Basins 3,5, & 6	RV03	14	6/5/2017
Active	5121	10th and Glenwood	Basins 3,5, & 6	RV05	2	12/27/2015
Active	5123	929 S El Paso	Point Reparis	RV05	1	12/27/2015

APPENDIX E- OVERFLOW LIST

<u>Status</u>	<u>Manhole</u>	<u>Address</u>	<u>Project Name</u>	<u>Basin</u>	<u>Total # of Occurences (Since 2006)</u>	<u>Date of Last Overflow</u>
Active	6029	1105 S Oswego Ave	Basins 7,14	RV07	1	3/18/2015
Active	6341	3816 E 6th Street	not in project	RV02	1	7/21/2017
Active	6399	1519 S Knoxville Ave	not in project	RV03	2	3/18/2015
Pending	6415	300 Industrial	Basins 1,2,8 & 11	RV02	1	8/16/2006
Active	6478	404 Jimmy Lile Rd	Treatment Plant		5	12/27/2015
Active	8048	404 Jimmy Lile Rd	Treatment Plant		9	11/17/2015
Active	Old Post	Old Post Lift Station	Basins 13,16 & 26	RV26	4	12/28/2015
Active	C	Lift Station C		RV27	1	4/5/2016



ARKANSAS
Department of Environmental Quality

Permit Tracking Number: **ARR000104**
AFIN: **58-00105**

NOTICE OF COVERAGE (NOC)

NO EXPOSURE EXCLUSION UNDER THE INDUSTRIAL STORMWATER GENERAL PERMIT ARR000000

Attn: Steve Mallett
City Corporation
P.O. Box 3186
Russellville, AR 72811

The Recertification Notice of Intent (NOI) for coverage under the renewal Industrial Stormwater General Permit (Effective July 1, 2014) was received on 5/5/2014 and has been reviewed. The facility will continue coverage under the previously assigned permit tracking number **ARR000104** and AFIN **58-00105**. Any permit-related correspondence must include these numbers. This NOC is issued to **City Corporation** in reliance upon the statements and representations made in the submittal for the following facility located in Pope County:

City Corporation Wastewater Treatment Plant
404 Jimmy Lile Road
Russellville, AR 72802

Original Coverage Date: 06/09/2005
Renewal Coverage Date: 07/01/2014
Expiration Date: 06/30/2019

Mo Shafii
Assistant Chief, Water Division

06/10/2014
Date

ADEQ

ARKANSAS
Department of Environmental Quality

June 10, 2014

Steve Mallett, General Manager
City Corporation
P.O. Box 3186
Russellville, AR 72811

RE: Industrial Stormwater General Permit, City Corporation Wastewater Treatment Plant, Russellville, AR (Permit Tracking No. **ARR000104** - AFIN **58-00105**)

Dear Mr. Mallett:

Enclosed on the back of this letter is the Notice of Coverage (NOC) for Industrial Stormwater General Permit with tracking number ARR000104 that should be kept with the facility's records. Compliance with all conditions and limitations of the 2014 renewal general permit is required as of July 1, 2014.

An appeal was filed in a timely manner on January 30, 2014 requesting a Hearing of the 2014 final issued permit (effective July 1, 2014). However, through Permit Appeal Resolution (PAR) executed on May 6, 2014 the appeal was dismissed (Docket No. 14-002-P). As a result, there are no changes in the 2014 final issued permit.

If you have any questions concerning this matter or need additional information, please feel free to contact the General Permits Section at (501) 682-0623.

Sincerely,



Mo Shafii
Assistant Chief, Water Division

**AUTHORIZATION TO DISCHARGE STORMWATER UNDER
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER
AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.), and the Clean Water Act (33 § U.S.C. 1251 et seq.),

Facilities Discharging Stormwater Associated With Industrial Activity

are authorized to discharge to all receiving waters except as stated in Part 1.8 (Limitations on Coverage) in accordance with eligibility requirements, Notice of Intent (NOI) requirements, Stormwater Pollution Prevention Plan (SWPPP) requirements, effluent limitations, monitoring requirements, and other conditions set forth in this permit.

For facilities that are eligible for coverage under this Stormwater Industrial General Permit (IGP), the Department sends a Notice of Coverage (NOC) with tracking permit number starting with ARR00 to the facility. The NOC includes the Department's determination that a facility is covered under the IGP and may specify alternate requirements outlined in the permit.

Effective Date: 07/01/2014

Expiration Date: 06/30/2019



Ryan Benefield, P.E.
Deputy Director
Arkansas Department of Environmental Quality

12/31/13

Issuance Date

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PART 1: PERMIT REQUIREMENTS

- 1.1 Coverage Under This Permit.** This Stormwater Industrial General Permit (IGP) authorizes discharges from facilities composed of stormwater associated with industrial activity as defined in Part 8.29, where those discharges enter waters of the State or a Municipal Separate Storm Sewer System (MS4) leading to waters of the State are subject to the conditions set forth in this permit. The goal of this permit is to minimize the discharge of stormwater pollutants from industrial activity. The operator shall read and understand the conditions of the permit.
- 1.2 Availability of Permit, Forms, and Information.** A copy of this general permit, forms, reference materials, and other information is available on the Stormwater Homepage of the ADEQ web site: <http://www.adeg.state.ar.us>.

Hard copies may also be obtained by contacting the General Permits Section of the Water Division at (501) 682-0623 or by writing to:

General Permits Section
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

- 1.3 Permit Area.** This permit includes all areas within the State of Arkansas.
- 1.4 Eligibility.** The following stormwater discharges are eligible for coverage under this permit, unless otherwise made ineligible under Part 1.8:
- 1.4.1** All new and existing discharges composed entirely of stormwater associated with industrial activity from the facility's primary industrial activity, as defined in Part 8.29, and provided the primary industrial activity is included in Part 1.5.
- 1.4.2** Discharges designated by ADEQ as needing a stormwater permit. The Department may notify a facility that a stormwater permit is needed. Any such notice will briefly state the reason for such a decision.
- 1.4.3** Discharges subject to any of the national stormwater-specific effluent limitations guidelines listed below.

Regulated Discharge	40 CFR Section
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, byproducts or waste products (SIC 2874)	Part 418, Subpart A
Runoff from coal storage piles at steam electric generating facilities	Part 423
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from airport deicing at primary airports	Part 449

- 1.5 Categories of Facilities Covered by this Permit:** This permit is available for stormwater discharges from the following sectors of industrial activities, as well as any discharge not covered under the general sectors that has been identified by ADEQ as appropriate for coverage. The sector descriptions below are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes consistent with the definition of stormwater discharge associated with industrial activity at 40 CFR 122.26(b)(14)(i-ix, xi). Some Industrial Sectors have additional eligibility requirements that must be met before permit coverage is required. Please refer to 40 CFR 122.26(b)(14)(i-ix, xi) for full sector activity descriptions. The sectors are listed in the following table:

Sectors of Industrial Activity Covered by This Permit		
Sector and Sub-sector	SIC Code or Activity Code	Activity Represented
SECTOR A: TIMBER PRODUCTS		
A1	2421	General Sawmills and Planing Mills
A2	2491	Wood Preserving
A3	2411	Log Storage and Handling
A4	2426	Hardwood Dimension and Flooring Mills
	2429	Special Product Sawmills, Not Elsewhere Classified
	2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W)
	2448	Wood Pallets and Skids
	2449	Wood Containers, Not Elsewhere Classified
	2451, 2452	Wood Buildings and Mobile Homes
	2493	Reconstituted Wood Products
	2499	Wood Products, Not Elsewhere Classified
A5	2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS		
B1	2631	Paperboard Mills
B2	2611	Pulp Mills
	2621	Paper Mills
	2652-2657	Paperboard Containers and Boxes
	2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS		
C1	2873-2879	Agricultural Chemicals
C2	2812-2819	Industrial Inorganic Chemicals
C3	2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
C4	2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
C5	2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
	2861-2869	Industrial Organic Chemicals
	2891-2899	Miscellaneous Chemical Products
	3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
	2911	Petroleum Refining
SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS		
D1	2951, 2952	Asphalt Paving and Roofing Materials
D2	2992, 2999	Miscellaneous Products of Petroleum and Coal

Sectors of Industrial Activity Covered by This Permit		
Sector and Sub-sector	SIC Code or Activity Code	Activity Represented
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS		
E1	3251-3259	Structural Clay Products
	3261-3269	Pottery and Related Products
E2	3271-3275	Concrete, Gypsum, and Plaster Products
E3	3211	Flat Glass
	3221, 3229	Glass and Glassware, Pressed or Blown
	3231	Glass Products Made of Purchased Glass
	3241	Hydraulic Cement
	3281	Cut Stone and Stone Products
	3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS		
F1	3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
F2	3321-3325	Iron and Steel Foundries
F3	3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
F4	3363-3369	Nonferrous Foundries (Castings)
F5	3331-3339	Primary Smelting and Refining of Nonferrous Metals
	3341	Secondary Smelting and Refining of Nonferrous Metals
	3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)		
G1	1021	Copper Ore and Mining Dressing Facilities
G2	1011	Iron Ores
	1021	Copper Ores
	1031	Lead and Zinc Ores
	1041, 1044	Gold and Silver Ores
	1061	Ferroalloy Ores, Except Vanadium
	1081	Metal Mining Services
	1094, 1099	Miscellaneous Metal Ores
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES		
H1	1221-1241	Coal Mines and Coal Mining-Related Facilities
SECTOR I: OIL AND GAS EXTRACTION AND REFINING		
I1	1311	Crude Petroleum and Natural Gas
	1321	Natural Gas Liquids
	1381-1389	Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING		
J1	1442	Construction Sand and Gravel
	1446	Industrial Sand

Sectors of Industrial Activity Covered by This Permit		
Sector and Sub-sector	SIC Code or Activity Code	Activity Represented
J2	1411	Dimension Stone
	1422-1429	Crushed and Broken Stone, Including Rip Rap
	1481	Nonmetallic Minerals Services, Except Fuels
	1499	Miscellaneous Nonmetallic Minerals, Except Fuels
J3	1455, 1459	Clay, Ceramic, and Refractory Materials
	1474-1479	Chemical and Fertilizer Mineral Mining
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES		
K1	HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS		
L1	LF	Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
L2	LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: AUTOMOBILE SALVAGE YARDS		
M1	5015	Automobile Salvage Yards
SECTOR N: SCRAP RECYCLING FACILITIES		
N1	5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
N2	5093	Source-separated Recycling Facility
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES		
O1	SE	Steam Electric Generating Facilities, including coal handling sites
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING		
P1	4011, 4013	Railroad Transportation
	4111-4173	Local and Highway Passenger Transportation
	4212-4231	Motor Freight Transportation and Warehousing
	4311	United States Postal Service
	5171	Petroleum Bulk Stations and Terminals
SECTOR Q: WATER TRANSPORTATION		
Q1	4412-4499	Water Transportation Facilities
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS		
R1	3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES		
S1	4512-4581	Air Transportation Facilities

Sectors of Industrial Activity Covered by This Permit		
Sector and Sub-sector	SIC Code or Activity Code	Activity Represented
SECTOR T: TREATMENT WORKS		
T1	TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA
SECTOR U: FOOD AND KINDRED PRODUCTS		
U1	2041-2048	Grain Mill Products
U2	2074-2079	Fats and Oils Products
U3	2011-2015	Meat Products
	2021-2026	Dairy Products
	2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
	2051-2053	Bakery Products
	2061-2068	Sugar and Confectionery Products
	2082-2087	Beverages
	2091-2099	Miscellaneous Food Preparations and Kindred Products
	2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS		
V1	2211-2299	Textile Mill Products
	2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
	3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
SECTOR W: FURNITURE AND FIXTURES		
W1	2434	Wood Kitchen Cabinets
	2511-2599	Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING		
X1	2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES		
Y1	3011	Tires and Inner Tubes
	3021	Rubber and Plastics Footwear
	3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
	3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified

Sectors of Industrial Activity Covered by This Permit		
Sector and Sub-sector	SIC Code or Activity Code	Activity Represented
Y2	3081-3089	Miscellaneous Plastics Products
	3931	Musical Instruments
	3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
	3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
	3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
	3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING		
Z1	3111	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS		
AA1	3411-3499 (except 3479)	Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.
	3911-3915	Jewelry, Silverware, and Plated Ware
AA2	3479	Fabricated Metal Coating and Engraving
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY		
AB1	3511-3599 (except 3571-3579)	Industrial and Commercial Machinery, Except Computer and Office Equipment (see Sector AC)
	3711-3799 (except 3731, 3732)	Transportation Equipment Except Ship and Boat Building and Repairing (see Sector R)
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS		
AC1	3571-3579	Computer and Office Equipment
	3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
	3612-3699	Electronic and Electrical Equipment and Components, Except Computer Equipment
SECTOR AD: NON-CLASSIFIED FACILITIES		
AD1	Other stormwater discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any of Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.	

- 1.6 **Allowable Non-stormwater Discharges.** The following non-stormwater discharges are authorized by this permit:
- 1.6.1 discharges from emergency firefighting activities;
 - 1.6.2 fire hydrant flushings;
 - 1.6.3 potable water sources including waterline flushings;
 - 1.6.4 runoff from irrigation using non-process water;
 - 1.6.5 landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
 - 1.6.6 routine external building washdown which does not use detergents;
 - 1.6.7 pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
 - 1.6.8 air compressor condensate;
 - 1.6.9 steam condensate;
 - 1.6.10 uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids (such as the discharge of thawed condensate from the surface of liquid nitrogen tanks stored outdoors);
 - 1.6.11 incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains);
 - 1.6.12 uncontaminated ground water or spring water (See Note Below);
 - 1.6.13 foundation or footing drains where flows are not contaminated with process materials such as solvents (See Note Below);
 - 1.6.14 excavation dewatering (See Note Below); and
 - 1.6.15 non-process water used for dust suppression on roads.

Note:

There shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground waters contain sediment, it must pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

- 1.7 **Conditional No Exposure Exclusion.** In accordance with 40 CFR 122.26(g), a No Exposure Exclusion is a conditional exclusion applicable to all categories of industrial activity (except construction activity) with no exposure of industrial materials and activities to stormwater. All facilities with point source discharges composed entirely of stormwater associated with industrial activity that satisfy criteria of no exposure and complete the No Exposure Exclusion Certification Form will be able to obtain exclusion from this general permit. The Exclusion is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure Exclusion. To apply for a No Exposure Exclusion, a complete and accurate No Exposure Exclusion Certification Form and an initial permit fee as required under the provisions of APCEC Regulation No. 9 should be submitted. Subsequent annual fees will be billed by the Department. Facilities operating under a 2009 Industrial Stormwater General Permit No Exposure Exclusion must submit a Recertification NOI under Part 2.2, assuming the facility still qualifies for the exclusion.
- 1.8 **Limitations on Coverage (Exclusions).** The following stormwater discharges associated with industrial activity are not covered by this permit:
- 1.8.1 **Discharges Mixed with Non-Stormwater.** Stormwater discharges associated with industrial activity that are mixed with sources of non-stormwater, except for non-stormwater discharges that are identified by and in compliance with Part 1.6 of the permit.

- 1.8.2 Stormwater Discharges Associated with Construction Activity.** Stormwater discharges associated with construction activity disturbing one acre or more are not eligible for coverage under this permit, even if a permittee currently has coverage under this permit.
- 1.8.3 Discharges Currently Covered by Another Permit.** A facility is not eligible for coverage under this permit unless stormwater requirements from the individual permit can be transferred to this general permit. In order to avoid conflict with the “anti-backsliding” provisions of the Clean Water Act (CWA), a permit transfer will only be allowed where the outfall in the individual permit did not contain numeric water quality-based limitations with an exception of pH. A simple pH range limit would not necessarily have to be considered a water-quality based limit unless developed to address known discharge problems at a particular facility. Compliance with the numeric limitations under the individual permit could also be criteria for eligibility to transfer from an individual permit to the general permit.
- 1.8.4 Discharges Subject to Effluent Guidelines.** Stormwater discharges associated with industrial activity from facilities which are subject to existing effluent guideline limitations addressing stormwater with the exception of those listed in Part 1.4.3.
- 1.8.5 Discharges into Impaired Receiving Waters (303(d) List).** Discharges from a facility into receiving waters listed as impaired under Section 303(d) of the Clean Water Act are not eligible for coverage under this permit, unless the permittee:
- 1.8.5.1 documents that the pollutant(s) for which the waterbody is impaired is not present in the facility’s stormwater discharge(s) and retain documentation of the finding with the Stormwater Pollution Prevention Plan (SWPPP); or
 - 1.8.5.2 incorporate into the SWPPP any additional Best Management Practices (BMPs) needed:
 - 1.8.5.2.1 to prevent to the maximum extent practicable exposure to stormwater of the pollutants for which the waterbody is impaired; and
 - 1.8.5.2.2 to sufficiently protect water quality.

Please note that the Department will be reviewing this information. If it is determined that the facility will discharge to an impaired water body, then the Department may require additional requirements.

- 1.8.6 Discharges into Receiving Waters with an Approved TMDL.** Discharges from a facility into receiving waters for which there is an established Total Maximum Daily Load (TMDL) allocation are not eligible for coverage under this permit unless:
- 1.8.6.1 the permittee develops and certifies a SWPPP that is consistent with the assumptions and requirements in the approved TMDL; and
 - 1.8.6.2 if a specific numeric wasteload allocation has been established that would apply to the facility’s discharges, the operator must incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation.

Please note that the Department will be reviewing this information. If it is determined that the facility will discharge to receiving waters with an approved TMDL, then the Department may require additional BMPs.

1.8.7 **Direct Discharges into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW).** Discharges from a facility directly into receiving waters which are listed as an ERW, NSW, or ESW under the authority of APCEC Regulation 2 are not eligible for coverage under this permit unless:

- 1.8.7.1 the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent practicable exposure to stormwater of pollutants that could potentially impact water quality.

Please note that the Department will be reviewing this information. If it is determined that the facility will discharge to an ERW, NSW, or ESW, then the Department may require additional requirements.

1.8.8 **Discharges determined will cause impairment or have reason to believe will compromise Water Quality Standards.** Discharges from a facility into receiving waters which the Department has determined will cause an impairment or has reason to believe will compromise Water Quality Standards are not eligible for coverage under this permit unless:

- 1.8.8.1 the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent practicable exposure to stormwater of pollutants that could potentially impact water quality.

Please note that the Department will be reviewing this information. If it is determined that the facility will cause an impairment or will compromise Water Quality Standards, then the Department may require additional requirements.

PART 2: AUTHORIZATION UNDER THIS PERMIT

2.1 How to Obtain Authorization. To obtain authorization under this permit, one must:

- 2.1.1 Meet the Part 1.4 eligibility requirements.
- 2.1.2 Develop a SWPPP according to the requirements in Part 4 of the permit and select, design, install, and implement control measures to meet effluent limitations, water quality standards, and parameter benchmark values.
- 2.1.3 Submit a complete and accurate Application Package in accordance with Part 2.2, and an initial permit fee as required under the provisions of APCEC Regulation 9. Subsequent annual fees will be billed by the Department.

Timeframes for discharge authorization are contained in the table below. Unless notified by the Director to the contrary, Operators who submit such notifications are authorized to discharge stormwater associated with industrial activity under the terms and conditions of this permit after receipt of the Stormwater Industrial General Permit (IGP) Notice of Coverage (NOC).

2.2 Notice of Intent (NOI) Deadlines. Facilities that intend to obtain coverage for stormwater discharges from industrial activity under this general permit or have received authorization to discharge under a previously issued industrial general permit must submit an Application Package and perform additional actions in accordance with the following:

Category	Deadline for Submittal	Application Package	Other Required Actions
New Dischargers	Minimum thirty (30) days prior to commencement of stormwater discharge from the facility.	1. Completed NOI 2. Stormwater Pollution Prevention Plan (SWPPP) ¹ 3. Permit Fee	NONE
Existing Dischargers Authorized Under 2009 IGP	The effective date of this permit.	1. Completed Recertification NOI	Update SWPPP, as necessary, to comply with the requirements of Part 4 by the effective date of this permit (Submittal of updated SWPPP is not required.)
New Dischargers – No Exposure	Minimum thirty (30) days prior to commencement of stormwater discharge from the facility.	1. Completed No Exposure Exclusion Certification Form 2. Permit Fee	NONE
Existing Dischargers Under 2009 IGP with a No Exposure Exclusion	The effective date of this permit.	1. Completed Recertification NOI	NONE

Category	Deadline for Submittal	Application Package	Other Required Actions
Existing Dischargers with a No Exposure Exclusion who No Longer Qualify for the Exclusion	Maximum thirty (30) days after knowledge of disqualification from No Exposure Exclusion.	1. Completed NOI 2. Stormwater Pollution Prevention Plan (SWPPP) ¹ 3. Permit Fee	NONE

¹The Department understands that the SWPPP is a living document and the version submitted with an initial NOI may have portions that are not finalized. All required SWPPP sections must be attempted in the SWPPP submitted with the application package and the SWPPP must be certified as required under Part 7.8.

2.3 Contents of the Notice of Intent. The Notice of Intent includes, at a minimum, the following:

- 2.3.1 Permittee Name (Legal Applicant), Permittee, Address, Type, and Telephone Number
- 2.3.2 Invoice Contact Person, Mailing Information, and Telephone Number
- 2.3.3 Facility Name, Mailing Address, Location, Latitude, Longitude, SIC Codes, Description of Business/Process
- 2.3.4 Facility Contact Person and Phone Number
- 2.3.5 Outfall information specific to each and every outfall, including outfall name or number as indicated on site map(s) in the SWPPP, latitude, longitude, and receiving waterbody information.
- 2.3.6 Similar outfall information
- 2.3.7 Other information (i.e. Consulting Name, Address, and Telephone Number)
- 2.3.8 Certification and Signature of Permittee
- 2.3.9 Cognizant Official

2.4 Where to Submit. A complete package should be submitted to the Department at the following address:

General Permits Section
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

or by electronic mail (Complete documents (NOI, Recertification NOI, No Exposure Exclusion Certification Form, or SWPPP) must be submitted in Adobe Acrobat format (.pdf)) to: Water-permit-application@adeq.state.ar.us.

Unless otherwise specified by the Department, the above mailing address should be used for all correspondence.

NOTE: A Notice of Coverage (NOC) will not be issued until payment has been received by ADEQ.

2.5 Additional Notification. Facilities which discharge stormwater associated with industrial activity to a small, medium, or large Municipal Separate Storm Sewer System (MS4), as defined in Parts 8.16 and 8.24 of this permit, must, in addition to filing a copy of the Notice of Intent, notify the operator of the MS4 to which they discharge in accordance with the deadlines in Part 2.2 of this permit.

2.6 Change of Facility Name, Ownership, or Authorization.

Facilities that are authorized under this permit, which undergo a change in ownership, facility name, or signatory authorization (i.e., a new cognizant official, responsible person, etc.), must submit a Permit Transfer form to the Director. A Permit Transfer form can be obtained from the General Permits Section of the Water Division of the ADEQ website at: www.adeq.state.ar.us/. For an ownership change, the permit transfer form must be submitted a minimum of 30 days prior to the date the transfer to the new operator will take place. The new owner must comply with the existing permit for the facility during the interim period.

2.7 Terminating Coverage.

2.7.1 **Submitting a Notice of Termination.** To terminate permit coverage, the permittee must submit a complete and accurate Notice of Termination (NOT). A Notice of Termination form may be obtained from the ADEQ website at: www.adeg.state.ar.us. The permittee is responsible for meeting the terms of this permit until the acceptance of the termination of authorization by the Department.

2.7.2 **When to Submit a Notice of Termination.**

The permittee must submit a Notice of Termination after:

- 2.7.2.1 The facility has ceased operations, stabilized exposed soils related to industrial activities that have the potential to cause a discharge of sediment, and there are not or no longer will be discharges of stormwater associated with industrial activity from the facility; or
- 2.7.2.2 The facility has obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit.

PART 3: BEST MANAGEMENT PRACTICES, LIMITATIONS AND MONITORING REQUIREMENTS

3.1 Best Management Practices. All facilities must comply with the following Best Management Practices (BMPs). Parts 3.1.1 through 3.1.11 are considered part of every facility's Stormwater Pollution Prevention Plan (SWPPP) unless the permittee has incorporated into the SWPPP adequate justification or data indicating why the BMP does not apply to the facility or the facility's stormwater discharges. BMPs are primarily to be used by the facility as the factors to consider when attempting to prevent pollutants from leaving the facility via stormwater exposed to industrial activities.

3.1.1 Minimize Exposure. The operator must take actions as appropriate to minimize the exposure of potential sources of pollutants in the manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, the operator should pay particular attention to the following:

- use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);
- clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;
- use spill/overflow protection equipment;
- drain fluids from equipment and vehicles prior to on-site storage or disposal;
- perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
- ensure that all washwater drains to a proper collection system (i.e., not the stormwater drainage system).

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit. These wastewaters must be covered under a separate NPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or disposed of otherwise in accordance with applicable law.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters or if discharges are authorized under another NPDES permit.

3.1.2 Good Housekeeping. The operator must incorporate good housekeeping practices in an effort to keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers.

3.1.3 Maintenance. The operator must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters. The operator must maintain all control measures that are used in the implementation of the Best Management Practices or to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If the operator finds that the control measures need to be replaced or repaired, the operator must make the necessary repairs or modifications as expeditiously as practicable.

3.1.4 Spill Prevention and Response Procedures. The operator must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the operator must implement:

- Procedures for plainly labeling containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides,” etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the stormwater pollution prevention team (see Part 4.2.2); and
- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, the operator must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as the operator has knowledge of the discharge. Local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. **Contact information must be in locations that are readily accessible and available.**

3.1.5 Erosion and Sediment Controls. The operator must stabilize exposed areas and control runoff using structural or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions the operator must take to meet this limit, the operator must place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, the operator is encouraged to consult with EPA’s internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar publications.

3.1.6 Management of Runoff. The operator must implement appropriate measures to manage the runoff from the property in such a manner as to minimize the pollutants in the discharge. These measures may include the diversion of the runoff away from areas where pollutants may be present or the reuse of stormwater runoff where practicable, by the use of measures that divert the runoff, contain the runoff, or allow for reuse of the runoff. In selecting, designing, installing, and implementing appropriate control measures, the operator is encouraged to consult with EPA’s internet-based resources relating to runoff management, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar publications.

3.1.7 Salt Storage Piles or Piles Containing Salt. The operator must enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. The operator must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES permit.

- 3.1.8 Employee Training.** The operator must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training for employees whose job duties include implementation of pollution prevention measures or Stormwater Pollution Prevention Team members must cover both the specific control measures used in the implementation of the BMPs in this Part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. Training for employees who work in areas where industrial materials or activities are exposed to stormwater, but whose job duties do not include implementation of pollution prevention measures should cover the specific control measures and BMPs used in the facility area in which they work. ADEQ recommends training be conducted at least annually (or more often if employee turnover is high).
- 3.1.9 Non-Stormwater Discharges.** The operator must eliminate non-stormwater discharges not authorized by an NPDES permit. See Part 1.6 for a list of non-stormwater discharges authorized by this permit.
- 3.1.10 Waste, Garbage and Floatable Debris.** The operator must take actions as appropriate to ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.
- 3.1.11 Dust Generation and Vehicle Tracking of Industrial Materials.** The operator must take actions as appropriate to minimize generation of dust and off-site tracking of raw, final, or waste materials.
- 3.2 Water Quality Standards.** Any discharge of stormwater associated with industrial activity must be controlled as necessary to meet applicable water quality standards. New discharges or increased loadings from existing discharges must be consistent with the Arkansas Anti-Degradation Policy in APCEC Regulation 2. ADEQ expects that compliance with the other conditions in this permit will control discharges as necessary to meet applicable water quality standards. If at any time the facility becomes aware, or ADEQ determines, that the facility's discharge causes or contributes to an exceedance of applicable water quality standards, the permittee must take corrective action as required, document the corrective actions as required, and report the corrective actions to ADEQ.
- 3.3 Numeric Effluent Limitations based on Effluent Limitations Guidelines.** Permittees subject to one of the Effluent Limitation Guidelines identified in Part 1.4.3 must comply with the following limits:
- 3.3.1** The effluent limits referenced in the table below must be met, based on whether a facility has stormwater associated with the industrial activities listed below:

CFR Industry		Parameter	Limitation	Monitoring Requirements	
Category	Subcategory			Frequency	Sample Type
Cement Manufacturing (40 CFR 411)	Material Storage Piles Runoff	pH	6.0-9.0 s.u.	once/year	grab
		Total Suspended Solids (TSS)	50 mg/l (Daily Maximum)	once/year	grab
Fertilizer Manufacturing (40 CFR 418)	Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, byproducts or waste products	pH	6.0-9.0 s.u.	once/year	grab
		Total Phosphorus (As P)	105.0 mg/l (Daily Maximum)	once/year	grab
			35 mg/l (30-day Average)	once/year	grab
		Fluoride	75.0 mg/l (Daily Maximum)	once/year	grab
25.0 mg/l (30-day Average)	once/year		grab		

CFR Industry		Parameter	Limitation	Monitoring Requirements	
Category	Subcategory			Frequency	Sample Type
Steam powered electric power generating (40 CFR 423)	Coal Pile Runoff	pH	6.0-9.0 s.u.	once/year	grab
		Total Suspended Solids ¹ (TSS)	50 mg/l (Daily Maximum)	once/year	grab
Paving and roofing materials (tars and asphalt) (40 CFR 443)	Runoff from manufacturing of asphalt paving or roofing emulsion	Total Suspended Solids (TSS)	23.0 mg/l (Daily Maximum)	once/year	grab
			15.0 mg/l (30-day Average)	once/year	grab
		pH	6.0-9.0 s.u.	once/year	grab
		Oil and Grease	15.0 mg/l (Daily Maximum)	once/year	grab
10.0 mg/l (30-day Average)	once/year		grab		
Airport Deicing (40 CFR 449)	Airport Deicing at Primary Airports ^{2,3}	Ammonia as Nitrogen	14.7 mg/L (Daily Maximum)	once/year	grab

¹ Coal pile runoff shall not be diluted with other stormwater or other flows in order to meet the TSS limitations. Any untreated overflow from facilities designed, constructed and operated to treat the volume of coal pile runoff which is associated with a 10-year, 24-hour rainfall event shall not be subject to the 50 mg/l Total Suspended Solids limitations.

² Existing and new primary airports with 1,000 or more annual jet departures (“non-propeller aircraft”) that discharge wastewater associated with airfield pavement deicing commingled with stormwater must either use non-urea-containing deicers or meet the effluent limit provided.

³ New airport deicing sources must meet the New Source Performance Standards (NSPS) listed in 40 CFR 449.11, including the requirement of 40 CFR 449.11(a)(1) to collect at least 60 percent of available Aircraft Deicing Fluid.

3.3.2 The facility must monitor each outfall discharging stormwater from any of the regulated activities described in the above table. The similar outfall monitoring provision as described in Part 3.8.1 is not available for numeric effluent limits monitoring.

3.4 Parameter Benchmark Monitoring. All facilities covered under this general permit are authorized to discharge from all permitted stormwater outfalls. All facilities are required to conduct monitoring and sampling of stormwater at each outfall as specified below. The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data are primarily to be used by the facility staff to determine the overall effectiveness of BMPs and control measures in controlling the discharge of pollutants to the environment and to assist the facility in knowing when additional corrective action(s) may be necessary.

Effluent Characteristics	Parameter Benchmark Value		Monitoring Requirements	
	Maximum Concentration		Frequency	Sample Type
pH	<u>Minimum</u> 6.0 S.U.	<u>Maximum</u> 9.0 S.U.	once/year	grab
Total Suspended Solids (TSS)	100 mg/L		once/year	grab

In addition to the above effluent characteristics, the following effluent characteristics, which are based on the Industrial Sub-Sectors as defined in Part 1.5, must also be monitored. (Please note that not all Sub-Sectors listed in Part 1.5 have additional characteristics. If the Industrial Sub-Sector is not listed below, only the above effluent characteristics are required.)

Industrial Sub-Sector	Effluent Characteristics	Parameter Benchmark Value Maximum Concentration	Monitoring Requirements	
			Frequency	Sample Type
A1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
A2	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
	Total Arsenic	0.169 mg/L	once/year	grab
	Total Copper	0.0756 mg/L	once/year	grab
A3	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
A4	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
A5	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
B1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
B2	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
C1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
C2	Phosphorus	2.0 mg/L	once/year	grab
	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Total Aluminum	0.75 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
C3	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
C4	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
C5	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
D1	Oil & Grease (O&G)	15 mg/L	once/year	grab
D2	Oil & Grease (O&G)	15 mg/L	once/year	grab
E1	Total Aluminum	0.75 mg/L	once/year	grab
E2	Total Iron	1.0 mg/L	once/year	grab
F1	Total Aluminum	0.75 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
F2	Total Aluminum	0.75 mg/L	once/year	grab
	Total Copper	0.0756 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab

Industrial Sub-Sector	Effluent Characteristics	Parameter Benchmark Value Maximum Concentration	Monitoring Requirements	
			Frequency	Sample Type
F3	Total Copper	0.0756 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
F4	Total Copper	0.0756 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
G1	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
G2	Total Antimony	0.636 mg/L	once/year	grab
	Total Arsenic	0.169 mg/ L	once/year	grab
	Total Beryllium	0.13 mg/L	once/year	grab
	Total Cadmium	0.0118 mg/L	once/year	grab
	Total Copper	0.0756 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab
	Total Mercury	0.0024 mg/L	once/year	grab
	Total Nickel	6.43 mg/L	once/year	grab
	Total Selenium	0.239mg/L	once/year	grab
	Total Silver	0.0107 mg/L	once/year	grab
H1	Total Aluminum	0.75 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
I1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
J1	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
K1	Ammonia	19 mg/L	once/year	grab
	Total Magnesium	0.0636 mg/L	once/year	grab
	Total Arsenic	0.169 mg/L	once/year	grab
	Total Cadmium	0.0118 mg/L	once/year	grab
	Total Cyanide	0.0636 mg/ L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab
	Total Mercury	0.0024 mg/ L	once/year	grab
	Total Selenium	0.239 mg/L	once/year	grab
L1	Total Silver	0.0107 mg/L	once/year	grab
	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
L2	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
M1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Total Aluminum	0.75 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab

Industrial Sub-Sector	Effluent Characteristics	Parameter Benchmark Value Maximum Concentration	Monitoring Requirements	
			Frequency	Sample Type
N1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
	Total Aluminum	0.75 mg/L	once/year	grab
	Total Copper	0.0756 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
N2	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
O1	Total Iron	1.0 mg/L	once/year	grab
P1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
Q1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Total Aluminum	0.75 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Lead	0.519 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
S1	Ammonia ¹	19 mg/L	once/year	grab
T1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
U1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
U2	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
U3	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab
	Oil & Grease (O&G)	15 mg/L	once/year	grab
Y1	Total Zinc	0.684 mg/L	once/year	grab
AA1	Oil & Grease (O&G)	15 mg/L	once/year	grab
	Total Aluminum	0.75 mg/L	once/year	grab
	Total Iron	1.0 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
AA2	Oil & Grease (O&G)	15 mg/L	once/year	grab
	Total Zinc	0.684 mg/L	once/year	grab
	Nitrate plus Nitrite Nitrogen	0.68 mg/L	once/year	grab
AB1	Oil & Grease (O&G)	15 mg/L	once/year	grab
AD1	Chemical Oxygen Demand (COD)	120 mg/L	once/year	grab

¹For airports where a single permittee or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals or 100 tons or more of urea on an average annual basis, monitor all parameters in ONLY those outfalls that collect runoff from areas where deicing activities occur. Monitoring is not required for facilities with deicing activities that do not meet the above thresholds.

3.5 Additional Monitoring Required by ADEQ. ADEQ may notify the facility of additional discharge monitoring requirements. Any such notice will briefly state the reasons for the monitoring, locations, and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements. If a facility discharges to an impaired water with an ADEQ approved or established TMDL, ADEQ will inform the facility if any additional monitoring requirements or controls are necessary for the discharge to be consistent with the assumptions of any available wasteload allocation in the TMDL.

3.6 Monitoring Period. The monitoring period is from January 1st to December 31st of a calendar year. The facility must monitor at least once within a calendar year.

Monitoring requirements in this permit begin on the effective date of the permit.

3.7 Monitoring Location. All samples must be taken at monitoring points specified in the NOI and SWPPP before the stormwater joins or is diluted by any other waste stream, unless otherwise approved in writing by the Department.

3.8 Sampling Associated with Monitoring Requirements. Sampling shall be conducted to capture stormwater with the greatest exposure to significant sources of pollution. Each stormwater outfall must be sampled and analyzed separately unless an outfall has been determined to be similar in accordance with Part 3.8.1 below.

3.8.1 Similar Outfalls. When a stormwater outfall may be similar to another outfall at the facility, i.e., similar effluents based on a consideration of industrial activity, significant materials and management practices, and activities within the area drained by the outfall, the permittee may sample only the discharge point with the highest concentration of pollutants. The permittee must get approval of the similar outfall designation from the Department prior to monitoring. This provision is not available for discharges subject to the Effluent Limitations Guidelines in Part 1.4.3. The SWPPP must include documentation on how these determinations were made and the description of each point of discharge. The documentation should include the following information:

3.8.1.1 Location of each of the similar outfalls;

3.8.1.2 Description of the general industrial activities conducted in the drainage area of each outfall;

3.8.1.3 Description of the control measures implemented in the drainage area of each outfall;

3.8.1.4 Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges; and

3.8.1.5 Why the outfalls are expected to discharge similar effluents.

3.8.2 Sampling Procedures. Samples and measurements taken as required shall be representative of the volume and nature of the monitored discharge. Stormwater must be sampled according to requirements below unless the Permittee submits an alternative plan as a modification of coverage and it is approved by ADEQ. Any approved alternative plan should be included in the SWPPP. If a Permittee is unable to sample during a monitoring period, they must document a justification in the Stormwater Annual Report for that period.

Sampling requirements and instructions are as follows:

3.8.2.1 Grab Sample. A minimum of one grab sample must be taken from each outfall within the first 30 minutes of a discharge resulting from a measurable storm event as described in Part 3.8.2.2. If it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the first 30 minutes.

3.8.2.2 Measurable Storm Events. All required monitoring must be performed on a storm event that results in an actual discharge from the site (“measurable storm event”) that follows the preceding measurable storm event by at least 72 hours (3 days). The 72-hour (3-day) storm interval does not apply if the facility is able to document that less than a 72-hour (3-day) interval is representative for local storm

events during the sampling period. In the case of frozen precipitation, the measureable storm event begins when melting produces a measurable discharge at the facility and ends when measurable discharge ceases at the facility.

- 3.8.2.3 Adverse Weather Conditions.** Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions. When adverse weather conditions prevent the collection of samples according to the relevant monitoring schedule, a substitute sample must be taken during the subsequent qualifying storm event. The facility must document any failure to monitor as indicating the basis for not sampling during the usual reporting period.
- 3.8.2.4 Sampling Method.** Analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department provided that such otherwise approved analytical method is the equivalent of that found in the guidance cited in this section or will result in more accurate analytical results or will have a lower detection limit. Note that 40 CFR Part 136 and *Standard Methods for the Examination of Waste and Wastewater* establish the maximum holding times for each parameter which must be met for sampling results to be considered valid. Some parameters have short holding times, such as pH, which should be analyzed immediately to be considered valid.
- 3.8.2.5 Records.** For each monitoring event, the permittee shall record the date of the storm event sampled; rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff; and the duration between the storm event sampled and the end of the previous measurable storm event.

3.9 Exceptions to Monitoring Requirements.

- 3.9.1 Inactive and Un-staffed Facilities.** Facilities that are inactive and unstaffed during an entire monitoring period will not be required to monitor during the inactive and unstaffed period. To be eligible for a monitoring waiver at inactive and unstaffed sites, the permittee must certify the site is unstaffed and inactive and the pollutant generating activities are not occurring at the site. The certification must be signed in accordance with signatory requirements of Part 7.8 and kept with the Stormwater Pollution Prevention Plan. Unstaffed is defined as no staff assigned to the industrial or pollutant generating activities. A site may be “unstaffed” even when security personnel are present, provided that pollutant generating activities are not included in their duties.
- 3.9.2 Sampling Waiver.** If a parameter is assigned to the facility per Part 3.4, the permittee may request in writing for sampling for that parameter to be waived. Adequate justification or data must be provided to the Department indicating as to why the assigned characteristic is not present at levels that would adversely affect the environment. The Department will review the request and all available information and provide a decision via correspondence.

3.10 Parameter Benchmark Values. This section contains the parameter benchmark values that should be met in stormwater discharges as applicable. The benchmark concentrations are not effluent limitations. Therefore, a benchmark exceedance is not a permit violation.

PARAMETER BENCHMARK VALUES ⁺					
Parameter name	Benchmark level	Source	Parameter name	Benchmark level	Source
Biochemical Oxygen Demand (5)	30 mg/L	4	Fluoride	1.8 mg/L	6
Chemical Oxygen Demand	120 mg/L	5	Iron, Total	1.0 mg/L	12
Total Suspended Solids	100 mg/L	7	Lead, Total (H)	0.519 mg/L	14
Oil and Grease	15 mg/L	8	Magnesium, Total	0.0636 mg/L	9
Nitrate + Nitrite Nitrogen	0.68 mg/L	7	Manganese	1.0 mg/L	13
Total Phosphorus	2.0 mg/L	6	Mercury, Total	0.0024 mg/L	1
pH	6.0-9.0 s.u.	4	Nickel, Total (H)	6.43 mg/L	14
Acrylonitrile (c)	7.55 mg/L	2	PCB-1016 (c)	0.000127 mg/L	9
Aluminum, Total (pH 6.5-9)	0.75 mg/L	1	PCB-1221 (c)	0.10 mg/L	10
Ammonia	19 mg/L	1	PCB-1232 (c)	0.000318 mg/L	9
Antimony, Total	0.636 mg/L	9	PCB-1242 (c)	0.00020 mg/L	10
Arsenic, Total (c)	0.169 mg/L	9	PCB-1248 (c)	0.00255 mg/L	9
Benzene	0.01 mg/L	10	PCB-1254 (c)	0.10 mg/L	10
Beryllium, Total (c)	0.13 mg/L	2	PCB-1260 (c)	0.000477 mg/L	9
Butylbenzyl Phthalate	3 mg/L	3	Phenols, Total	1.0 mg/L	11
Cadmium, Total (H)	0.0118 mg/L	14	Pyrene (PAH) (PAH _c)	0.01 mg/L	10
Chloride	860 mg/L	1	Selenium, Total (*)	0.239 mg/L	9
Copper, Total (H)	0.0756 mg/L	14	Silver, Total (H)	0.0107 mg/l	14
Cyanide, Total	0.0636 mg/L	9	Toluene	10.0 mg/L	3
Dimethyl Phthalate	1.0 mg/L	11	Trichloroethylene (c)	0.0027 mg/L	3
Ethylbenzene	3.1 mg/L	3	Zinc, Total (H)	0.684 mg/L	14
Fluoranthene	0.042 mg/L	3			

Sources:

1. "EPA Recommended Ambient Water Quality Criteria." Acute Aquatic Life Freshwater.
2. "EPA Recommended Ambient Water Quality Criteria." Lowest Observed Effect Levels (LOEL) Acute Freshwater.
3. "EPA Recommended Ambient Water Quality Criteria." Human Health Criteria for Consumption of Water and Organisms.
4. Secondary Treatment Regulations (40 CFR 133).
5. Factor of 4 times BOD5 concentration - North Carolina benchmark.
6. North Carolina stormwater benchmark derived from NC Water Quality Standards.
7. National Urban Runoff Program (NURP) median concentration.
8. Median concentration of Stormwater Effluent Limitation Guideline (40 CFR Part 419)
9. Minimum Level (ML) based upon highest Method Detection Level (MDL) times a factor of 3.18.
10. Laboratory derived Minimum Level (ML).
11. Discharge limitations and compliance data.

12. "EPA Recommended Ambient Water Quality Criteria." Chronic Aquatic Life Freshwater.
13. Colorado - Chronic Aquatic Life Freshwater - Water Quality Criteria.
14. 2009 ADEQ CPP and APCEC Regulation No. 2

Notes:

- (*) Limit established for oil and gas exploration and production facilities only.
 - (c) carcinogen.
 - (H) hardness dependent.
 - (PAH) Polynuclear Aromatic Hydrocarbon.
- Assumptions:**
- Receiving water temperature - 20 °C.
 - Receiving water pH - 7.8.
 - Receiving water hardness (CaCO₃) - 100 mg/L.
 - Receiving water salinity - 20 g/kg.
 - Acute to Chronic Ratio (ACR) - 10.

Footnotes:

- ⁺ Federal Register; Monday, October 30, 2000; Volume 65, No. 210; page 64767.

3.11 Alternatives to Parameter Benchmark Values. The permittee may develop alternatives to the parameter benchmark values, as follows.

3.11.1 The SWPPP must contain a full and complete description of the alternative(s) to the established parameter benchmark values listed in this permit, along with the justification for the selected alternative(s), why the alternative(s) is considered equivalent to the listed parameter benchmark value in protecting water quality (if the permittee is establishing a different value than the established parameter benchmark value), how the alternative(s) will be evaluated to determine equivalency with the established parameter benchmark value, and documenting on an annual basis the permittee's ability to successfully achieve the alternative(s) to the established parameter benchmark values.

3.11.2 The permittee shall submit the section of the SWPPP with the alternative(s) and the rationale to the Department for review. The Department shall review the alternatives and notify the facility of such a decision in writing. The Department shall have 60 days to review the alternatives. If, after 60 days, the Department has not notified the operator of its review findings, the permittee may begin to use the alternative(s) to the established parameter benchmark values. If the Department does not approve the alternatives(s), the permittee shall use the parameter benchmark values provided in Part 3.10.

3.12 Response to Monitoring Results Above Parameter Benchmark Values. This permit stipulates parameter benchmark value concentrations that may be applicable to a facility's discharge. The benchmark concentrations are not effluent limitations. Therefore, a benchmark exceedance is not a permit violation. Benchmark monitoring data are primarily for the facility to use for determining the overall effectiveness of control measures and to assist in knowing when additional corrective action(s) may be necessary to comply with permit requirements.

3.12.1 Data exceeding benchmarks: If a sampling result for any parameter exceeds the parameter benchmark value, the facility shall investigate the cause or source of the elevated pollutant levels, review the SWPPP, and determine and document a Corrective Action Plan to address the benchmark exceedance. The facility shall commence with the above process within 30 calendar days of the exceedance while immediately taking all readily apparent, reasonable steps necessary to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events.

The Corrective Action Plan must contain the following: the results of the review; the corrective actions the permittee will take to address the benchmark excursion, including whether a SWPPP modification is necessary; and an implementation schedule with milestone dates and including alternative methods for implementing existing site controls or methods for implementing additional effective site controls, if the site controls have not already been implemented.

The permittee must document the date that corrective actions are initiated and are completed or expected to be completed. This documentation must be included in an annual report and a copy retained onsite with the SWPPP.

3.12.2 Natural background pollutant level: If the permittee determines that the exceedances of the benchmark values is attributable solely to the presence of that pollutant in the natural background, the permittee is not required to perform corrective actions or additional benchmark monitoring, provided that the following are met:

3.12.2.1 The concentration of the benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background (data from previous monitoring may be used);

3.12.2.2 The permittee documents and maintains with the SWPPP the supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. This must include in the supporting rationale any site specific data previously collected by the facility or others

(including literature studies) that describe the levels of natural background pollutants in the stormwater discharge; and

- 3.12.2.3** The Department must be notified that the benchmark exceedances are attributable solely to natural background pollutant levels. Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on-site or pollutants in run-on from neighboring sources which are not naturally occurring.

Compliance with the requirements of the above conditions does not relieve the permittee of the duty to comply with any other applicable conditions of this permit

PART 4: STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Each facility covered by this permit shall develop, implement, and comply with a stormwater pollution prevention plan (SWPPP). The SWPPP shall be prepared in accordance with commonly accepted engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with industrial activity from the facility. Required elements of the SWPPP, implemented in the form of Best Management Practices (BMPs) in lieu of numerical limitations, are considered to be technology-based non-numeric limits based on 40 CFR 122.44(k)(3). The permittee must select, design, install, and implement control measures to comply with the Best Management Practices in Part 3.1, to meet the water quality-based effluent limitations in Part 3.2, and meet the limits contained in applicable Effluent Limitations Guidelines in Part 3.3; the SWPPP is the documentation of this process. The SWPPP must also include any additional Best Management Practices (BMPs) as necessary to comply with state water quality standards and parameter benchmark values. New facilities must have a SWPPP developed and implemented before beginning operation. However, some components of a SWPPP are added over time (e.g. results of dry and wet weather inspections) and cannot be included in the first SWPPP. The Permittee must update the SWPPP as required by permit conditions. Facilities must implement the provisions of the SWPPP required under conditions of this permit.

- 4.1 Deadlines for SWPPP Preparation and Compliance.** Deadlines for SWPPP preparation and compliance for stormwater discharge associated with industrial activity are as follows. Upon a showing of good cause, the Director may establish a later date in writing for preparing and coming into compliance with a SWPPP for a stormwater discharge associated with industrial activity that submits an NOI in accordance with requirements of this permit.

Category	Completion or Updating of SWPPP
New Dischargers	Shall be developed and then submitted to the Department with the Application Package
Existing Dischargers Authorized Under 2009 IGP	Shall be updated by the effective date of this permit. Submittal is not required.

4.2 Contents of SWPPP.

For coverage under this permit, the SWPPP shall include, at a minimum, the following elements:

- Facility information (see Part 4.2.1)
- Stormwater pollution prevention team (see Part 4.2.2);
- Facility description (see Part 4.2.3);
- Description of potential pollutant sources (see Part 4.2.4);
- Measures and controls (see Part 4.2.5);
- Schedules and procedures (see Part 4.2.6);
- Additional requirements (see Part 4.2.7) and
- Signature requirements (see Part 4.2.8).

- 4.2.1 Facility Information.** Each SWPPP shall include the facility name, general permit tracking number, facility physical address, and the facility's SIC and NAICS codes.

- 4.2.2 Stormwater Pollution Prevention Team.** Each SWPPP shall identify a specific individual or position within the facility organization as members of a Stormwater Pollution Prevention Team that are responsible for developing the SWPPP and assisting the facility or plant manager in its implementation, maintenance, and revision. The SWPPP shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's SWPPP.

Please note that common positions (i.e. secretary, operator, etc) may not be used. A specific position or individual's name must be listed.

4.2.3 Facility Description: The facility description will describe the industrial activities conducted at the site (detailed process description), the general layout of the facility including buildings and storage of raw materials, and the flow of goods and materials through the facility. It should include seasonal variations including peaks in production and any changes in work based on season or weather (e.g. moving work outdoors on dry days). As part of the facility description, a site map should be provided showing the following, as applicable:

- 4.2.3.1 the size of the property in acres;
- 4.2.3.2 the location and extent of significant structures and impervious surfaces;
- 4.2.3.3 directions of stormwater flow (use arrows);
- 4.2.3.4 locations of all existing structural control measures;
- 4.2.3.5 locations of all receiving waters in the immediate vicinity of the facility,
- 4.2.3.6 locations of all stormwater conveyances including ditches, pipes, and swales;
- 4.2.3.7 locations of potential pollutant sources;
- 4.2.3.8 locations of all stormwater monitoring points;
- 4.2.3.9 locations of stormwater inlets and outfalls, with a unique identification code for each outfall, indicating if one or more outfalls is being treated as “substantially identical” , and an approximate outline of the areas draining to each outfall;
- 4.2.3.10 municipal separate storm sewer systems (MS4), where the stormwater discharges to them (if applicable);
- 4.2.3.11 locations and descriptions of all non-stormwater discharges identified;
- 4.2.3.12 locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance or cleaning areas; loading/unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; processing and storage areas; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; transfer areas for substances in bulk; and machinery; and
- 4.2.3.13 locations and sources of run-on to the site from adjacent property that contains significant quantities of pollutants.

4.2.4 Description of potential pollutant sources. The SWPPP must document the areas at the facility where industrial materials or activities are exposed to stormwater and from which allowable non-stormwater discharges are released. For the definition of “industrial materials or activities,” see Part 8.12. For each area identified, the description must include:

- 4.2.4.1 Industrial Activities in the area. A list of the industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).
- 4.2.4.2 Pollutants. A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list must include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to stormwater in the 3 years prior to the date the SWPPP is prepared or amended.
- 4.2.4.3 Spills and Leaks. The SWPPP must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks.

A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas exposed to precipitation or that otherwise drain to a stormwater conveyance at the facility in the three years prior to the date the SWPPP was prepared or amended. This list shall be updated as appropriate

during the term of the permit.

- 4.2.4.4 **Non-Stormwater Discharges.** The SWPPP shall include measures to identify and eliminate the discharge of process wastewater, domestic wastewater, non-contact cooling water, and other illicit discharges to stormwater systems or to waters of the State. The SWPPP shall identify and ensure the implementation of appropriate pollution prevention measures for non-stormwater component(s) of the discharge allowed by Part 1.6.

The SWPPP shall also include a certification that the discharge has been tested or evaluated for the presence of illicit non-stormwater discharges and that all identified unauthorized discharges have been eliminated. The certification shall include the identification of potential significant sources of non-stormwater at the site, a description of the results of any test or evaluation for the presence of non-stormwater discharges, the evaluation criteria and testing method used, the date of any testing or evaluation, and the on-site drainage points that were directly observed during a test. Certifications shall be signed in accordance with Part 7.8 of this permit. Such certification may not be feasible if the facility operating the stormwater discharge associated with industrial activity does not have access to an outfall, manhole or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the SWPPP shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-stormwater at the site.

- 4.2.4.5 **Salt Storage.** The SWPPP must document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.
- 4.2.4.6 **Sampling Data.** A summary of existing discharge sampling data describing pollutants in stormwater discharges from the facility, including a summary of sampling data collected during the term of this permit.

- 4.2.5 **Measures and Controls.** Each facility covered by this permit shall develop a description of stormwater management controls appropriate for the facility and implement such controls. The appropriateness and priorities of controls in the SWPPP shall reflect identified potential sources of pollutants at the facility. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer's specifications. Note that a permittee may deviate from such manufacturer's specifications where justification is provided for such deviation and include documentation of the rationale in the part of the SWPPP that describes the control measures. If control measures are found not to be achieving their intended effect of minimizing pollutant discharges, the control measures must be modified as expeditiously as practicable.

The following should be considered when selecting and designing control measures:

- 4.2.5.1 preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;
- 4.2.5.2 using control measures in combination is more effective than using control measures in isolation for minimizing pollutants in stormwater discharges;
- 4.2.5.3 assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
- 4.2.5.4 minimizing impervious areas at the facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;
- 4.2.5.5 attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
- 4.2.5.6 conserving or restoring of riparian buffers will help protect streams from stormwater runoff and

- improve water quality; and
- 4.2.5.7 using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

For Guidance on potential pollutant sources and controls that should be considered in development of the SWPPP for a specific type of industry, refer to EPA's Multi-Sector General Permit (available online via link at (<http://www.epa.gov/region6/6wq/npdes/sw/industry/index.htm>)). The description of stormwater management controls shall address the following minimum components, including a schedule for implementation.

4.2.6 **Schedules and Procedures.**

4.2.6.1 **Documentation of Control Measures Used to Comply with the Best Management Practices in Part 3.** The following must be documented in the SWPPP:

- 4.2.6.1.1 Good Housekeeping (See Part 3.1.2) – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers;
- 4.2.6.1.2 Maintenance (See Part 3.1.3) – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;
- 4.2.6.1.3 Spill Prevention and Response Procedures (See Part 3.1.4) – Procedures for preventing and responding to spills and leaks. The procedures may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that a copy of that other plan is kept onsite and made available for review consistent with Part 5.3; and
- 4.2.6.1.4 Employee Training (Part 3.1.8) – A schedule for all types of necessary training.

4.2.6.2 **Documentation of Monitoring.**

- 4.2.6.2.1 The operator must document in the SWPPP the procedures for conducting the analytical monitoring specified by this permit, where applicable to the facility, including:
- 4.2.6.2.1.1 Benchmark monitoring (see Part 3.4);
- 4.2.6.2.1.2 Effluent limitations guidelines monitoring (see Part 3.3); and
- 4.2.6.2.1.3 Other monitoring as required by ADEQ.
- 4.2.6.2.2 For each type of monitoring, the SWPPP must document:
- 4.2.6.2.2.1 Locations where samples are collected, including any determination that two or more outfalls are substantially identical;
- 4.2.6.2.2.2 Parameters for sampling and the frequency of sampling for each parameter;
- 4.2.6.2.2.3 Any numeric control values (benchmarks, effluent limitations guidelines, TMDL-related requirements, or other requirements) applicable to discharges from each outfall; and
- 4.2.6.2.2.4 Procedures (e.g., responsible staff, logistics, laboratory to be used, etc.) for gathering storm event data, as specified in Part 3.8.2.

4.2.6.3 **Documentation of Inspections.** The operator must document in the SWPPP the procedures for performing, as appropriate, the inspections specified by this permit, including:

- Routine facility inspections (see Part 5.1.1);
- Comprehensive site inspections (see Part 5.1.2).

For each type of inspection performed, the SWPPP must identify:

- 4.2.6.3.1 Person(s) or positions of person(s) responsible for inspection;
- 4.2.6.3.2 Schedules for conducting inspections; and
- 4.2.6.3.3 Specific items to be covered by the inspection, including schedules for specific outfalls.

4.2.6.4 **Recordkeeping and Internal Reporting Procedures.** A description of incidents such as spills or other discharges, along with other information describing the quality and quantity of stormwater discharges shall be included in the SWPPP required under this part. Inspections, employee training, and maintenance activities performed on control measures that are used in the implementation of the Best Management Practices or to achieve the effluent limits required by this permit shall be documented and records of such activities shall be incorporated into the SWPPP.

4.2.7 **Additional Requirements.**

4.2.7.1 **Documentation of Permit Eligibility Related to the 303 (d) list (Impaired Water Bodies) and Total Maximum Daily Loads (TMDL).** The SWPPP should include information on whether or not the stormwater discharges from the facility enters a water body that is on the most recent 303 (d) list or with an approved TMDL. If the stormwater discharge does enter a water body that is on the most recent 303(d) list or with an approved TMDL, then the SWPPP should address the following items below:

- 4.2.7.1.1 document that the pollutant(s) for which the waterbody is impaired is not present at the facility, and retain documentation of the finding with the SWPPP; or
- 4.2.7.1.2 incorporate into the SWPPP any additional BMPs needed to prevent to the maximum extent practicable exposure to stormwater of the pollutants for which the waterbody is impaired and to sufficiently protect water quality. Please note that the Department will be reviewing this information. If it is determined that the facility will discharge to an impaired water body, then the Department may require additional requirements.” Or
- 4.2.7.1.3 identification of measures taken by the facility to ensure that its discharge of pollutants from the site is consistent with the assumptions and allocations of the TMDL; and
- 4.2.7.1.4 If a specific numeric wasteload allocation has been established that would apply to the facility’s discharges, the operator must incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation and implement necessary steps to meet that allocation. Please note that the Department will be reviewing this information. If it is determined that the facility will discharge to a TMDL, then the Department may require additional BMPs.

If the Department determines during the review process that the facility will be discharging to a receiving water that is on the most recent 303 (d) list or with an approved TMDL, then the Department will notify the applicant to include additional Best Management Practices in the SWPPP.

4.2.7.2 **Direct Discharges into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW).** The SWPPP should include information on whether or not the stormwater discharges from the facility enters a water body that is listed as an ERW, NSW, or ESW. If the stormwater discharge does enter a waterbody that is listed as an ERW, NSW, or ESW, then the SWPPP should address the following items:

- 4.2.7.2.1 document the name of the listed waterbody and the approximate distance between the outfall and the listed waterbody; and
- 4.2.7.2.2 incorporate into the SWPPP additional BMPs needed to prevent to the maximum extent practicable exposure to stormwater of pollutants that could potentially impact water quality.

If the Department determines during the review process that the facility will be discharging to a receiving water listed as an ERW, NSW, or ESW, then the Department will notify the applicant to include additional Best Management Practices in the SWPPP.

4.2.7.3 **Attainment of Water Quality Standards After Authorization.** The permittee must select, install, implement and maintain BMPs that will minimize or eliminate pollutants in the discharge as necessary to meet applicable water quality standards. At any time after authorization, the Department may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, the Department will require the permittee to:

- 4.2.7.3.1 Develop a supplemental BMP action plan describing SWPPP modifications to address adequately the identified water quality concerns;
- 4.2.7.3.2 Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or
- 4.2.7.3.3 Cease discharges of pollutants from the facility and submit an individual permit application according to Part 7.21.
- 4.2.7.3.4 All written responses required under this part must include a signed certification consistent with Parts 7.8 and 7.9.

4.2.7.4 **Enhanced/Additional Best Management Practices (BMPs):** The Permittee shall provide a schedule in the SWPPP for implementation of any additional or enhanced BMPs that are necessary because of a notice from ADEQ, facility changes, or self-inspection. Complying with this provision does not limit the potential liability for enforcement action where the Permittee has failed to implement required BMPs or where stormwater discharges violate water quality standards. ADEQ may issue a notice to the Permittee when the SWPPP does not meet one or more of the minimum requirements of the permit or when it is not adequate to ensure compliance with standards. The Permittee shall modify the SWPPP and the BMPs to correct the deficiencies identified in the notice. ADEQ may require additional BMPs where the Permittee exceeds benchmark values for required sampling. The Permittee shall modify the SWPPP whenever there is a change in design, construction, operation or maintenance of any BMP which cause(s) the SWPPP to be less effective in controlling the pollutants.

4.2.8 **Certification.** All SWPPP must contain a certification per Part 6.10 of this permit and must be signed in accordance with the provisions of 40 CFR 122.22, as adopted by reference in APCEC Regulation 6, and Part 7.8 of this permit.

4.3 **Other Pollution Control Plans:** The Permittee may incorporate by reference applicable portions of plans prepared for other purposes at their facility. Plans or portions of plans incorporated into a SWPPP become enforceable requirements of this permit if the other plans are not regulated through other programs and must meet the availability requirements of the SWPPP.

4.4 **SWPPP Availability.** The permittee must retain a copy of the current SWPPP required by this permit at the facility,

and it must be immediately available to ADEQ, the operator of an MS4 receiving discharges from the site; and representatives of the U.S. Fish and Wildlife Service (USFWS) at the time of an onsite inspection or upon request. ADEQ may provide access to portions of a facility's SWPPP to a member of the public upon request.

4.5 SWPPP Updates. The permittee must review the SWPPP when any of the following conditions occur or are detected during an inspection, monitoring, or other means:

- 4.5.1 An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit) occurs at the facility
- 4.5.2 A discharge violates a numeric effluent limit
- 4.5.3 Proposed control measures are not stringent enough for the discharge to meet applicable water quality standards
- 4.5.4 A required control measure was never installed, was installed incorrectly, or is not being properly operated or maintained
- 4.5.5 Visual assessments indicate obvious signs of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam)
- 4.5.6 Construction or a change in design, operation, or maintenance at the facility that significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged

The permittee's review of the SWPPP is to determine if and where revisions may be needed to eliminate the condition, prevent its reoccurrence, and ensure that effluent limitations are met.

PART 5: EVALUATIONS AND RECORDKEEPING REQUIREMENTS

5.1 Evaluations and Inspections.

- 5.1.1 **Visual Site Inspections.** Qualified facility personnel shall be identified to conduct routine facility inspections of all areas of the facility where industrial materials or activities are exposed to stormwater, all stormwater control measures used to comply with this permit, and stormwater outfalls (if accessible) for the presence of floating materials, visible sheen, discoloration, turbidity, odor, etc. Inspections should be performed not less than four (4) times a year.

At least one of the four required inspections must be conducted during a period when a stormwater discharge is occurring.

One inspection shall check for the presence of non-stormwater discharges, such as domestic wastewater, non-contact cooling water, or process wastewater (including leachate), to the stormwater drainage system that are not authorized under this general permit. This shall be done preferably during dry weather, when it is easier to find non-stormwater discharges. If a non-stormwater discharge is discovered, the Permittee shall notify ADEQ and eliminate the illicit discharge within 30 days.

The permittee must document the findings of each visual inspection performed and maintain this documentation onsite with the SWPPP. At a minimum, documentation of each site inspection must include: date of inspection, personnel making the inspection, major observations, and a summary of actions that need to be taken as a result of the inspection.

Inactive and Un-staffed Sites: The requirement to conduct visual site inspections on a quarterly basis does not apply at a facility that is inactive and unstaffed in accordance with Part 3.9.1, as long as there are no industrial materials or activities exposed to stormwater. Such a facility is only required to conduct an annual comprehensive site inspection in accordance with the requirements of Part 5.1.2.

- 5.1.2 **Comprehensive Site Compliance Evaluation.** Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the SWPPP, in no case less than once per year.

- 5.1.2.1 Areas contributing to a stormwater discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit and SWPPP, or whether additional control measures are needed. Structural stormwater management measures, sediment and control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are properly maintained and operated correctly. A visual inspection of equipment needed to implement the spill response shall be conducted.
- 5.1.2.2 Based on the results of the inspection, the description of potential pollutant sources identified in the SWPPP in accordance with Description of Potential Pollutant Sources of this permit and pollution prevention measures identified in the SWPPP in accordance with Measures and Controls of this permit shall be revised as appropriate within 30 days of such inspection. Implementation of any changes to the SWPPP made shall be performed in a timely manner, but in no case more than 90 days from the inspection.

- 5.1.2.3 A report summarizing the scope of the inspection, personnel making the inspection, date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken shall be made and retained as part of the SWPPP in accordance with Part 5.2.1. The report shall be signed in accordance with Part 7.8 of this permit.
- 5.1.2.4 The annual comprehensive site compliance evaluation may also be used as one of the routine inspections, as long as all requirements of both types of inspections are have been fulfilled.

5.2 Recordkeeping Requirements.

- 5.2.1 **Records.** The Permittee shall retain records of all monitoring information, inspection reports, SWPPP, NOI, and any other documentation of compliance with permit requirements for a period of at least three (3) years from the date of termination. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by ADEQ. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit. These records can be kept electronically if all permit recordkeeping requirements are met, such as record retention, availability of records, and signatory requirements. If electronic records are kept, information regarding where the records can be accessed must be included in the facility's SWPPP.
- 5.2.2 **Records Contents.** For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, method, and time of sampling or measurement; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) the individual who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.
- 5.2.3 **Airport Deicing at Primary Airports – Records.** Facilities subject to the Effluent Limitations Guideline for Airport Deicing (40 CFR 449) shall comply with the monitoring, reporting, and recordkeeping requirements in 40 CFR 449.20(a)(1) and (2).
- 5.2.4 **Stormwater Annual Report (SWAR) Requirements.** The SWAR covers the previous 12 month January – December calendar year and is to be incorporated as part of the SWPPP no later than the 31st day of January of the following year (ie, January 31st, 2015 for year 2014). The first SWAR may include less than 12 months of information. The SWAR form is available on the Department's website: www.adeq.state.ar.us .

The Department's SWAR form must be used and the following information must be included in the SWAR:

- 5.2.4.1 Monitoring results obtained from stormwater sampling, unless waived;
- 5.2.4.2 Justification for why samples were not taken, if applicable (explanation of why there was no discharge, adverse weather conditions, etc.);
- 5.2.4.3 Significant findings from the comprehensive site evaluation and site inspections (including visual monitoring of outfalls);
- 5.2.4.4 A summary of any corrective action plans written under Part 3.12.1, including the status of any corrective actions not yet completed at the time of submittal of the SWAR; and
- 5.2.4.5 The SWAR must be signed in accordance with Part 7.8.

The SWAR is not required to be submitted to the Department, except upon request. The Department will be auditing a percentage of permittees every year to ensure compliance with permit requirements. If requested, the SWAR must be received by the Department within five (5) business days of the request, unless another deadline is specified.

- 5.2.5 **Additional Monitoring by the Permittee.** If the permittee monitors any pollutant at any outfall more

frequently than required by this permit using test procedures specified in this permit, then the results of this monitoring shall be included in the permittee's SWAR.

PART 6: TOXICITY TESTING

- 6.1 **Toxicity Testing Requirements.** The determination as to which facilities will be required to perform toxicity testing will be made on a case-by-case basis based on available information and monitoring data. The permittee will be provided written notice by the Department if toxicity testing is required.
- 6.2 **Toxicity Testing Procedure.** Permittees that are required to conduct Whole Effluent Toxicity testing must continue to monitor for acute Whole Effluent Toxicity unless testing is no longer required per the provisions of Part 6.2.3.

6.2.1 The permittee shall conduct acute Whole Effluent Toxicity tests on appropriate test organisms in accordance with the provisions in this section. The following tests shall be used:

- 6.2.1.1 Acute 24-hour static toxicity test using *Daphnia pulex*.
- 6.2.1.2 Acute 24-hour static toxicity test using the fathead minnow (*Pimephales promelas*).
- 6.2.1.3 All test organisms, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, EPA600/4-90/027F (August 1993) or the latest update thereof. Tests shall be conducted annually under this general permit. The first test shall be initiated in accordance with the schedule described above. Such tests shall be conducted on a grab sample of the discharge at 100% strength (no dilution). Synthetic (reconstituted) water should be used as control water in all cases, and should be similar to receiving water. (As a general rule, ADEQ advocates using moderately hard water as this approximates most of the water in the State). If 10% or more mortality occurs in the control, the test shall be repeated until the control mortality does not exceed 10%. Results of all tests conducted with any species shall be compiled according to EPA600/4-90/027F, Section 12, Report Preparation, and be retained on-site. Only sections 12.4 (Test Conditions), 12.6 (Quality Assurance) and 12.7 (Results) of the full report shall be submitted to ADEQ on a yearly basis, due by January 31st of the year following the monitoring (ie, due January 31st, 2015 for monitoring year 2014). The permittee shall also complete and submit the ADEQ Toxicity Summary Report Forms. A “passing” test is a test in which there is no statistically significant difference between the control mortality and the effluent mortality. A “failing” test is a test in which there is a statistically significant difference between the control mortality and the effluent mortality. The permittee's report form will report "0" if there is no statistical difference between the control mortality and the effluent mortality, and shall report "1" if a statistical difference exists.

6.2.2 If acute Whole Effluent Toxicity (statistically significant difference between the 100% effluent and the control) is detected in stormwater discharges in tests required to be conducted, the permittee shall review the stormwater pollution prevention plan and make appropriate modifications to assist in identifying the source(s) of toxicity and to reduce or eliminate the toxicity of their stormwater discharges. A summary of the review and the resulting modifications shall be documented in the plan.

6.2.3 The facility may request in writing for testing for acute Whole Effluent Toxicity to be deleted as a requirement after passing two (2) consecutive annual testing periods. The Department will provide a decision in writing. If a facility has fails two (2) testing periods (annually), quarterly testing for Acute Whole Effluent Toxicity will be required until the facility has passed two consecutive quarterly tests. After two consecutive quarterly periods in which tests on both toxicity test species have passed, the facility shall resume annual testing. If, during the first year of quarterly testing a facility fails all four quarterly testing periods for Acute Whole Effluent Toxicity, the facility will be required to increase monitoring or improve BMPs and obtain an Individual permit.

PART 7: STANDARD PERMIT CONDITIONS

- 7.1 **Duty to Comply.** The operator must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for: enforcement action; permit termination, revocation and re-issuance, or modification; requiring a permittee to apply for an individual NPDES permit; or denial of a permit renewal application.
- 7.2 **Penalties for Violations of Permit Conditions.** The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a criminal penalty of not more than twenty five thousand dollars (\$25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.
- 7.3 **Continuance of the Expired General Permit.** An expired general permit, including no exposure certification, continues in force and effect until a new general permit is issued. If this permit is not re-issued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act and remain in force and effect. If permit coverage was granted prior to the expiration date, permit coverage is automatically continued until the earliest of:
- 7.3.1 Reissuance or replacement of this permit, at which time the operator must comply with the conditions of the new permit to maintain authorization to discharge and, the operator is required to notify the Department of his/her intent to be covered under this permit by the effective date of the renewal permit; or
 - 7.3.2 Submittal of a Notice of Termination; or
 - 7.3.3 Issuance of an individual permit for the facility's discharges; or
 - 7.3.4 A formal permit decision by the ADEQ to not re-issue this general permit, at which time the facility must seek coverage under an individual NPDES permit or other alternate permits.
- 7.4 **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- 7.5 **Duty to Mitigate.** The operator shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has reasonable likelihood of adversely affecting human health or the environment.
- 7.6 **Duty to Provide Information.** The operator shall furnish to the Director, an authorized representative of the Director, the EPA, a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or in the case of a stormwater discharge associated with industrial activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system, within a reasonable time, any information which is requested to determine compliance with this permit.
- 7.7 **Other Information.** When the operator becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Director, he or she shall promptly submit such facts or information.

7.8 Signatory Requirements. All Notices of Intent, reports, or information submitted to the Director or the operator of a regulated small, medium, or large municipal separate storm sewer system shall be signed and certified. All Notices of Intent shall be signed as follows:

- 7.8.1 For a corporation: by a responsible corporate officer. For purposes of this section, a responsible corporate officer means:
- 7.8.1.1 A president, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - 7.8.1.2 The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- 7.8.2 For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
- 7.8.3 For a municipality, State, Federal or other public agency: By either a principal executive or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
- 7.8.3.1 The chief executive officer of the agency; or
 - 7.8.3.2 A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- 7.8.4 All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- 7.8.4.1 The authorization is made in writing by a person described above and submitted to the Director;
 - 7.8.4.2 The authorization specifies either an individual or a person having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or position of equivalent responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - 7.8.4.3 Changes to authorization. If an authorization under this Part is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the above requirements must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

7.9 **Certification.** Any person signing a document under this section shall make the following certification:

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

7.10 **Penalties for Falsification of Reports.** The Arkansas Water and Air Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

7.11 **Penalties for Tampering.** The Arkansas Water and Air Pollution Control act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than twenty five thousand dollars (\$25,000) or by both such fine and imprisonment.

7.12 **Oil and Hazardous Substance Liability.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under Section 311 of the Clean Water Act or Section 106 of CERCLA.

7.13 **Local, State and Federal Laws.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable local, state, or federal law or regulation.

7.14 **Property Rights.** The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws or regulations.

7.15 **Severability.** The provisions of this permit are severable. If any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provisions to other circumstances and the remainder of this permit shall not be affected thereby.

7.16 **Transfers.** This permit is not transferable to any person except after notice to the Director. A transfer form must be submitted to the ADEQ as required by this permit.

7.17 **Proper Operation and Maintenance.** The operator shall at all times:

- 7.17.1 Properly operate and maintain all controls (and related appurtenances) which are installed or used by the operator to achieve compliance with the conditions of this permit. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by an operator only when the operation is necessary to achieve compliance with the conditions of the permit.
- 7.17.2 Provide an adequate operating staff which is duly qualified to carry out operation, inspection, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

7.18 **Inspection and Entry.** The operator shall allow the Director, the EPA, or an authorized representative, or, in the case of a facility which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator of the separate sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

- 7.18.1 Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- 7.18.2 Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- 7.18.3 Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

7.19 Permit Actions. This permit coverage may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- 7.19.1 Violation of any terms or conditions of this permit;
- 7.19.2 Obtaining this permit by misrepresentation or failure to fully disclose all relevant facts;
- 7.19.3 A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- 7.19.4 A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- 7.19.5 Failure of the operator to comply with the provisions of ADEQ Regulation No. 9 (Fee Regulation). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR 122.64 and 124.5(d), as adopted by reference in ADEQ Regulation No. 6, and the provisions of ADEQ Regulation No. 8.

7.20 Re-Opener Clause. In accordance with 40 CFR Part 122.62(a)(2), the permit may be modified, or alternatively, revoked and reissued, if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance.

7.21 Local Requirements. All dischargers must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding any discharges of stormwater to storm drain systems or other water sources under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to comply with the ADEQ permits. Dischargers must comply with local stormwater management requirements, policies, or guidelines including erosion and sediment control.

7.22 Requiring an Individual NPDES Permit or an Alternative General Permit.

- 7.22.1 At the discretion of the Director, he/she may require any operator covered under this general permit to apply for and obtain an individual NPDES permit for reasons that include but are not limited to the following:
 - 7.22.1.1 The discharger is a significant contributor of pollution;
 - 7.22.1.2 The discharger is not in compliance with the conditions of the general permit;
 - 7.22.1.3 Conditions or standards have changed so that the discharger no longer qualifies for a general permit;
 - 7.22.1.4 Discharges into 303(d) listed stream segments is prohibited if the impairment was caused by any of the pollutants listed in the permit; and
 - 7.22.1.5 If the total maximum daily load (TMDL) requirement is more stringent than this permit then permittee shall apply for an individual permit.
- 7.22.2 The operator must be notified in writing that an application for an individual permit is required. When an individual NPDES permit is issued to an owner or operator otherwise covered under this general permit, the applicability of the general permit to that owner or operator automatically terminates upon the effective date of the individual NPDES permit.
- 7.22.3 Any operator covered by this General Permit may request to be excluded from the coverage by applying for an individual NPDES permit.

7.23 Non-compliance Notification. In the event the Permittee is unable to comply with any of the terms and conditions of this permit that could result in the discharge of pollutants in a significant amount, the Permittee shall:

- 7.23.1 Take immediate action to minimize potential contamination or otherwise stop the noncompliance and correct the problem;
- 7.23.2 Immediately notify ADEQ of the failure to comply; and
- 7.23.3 Submit a detailed written report to ADEQ within thirty (30) days unless ADEQ requests an earlier submission.

The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

PART 8: DEFINITIONS

- 8.1 "**ADEQ**" or "**Department**" is referencing the Arkansas Department of Environmental Quality. The Department is the governing authority for the National Pollutant Discharge Elimination System program in the state of Arkansas.
- 8.2 "**Arkansas Pollution Control and Ecology Commission**" shall be referred to as APCEC throughout this permit.
- 8.3 "**Best Management Practices (BMPs)**" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- 8.4 "**Coal Pile Runoff**" means the rainfall runoff from or through any coal storage area.
- 8.5 "**Contaminated**" means the presence of or entry into the MS4, Waters of the State, or Waters of the United States of any substance which may be harmful to the public health or the quality of the water.
- 8.6 "**Control Measure**" as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to Waters of the State.
- 8.7 "**CWA**" means the Clean Water Act or the Federal Water Pollution Control Act.
- 8.8 "**Director**" means the Director, Arkansas Department of Environmental Quality, or a designated representative.
- 8.9 "**Discharge**" when used without qualification means the "discharge of a pollutant".
- 8.10 "**Eligible**" qualified for authorization to discharge stormwater under this general permit.
- 8.11 "**Impaired Water**" a water body listed in the current, approved Arkansas 303(d) list.
- 8.12 "**Industrial materials or activities**" include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products.
- 8.13 "**Harmful quantity**" means the amount of any substance that will cause pollution of waters in the State, waters of the United States, or that will cause lethal or sub-lethal adverse effects on representative, sensitive aquatic monitoring organisms, upon their exposure to samples of any discharge into waters in the State, Waters of the United States, or the MS4.
- 8.14 "**Land Application Unit**" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
- 8.15 "**Landfill**" means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
- 8.16 "**Large and Medium Municipal Separate Storm Sewer System**" means all municipal separate storm sewer systems that are either:
- Located in an incorporated place with a population of 100,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of 40 CFR Part 122.26); or

- b. Located in the counties listed in Appendix H of 40 CFR 122.26, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or
 - c. Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of 40 CFR 122.26 and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4)(i) or (ii) of 40 CFR 122.26.
- 8.17 "**Material handling activities**" include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product.
- 8.18 "**Minimize**" means to reduce or eliminate to the extent achievable using control measures (including Best Management Practices) that are technologically available and economically practicable and achievable in light of best industry practice.
- 8.19 "**NOI**" means Notice of Intent to be covered by this permit.
- 8.20 "**NOT**" means Notice of Termination.
- 8.21 "**Operator**" for the purpose of this permit and in the context of stormwater associated with industrial activity, means any person (an individual, association, partnership, corporation, municipality, state or federal agency) who has the primary management and ultimate decision-making responsibility over the operation of a facility or activity. The operator is responsible for ensuring compliance with all applicable environmental regulations and conditions.
- 8.22 "**Outfall**" means a point source where stormwater leaves the site.
- 8.23 "**Permittee**" for the purpose of this permit is any entity which has obtained coverage under the Industrial Stormwater General Permit.
- 8.24 "**Physically Interconnected**" means that one municipal separate storm sewer system is connected to a second municipal separate storm sewer system in such a way that it allows for direct discharges into the second system.
- 8.25 "**Point Source**" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
- 8.26 "**Small Municipal Separate Storm Sewer System**" means all municipal separate storm sewer systems that are either:
- a. Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to Waters of the United States.
 - b. Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) 40 CFR 122.26, or designated under paragraph (a)(1)(v) of 40 CFR 122.26.
 - c. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

- 8.27 "**Runoff Coefficient**" means the fraction of total rainfall that will appear at the conveyance as runoff.
- 8.28 "**Significant Materials**" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.
- 8.29 "**Significant Spills**" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).
- 8.30 "**Stormwater**" means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- 8.31 "**Stormwater Associated with Industrial Activity**" means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in subparagraphs (i) through (xi) of this definition, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described, regulated areas. Industrial facilities (including industrial facilities that are Federally, State or municipally owned or operated that meet the description of the facilities listed in paragraphs (i) - (xi)) include those facilities designated under 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:
- (i) Facilities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph; "Note that the phrase 'toxic pollutant effluent standards' refers to standards codified at 40 CFR 129 which applies only to manufacturers of 6 specific pesticide products that are defined as toxic pollutants. The phrase does not apply to facilities subject to effluent limitation guidelines for toxics under 40 CFR Subchapter N."
 - (ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;
 - (iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge stormwater contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable Operator;

- (iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;
- (v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to Subtitle D of RCRA;
- (vi) Facilities involved in the recycling of materials, including junkyards, battery reclaimers, salvage yards, and automobile junkyards, including but not limited to those classified as Standard Industrial Classification 5015 and 5093;
- (vii) Steam electric power generating facilities, including coal handling sites;
- (viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-4225), 43, 44, 45 and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i) -(vii) or (ix) - (xi) of this subsection are associated with industrial activity;
- (ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 MGD or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 405.
- (x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;
- (xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221 -4225.

8.32 "Stormwater Pollution Prevention Plan (SWPPP or SWP3)" a plan that includes site map(s), an identification of facility, activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants (BMPs).

8.33 "Total Maximum Daily Load" or "TMDL" the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources and natural background. If receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any non-point sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

8.34 "Uncontaminated" means that the water will not exceed the water quality standards as set forth in APCEC Regulation 2; also not containing a harmful quantity of any substance.

8.35 "Urbanized Area" means the areas of urban population density delineated by the Bureau of the Census for statistical purposes and generally consisting of the land area comprising one or more central place(s) and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile as determined by the latest Decennial Census by the

Bureau of Census.

- 8.36 "**Waste Pile**" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.
- 8.37 "**10-year, 24-hour Precipitation Event**" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40", May 1961 and "NOAA Atlas 2", 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U. S. Department of Commerce.

City Corporation Fleet Listing

Vehicle #	Description	Operation
201	2006 Chev. Silverado	8
301	2010 Ford F150 (8cyl)	6
302	2014 Ford F150	6
303	2007 Ford F150	6
304	2012 Ford F150 Pickup	6
305	2016 Ford F150XL	6
401	2007 Ford F150 (6cyl)	7
502	2003 MEBT U Trailer	5
503	2012 ZT 726cc Bad Boy Mower	5
505	2007 Ford F150 (8cyl)	5
532	2014 Ford F250 Pickup	5
533	2005 GMC 2KH Pickup	5
559	2007 Tex-Mex 14' Trailer	5
560	2017 Dodge 2500 4x4	5
603	2005 Holden Model HCZ Trailer	1
604	2000 Tiger-Vac	1
606	1994 Justin C Trailer 6x14	1
607	2005 Holden Model HCZ Trailer	1
609	1995 Sullair Compressor 540	1
610	1995 Sullair Compressor 541	1
611	1989 Wells Cargo Trailer	1
619	1996 Sullair 185 543	1
620	2013 ECO-III Jetter	1
621	1999 Easement Cleaner	1
622	1999 Sreco Seca Trailer	1
623	1999 Big Tex Dump Trailer	1
626	2005 Cherokee Enclosed Trailer	1
636	Gator Gam Push Camera	1
637	2005 case 580M Backhoe	1
638	2007 SECA Model 747FR2 Jetter/Cam Tr.	1
640	1995 Ford F800 Dump	1
641	2016 F350 Dump Bed Truck Ford	1
642	2013 John Deer Minix	1
643	2003 New Holland LB75.B Backhoe	1
644	1997 Sullair 185DLG (542)	1
646	2009 Ford F150	1
648	2002 Ford F350 4x4	1
649	2009 Ford F250	1
650	2004 Sreco Jetter	1
653	2010 Freightliner M2106	1
655	2008 Ford F350 Diesel	1
656	2004 New Holland LB75.B Backhoe	1
657	1997 International 2 Ton Flatbed Dump	1
658	2015 Cat Mini X	1

City Corporation Fleet Listing

Vehicle #	Description	Operation
659	Trail King	1
660	2015 Cat Mini X	1
661	F650 Ford	1
662	F650 Ford	1
663	2007 F150	1
664	2017 Cat Mini X	1
665	2017 F750 Ford	1
667	Trail King	1
668	2017 F750 Ford	1
669	4x4 Ford Crew Cab Truck F150	1
670	2018 4x4 Ford Crew Cab	1
701	2015 Ford F250 4X4	2
702	1993 Case 1845C Uniload	2
703	1996 Alumacraft MV 1650 AW Boat	2
704	1986 Light Boat Trailer	2
705	1996 M-F Tractor	2
706	1995 CRLY Utility Boat Trailer	2
707	2007 Kubo RTV	2
708	1999 Kodiak Trailer	2
709	2006 John Deere X500 Mower	2
710	2013 10' Big Bee Rotary Cutter	2
711	1996 Gooseneck Trailer	2
712	2003 125 Genearator RE02JB	2
801	1999 International 4700 Dump	4
802	2000 Ford TC35D Tractor	4
803	2007 Ford F150	4
804	1986 Ford 2110 4x4 Tractor	4
805	2014 New Holland Skid Loader	4
806	2015 Ranger XT Side by Side	4
807	2010 Trailmaster 14' Trailer	4
808	2003 500 Generator	4
809	2009 125 Genearator GCT-2E-11400	4
811	2012 Ford F150 Pickup	4
812	1996 Ford 555D Backhoe	4
901	2011 Ford F150 Pickup	4
	2015 Minix	7
	Lowboy Trailer	7

- | | | | |
|---|-------------------|---|---------------|
| 1 | Construction Dept | 5 | Maintenance |
| 2 | Water Plant | 6 | Service Dept. |
| 3 | Con-Agra PTP | 7 | Engineering |
| 4 | Wastewater Plant | 8 | 205 bldg |

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	19	ADJUSTABLE VALVE BOX 562-S	EA	_____
	3514	BLUE DRESSER 2"X7.5" 22600023807000	EA	_____
	4189	BRASS ANGLE VALVE .75" AV94-313W	EA	_____
	4197	BRASS ANGLE VALVE 1" AV94-444	EA	_____
	3921	BRASS ASHEVILLE COUP. AC-3	EA	_____
	4170	BRASS ASHEVILLE COUP. AC-4	EA	_____
	4146	BRASS BUSHING 1"X.75" BBAA-43	EA	_____
	4626	BRASS CLOSE X CLOSE NIPPLE 2"	EA	_____
	4154	BRASS CORP STOP .75" F1000-3	EA	_____
	4162	BRASS CORP STOP 1" F1000-4	EA	_____
	4383	BRASS COUPL CTS X CTS .75" C44-33	EA	_____
	4391	BRASS COUPL CTS X CTS 1" C44-44	EA	_____
	5509	BRASS COUPL CTS 3/4 X 1" PJ C44-34	EA	_____
	4235	BRASS COUPL 90 DEG BEND .75" L44-34	EA	_____
	4200	BRASS COUPL 90 DEG BEND 1" L44-44	EA	_____
	4014	BRASS CROWS FOOT 2"X1"X1"X1"X1" Y11-474	EA	_____
	3956	BRASS CURB STOP .75" B44-333	EA	_____
	3964	BRASS CURB STOP 1" B44-444	EA	_____
	5320	BRASS C44-77	EA	_____
	3972	BRASS FIP X CTS .75" C14-33	EA	_____
	4006	BRASS FIP X CTS C14-44	EA	_____
	3905	BRASS FIP X FIP .75" B11-333	EA	_____
	3948	BRASS FIP X FIP 1" B11-444	EA	_____
	3891	BRASS FIP X PJ .75" B41-333	EA	_____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	3913	BRASS FIP X PJ 1" B41-444	EA	_____
	3859	BRASS METER COUPLING C34-23	EA	_____
	4499	BRASS METER SETTERS 2"	EA	_____
	4111	BRASS METER WHEEL EC-1	EA	_____
	4138	BRASS METER WHEEL EC-4	EA	_____
	4278	BRASS MIP X COPPER MALE X COMP C84-33	EA	_____
	4308	BRASS MIP X COPPER MALE X COMP C84-34	EA	_____
	3832	BRASS MIP X CTS C84-13	EA	_____
	3840	BRASS MIP X CTS C84-43	EA	_____
	3867	BRASS MIP X CTS C84-44	EA	_____
	5479	BRASS MIP X CTS C86-44	EA	_____
	4405	BRASS PE X CTS 1"PE X .75CTS C46-34	EA	_____
	3816	BRASS PE 1" X CTS 1" C46-44	EA	_____
	3980	BRASS PJ X PJ .75" B46-333	EA	_____
	3999	BRASS PJ X PJ 1" B46-444	EA	_____
	3808	BRASS PL .75" X CTS .75" C46-33	EA	_____
	4340	BRASS PL X MIP COMPRESSION X MALE C86-33	EA	_____
	3824	BRASS PL X MIP C86-34	EA	_____
	4022	BRASS TAPPING VALVE TEE HEAD 2"	EA	_____
	4324	BRASS TEE .75"X 1" X 1" T444-443	EA	_____
	4316	BRASS TEE ALL .75" T444-333	EA	_____
	4359	BRASS TEE ALL 1" T444-334	EA	_____
	5045	BRASS TEE ALL 1" T444-444	EA	_____
	4707	BRASS TEE 2"	EA	_____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	4375	BRASS WYE 1"X.75"X.75" Y44-243		EA
	4243	BRASS YOKE END MALE ADT. .75" C91-13		EA
	4251	BRASS YOKE END MALE ADT. 1" C91-44		EA
	4219	BRASS YOKE END 90 DEG BEND .75" L91-13		EA
	4286	BRASS YOKE END 90 DEG BEND .75" L94-13		EA
	4294	BRASS YOKE END 90 DEG BEND 1" L94-44		EA
	4227	BRASS YOKE END 90 DEG 1" L91-44		EA
	4669	BRASS 10" NIPPLE 2"		EA
	4677	BRASS 12" NIPPLE 2"		EA
	5266	BRASS 2" COUPLING		EA
	4634	BRASS 4" NIPPLE 2"		EA
	4685	BRASS 45 DEG BEND 2"		EA
	4642	BRASS 6" NIPPLE 2"		EA
	4650	BRASS 8" NIPPLE 2"		EA
	4693	BRASS 90 DEG BEND 2"		EA
	3271	CAP, 10" MJ		EA
	27	CAP, 12" SOLID		EA
	5398	CAP, 16" MJ		EA
	3247	CAP, 6" MJ		EA
	3336	CAP, 8" MJ		EA
	35	CLAMP, BELL JOINT 16"		EA
	43	CLAMP, BELL JOINT 24"		EA
	3131	CLAMP, BELL JOINT 36"		EA
	4472	CONCRETE METER BOXES 1"		EA

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	4480	CONCRETE METER BOXES 2"		EA _____
	4464	CONCRETE METER BOXES 5/8"		EA _____
	1317	COUPLINGS, 6" DRESSER		EA _____
	1341	COUPLINGS, 12" DRESSER		EA _____
	1325	COUPLINGS, 16" DRESSER		EA _____
	86	D.I. CROSS, 6"X 6" MJ		EA _____
	94	D.I. CROSS, 8"X 8" MJ		EA _____
	132	D.I. ELL 10" ALL		EA _____
	140	D.I. ELL, 12" ALL		EA _____
	159	D.I. ELL, 16" ALL		EA _____
	108	D.I. ELL, 4" MJ ALL		EA _____
	116	D.I. ELL, 6" ALL		EA _____
	124	D.I. ELL, 8" ALL		EA _____
	183	D.I. FOSTER ADAPTER 6"		EA _____
	191	D.I. FOSTER ADAPTER 8"		EA _____
	3239	D.I. PLUG, 6" MJ		EA _____
	5401	D.I. PLUG, 8"		EA _____
	469	D.I. PLUG, 16"		EA _____
	1058	D.I. PLUG, 24"		EA _____
	1368	D.I. WYE, 12 X 8		EA _____
	280	D.I. 6" X 13" HYDRANT ADAPTER		EA _____
	3220	FLAT FLANGE BOLT PACK 3"		EA _____
	3212	FLAT FLANGE BOLT PACK 4"		EA _____
	3204	FLAT FLANGE BOLT PACK 6"		EA _____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	3379	FLAT FLANGE BOLT PACK 8"		EA
	3298	FLAT FLANGE BOLT PACK 10"		EA
	5304	FLAT FLANGE BOLT PACK 12"		EA
	5061	FULL CIRCLE 2"X10" 226-00023810-000		EA
	3573	FULL CIRCLE 2"X7.5" 22600023807000		EA
	3581	FULL CIRCLE 3"X7.5" 22600040007000		EA
	3638	FULL CIRCLE 4"X10.5"		EA
	3611	FULL CIRCLE 4"X7.5"		EA
	3654	FULL CIRCLE 6"X10" 22700069010000		EA
	3662	FULL CIRCLE 6"X12.5" 22700069012000		EA
	3646	FULL CIRCLE 6"X7.5" 22700069007000		EA
	3689	FULL CIRCLE 8"X10" 22700090510000		EA
	3697	FULL CIRCLE 8"X12.5" 22700090512000		EA
	3700	FULL CIRCLE 8"X15" 22700090515000		EA
	3670	FULL CIRCLE 8"X7.5" 22700090507000		EA
	5282	FULL CIRCLE CLAMP 16"X10"		EA
	5274	FULL CIRCLE CLAMP 16"X15"		EA
	5592	FULL CIRCLE CLAMP 24"X20"		EA
	78	FULL CIRCLE CLAMP 24"X30"		EA
	51	FULL CIRCLE CLAMP 24X24		EA
	3123	FULL CIRCLE CLAMP 36"		EA
	3603	FULL CIRCLE REPAIR 2"X3" 24500023803000		EA
	3719	FULL CIRCLE 10"X10" 22700116010000		EA
	3727	FULL CIRCLE 10"X15" 22700111015000		EA

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	3735	FULL CIRCLE 10"X20"		EA
	5096	FULL CIRCLE 10"X7.5" 227-111010-000		EA
	3743	FULL CIRCLE 12"X10" 22700136510050		EA
	3751	FULL CIRCLE 12"X12.5" 22600127512000		EA
	3778	FULL CIRCLE 12"X15" 22700136515000		EA
	3786	FULL CIRCLE 12"X20"		EA
	5088	FULL CIRCLE 12"X30"		EA
	5363	FULL CIRCLE 6"X15"		EA
	5525	FULL CIRCLE 6"X20" 227-66320-000		EA
	272	HYDRANT, W/MJ SHOE		EA
	3522	HYMAX 4"X7.5" 2000-0563-260		EA
	3530	HYMAX 6" 2000-0768-260		EA
	3549	HYMAX 8" 2000-0984-260		EA
	3557	HYMAX 10" 2000-1226-260		EA
	3565	HYMAX 12" 2000-1366260-260		EA
	5193	MEGA LUG PACK 4"		EA
	5207	MEGA LUG PACK 6"		EA
	5215	MEGA LUG PACK 8"		EA
	5355	MEGA LUG PACK 10"		EA
	5231	MEGA LUG PACK 12" DI		EA
	5614	MEGA LUG PACK 12" PVC		EA
	4510	METER YOKE BARS 1" Y504		EA
	4502	METER YOKE BARS 5/8" Y501		EA
	5037	MIP X CTS COUPLING 2" MALE C84-77		EA

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	205	MJ BOLT & GASKET PACK 4"		EA _____
	213	MJ BOLT & GASKET PACK 6"		EA _____
	221	MJ BOLT & GASKET PACK 8"		EA _____
	248	MJ BOLT & GASKET PACK 10"		EA _____
	256	MJ BOLT & GASKET PACK 12"		EA _____
	264	MJ BOLT & GASKET PACK 16"		EA _____
	5339	MJ BOLT & GASKET PACK 24"		EA _____
	5428	MJ BOLT & GASKET PACK 30"		EA _____
	3115	MJ BOLT & GASKET PACK 36"		EA _____
	4537	PIPE COPPER TUBE 1" K SOFTCOPPER		EA _____
	4529	PIPE COPPER TUBE 3/4" SOFT COPPER		EA _____
	450	PIPE NIPPLE, 24" FL.X.P.E.		EA _____
	4553	PIPE PURE CORE TUBE CTS 1"		EA _____
	4561	PIPE PURE CORE TUBE CTS 2"		EA _____
	4545	PIPE PURE CORE TUBE CTS 3/4"		EA _____
	4588	PIPE PVC SCH 40 1.5"		FT _____
	4596	PIPE PVC SCH 40 2"		FT _____
	4618	PIPE PVC SCH 80 2"		FT _____
	302	PIPE, 6" C900		FT _____
	299	PIPE, 6" D.I.		FT _____
	3158	PIPE, 6" X 3' SPOOL		FT _____
	3166	PIPE, 6" X 6' SPOOL		FT _____
	329	PIPE, 8" C900PVC		FT _____
	310	PIPE, 8" DUCTILE		FT _____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	345	PIPE, 10" C900		FT
	353	PIPE, 10" D. I.		FT
	361	PIPE, 12" C900		FT
	388	PIPE, 12" D. I. F. T. CL50		FT
	434	PIPE, 24" D.I.F.T.		FT
	5436	PIPE, 30" D. I. FENCE		FT
	5533	PIPE, 4" D.I.		FT
	574	REDUCER, 4 X 3 MJ		EA
	477	REDUCER, 6 X 3 MJ		EA
	485	REDUCER, 6 X 4 MJ X MJ		EA
	582	REDUCER, 8 X 6 MJ		EA
	590	REDUCER, 10 X 8 MJ		EA
	620	REDUCER, 12 X 10 MJ		EA
	612	REDUCER, 12 X 8 MJ		EA
	3476	REPAIR SADDLE 10"X1" 33100121209-000		EA
	5053	REPAIR SADDLE 12" X 1" 331-00143809-000		EA
	4103	REPAIR SADDLE 6"X1" 331-00074009-000		EA
	3433	REPAIR SADDLE 8"X1" 33100096309-000		EA
	5347	REPAIR SERVICE SADDLE 4" X 1"		EA
	4049	SERVICE SADDLE 2"X1" 315-21309		EA
	3441	SERVICE SADDLE 10"X1" 31300121209-000		EA
	3468	SERVICE SADDLE 10"X2"		EA
	3484	SERVICE SADDLE 12"X1" 31300143209-000		EA
	3492	SERVICE SADDLE 12"X2" 31300143214-000		EA

 Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM

	4030	SERVICE SADDLE 2"X.75" 315-21307		EA _____
	4057	SERVICE SADDLE 3"X1" 311-00056309-000		EA _____
	4065	SERVICE SADDLE 4"X1" 311-00053205-000		EA _____
	4073	SERVICE SADDLE 4"X2" 313-00048014-000		EA _____
	4081	SERVICE SADDLE 6"X1" 313-00076009-000		EA _____
	3409	SERVICE SADDLE 6"X2" 31300076014-000		EA _____
	3417	SERVICE SADDLE 8"X1" 31300101009-000		EA _____
	3425	SERVICE SADDLE 8"X2" 31300101014-000		EA _____
	663	SLEEVE, 4" SOLID		EA _____
	647	SLEEVE, 6" CUT-IN		EA _____
	671	SLEEVE, 6" SOLID		EA _____
	655	SLEEVE, 8" CUT-IN		EA _____
	698	SLEEVE, 8" SOLID		EA _____
	701	SLEEVE, 10" SOLID		EA _____
	728	SLEEVE, 12" SOLID		EA _____
	736	SLEEVE, 12" SPLIT		EA _____
	744	SLEEVE, 16" SOLID		EA _____
	752	SLEEVE, 18" SOLID		EA _____
	1333	SLEEVE, 24" SOLID		EA _____
	3107	SLEEVE, 36" SOLID		EA _____
	5029	SONDES BLUE MARKER		EA _____
	1066	TAP SLEEVE, 6 X 4		EA _____
	1074	TAP SLEEVE, 6 X 6		EA _____
	1090	TAP SLEEVE, 8 X 6		EA _____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	1104	TAP SLEEVE, 8 X 8		EA _____
	1139	TAP SLEEVE, 10 X 10		EA _____
	1112	TAP SLEEVE, 10 X 6		EA _____
	1120	TAP SLEEVE, 10 X 8		EA _____
	1163	TAP SLEEVE, 12 X 10		EA _____
	1171	TAP SLEEVE, 12 X 12		EA _____
	1147	TAP SLEEVE, 12 X 6		EA _____
	1155	TAP SLEEVE, 12 X 8		EA _____
	5290	TAP SLEEVE, 16 X 12		EA _____
	1082	TAP SLEEVE, 8 X 4		EA _____
	1260	TAP VALVE, 4"		EA _____
	1279	TAP VALVE, 6"		EA _____
	1287	TAP VALVE, 8"		EA _____
	1295	TAP VALVE, 10"		EA _____
	1309	TAP VALVE, 12"		EA _____
	787	TEE, 6 X 3 MJ		EA _____
	779	TEE, 6 X 6 MJ		EA _____
	760	TEE, 6" FLAT FLANGE		EA _____
	795	TEE, 6" HYDRANT X MJ		EA _____
	5460	TEE, 8 X 6 FLAT FLANGE		EA _____
	809	TEE, 8 X 6 HYDRANT X MJ		EA _____
	825	TEE, 8 X 6 MJ		EA _____
	817	TEE, 8 X 8 MJ		EA _____
	868	TEE, 10 X 6 HYD X MJ		EA _____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	841	TEE, 10 X 6 MJ		EA _____
	876	TEE, 10 X 8 MJ		EA _____
	833	TEE, 10" MJ		EA _____
	922	TEE, 12 X 10 MJ		EA _____
	930	TEE, 12 X 12 MJ		EA _____
	884	TEE, 12 X 2 TAPT		EA _____
	892	TEE, 12 X 6 HYDRANT X MJ		EA _____
	906	TEE, 12 X 8 MJ		EA _____
	5444	TEE, 30 X 30 MJ FENCE		EA _____
	3301	TRANS ACCESS SET, 10" MJ		EA _____
	949	VALVE, 2" MJ		EA _____
	957	VALVE, 2" THREADED SQUARE OP.NUT		EA _____
	5452	VALVE, 3" MJ		EA _____
	965	VALVE, 4" MJ		EA _____
	973	VALVE, 6" MJ		EA _____
	981	VALVE, 8" MJ		EA _____
	1007	VALVE, 10" MJ		EA _____
	1589	VALVE, 12" BUTTERFLY		EA _____
	1015	VALVE, 12" MJ		EA _____
	1023	VALVE, 16" BUTTERFLY		EA _____
	1031	VALVE, 16" MJ		EA _____
	3190	VALVE, 3" FLANGE X FLANGE		EA _____
	5371	WATER VALVE BOX RISER 5.25 DIA. 1.5"		EA _____
	5584	WATER VALVE BOX RISER 5.25 DIA. 1"		EA _____

Warehouse: 600 CONSTRUCTION

Loc. Code	Prod. No.	Description	Physical Count	UM
	4413	WATER VALVE BOX RISER 5.25 DIA. 2"		EA _____
	4421	WATER VALVE BOX RISER 5.25 DIA. 3"		EA _____
	4448	WATER VALVE BOX RISER 5.25 DIA. 4"		EA _____
	4456	WATER VALVE BOX RISER 5.25 DIA. 6"		EA _____
	5258	WATER VALVE BOX RISER 5.25 DIA. 8"		EA _____
	5134	1" READY FCC 244-019012-000		EA _____
	5126	3/4" READY FCC 244-16606-000		EA _____
	5118	8" X 3/4" DOUBLE BANDED SERVICE SADDLE 3		EA _____

MANHOLE CONSTRUCTION

Item Code	Area No.	Description	Quantity	Unit
6601		WATER VALVE BOX 31000 B 26 114 10		EA
6610		WATER VALVE BOX 31000 B 28 114 20		EA
6631		WATER VALVE BOX 31000 B 28 114 30		EA
6640		WATER VALVE BOX 31000 B 28 114 40		EA
6650		WATER VALVE BOX 31000 B 28 114 50		EA
6680		WATER VALVE BOX 31000 B 28 114 60		EA
6691		18" METAL BOX LID		EA
6672		18" PLASTIC METAL BOX		EA
6100		18" READY-POC 244-019012-100		EA
6711		24" METAL BOX LID		EA
6710		24" PLASTIC METAL BOX		EA
6120		30" READY-POC 244-16605-100		EA
6600		6 8" METAL BOX LID 10		EA
6640		6 8" METAL BOX LID 10		EA
6607		6 8" PLASTIC METAL BOX 10		EA
6601		6 8" PLASTIC METAL BOX 10		EA
6610		6 8" X 8" DOUBLE HANCED SERVICE SADDLE 3		EA



Workplace Safety Committee

Many people, including the Nonprofit Risk Management staff, believe that workplace safety must be everyone's concern and that the collective "everyone" needs a leader to consistently address and promote safe practices in the workplace. In most small to mid-size entities a single person serves this purpose. The role of "[workplace safety coordinator](#)" can be incorporated into someone's job description—it does not have to be a separate position. Various personnel must be able to perform specific steps to identify and control hazards. In larger organizations, a safety director, safety manager or safety officer, sometimes under the leadership of a professional risk manager, is in charge of the workplace safety program and appoints a workplace safety committee to assist in implementing the workplace safety program.

Membership

Membership in the workplace safety committee is determined by the nature of the entity's operations. Usually all supervisors (department heads or program managers) serve on the committee. Other employees and special advisors—an insurance professional, a firefighter, or a police officer—may be invited to attend.

Committee Chair

The committee is chaired by the workplace safety coordinator. The chair leads the committee, schedules monthly safety meetings, serves as the contact with outside agencies on safety matters, and retains all safety-related documents. The chair is able to function best with direct access to the chief elected official or administrator of the organization.

Committee Functions

- Create, carry out and watch over [safety-specific programs](#).
- Hold [monthly safety meetings](#).
- Hold [monthly workplace safety inspections](#).
- Run [quarterly loss analysis](#). (Review injury and illness records).
- Provide [safety-related in-services](#).
- Make [advisory recommendations](#) to the entity's managers.

Specific Safety Programs

Those safety programs that are required by law (applicable OSHA requirements, fire codes, and state departments of health) or required by the safety committee in response to high accident frequency or potential at the nonprofit.

Specific safety programs include:

- Back Injury Prevention
- Bloodborne Pathogen
- Fire Evacuation
- Hazard Communication
- Fleet Safety (transportation)
- Emergency Response
- Accident Investigation

Workplace safety programs should be included in the entity's safety manual. Individual components, such as floor-by-floor fire-evacuation plans, should be posted. The programs should be reviewed and updated at least annually to ensure quality, effectiveness and compliance with all applicable codes.

Safety Meetings

Meetings should be documented and kept on file for at least three years for reference. Duties of the safety committee vary, depending on the entity's size and the nature and severity of the location's hazards. To keep meetings on target and timely, distribute an agenda to committee members before each meeting. Record and file minutes of each meeting. Try to keep the meeting length to one hour.

The safety committee's monthly meeting agenda could include:

- Review or accident and investigation reports
- Overview of accident/incident trends
- Summation of in-service training sessions
- Results/findings of inspections
- New and outstanding safety issues
- Safety topic of the month

Facility Safety Inspections

Monthly workplace safety inspections and documentation help monitor adherence to workplace safety programs. A member of the safety committee should lead the inspection. Department representatives should participate in the inspection of their departments. Focus inspections on physical hazards and unsafe acts or operations. Start with areas or operations that show up as causes of accidents/incidents in previous monthly safety inspections and in the quarterly loss

analysis. Include fire hazards, security and other life-threatening areas. Correct any unsafe acts or conditions. Report the inspection results at the safety committee meeting. Create a "To Do" list of the committee's recommendations and assign people to correct them.

Quarterly Loss Analysis Report

Before the committee can make the workplace safer, it needs to identify accident trends and causes making it unsafe. This is the role of the quarterly loss analysis report, which goes into more detail than the monthly loss analysis that is part of the safety meeting. The committee should follow-up on and correct any cause or trend identified.

Safety In-Services

In-service training sessions increase safety and health awareness among staff, educate them about changes in procedure, and address specific areas of concern identified by the safety inspection. An annual schedule should be developed to ensure all content is covered.

Additional in-services can be provided as necessary, prompted by such factors as high frequency of accidents, turnover of employees, or expansion or reduction of staff. Document all training and attendance and keep it on file. In addition, each employee's personal file should have a cumulative record of the in-service meetings attended.

Annual Safety Report

The safety committee should produce a report at the end of each calendar year that summarizes its action. The reports serve as guideposts for future committee members. Submit the report to the chief elected official, administrator or risk manager for review and comment. Include:

- Year's accomplishments
- Continuing accident and incident trends
- Action plans to modify trends or significant safety issues
- In-service schedule for the next year

Special Event Safety Committee

Some nonprofits convene a separate risk management/safety committee for a special event, such as a fund-raising benefit, staff planning retreat or health fair. The committee should be led by an individual who has overall responsibility and is authorized to take action if an emergency arises. The "safety czar" and committee should be involved in all facets of event planning and coordination. Sometimes the special event safety committee is a subcommittee of the overall safety committee, other times it is a separate committee headed by a member of the overall safety committee. The work of this committee should be summarized in a report to the whole and included in the overall safety committee's records.

Resources

Risk Management: A Technical Assistance Brief, A Guide to Risk Management, prepared by The Loss Control Department, The Hartford, © 2000 by American Association of Homes and Services for the Aging.

CITY CORPORATION SAFETY POLICY STATEMENT

TO ALL EMPLOYEES:

The preservation of the life and health of our employees is of the utmost importance. Therefore, it is the intent of City Corporation to provide its employees with a working environment consistent with high standards of industrial safety and hygiene. To achieve this goal, management has implemented a Safety Program in an attempt to eliminate all known unsafe acts, conditions and potential hazards.

The real success of this program depends upon you, our employees. In order to provide the safest working conditions for all, every employee is expected to learn and follow all safety rules and regulations and take a wholehearted interest in strengthening the program.

SAFETY IS TO TAKE PRECEDENCE OVER SPEED AND SHORTCUTS. In no conditions or circumstances shall safety procedures be broken.

We expect all employees to join together in providing a safe atmosphere for one another and in striving toward a strong, effective and meaningful safety program.

It is the responsibility of all supervisors to see that the employees under him follow all safety requirements and rules. The supervisor will be held responsible for all accidents where he failed to provide a safe working environment.

CITY CORPORATION SAFETY ORIENTATION AND TRAINING

On the day of arrival each new employee shall be given a safety orientation by the immediate supervisor.

The orientation will include:

- a. An explanation of the safety policy and practices of the company.
- b. A tour of the site with identification of possible safety hazards.
- c. Emphasis on the responsibility of the employee for their own safety and that of others.

The employee is given a copy of pertinent safety material. As additional safety material is made available, copies will be distributed to all personnel.

The employee is instructed to learn the safety regulations and to consult the supervisor when in doubt.

The employee will sign a statement that he/she has read City Corporation's General Safety Rules, fully understands them and agrees to abide by them. This statement is retained in the employee's personnel file. Signing a copy of the rules and agreeing to them is a condition of employment.

All supervisors will hold monthly safety meetings with their employees to discuss pertinent safety topics. Meetings and employee attendance is documented.

Employee Signature Date

Supervisor Signature Date

GENERAL SAFETY RULES

1. If you are injured, no matter how slight the injury may be you must report *immediately* to your supervisor and received first aid treatment.
2. Approved personal protective equipment (eye, ear, head and foot) must be worn by all employees working in designated areas.
3. Back injuries are serious and every effort is to be taken to prevent them. All employees are to follow the Lifting Procedures found in the safety manual.
4. Never operate, repair or adjust, in any way, machinery or equipment unless you are authorized to do so by a supervisor.
5. Be absolutely sure no one is in a position to be injured and that all safeguards are in proper position before turning on electricity, gas, steam, air, water or setting any machinery or equipment in motion.
6. Check tools and equipment before using them. If any are found defective, do not use them and report them to your supervisor.
7. Good housekeeping is the responsibility of each employee. Keep your work area neat and clean at all times.
8. Stay clear of working machinery and be particularly careful in handling material.
9. For those driving a company vehicle a complete safety check of vehicle and equipment must be made before leaving the shop or plant site.
10. A City Corporation driver must be in possession of a valid Arkansas Operator's License at all times when driving company vehicles.
11. The carrying of unauthorized passengers in a City Corporation vehicle is strictly prohibited.
12. Drinking or possession of intoxicating liquor or illegal drugs or reporting for work while under the influence of either is prohibited and will result in termination.

CAUTION – If you don't know or if you are not sure, ask your supervisor: **It's better to be safe...than sorry.**

City Corporation Safety and Health Manual

Safety Program

The safety program contained herein has been prepared to assist employees in the safe and efficient performance of their duties. Workplace safety is of the utmost importance to City Corporation.

It is the duty of all employees to plan and carry out their job duties in the safest manner possible. The practice of effective accident prevention is mandatory and a responsibility to be shared by all employees.

Since it is not possible to cover every situation that might be encountered in the many operations of the utility, department heads and supervisors will be responsible for tailoring these guidelines to meet the requirements of each particular operation.

City Corporation's Safety Program is designed to go beyond this text. Employees may be required or encouraged to attend training courses addressing issues relating to personal safety as well as the safety of co-workers and citizens. These training sessions will focus on job related injuries and prevention.

Safety and Hazard Committee

The Network Operations Center Manager / Safety Director will be responsible for ensuring that City Corporation's Safety Committee meets on a regular basis, understands its responsibilities, and properly assumes the responsibilities set forth herein related to enforcing the Safety Program. The basic functions of a safety committee are to create and maintain an active interest in safety and to reduce accidents. The safety committee will discuss the current safety problems and seek solutions or ways of prevention of future accidents.

The Committee membership shall consist of the management team and individuals designated to serve on a 6-month term. All departments shall designate, preferably by peer recommendation, an individual to serve a 6-month term on the Safety Committee. Committee members shall nominate the Chairman of the Committee. The Committee will conduct regularly scheduled meetings.

The Committee shall:

- 1) Promote activities and provide a positive program to maintain employee interest in safety.
- 2) Recommend, coordinate, and/or plan safety programs to increase the awareness of safety issues among employees at all levels.
- 3) Regularly schedule, conduct, and supervise inspections of property and facilities to determine safety problems and recommend corrective actions (Committee may designate a two-person inspection team).
- 4) Monitor and, if deemed necessary, recommend safety training programs for employees.
- 5) Assist departments in integrating safety into the everyday activities of the department.
- 6) Supervise adequate recordkeeping of accidents, injuries, and illnesses resulting from on-the-job situations.
- 7) Coordinate and host any compliance visit by the Arkansas Department of Labor.
- 8) Review and revise the Safety and Health Manual during the first calendar month of each year.
- 9) Conduct accident investigations to determine causes of accidents and various methods for preventing future accidents of the same nature.

Responsibility

Department supervisors and lead operators are initially and ultimately responsible for accident prevention within their respective departments. This responsibility is delegated to the supervisors through management directives and the safety program. Each department shall establish safety performance goals and maintain accurate performance and accident records. Goals and records will be reviewed regularly and appropriate action will be taken.

Supervisors are charged with the responsibility of preventing accidents and maintaining safe working conditions. They must cooperate and work with the Managers regarding safe operation of mechanical equipment. Supervisors must be familiar with the safe method and procedures required for the work to be performed under their supervision. They must set an example for other employees by practicing proper safety procedures at all times. **Supervisors will be responsible for furnishing a detailed explanation of applicable safety and hazardous materials procedures to new employees (other than that information that is provided during the Human Resources Department orientation) and for ensuring that these procedures are understood and followed.** They are also responsible for general housekeeping in and around their respective work areas. Each accident shall also be investigated and analyzed by the appropriate supervisor and manager, and a written report will be submitted to Human Resources.

Employees must abide by the adopted safety procedures at all times. Those found in violation of safety procedures will be subject to disciplinary action. Approved uniform and required personal protective equipment (PPE) shall be worn while on the job. Employees are expected to observe general housekeeping rules and to assist in maintaining their respective work areas in a clean and sanitary condition. **Employees must immediately report all accidents, incidents, and near misses (no matter how minor) to their supervisor.**

Accident Reporting, Investigation & Analysis

Any accident, incident, or near miss, no matter how slight the injury or damage must be reported to the department supervisor immediately for appropriate action. The supervisor is responsible for taking appropriate follow-up action, including getting medical attention for the injured, completing an investigation report and recommending or implementing appropriate corrective actions.

ACCIDENT - an undesired event or sequence of events causing injury, ill-health or property damage.

INCIDENT - is an unplanned, undesired event that hinders completion of a task and may cause injury or other damage.

NEAR MISS - describes incidents where, given a slight shift in time or distance, injury, ill-health or damage easily could have occurred, but didn't this time.

Accident Investigation Procedures:

- 1) The supervisor is required to notify Human Resources immediately to allow sufficient time to prepare for and conduct an investigation and other processes including medical care and drug/alcohol screening.
- 2) Investigation forms will be obtained from Human Resources or Network Operations Manager's office; reports will be completed by the supervisor as soon as possible, but no later than 24 hours after the accident.
- 3) After an accident the supervisor will take pictures of any damage or other details which may be useful in the accident investigation.

The Network Operations Manger / Safety Director Human Resources will review and report all accident investigations to the Safety Committee on a monthly basis.

Disciplinary Program

Deviation from approved safety regulations will be considered misconduct. It is imperative that all employees and supervisors follow safety rules. If any employee's misconduct is deemed to be seriously negligent City Corporation may bypass the disciplinary program and suspend or terminate the employee immediately.

The nature of the disciplinary action should be in line with such factors as severity, prior history, adequacy of prior training, and length of service to the organization and time on current job. For any employee who violates approved safety rules, City Corporation will enforce the following disciplinary actions:

First offense – counseling/retraining/written warning

Second offense – suspension

Third offense – dismissal

Health and Safety Education and Training

Supervisors are responsible for ensuring that specialized training (such as confined space and HAZCOM) is provided and documented before employees are required to perform tasks that could potentially expose them to health or safety concerns.

General Safety Information for City Corporation Employees

Main Causes of Accidents:

- 1) Improper Tools or Equipment – employees are responsible for knowing and using the proper tools for each job duty.
- 2) Unsuitable Method – a safe employee knows the proper method of performing each duty. If an employee is in doubt as to how to complete a task safely, the supervisor shall be consulted.
- 3) Not Using Protective Equipment – every employee must use all safeguards and protective equipment as required.
- 4) Not Observing Rules and Regulations – rules and procedures are essential for smooth and effective operations. Suggestions are always welcome, but before deviating from the established rules an employee shall consult the supervisor.
- 5) Lack of Proper Instructions and Maintenance – machinery, tools, and operating equipment shall be inspected before use. Necessary repairs shall be reported to the supervisor immediately.
- 6) Negligence – employees shall think about others around them and not allow carelessness or neglect to endanger co-workers. Inattention, even for only a moment, can result in serious injury.
- 7) Inattention – employees shall keep their minds actively on the job. Daydreaming, worry, and horseplay can lead to accidents.
- 8) Housekeeping – a large percentage of reportable hazards can be classified as “poor housekeeping.” Clean equipment and work areas promote safe working conditions.
- 9) Lack of Communication – poor communication often causes accidents. Employees shall communicate effectively with every employee connected with the job to prevent accidents.
- 10) Medication – it is the employee’s responsibility to apprise the supervisor when medication that might affect the safety of the operation or co-workers is being

used. A physician's certification may be required, so it is imperative that an employee contact their supervisor or the Human Resources department if concerned or there is a reason to believe that the medication will affect the ability to perform job duties safely.

- 11)Attire – employees shall maintain uniforms in good state of repair and wear them properly.
- 12)Use of Hand Tools – take good care of tools. Many injuries result from the use of defective or unsafe tools or improper use of tools. Keep cutting edges sharp. A sharp tool makes the work easier, faster, and safer than a dull one. Learn how to sharpen tools properly or have it done by an outside party. Inspect tools regularly to note damage. Repair or replace all damaged tools before they injure you or someone else. Tools which are not being used should be put away properly, on racks or in a suitable tool box. If it is necessary to carry tools with you, use a holster or sheath to protect the cutting edges and pointed ends to avoid injury to yourself and others. Use the right tool for the job.
- 13)Use of Portable Electric Tools – never use portable electric equipment unless you know it is in good condition. Questionable items should be inspected and tested by qualified maintenance personnel. Always report defective parts on any piece of equipment. Portable electric tools should always be grounded, either at the frame or by use of a three-wire conductor and plug. In wet locations, wear rubber boots and gloves or stand on a good insulating mat or platform. Use only low voltage equipment in such locations if possible. Never use or attempt to repair power equipment with which you are not familiar. Electrical cords should be protected from damage by oil and should not be left in aisles where they may be run over by trucks, equipment, or cause tripping.

First Aid and Health

First aid is the immediate and temporary care given to the victim of an accident or sudden illness until the services of a physician can be obtained.

General rules for first aid:

- 1) If you are injured, report it and get First Aid immediately.
- 2) If you become ill while at work, do not continue on the job. Report the illness to your supervisor. They will see that you get the proper medical aid.
- 3) Do your part to keep washrooms and toilets sanitary.
- 4) First Aid kits will be kept in all City Corporation vehicles and administrative reporting worksites.
- 5) Keep first aid kits stocked and in a sanitary condition.
- 6) Make sure that an adequate supply of drinking water is available at all times.

Operation of City Corporation Vehicles

The operation of company vehicles is a privilege that should not be abused. No employee will be directed to operate a vehicle for which they are not trained and certified by appropriate classification of driver's license. To do so is a violation of state law. All drivers of company vehicles and those using personal vehicles while performing company business shall comply with all applicable traffic laws.

Vehicle Operations Regulations:

- 1) Operators of company vehicles are required to perform the following daily pre-operational status checks:
 - Check all lights, including tail lights and turn signals.
 - Check gas, oil, and water levels.

- Check brakes.
 - Check tire pressures.
 - Clean windshield, windows, and mirrors.
 - Check emergency equipment (first aid kit, fire extinguisher, etc.)
- 2) All vehicles having any condition that would interfere with safe operation shall be immediately removed from service and necessary repairs made to bring the vehicle into a safe operating condition before any future operation of the vehicle.
 - 3) All drivers shall have a valid Arkansas driver's license. City Corporation shall determine the validity of each driver's license upon hire. Employees are, thereafter, required to immediately give written notification to their manager of the revocation of the individual's license. Driver's who violate this obligation will be subject to disciplinary action that could result in suspension or termination.
 - 4) All drivers and passengers will utilize seat belts.
 - 5) Employees only are allowed as passengers in City Corporation vehicles. The maximum number of passengers inside a vehicle is equal to the number of available operating seat belts.
 - 6) When backing a vehicle that does not have a clear view of the rear, the passenger will exit and assist the driver. If alone, the driver will exit the vehicle and inspect the area behind the vehicle prior to backing.
 - 7) During periods of limited visibility or any time windshield wipers are in use the vehicle headlights will be turned on.
 - 8) Drivers will not operate cell phones when vehicle is moving without an approved hands-free device.
 - 9) Trailers will be securely fastened to hitches; pintle claws will be secured with safety pin. Chains will be crossed and secured under hitch before moving.
 - 10) City Corporation vehicles shall not be parked in "No Parking" or designated handicap zones.
 - 11) Unattended vehicles will have the engine turned off, keys removed from ignition, and doors locked.

Special Equipment

Work boots are utilized and required for most employees working outside of the business office to protect feet from injuries resulting from dropped items, vehicle wheels, machinery, and nail puncture. Employees working in designated work sites are required to wear steel toed safety shoes prior to operating mowing or construction equipment.

Rain gear is to be worn in inclement weather and job sites where water is falling or spraying.

Gloves will be worn in designated job sites. Gloves will be in good repair and a type suited for the task to protect against cuts, needle sticks, abrasion, chemicals, heat, and electric shock.

Protective headgear will be worn to protect the head from falling objects, overhead equipment, and electric shock.

Respiratory protection is used to filter or otherwise prevent toxic substances from entering the respiratory system.

Protective clothing such as gloves, sleeves, aprons, leggings, and full suits protect against wounds, abrasions, bumps, etc.

Office Safety

- 1) Use handrails when ascending and descending stairs.
- 2) Do not stand on chairs, boxes or other items not intended for climbing.
- 3) Maintain passageways; keep isles clear of obstructions.

- 4) Do not open more than one file cabinet drawer at a time.
- 5) Always close file cabinet drawers when not being used.
- 6) Smoking is prohibited inside any City Corporation building or vehicle.

Temperature Extremes

Severe sunburn and illnesses caused by exposure to weather are among the most unnecessary of occupational hazards. Employees should use sunscreen and minimize their exposure by wearing loose fitting long sleeves, gloves, and hats to protect from sunlight. Drinking water will be supplied for all employees to prevent dehydration and heat injuries.

Cold weather requires layered clothing to protect employees from cold injuries. Protect your face and wear a muffler or mask over your mouth to protect the lungs while breathing cold air. Rapid cooling of exposed skin increases susceptibility to frost-bite, which causes loss of feeling and white or pale appearance in fingers, toes, tip of nose, and earlobes. Get medical attention immediately if you suspect frost-bite. Hypothermia occurs when the body loses heat faster than it can produce it. Symptoms include uncontrolled shivering, slurred speech, memory lapses, fumbling hands, stumbling, drowsiness, and exhaustion.

Poison Ivy, Oak, Sumac

Every year a certain number of employees come into contact with poison ivy, poison oak, or poison sumac. To help prevent exposure and the allergic or sensitive reactions to these plants, workers must be able to first *identify* them.

The compound leaves of poison ivy consist of three pointed leaflets; the middle leaflet has a much longer stalk than the two side ones. The leaflet edges can be smooth or

toothed but are rarely lobed. The toxic substance in poison ivy is the oil that is present in the plant throughout the year. The oil can be carried on clothing, pet fur, or in the smoke from burning the plant.



Poison Ivy

Poison Oak

Poison Sumac

Poison oak usually does not climb as a vine, but occurs as a low growing shrub. Leaflets occur in threes, as in poison ivy, but are lobes, resembling oak tree leaves.

Poison sumac, unlike poison ivy, grows as a coarse woody shrub, and has green flowers and loose clusters of white fruit. It has the same oily poisonous material as poison ivy and produces the same rash. Seek first aid and/or doctor's care as needed.

Bites and Stings

City Corporation field duties will expose employees to numerous opportunities for bites and stings from insects and snakes. The best protection is always avoidance; look before reaching bare hands into valve boxes, meter vaults, or other nooks and crannies. Be sure to positively identify the creature if bitten or stung. Use first aid to prevent infection, and seek immediate medical attention for allergic reactions.

Sprains and Strains

The most common injury resulting from workplace accidents nationally, as well as at City Corporation, is sprains and strains. The major contributors are slips, trips, and falls

resulting from walking on wet or cluttered surfaces, and improper body positioning while digging or lifting objects. The primary short-term focus of the Safety Program will be to lower/eliminate the number of sprains and strains. Prevention will consist of environmental and physical awareness training. Departments are encouraged to incorporate slip, trip, and fall awareness training on a quarterly basis.

Review and Revision

This manual will be updated annually, during the month of January. Revisions and updates will be reviewed and approved by the Safety Committee and Managers prior to implementation.

CITY CORPORATION Vehicle Accident SOP

An insurance card should be in all company vehicles. A laminated short SOP card should also be in the vehicle.

When an employee is involved in an accident in a City Corporation vehicle, they should report the accident immediately to Human Resources via phone (968-2080 ext. 115) if possible. If they do not have access to a phone, they should make contact by company radio. HR will then contact the police if necessary and will also contact the Manager/Supervisor.

When the Manager/Supervisor arrives on the scene, they should make a record of the insurance information of the other driver involved in the accident. Human Resources will advise the Manager/Supervisor to transport the employee to River Valley Occupational Health for a drug screening. The manager/supervisor will use their Reasonable Suspicion testing training to determine if a BAT (for alcohol) or a Collector (for drugs) should be administered.

If the accident occurred on private property, the Manager/Supervisor should also take a digital camera and take photographs of the damage (vehicles, property, etc) as there would be no police report. If the manager does not have access to the camera, they should report this to Human Resources who will see that pictures are taken. These photos and the insurance information should be returned to the Administrative Department. After the drug test has been administered, the Manager/Supervisor should then bring the employee to the Administrative Department for the accident report to be completed. The accident report will be reviewed by the General Manger and Administrative Manager upon completion. If the manager/supervisor has made a determination based on their Reasonable-Suspicion training that the employee is impaired, the employee should be driven to their home and not allowed to return to work. Consider disciplinary action if the employee refuses transport or call the police if you feel the employee will endanger others on the road.

If the employee is injured and requires medical treatment, a drug screening may be administered after treatment. If the injury requires admittance to the hospital, River Valley Occupational Health will go to the facility to administer the screening.

River Valley Occupational Health states that testing (Collector) be done with 32 hours of the accident. However, City Corporation policy requires that testing be administered within two hours. If two hours have passed from the time the Manager/Supervisor became aware of the requirement to test and testing has not been completed, the Manager/Supervisor must document this fact and the reasons why.

The vehicle should be taken for at least two (2) repair estimates. If the damage exceeds \$2,500.00, our insurance carrier will require digital pictures. If the damage exceeds \$5,000.00, the carrier will send an adjustor to inspect the vehicle. The estimates are returned to the Administrative Department. After Administrative Department receives instructions from the insurance carrier on proceeding with repairs the information will be forwarded to the manager.

If this accident occurs after regular business hours, the employee would notify their immediate supervisor/manager. The manager will call River Valley Occupational Health at their after-hours number (264-2425 or 970-7208 or 264-9170) and proceed with all above steps but will bring the employee into the Administrative Office at the beginning of the next regular business day.

CITY CORPORATION
VEHICLE ACCIDENT PROCEDURES

The employee is required to call 968-2080 ext. 115 immediately. If unable to make phone contact, the contact may be made via company radio. If the accident occurs after regular business hours, the employee should contact their immediate supervisor. The immediate supervisor will then advise of proper procedures to be followed.

Update 2015 Sample Laboratory Analyst Job Description

Exempt: No
Department: Laboratory
Reports To:
Location: Pollution Control Works Facility
Date Prepared: June 26, 2014
Date Revised: October 06, 2015

GENERAL DESCRIPTION OF POSITION

The incumbent is responsible for performing chemical and biological testing and providing information and data for various plant operations as required by local, state and federal regulatory agencies.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. gather and receive water, wastewater and sludge samples from treatment plant, collections/ distribution system, and perform various analytical tests using approved methods as required by regulatory agencies. This duty is performed daily, about 50% of the time.
2. Perform QA/QC control procedures and maintain QA/ QC records. This duty is performed daily, about 1% of the time.
3. Maintain bench sheets, analytical equipment calibration sheets and chain-of-custody sheets, enter data into operations program daily. This duty is performed daily, about 2% of the time.
4. Maintain cleanliness and safety of laboratory. This duty is performed daily, about 1% of the time.
5. Calibrate laboratory equipment. This duty is performed daily, about 5% of the time.
6. Submit purchase order requests and maintain bench supply levels for laboratory . This duty is performed weekly, about 5% of the time.
7. Answer phone message and customer requests for both in house and outside customers. This duty is performed daily, about 1% of the time.
8. Perform special analytical tests as requested by operations manager. This duty is performed as needed, about 20% of the time.
9. Perform other duties as required or assigned. This duty is performed daily, about 15% of the time.
10. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Broad knowledge of such fields as accounting, marketing, business administration, finance, etc. Equivalent to a four year college degree, plus 7 to 11 months related experience and/or training. Or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read, analyze, and understand common scientific and technical journals, financial reports, and legal documents; Ability to respond to complex or difficult inquiries or complaints from customers, regulatory agencies, or members of the business community.

MATHEMATICAL SKILLS

Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume. Ability to apply concepts such as fractions, ratios, and proportions to practical situations.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Class IV Wastewater License, Class IV Water Distribution, must have a valid Arkansas Motor vehicle operator license

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Advance Industrial license, BS in environmental science, chemistry or biology

SOFTWARE SKILLS REQUIRED

Intermediate: Presentation/PowerPoint, Spreadsheet, Word Processing/Typing
Basic: 10-Key, Alphanumeric Data Entry, Database

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under direction where a definite objective is set up and the employee plans and arranges own work, referring only unusual cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work; may also occasionally assist in the planning of work assignments performed by others within a limited area of operation.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance; the latter of which would affect the work operations of other employees and/or clientele to a moderate degree.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment

where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Directed. Supervisory and/or professional skills using structured practices or policies and directed as to execution and review. Interpolation of learned things in moderately varied situations where reasoning and decision-making are essential.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments:

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$5,000 to \$150,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Generally controlled. General processes covered by established policies and standards with supervisory oversight.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

None. Job does not create any dollar monetary impact for the organization.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Frequent contacts with general public, patrons, or other outside representatives, wherein the manner of handling these contacts has a bearing on the organization's position and operation.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Periodically exposed to such elements as noise, intermittent standing, walking, occasionally pushing, carrying, or lifting; but none are present to the extent of being disagreeable.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is frequently exposed to fumes or airborne particles, toxic or caustic chemicals; and occasionally exposed to work near moving mechanical parts, outdoor weather conditions, wet or humid conditions, extreme cold, extreme heat, risk of electrical shock. The noise level in the work environment is usually moderate.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Semi-repetitive, low physical. Semi-repetitive type work which requires periods of concentration for varied time cycles as prescribed by the tasks.

While performing the functions of this job, the employee is continuously required to use hands to finger, handle, or feel, talk or hear; regularly required to stand, walk; occasionally required to climb or balance, stoop, kneel, crouch, or crawl. The employee must occasionally lift and/or move up to 100 pounds; frequently lift and/or move up to 25 pounds; continuously lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision; distance vision; color vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

City Corporation Parked Vehicle Traffic Cone Procedures

Purpose – traffic cones will be placed around every parked City Corporation motor vehicle to facilitate and encourage each operator to conduct a pre-trip vehicle inspection prior to operation. These procedures are a direct result of preventable vehicular damages and are designed to prevent future accidents.

Scope – this procedure shall be applicable to all City Corporation motor vehicles.

Procedures:

1. Every City Corporation vehicle will have two 18” fluorescent green un-stripped traffic cones as standard issue equipment for purposes of this procedure.
 - 1.1. Any available traffic cone is deemed an acceptable temporary substitute for a lost or stolen cone.
 - 1.2. The assigned operator will be responsible for replacement cost of a lost or misplaced cone.
 - 1.3. City Corporation will bear the cost of a properly reported stolen cone.
2. Upon parking a vehicle, the operator will place both cones around the vehicle to facilitate an operator walk-around pre-trip inspection prior to the next operation.
 - 2.1. When the vehicle is parked at an unmarked or unbounded marked parking space the cones will be placed at opposite corners (i.e. left rear and right front bumper) so that all four sides of the vehicle will be observed during the next pre-trip inspection.
 - 2.2. When the vehicle is parked in a space bounded by a curb both cones will be placed at the corners of the unbounded bumper so that three sides of the vehicle will be observed during the next pre-trip inspection.
 - 2.3. Placement of traffic cones for this procedure will not hinder the normal flow of traffic.
3. Prior to operating a parked City Corporation vehicle the operator will conduct a pre-trip inspection to retrieve the traffic cones.
 - 3.1. The operator will check for nearby equipment, vehicles, pedestrians, and blind spots prior to operating the vehicle.
 - 3.2. The operator will secure the cones inside the cab, bed, locked compartment, or placed on a mounted cone holder prior to operating the vehicle.
 - 3.3. Lost or stolen traffic cones will immediately be reported to the department supervisor or manager.
4. The Safety Committee will conduct an annual review and assessment of these procedures.

CERTIFICATION STATEMENT

I have read and fully understand the City Corporation Parked Vehicle Traffic Cone Procedures.

Name/Employee

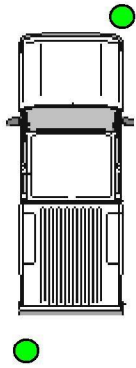
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Signature: _____

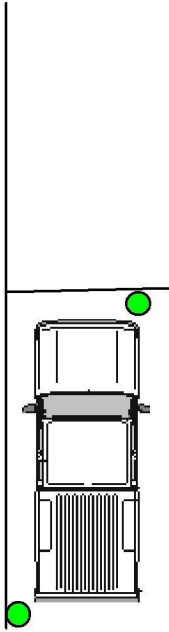
Date: _____

(Return to Safety Coordinator when completed)

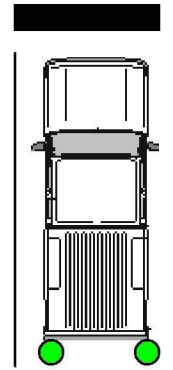
Cone placement diagrams:



Unmarked

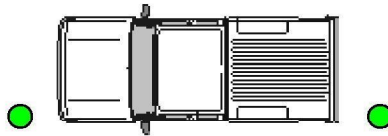


Marked, no curb

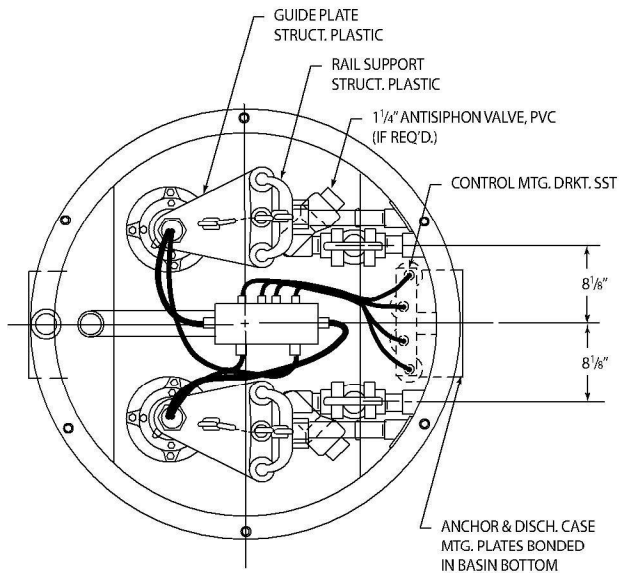
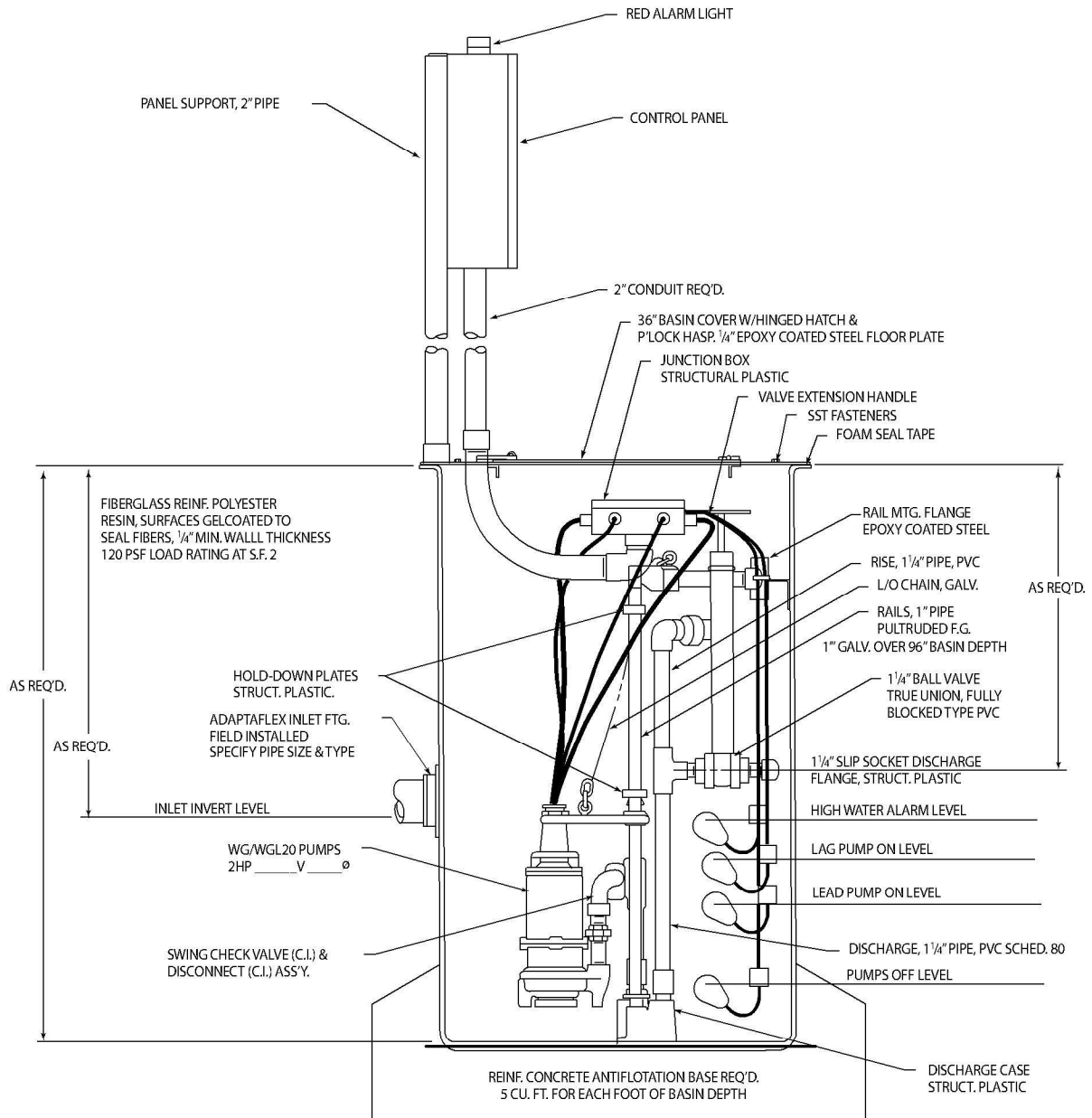


Marked w/curb

Street curb



MYERS DUPLEX LIFT-OUT RAIL SYSTEM IN 36" OR 48" FIBERGLASS BASIN



DRUG TERMINATOR

For Disposal of Confiscated Drugs

*Burns
CLEAN
and
SMOKE FREE*



www.drugterminator.com

ELASTEC 

AmericanMarine
Innovative Environmental Products

DRUG TERMINATOR

For Disposal of Confiscated Drugs

This innovative, easy to use incinerator is specifically designed for safe and efficient disposal of confiscated drugs. Drug Terminator is used by local law enforcement when other disposal options are limited.



After the preliminary fire is started, drugs are injected into the fire with the EZ Feed system.

Specifications

Construction: Stainless Steel Lid
Plated Tubular Steel Frame,
2-Blowers, Axial Vane 110V standard
or 220V optional
55 Gallon Steel Open Head Drum

Weight: 129 lbs
Height: 46"
Floor Space: 36" x 26"

PATENT # 6928935 B2

www.drugterminator.com

Drug Terminator is wood or charcoal fired. Two high velocity electric blowers create a cyclone of intense heat eliminating illicit drugs quickly and completely. The volume of material is reduced to an average of 1% ash. Non-combustible drug paraphernalia is sterilized by heat and can be disposed in municipal waste.

Drug Terminator has been developed from the Cyclonic Barrel Burner®, a highly successful and efficient incinerating device. Over two thousand Cyclonic Barrel Burners® are in use around the world.

Drug Terminator users include:

United States Army
Nebraska State Patrol
Colorado State Patrol
North Las Vegas Police Department
Utah Highway Patrol
Miami-Dade Police Department
Delaware Police Department
United States Air Force
Wyoming Highway Patrol
Key West Police Department
Knoxville Police Department
Arizona Department of Public Safety
Hawaii Police
Carmi Police Department
...plus many others

Contact our incinerator specialists for more information.

Phone: +1 (618) 382-2525

Fax: +1 (618) 382-3610

Email: elastec@elastec.com

ELASTEC 

AmericanMarine®
Innovative Environmental Products
1309 W. Main, Carmi, IL 62821

Appendix O-1: Plan Maintenance Schedule

Activity	Tasks	Frequency	Date Required	Date Completed
Plan update and certification	Review entire plan for accuracy	Semi-annually	April 2017 October 2017	
	Incorporate lessons learned and changes in policy and philosophy	Semi-annually As needed	April 2017	
	Manage distribution of plan updates	As needed		
Maintain and update Orders of Succession	Obtain names of current incumbents and designated successors	As-needed		
	Update Delegation of Authorities			
Checklists	Update and revise checklists	As needed		
	Ensure annual update/validation	Annually	October 2017	
Update roster all positions	Confirm/update information on roster members of COOP Teams	As needed		
Appoint new members of the COOP Teams	Qualifications determined by COOP Team Leaders	As needed		
	Issue appointment letter and schedule member for orientation			
Maintain alternate work site readiness	Check all systems	Quarterly	March 2017	
	Verify access codes and systems		March 2017	
	Cycle supplies and equipment as needed		March 2017	
Review and update supporting Memoranda of Understanding/Agreements	Review for currency and new needs	Annually	October 2017	
	Incorporate changes, if required		October 2017	
	Obtain signature renewing agreement or confirming validity		October 2017	

Appendix O-1: Plan Maintenance Schedule

Activity	Tasks	Frequency	Date Required	Date Completed
Monitor and maintain equipment at alternate sites	Train users and provide technical assistance	Ongoing	Initial by Jan 2017	
	Monitor volume/age of materials and assist users with cycling/ removing files			
Train new members	Provide an orientation and training class	Within 30 days of appointment	Initial by Jan 2017	
	Schedule participation in all training and exercise events		Initial by Jan 2017	
Orient new policy officials and senior management	Brief officials on COOP	Within 30 days of appointment	Initial as soon as approved by CEO	
	Brief each official on his/her responsibilities under the COOP		Initial by Jan 2017	
Plan and conduct exercises	Conduct internal exercises	Semi-annually	Initial TBD	
	Conduct joint exercises with local, regional, and/or state agencies	Annually	TBD	
	Support and participate in interagency exercises	Annually or as needed	TBD	

Appendix P-1: Training, Testing and Maintenance

	Training Components	Training Type	Targeted Staff	Whose Responsibility?	Frequency	Date Scheduled	Date Completed
Training	COOP Plan Overview	Briefing	Teams & Leadership	ERT Coordinator	Semi-Annually	TBD	
	NIMS	Briefing Courses	Teams & Leadership	ERT Coordinator Individual Members	Semi-Annually	TBD	
	Testing Components			Whose Responsibility?	Frequency	Date Scheduled	Date Completed
Testing	Table Top Exercise with COOP Teams and Supporting			ERT Coordinator	Annually	TBD	
	Enhanced Fire Drill			ERT Coordinator	Annually	TBD	
	Enhanced Tornado Drill/Shelter in Place			ERT Coordinator	Annually	TBD	
	Enhanced Evacuation: EVAC to Alternate Location			ERT Coordinator	Annually	TBD	
	Technology Restoration Procedures			Information Technology Team	Annually	TBD	
	Maintenance Components			Whose Responsibility?	Frequency	Date Scheduled	Date Completed
Maintenance	Update Call Trees			ERT Coordinator	Per Changes	Ongoing	
	Update Vital Records			ERT Coordinator	Per Changes	Ongoing	
	Update Plan			ERT Coordinator	Per Changes	Ongoing	
	Update Orders of Succession			Leadership	As Needed	Ongoing	
	Update Delegation of Authority			Leadership	As Needed	Ongoing	
	Appoint New Members of all Teams			Leadership	As Needed	Ongoing	
	Review and Update MOA's			ERT Coordinator	Annually	October 2017	



Proper Disposal of Prescription Drugs

Office of National Drug Control Policy

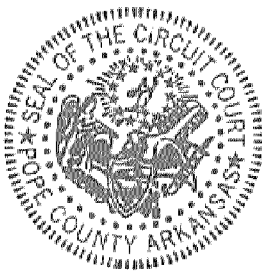
October 2009

Federal Guidelines:

- Do not flush prescription drugs down the toilet or drain unless the label or accompanying patient information specifically instructs you to do so. For information on drugs that should be flushed visit the [FDA's website](#).
- To dispose of prescription drugs not labeled to be flushed, you may be able to take advantage of community drug take-back programs or other programs, such as household hazardous waste collection events, that collect drugs at a central location for proper disposal. Call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community.
- If a drug take-back or collection program is not available:
 1. Take your prescription drugs out of their original containers.
 2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.
 3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.
 4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with black permanent marker or duct tape, or by scratching it off.
 5. Place the sealed container with the mixture, and the empty drug containers, in the trash.

Office of National Drug Control Policy
750 17th St. N.W., Washington, D.C. 20503
p (202) 395- 6618 f (202) 395-6730





Miscellaneous Book

Filed: 04/02/2015 10:39 am
Pope County, Arkansas
Diane Willcutt, Circuit Clerk
By: DJ Austin, D.C.

8 Pages **\$50.00**

ORDINANCE NO. 2194

AN ORDINANCE ESTABLISHING RATES AND FEES FOR SERVICES FURNISHED BY THE WASTEWATER SYSTEM OF THE CITY OF RUSSELLVILLE, ARKANSAS AND REPEALING OTHER ORDINANCES RELATED TO WASTEWATER RATES AND FEES AND FOR OTHER PURPOSES

SECTION 1: GENERAL PROVISIONS

1.0 Short Title: This Ordinance shall also be known as the Wastewater Rate Ordinance.

1.1 Purpose and Policy: This Ordinance sets forth the rates and fees for all persons, firms, corporations, organizations, political units and political subdivisions and all other entities using the wastewater collection and treatment system of the City of Russellville in accordance with a schedule of charges as hereinafter provided; and to repeal any and all previous ordinances that particularly define such rates and fees.

1.2 Definitions:

- A. "BOD" (denoting Biochemical Oxygen Demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure for five (5) days at 20°C, expressed in milligrams per liter.
- B. "City" shall mean the City of Russellville, Arkansas or its City Council
- C. "Control Authority" shall mean the entity in charge of operation and maintenance of the city's wastewater system, which at the time of the approval of this ordinance, is City Corporation.
- D. "NH₃-N" (denoting Ammonia) shall mean the ammonia present in the wastewater stream, expressed in milligrams per liter.
- E. "System" shall mean the wastewater collection and treatment system owned by the City of Russellville, Arkansas

F. "TSS" (denoting Total Suspended Solids) shall mean solids that either float on the surface of, or are in suspension in water, sewage, or other liquids, and which are removable by laboratory filtering.

1.3 Authority: The Ordinance is enacted by the City Council pursuant to the express grant of authority under Ark. Code Ann §§14-235-223 and 14-235-201 et. seq.

SECTION 2: REGULATIONS

2.0 The City hereby establishes rates and fees to be charged for services furnished by the System, which the City finds and declares to be fair, reasonable, and necessary, to be charged to all users who contribute wastewater to the System. The rates shall provide revenues sufficient to at least (1) pay the annual costs for operation, maintenance and replacement of the System; (2) pay annual debt service; and (3) provide necessary bond coverage. None of the facilities or services afforded by the System shall be furnished without a charge being made therefore.

2.1 In order to provide for the cost of service differentials between System customers within the corporate limits of Russellville and those outside the corporation limits, a separate rate equal to one and one-half times the inside city rate shall be charged to those customers outside the city limits of Russellville. Calculated rates for outside city customers shall be rounded up to the nearest penny.

2.2. Customers connected to and served by the wastewater system of the City that are classified as residential customers with domestic use only will be charged flat monthly rates for sewer services in accordance with the rates defined herein, and that flat rate shall be based on average water consumption in the months of January, February, and March. All other classification of wastewater customers will be billed in accordance with the rates defined herein based on their actual monthly water consumption.

2.3. All new residential customers initiating service after April 1, of each year, be charged on the basis of the water consumption of a typical user of the same or similar class and type of service until an average for the user is established for the following months of January, February, and March .

2.4. In such cases that a non-residential customer can show that a significant portion of the water used does not reach the System, a reduction may be allowed for that amount of water not reaching the System, provided it is quantified and proven to the satisfaction of the Control Authority. In order to be eligible for this type of wastewater billing credit, the customer shall show that the volume of water not reaching the System exceeds 50,000 gallons per month or 20% of the total water consumed by the user, whichever is greater, and provided, further, that no reduction be allowed to any commercial user whose water consumption is less than an average of 50,000 gallons per month.

- 2.5. Every customer who discharges sanitary sewage, industrial wastes, water or other liquids other than normal sewage shall be charged and pay a surcharge in addition to the charge for normal sewage. Normal sewage shall mean sewage which, when analyzed, shows by weight a daily average of not more than 250 parts per million of total suspended solids (TSS) and/or biochemical oxygen demand (BOD) and not more than 25 parts per million of ammonia (NH3-N).
- 2.6 In the event such charges for the use of the wastewater collection and treatment system are not paid within the time and in the manner as by this Article provided, the City Clerk shall certify to the County Clerk of Pope County the legal description of the real property enjoying the use of the wastewater collection and treatment system together with the amount of such charge or charges remaining unpaid, such amount to be placed on the tax roll for collection, subject to the same penalties and collected in like manner as other taxes are by law collectable, and shall become a lien upon the real property so served.

SECTION 3: RATES AND FEES

3.1 Wastewater Monthly Minimum Bill.

- A. All users of the System shall be charged a flat monthly fee, which includes the first 1,000 gallons of wastewater volume, in accordance with the following schedule(s), attached hereto and incorporated herein:

	<u>Inside City</u>	<u>Outside City</u>
April 1 – December 31, 2015	\$8.17	\$12.26
January 1 - December 31, 2016	\$10.01	\$15.02
January 1 - December 31, 2017	\$11.86	\$17.79
January 1 - December 31, 2018	\$12.75	\$19.13
January 1 - December 31, 2019	\$13.71	\$20.57
January 1, 2020 and thereafter	3% increase per annum	3% increase per annum

3.2 Wastewater Monthly Volume Charge.

- A. All users of the System shall also be charged on a monthly basis for wastewater volume in excess of 1,000 gallons in accordance with the following schedule(s), attached hereto and incorporated herein:

	<u>Inside City</u>	<u>Outside City</u>
April 1 – December 31, 2015		
1,001 to 20,000 gallons (per 1,000 gallons)	\$3.17	\$4.76
20,001 gallons and above (per 1,000 gallons)	\$2.70	\$4.05
January 1 - December 31, 2016		
1,001 to 20,000 gallons (per 1,000 gallons)	\$3.88	\$5.82
20,001 gallons and above (per 1,000 gallons)	\$3.31	\$4.97
January 1 - December 31, 2017		
1,001 to 20,000 gallons (per 1,000 gallons)	\$4.60	\$6.90
20,001 gallons and above (per 1,000 gallons)	\$3.92	\$5.88
January 1 - December 31, 2018		
1,001 to 20,000 gallons (per 1,000 gallons)	\$4.95	\$7.43
20,001 gallons and above (per 1,000 gallons)	\$4.21	\$6.32
January 1 - December 31, 2019		
1,001 to 20,000 gallons (per 1,000 gallons)	\$5.32	\$7.98
20,001 gallons and above (per 1,000 gallons)	\$4.53	\$6.80
January 1, 2020 and thereafter		
1,001 to 20,000 gallons (per 1,000 gallons)	3% increase per annum	3% increase per annum
20,001 gallons and above (per 1,000 gallons)	3% increase per annum	3% increase per annum

3.3 Wastewater Connection Fee.

- A. Each customer who connects to the System shall pay a permit fee of \$150 plus the actual cost to make the connection including any labor, equipment and materials required to complete the wastewater connection to the System including excavation, tapping of pipe, landscaping, and any pavement repairs associated with the connection.

3.4 Excessive Strength Wastewater Surcharge.

- A. For any customer, when the BOD and/or TSS exceeds 250 parts per million and/or the NH₃-N exceeds 25 parts per million, a surcharge shall be added to the basic

charge. This surcharge shall be based on one hundred percent (100%) of metered water use in accordance with the following formula:

$$S = .00834 [\$0.126 (Vs) (BOD - 250) + \$0.088 (Vs) (TSS - 550) + \$0.098(Vs) (NH3-N - 25)]$$

Where:

“S”	=	Surcharge in dollars monthly
“Vs”	=	Sewage volume in thousand gallons per month
“.00834”	=	Conversion factor for pounds per thousand gallons
“\$0.126”	=	Unit charge for BOD in dollars per pound based on actual treatment costs
“BOD”	=	(Biochemical Oxygen Demand) Five day strength index in milligrams per liter by weight.
“250”	=	Allowed BOD and TSS strengths in milligrams per liter by weight based on the design assimilative capacity for each at the wastewater treatment plant.
“\$0.088”	=	Unit charge for total suspended solids in dollars per pound based on actual treatment costs
“TSS”	=	(Total Suspended Solids) Five day strength index in milligrams per liter by weight.
“\$0.098”	=	Unit charge for ammonia in dollars per pound based on actual treatment costs
“NH3-N”	=	(Ammonia) Five day strength index in milligrams per liter by weight.

3.5 Pretreatment Program Permit Fees.

- A. Any customer determined by the Control Authority to be a significant industrial user as defined in Ordinance 2105, known as the Pretreatment Ordinance, shall be subject to the following permit fees:

New Permit Fee (currently 5 years)	\$500.00
Permit Renewal Fee	\$500.00

3.6 Grinder Pump Stations.

- A. Any customer that is deemed by the Control Authority to require a grinder pump for connection to the wastewater system shall be responsible for bearing all costs related to the purchase, installation and connection to the System. The City and/or Control Authority will not accept a grinder pump for ownership and/or maintenance if said grinder is not installed in conformance to the Control Authority’s current specification for such installation.

- B. Any customer served by a grinder pump shall pay a monthly grinder pump maintenance fee of \$15.00 per pump. The fee shall increase at 3% per annum beginning on January 1, 2016 and every January 1st thereafter.

3.7 Septic Tank Haulers

- A. Septic Tank Haulers who are allowed to dump septic contents at the plant will do so at a location designated by the Control authority and shall be subject to the following fees and will do so subject to approval based on plant conditions at time of dumping:

Permit fee (currently 1 year)	\$500
Annual Permit renewal	\$500
Discharge/Dump fees	\$1.00 per gallon

3.8 Other Service Related Fees.

- A. For other fees related to specific services for customers, it is the intent for each customer to bear the cost for such fee so as not to cause an undue burden on the remaining customer base. The fees for such services shall be charged based on the following schedule attached hereto and incorporated herein:

<u>Service</u>	<u>Fee</u>
Returned Check Fee	\$25.00 plus any bank fees incurred
Tampering	\$100 plus time/materials and/or related expenses
Late Payment Fee	\$10.00
After Hours Service Call	\$75.00
Repeat Trip/Service Call	\$25.00
Shut Off Processing Fee	\$25.00
Check Leak/Stoppage (if on customer side)	\$25.00
Wastewater Cleanout Cap Replacement	\$50.00

SECTION 4: ADMINISTRATION

- 4.1 The rates established herein shall never be reduced below an amount sufficient to provide for the operation and maintenance of the said sewer system and for the payment of the principal of and interest on existing bonds, and shall, when necessary, be increased to provide for said operation and maintenance and for the payment of the principal of and interest on existing bonds; provided, however, that the rates are sufficient to satisfy rate coverage equal to or greater than that specified to meet the average annual debt service requirements of any and all existing bonds and/or debt.

- 4.2 The Control Authority will cause for an annual review of all wastewater rates and fees to ensure that the rates and fees being charged are fair and equitable and meet the requirements listed in Item 4.1.
- 4.3 None of the facilities or services afforded by the System shall be furnished without a charge being made. Therefore, in the event the City or any department, agency, or instrumentality thereof shall avail itself of any of the facilities or services so afforded, the reasonable value thereof shall be charged against the City, or such department, agency or instrumentality, and shall be paid for as the charges therefore accrued. The revenues so received from the City shall be deemed to be revenues from the operation of the sewer system, and shall be used and accounted for in the same manner as any other revenues derived from its operation; provided, however, that nothing herein shall be construed as requiring the City, or any department, agency, or instrumentality thereof to avail itself of the facilities or services afforded by the sewer system.
- 4.4 All customers will be billed on a monthly basis in accordance with City Corporation's "Rules and Regulations Governing the Rendering of Water Services" and "Rules and Regulations Governing the Rendering of Sewer Service."

SECTION 5: SEVERABILITY

- 5.1 If any provision, paragraph, word, section, chapter, or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, chapters, and articles shall not be affected and shall continue in full force and effect.

SECTION 6: REPEAL AND AMENDMENT

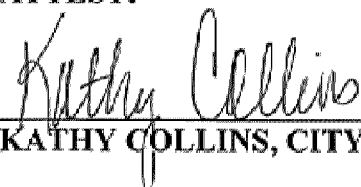
- 6.1 As of the effective date of this Ordinance, Ordinances No. 949, 1022, 1294, 1372, and 2043 are hereby repealed. All other parts of Ordinances in conflict with this Ordinance are amended to conform to this Ordinance.

ORDAINED, this 19th day of March, 2015.



RANDY HORTON, MAYOR

ATTEST:



KATHY COLLINS, CITY CLERK

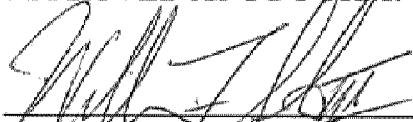


2015-14-00368
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Prepared by:
City Corporation and
William F. Smith III
Russellville City Attorney
203 South Commerce Avenue
Russellville, AR 72801
Sponsor: Brown & City Corp
NB#9

I, Kathy Collins, City Clerk of Russellville, Arkansas, hereby certify that the above and foregoing is a true and correct copy of Ordinance No. 2194 passed by the City Council of the City of Russellville, Pope County, Arkansas, on the 19th day of March, 2015.

APPROVED AS TO FORM:



WILLIAM F. SMITH III, CITY ATTORNEY

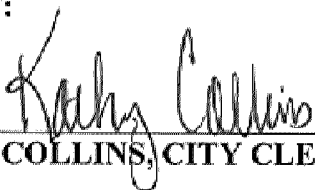
SECTION 7: EMERGENCY

7.1 This City Council finds that the immediate implementation is in the best interest of the City and residents of the City of Russellville in order to secure the most favorable interest rate in the bonds to be issued to fund improvements of the Russellville Sewer System which shall protect, promote and preserve the public peace, health, safety and welfare of the City and its residents. Therefore, this is hereby in effect upon and after passage. An emergency is hereby declared and this Ordinance, being necessary for the preservation and promotion of the public peace, health, safety, welfare, finances and comfort for the City of Russellville and its residents, shall be implemented immediately this 19th day of March, 2015.

ORDAINED, this 19th day of March, 2015.


RANDY HORTON, MAYOR

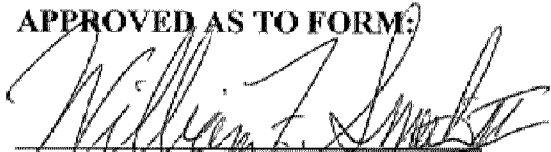
ATTEST:



KATHY COLLINS, CITY CLERK

I, Kathy Collins, City Clerk of Russellville, Arkansas, hereby certify that the above and foregoing is a true and correct copy of Ordinance No. 2194 passed by the City Council of the City of Russellville, Pope County, Arkansas, on the 19th day of March, 2015.

APPROVED AS TO FORM:



WILLIAM F. SMITH III, CITY ATTORNEY

ORDINANCE NO. 1388

AN ORDINANCE SETTING FORTH UNIFORM REQUIREMENTS FOR DIRECT AND INDIRECT CONTRIBUTORS INTO THE WASTEWATER COLLECTION AND TREATMENT SYSTEM FOR THE CITY OF RUSSELLVILLE AND ENABLING THE CITY TO COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS REQUIRED BY THE CLEAN WATER ACT OF 1977 AND THE GENERAL PRETREATMENT REGULATIONS (40 CFR PART 403).

SECTION 1 - GENERAL PROVISIONS

1.0 Short Title: This Ordinance shall also be known as the Pretreatment Ordinance.

1.1 Purpose and Policy:

a. This Ordinance sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the City of Russellville (The City) and enables The City to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations set out in 40 CFR Part 403.

b. The objectives of this Ordinance are:

(1) To prevent the introduction of pollutants into The Citys wastewater treatment and collection system which will interfere with the operation of the system or contaminate the resulting sludge;

(2) To prevent the introduction of pollutants into The Citys wastewater treatment and collection system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;

(3) To improve the opportunity to recycle and reclaim wastewater and sludge from The Citys wastewater treatment system;

(4) To prevent any violation of The Control Authoritys National Pollutant Discharge Elimination System permit.

c. This Ordinance provides for the regulation of direct and indirect contributors The Citys wastewater treatment and collection system through the issuance of permits to certain non-domestic Users, the enforcement of general requirements for the other

Users, authorized monitoring and enforcement activities, required User reporting, and the assumption that existing customers capacity will not be preempted.

d. The terms and provisions of this Ordinance shall apply to all connections of lateral or other sewer lines to the sewerage system of the POTW whether within or outside The City and to all persons within The City and outside The City who are, by contract or agreement with The City, Users of The Citys wastewater collection and treatment system.

e. It is in the best interest of The City, to clarify and update the provisions of its existing wastewater Ordinance by the provisions of this Ordinance, so as to achieve compliance with the Clean Water Act and the regulations pursuant thereto, 40 CFR Part 403 as amended July 24, 1990. It is therefore intended that this Ordinance shall take precedence over any term or condition of agreements or contracts of The City or The Control Authority which are inconsistent with the provisions of this Ordinance, and over any and all inconsistent terms and conditions of any previous Ordinance.

f. Except as otherwise provided herein, The Control Authority is hereby authorized to administer, implement and enforce the provisions of this Ordinance. The National Pollution Discharge Elimination System (NPDES) permit shall be issued in the name of The Control Authority. The Control Authority as of the date of this Ordinance is City Corporation, a non-profit corporation established by City Resolution in April 1985. The City shall be responsible for all legal action necessary to enforce the provisions of this Ordinance.

1.2 Definitions

a. Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Ordinance, shall have the meanings hereinafter designated:

(1) Act or the Act: The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, Title 33 U.S.C. 1251, et. seq.

(2) Approval Authority: The Director of the Arkansas Department of Pollution Control and Ecology.

(3) Authorized Representative of a User: An authorized representative of a User may be: (1) A principal executive officer of at least the level of vice-president, if the User is a corporation; (2) A general partner or proprietor if the Industrial user is a partnership or proprietorship; or (3) A duly authorized representative or other individual designated above, if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates and a statement outlining said individuals authority is submitted to The Control Authority in writing.

(4) Biochemical Oxygen Demand (BODs): The quantity of oxygen utilized in the biochemical oxidation of organic matter under laboratory condition of five (5) days at 20 degrees centigrade and expressed in terms of mass loading or concentration.

(5) Bypass: The accidental or intentional diversion of wastewater from any portion of a users pretreatment facility.

(6) City (The City): The City of Russellville or the City Council.

(7) Chemical Oxygen Demand (COD): A measure of the total oxygen consuming capacity of inorganic and organic matter present in the water or wastewater expressed in mass loading or concentration.

(8) Composite Sample: A sampling procedure defined in 40 CFR 403, Appendix E - Sampling Procedures, I. Composite Method.

(9) Control Authority: Under the provisions of 40 CFR 403.12(a) the Control Authority is charged with the administration, operation and maintenance of the POTW and enforcement of the provisions of this Ordinance.

As of the date of this Ordinance, Control Authority is City Corporation.

(10) Control Mechanism: Control through permits, orders or other means the contribution of each Significant Industrial user to the POTW to ensure compliance with applicable pretreatment standards and regulations.

(11) Direct Discharge: The discharge of treated or untreated wastewater directly to the waters of the State of Arkansas.

(12) Environmental protection Agency (EPA): The U.S. Environmental Protection Agency, or where appropriate the term may also be used as a designation for the Administrator or other duly authorized official of EPA.

(13) Grab Sample: A sampling procedure defined in 40 CFR 403, Appendix E - Sampling Procedures, II. Grab Method.

(14) Holding Tank Waste: Any waste from holding tanks - such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum pump trucks.

(15) Indirect Discharge or Contribution: The discharge or contribution of non-domestic pollutants from any source, including holding tank wastes to the POTW.

(16) Industrial User: Any business User discharging any materials other than normal domestic sanitary wastewater.

(17) Interference: The inhibition or disruption of the POTW treatment processes or operations which contribute to a violation of any requirement of The Citys NPDES permit or causes harm to the POTW. The term includes the prevention of sewage sludge use or disposal by the POTW in accordance with Section 405 of the Act, Title 33 U.S.C. 1345, or any criteria, guidelines, or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, or more stringent state criteria (including those contained in any State sludge management plan prepared pursuant to Title IV

of SWDA) applicable to the method of disposal or use employed by the POTW.

(18) National Categorical Pretreatment Standard, categorical Pretreatment Standard, or Categorical Standard: Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and © of the Act, Title 33 U.S.C. 1347, which applies to a specific category of Significant Industrial Users.

(19) New Source: Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307© of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that Section and meeting the requirements of 40 CFR 403.3(k).

(20) National Pollution Discharge Elimination System Permit or (NPDES): A permit issued pursuant to Section 402 of the Clean Water Act, Title 33 U.S.C. 1342, which establishes limits on the quality and quantity of discharges to the waters of the State.

(21) Pass Through: A discharge which exits the POTW into the waters of the State in quantities or concentration levels which, along or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTWs NPDES permit or increases the magnitude or duration of a violation.

(22) Person: Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

(23) pH: A measure of the acidity of a liquid and expressed as the negative logarithm (base 10) of the hydrogen ion concentration, and stated in standard units SUs.

(24) Pollution: The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(25) Pollutant: Any dredge spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

(26) Pretreatment or Treatment: The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state, prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes by other means, except as prohibited by 40 CFR Section 403.6(d).

(27) Pretreatment Requirements: Any substantive or procedural requirements related to pretreatment, including those imposed on Significant Industrial Users by the National Categorical Pretreatment Standards.

(28) Pretreatment Standards or Standards: Any limitation as set forth in Section 2 of this Ordinance.

(29) Publicly Owned Treatment Works (POTW): The treatment works, as defined by Section 212 of the Act, Title 33 U.S.C. 1292, which is owned by The City. This definition includes the treatment plant and any sewers that convey wastewater to the POTW treatment plant, but does not include pipe, sewers or other conveyances not connected to a facility providing treatment. For the purposes of this Ordinance, the POTW shall also include any sewers that convey wastewaters to the POTW from persons outside the city who are, by contract or agreement with The City, users of The City's POTW.

(30) POTW Treatment Plant: That portion of the POTW designed to provide treatment to wastewater.

(31) Shall is mandatory; May is permissive.

(32) Significant Industrial User: Any User of the POTW except as noted in 40 CFR §403.3(t) who (I) is subject to Categorical Pretreatment Standards under 40 CFR §403.6 and 40 CFR Chapter 1, Subchapter N, or (ii) any other user that discharges an average flow of 25,000 gallons per work day or more of process wastewater to the POTW (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated a Significant Industrial User by The Control Authority, on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

(33) Significant Noncompliance: See, Section 4.8.a of this Ordinance.

(34) Slug Discharge: A slug discharge is any discharge of a non-routine, episodic nature, including, but not limited to, an accidental spill or non-customary batch discharge.

(35) State: State of Arkansas.

(36) Standard Industrial Classification (SIC): A classification pursuant to the Standard Industrial Classification Manual issued by the Executive office of the President, office of Management and Budget, 1972.

(37) Storm Water: Any flow occurring during or following any form of natural precipitation and resulting therefrom.

(38) Total Suspended Solids (TSS): The total concentration of matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by laboratory filtering.

(39) Total Toxic Organics (TTO): The sum of the masses or concentration of specific toxic organic compounds

found in Users process discharge at a concentration greater than 0.01 mg/l.

(40) Toxic Pollutant: Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the Section of 307(a) of the Act or other Acts.

(41) User: Any person who, directly or indirectly, contributes, causes or permits the contribution of wastewater into The Citys POTW. The term user, depending on the context in which the term is used, includes Industrial Users and Significant Industrial Users.

(42) Wastewater: The liquid and water-carried Industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

(43) Waters of the State: All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

(44) Wastewater Contribution Permit: See. Section 4.2. of this Ordinance.

1.3 Abbreviations

The following abbreviations shall have the designated meanings:

ADPC&E - Arkansas Department of Pollution Control & Ecology
BOD - Biochemical Oxygen Demand
CFR - Code of Federal Regulations
COD - Chemical Oxygen Demand
EPA - Environmental Protection Agency
l - Liter

mg - Milligrams
mg/l - Milligrams per liter
NPDES - National Pollutant Discharge Elimination System
POTW - Publicly Owned Treatment Works
SIC - Standard Industrial Classification
SWDA - Solid Waste Disposal Act, 42 U.S.C. 6901, et.seq.
USC - United States Code
TSS - Total Suspended Solids

SECTION 2 - REGULATIONS

2.1 General Discharge Prohibition

a. It shall be unlawful for any User to contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the POTW, causes a pass-through, which is defined in 1.2.a(21) of this Ordinance, or which violates any statute, rule, regulation or ordinance of any public agency. This general prohibition applies to all such users of the POTW whether or not the User is subject to National Categorical Pretreatment Standards or any other National, State, or local pretreatment standards or requirements.

b. A user may not contribute the following substances to the POTW:

(1) Any liquid, solid or gas which creates singly or by interaction with other substances a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 50 degrees Centigrade using the test methods specified in ASTM standards D-93-79, D-93-80, or D-3278-78 (incorporated by reference, see 40 CFR 260.11). This prohibition does not apply to any aqueous solution containing less than 24 percent alcohol by volume which would otherwise be a hazardous waste under 40 CFR 261.21 by virtue of having a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade.

(2) Any wastewater which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 6.0. The Control

Authority will develop and assign maximum pH discharge permit limitations based upon appropriate criteria.

(3) Any solid or viscous substance in amounts which will cause obstruction to the flow in the POTW or will result in Interference to the POTW.

(4) Any substance or substances, including oxygen demanding pollutants, directly or indirectly discharged at a flow rate or concentration level which will cause Interference with the POTW.

(5) Any wastewater having a temperature which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees C (104 degrees F) unless The Control Authority approves alternate temperature limits.

(6) Any wastewater containing concentration levels or flow rates of petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through.

(7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

(8) Any trucked or hauled pollutants, except at discharge points designated by The Control Authority.

(9) Any wastewater containnig toxic substances in sufficient quantity, either singly or by interaction with other substances, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters or exceed the limitations set forth in a Categorical Pretreatment Standard. A toxic substance shall include but not be limited to those identified under Section 307(a) of the Act.

(10) Any substance which may cause the POTWs effluent or any other roduct of the POTW such as redidues, sludges, or scums, to be unsuitale for reclamation and reuse or to interfere with the reclamation process. In

no case, shall a substance discharged to the POTW cause the POTW to be in noncompliance with sludge use or State or Federal disposal criteria.

(11) Any substance containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by The Control Authority in compliance with applicable State and Federal regulations.

(12) Any substance which will cause the POTW to violate its NPDES permit or the receiving waters water quality standards.

(13) Any wastewater which may cause a hazard to human health or create a public nuisance.

c. When the Control Authority determines that a User is contributing to the POTW, any of the above enumerated substances in such amounts as to interfere with the operation of the POTW, or to cause The Control Authority to be in violation of any applicable statute, regulation or permit, The Control Authority shall:

- 1) Advise the User of the impact of the contribution of the POTW;
- 2) Develop effluent limitation for such User to correct the violation or interference with the POTW and
- 3) Take any enforcement measures, necessary and appropriate under the circumstances.

2.2 Federal Categorical Pretreatment Standards:

a. Upon the promulgation of the Federal Categorical Pretreatment Standards for a particular industrial subcategory, the Federal Standard, if more stringent than limitations imposed under this Ordinance for sources in that subcategory, shall immediately supersede the limitations imposed under this Ordinance.

b. It shall be the responsibility of each User to be knowledgeable of all regulations applicable to the User. The Control Authority shall make all reasonable efforts to notify all affected users of the applicable Standards and reporting Requirements under 40 CFR

403.12. Failure of The Control Authority to notify an affected user, however, does not relieve the User of complying with the appropriate Federal Categorical Pretreatment Standards or applicable reprotng requirements.

2.3 Modification of Federal Categorical Pretreatment Standards:

If The Citys POTW treatment plant achieves consistent removal of pollutants limited by Federal Pretreatment Standards, The Control Authority may apply, to the Approval Authority for modification of specific limits in the Federal Pretreatment Standards. Consistent Removal shall mean reduction in the amount of a pollutant or alteration of the nature of the pollutant by the POTW treatment plant to a less toxic or harmless state in the effluent which is achieved by the POTW treatment plant in 95 percent of the samples taken when measured according to the procedures set forth in 40 CFR 403.7(c)(2) - General Pretreatment Regulations for Existing and New Sources of Pollution. The Control Authority may then modify pollutant discharge limits in the Federal Pretreatment Standards if the requirements contained in 40 CFR 403.7 are fulfilled and prior approval from the Approval Authority is obtained.

2.4 Specific Pollutant Limitations

a. It shall be unlawful to and no user shall discharge wastewater or waste into The Citys POTW which will cause the influent concentration at the POTW treatment plant to exceed the following limits:

Pollutant Maximum Concentration	(mg/l)
Arsenic	0.07 mg/l
Cadmium	0.014 mg/l
Chromium (Total)	0.18 mg/l
Copper	0.28 mg/l
Cyanide	0.15 mg/l
Lead	0.22 mg/l
Mercury	0.015 mg/l
Nickel	0.33 mg/l
Silver	0.28 mg/l
Zinc	0.62 mg/l

b. The Control Authority will develop and assign specific discharge permit limitations for its

Significant Industrial Users based upon the above limitations and an allocation mechanism set forth in The Citys approved pretreatment program, developed after receiving and considering comments from existing Significant Industrial Users. The specific permit limits will be developed to insure the above limits are not exceeded at the POTW treatment plant.

c. In addition, The Control Authority may develop specific discharge limitations for any other toxic or inhibiting pollutant which may be determined to be of sufficient quantity to cause POTW interference, POTW Pass Through, endanger the health and safety of the POTW personnel or general public, produce environmental harm, cause a POTW permit violation or render the POTWs sludges unacceptable for economical reclamation, disposal, or use. Such substances include but are not limited to:

Ammonia	Bismuth	Uranyl	Pesticides	Tin
Antimony	BOD	Manganese	Selenium	TSS
Barium	Boron	Molybdenum	Strontium	COD
Beryllium	Cobalt	Oil & Grease		Tellurium

d. Section a. through c. are in addition to other restrictions on discharges shall apply in any case where they are more stringent than Federal requirements and limitations or those in this Ordinance.

2.6 The Citys Right of Revision:

The City reserves the right to establish by ordinance more stringent limitations to requirements on discharge to the POTW if deemed necessary to comply with the objectives presented in Section 1.1 of this Ordinance. If more stringent limitations or requirements are deemed necessary, Industrial Users will have a reasonable time period to comply with such revisions. The time period will be established on a case by case basis by The Control Authority.

2.7 Excessive Discharge

Except where expressly authorized to do so by applicable pretreatment standards or requirements, no User shall ever increase the use of process water or in any way attempt to

dilute a discharge as partial or complete substitute for adequate treatment to achieve compliance with a pretreatment standard or requirement. The Control Authority may impose mass limitations on Users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases where the imposition of mass limitations is appropriate.

2.8 Slug Discharges:

a. Each User shall provide protection from the Slug Discharge of prohibited materials or other substances regulated by this Ordinance. Facilities to prevent Slug Discharge of prohibited materials shall be provided and maintained at the owner or Users own cost and expense. For new sources, a detailed plan containing all of the minimum elements listed in 40 CFR 403.8(f)(2)(v) and a pretreatment facility and operating procedures to provide this protection shall be submitted to The Control Authority for review, and shall be approved by The Control Authority before construction of the facility. No New Source who is a Significant Industrial User ready to begin contribution to the POTW after the effective date of this Ordinance shall be permitted to introduce pollutants into the POTW until a Slug Discharge Procedures Plan has been approved by The Control Authority. All existing Significant Industrial Users shall complete such a plan for Slug Discharge procedures within one year of the effective date of this Ordinance. Review and approval of the Slug Discharge Procedures Plan and operating procedures shall not relieve the Significant Industrial User from the responsibility to modify its facility as necessary to meet the requirements of this Ordinance.

b. IN THE CASE OF A SLUG DISCHARGE, IT IS THE RESPONSIBILITY OF THE USER TO IMMEDIATELY TELEPHONE AND NOTIFY THE CONTROL AUTHORITY OF THE INCIDENT. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions.

c. Written Notice: Within five (5) days following, an Slug Discharge the User shall submit to the Control Authority a detailed written report describing the cause of the discharge and the measures to be taken by

the User to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification relieve the User of any fines, civil penalties, or other liability, which may be imposed under the provisions of this Ordinance or other applicable law.

d. Notice to Employees: A notice shall be permanently posted on the Significant Industrial Users bulletin board or other prominent place advising employees whom to call in the event of a slug discharge. Employers shall insure that all employees who may cause such a slug discharge to occur are advised of the emergency notification procedure.

2.9 Prohibition of Bypasses:

a. The Users pretreatment facility or device must be in operation at all times to the extent necessary to meet the applicable federal, state and local requirements and regulations and any intentional diversion, except as noted in Section 2.9.b below, of wastewater from any portion of the Users pretreatment facility or device is prohibited.

b. A bypass may be excused, however, if the bypass is necessary and there is no feasible alternative to prevent loss of life, personal injury or severe property damage. The no feasible alternative criterion is not satisfied if, in the exercise of reasonable engineering judgement, adequate back-up equipment should have been installed to prevent a bypass which occurs during a period of maintenance or in a period of equipment downtime.

c. Knowledge of a pending bypass must be reported immediately to The Control Authority. If the bypass is unanticipated the User must give oral notice of the Bypass within 24 hours of becoming aware of the bypass.

d. For both anticipated and unanticipated bypasses, the user must submit to The Control Authority a written report within 5 working days describing the following:

- (1) The nature of the Bypass;
- (2) the cause;
- (3) the duration and
- (4) solutions to avoid future bypasses.

SECTION 3 - FEES AND SURCHARGES

3.1 Purpose

It is the purpose of this chapter to provide for the recovery of costs from Users of the POTW for the implementation of the program established herein. The applicable fees and surcharges are set forth in The City's Schedule of Charges and Fees.

3.2 Fees:

- a. The City may adopt charges and fees which may include:
 - (1) Fees for reimbursement of costs of setting up and operating The Control Authority's Pretreatment Program;
 - (2) Fees for monitoring, inspections and surveillance procedures;
 - (3) Fees for reviewing Accidental Discharge procedures and construction;
 - (4) Fees for permit applications;
 - (5) Fees for filing appeals;
 - (6) Fees for consistent removal by The Control Authority of pollutants otherwise subject to Federal Pretreatment Standards; or
 - (7) Other fees as The City may deem necessary to carry out the requirements contained herein.

b. These fees related solely to the matters covered by this Ordinance and are separate from all other fees chargeable by The City.

3.3 Surcharges:

a. The discharge of pollutants in concentrations above that found in normal domestic wastewater may be accepted by the POTW from Users provided that:

- (1) The concentration levels of the constituent are not above that established by The Control Authority for the acceptance of such wastewater.
- (2) The wastewater has none of the characteristics

described in Section 2.1 of the Ordinance;

(3) The User pays to The Control Authority a Surcharge for the acceptance of such wastes in addition to its normal fee.

b. The permissible concentration ranges for the constituents eligible for acceptance, and a schedule of the surcharge costs together with certain restriction and limitations will be established by The Control Authority and incorporated into the Wastewater Contribution Permit of the Significant Industrial User.

SECTION 4 - ADMINISTRATION

4.1 Wastewater Discharge:

a. It shall be unlawful for a Significant Industrial User to discharge wastewater to the POTW without a current Wastewater Contribution Permit issued by The Control Authority in accordance with the provisions of this Ordinance.

b. It shall be unlawful to discharge wastewater to any natural outlet with the city, or in any area under the jurisdiction of The City without an NPDES permit of State permit issued by the Arkansas Department of Pollution Control and Ecology.

4.2 Wastewater Contribution Permits:

4.2.1 General Permits

a. All Users, currently not permitted by The Control Authority, who may discharge anything other than normal domestic sanitary wastewater must, if they have not previously done so, provide sufficient information or make an application for a Wastewater Contribution Permit so that The Control Authority can determine whether the applicant is a Significant Industrial User who must obtain a permit.

b. All Significant Industrial Users proposing to connect to or to contribute to the POTW shall obtain a Wastewater Contribution Permit before connecting to or contributing to the POTW. All existing Significant

Industrial Users, currently not permitted by The Control Authority, connected to or contributing to the POTW shall obtain a Wastewater Contribution Permit within 180 days after the effective date of this Ordinance.

4.2.2 Permit Application

a. Significant Industrial Users required to apply for or obtain a Wastewater Contribution Permit shall complete and file with The Control Authority an application in the form prescribed by The Control Authority and accompanied by a fee outlined in The City's schedule of charges and fees. Existing Significant Industrial Users so required shall apply for a Wastewater Contribution Permit within 90 days after the effective date of this Ordinance, and proposed new Significant Industrial Users shall apply at least 90 days prior to connecting to or contributing to the POTW. At the discretion of The Control Authority, applications received within 90 days of the desired date of connection to or contribution to the POTW will be processed as expeditiously as possible. In support of the application, the Significant Industrial User shall submit, in unadorned and terms appropriate for evaluation, the following information, unless deemed inapplicable by The Control Authority.

(1) Name, address, and location, (if different from the address);

(2) SIC number according to the Standard Industrial Classification manual, Bureau of the Budget, 1972, as amended;

(3) Wastewater constituents and characteristics including but not limited to those mentioned in Section 2 of this Ordinance as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(h) of the Act and contained in 40 CFR, part 136, as amended;

(4) Time and duration of contribution;

(5) Average flow rates, including daily, monthly and

seasonal variations if any;

(6) Site plumbing plans and details to show all sewers, sewer connections, and appurtenances by the size, location and elevation;

(7) Description of activities, facilities and plant processes on the premises including all materials which are or could be discharges;

(8) Where known, the nature and concentration of any substances in the discharge which are limited by any City, State, or Federal Pretreatment Standard, and a statement regarding whether or not the pretreatment standards are being met on a consistent basis and if not, whether additional Operation and Maintenance (O & M) and/or additional pretreatment is required for the Significant Industrial user to meet applicable pretreatment standards; and

(9) If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the shortest schedule by which the Significant Industrial user will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. The following conditions shall apply:

(a) The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the Significant Industrial user to meet the applicable pretreatment standard (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).

(b) No increment referred to in paragraph (9) (a) above shall exceed 9 months.

(c) Not later than 14 days following each date in the schedule and the final date for compliance, the Significant industrial user shall submit a

progress report to The Control Authority including, as a minimum, whether or not it complied with the increment of progress to met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the Significant Industrial user to return the construction to the schedule established. In no event shall more than 9 months elapse between such progress reports to The Control Authority.

b. The permit application may also contain any other information as may be necessary by The Control Authority to evaluate the permit application, including but not limited to the following:

(1) Each product produced by type, amount, process or processes and rate of production;

(2) Type and amount of raw materials processed (average and maximum per day); and

(3) Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of the Significant Industrial users pretreatment facility.

c. The Control Authority will evaluate the data furnished by the Significant Industrial User and may require additional information. After evaluation and acceptance of the data furnished, The Control Authority may issue a Wastewater Contribution Permit subject to terms and conditions provided herein.

4.2.3 Permit Modification

Within 9 months of the promulgation of a National Categorical Pretreatment Standard, the Wastewater Contribution Permit of Significant Industrial users subject to such standards shall be revised to require compliance with such standards within the time frame prescribed by such standard. Where a Significant Industrial User, subject to a National llCategorical Pretreatment Standard, has not previously submitted an application for a Wastewater Contribution Permit, as required by 4.2.2 of the Ordinance,

the Significant Industrial User shall apply for a Wastewater Contribution permit within 180 days after the promulgation of the Applicable National Categorical Pretreatment Standard. In addition, the Significant Industrial user with an existing Wastewater Contribution Permit shall submit to The Control Authority within 180 days after the promulgation of an applicable Federal Categorical Pretreatment Standard the information required by paragraph (8) and (9) of Section 4.2.2 of this Ordinance.

4.2.4 Permit Conditions:

a. Wastewater Contribution Permits shall be expressly subject to all provisions of this Ordinance and all other applicable regulations, Significant Industrial user chages and fees established by The City. Permits shall contain the following:

(1) Statement of permit duration;

(2) Statement of non-transferability wihtout, at a minimum, prior notification to The Control Authority;

(3) Applicable effluent limits or Categorical Pretreatment Standards, if applicable;

(4) Applicable self-monitoring, sampling, reporting, and record keeping requirement, including sampling location, smapling frequency, sample type, and standards for tests and reporting schedule.

(5) Notification requirements for Slug Discharges and Bypasses as contained in Sections 2.8. and 2.9. of this Ordinance.

(6) Statement of applicable civil and criminal penalties for violation of the pretreatment standards and requirements, and applicable compliance schedule(s).

b. Permits may contain one or more of the following:

(1) The unit charge or schedule of the Significant Industrial Users charges and fees for the wastewater to be discharged;

- (2) Limits on the average and maximum wastewater constituents and characteristics;
- (3) Limits on average and maximum rate and time of discharge or requirements for flow regulations and equalization;
- (4) Requirements for installation and maintenance of inspection and sampling facilities;
- (5) Requirements for submission of technical reports or discharge reports. See, Section 4.3. of this Ordinance.
- (6) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by The Control Authority, and affording The Control Authority access thereto;
- (7) Requirements for notification of The Control Authority of any discharge, including a slug discharge, that could cause problems to the POTW; of any violation within 24 hours of becoming aware of the violation; and of any new introduction of wastewater constituents or any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the Significant Industrial User has submitted initial notification under 40 CFR 403.12(p);
- (8) Compliance schedules; or
- (9) Other conditions as deemed appropriate by The Control Authority to insure compliance with this Ordinance.

4.2.5 Permits Duration:

Wastewater Contribution Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. The Significant Industrial User shall apply for permit reissuance no later than 180 days prior to the expiration of the Significant Industrial Users existing permit. The terms and conditions of the permit may be subject to modification by The Control Authority during the term of the permit if the limitations

or requirements as identified in Section 2 of this Ordinance are modified or for other just cause. The Significant Industrial User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

4.2.6 Permit Transfer:

Wastewater Contribution Permits are issued to a specific Significant Industrial user for a specific operation. A wastewater discharge permit shall not be reassigned or transferred to a new owner, new Significant Industrial User, without, as a minimum, providing The Control Authority:

- 1) 30 days advance notice of an intent to transfer or assign;
 - 2) a certified statement by the assignee or transferee that upon the permits assignment or transfer, there will be not change in the operation of the facility so as to, in any way, affect the quantity and quality of the wastewater discharged to the POTW and
 - 3) a copy of the existing individual control mechanism is provided to the transferee or assignee.
- All other transfers, assignments, change in premises or change in operations will require the prior approval of The Control Authority before the Wastewater Contribution Permit will become effective. Any succeeding owner or Significant Industrial User shall also comply with the terms and conditions of the existing permit.

4.3 Reporting Requirements for Permittee

4.3.1 Baseline Monitoring Reports

Within 180 days days after the effective date of a Categorical Pretreatment Standard, or 180 days after a final administrative decision made upon the application of an appropriate Categorical Pretreatment Standard, whichever is later, an existing user subject to such categorical Pretreatment Standards and currently discharging to or scheduled to discharge to a POTW shall be required to submit to The Control Authority a Baseline Monitoring Report. This Baseline Monitoring Report shall contain all of the information required in 40 CFR 403.12(b)(1)-7.

At least 90 days prior to the commencement of discharge, New Sources, and sources that become Users subsequent to the promulgation of an applicable Categorical Standard, shall submit to The Control Authority a Baseline Monitoring Report which contains all the information listed in paragraphs 40 CFR 403.12(b)(1)-(5). New Sources shall also be required to include in their Report information on their method of pretreatment intended to be used in meeting their applicable pretreatment standards.

4.3.2 Compliance Date Report

Within 90 days following the date for final compliance with applicable pretreatment standards or, in the case of a New Source, following commencement of the introduction of wastewater into the POTW, any Significant Industrial user subject to pretreatment standards and requirements shall submit to The Control Authority a report indicating the nature and concentration of all pollutants in its discharge which are limited by pretreatment standards and requirements and their average and maximum daily flow. The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis and, if not, what additional O&M and/or pretreatment is necessary to bring the Significant Industrial User into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the Significant Industrial User. Any data presented as part of the report shall be prepared and certified by a certified laboratory and should any pretreatment be proposed or required, a registered engineer shall prepare and certify his/her involvement in the proposed pretreatment facility. Any person signing a submittal to The Control Authority shall make the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this facility, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

4.3.3 Periodic Compliance Reports

a. Any Significant Industrial User subject to a pretreatment standards, after the compliance date of such pretreatment standards, or, in the case of a New Source, after commencement of the discharge into the POTW, and any noncategorical Significant Industrial User shall submit to The Control Authority during the months of June and December, unless required more frequently by the Control Authority, a report indicating the nature, concentration and flow of pollutants in the effluent which are limited by such pretreatment standards. At the discretion of The Control Authority and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., The Control Authority may agree to alter the months for report submittal.

b. The Control Authority may impose equivalent mass limitations of Significant Industrial Users where the imposition of mass limitations is appropriate. In such cases, the report required by subparagraph 1) of this paragraph shall indicate the mass of pollutants regulated by pretreatment standards in the effluent of the Significant Industrial user. These reports shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where requested by The Control Authority, of pollutants contained therein which are limited by the applicable pretreatment standards. The frequency of monitoring shall be the same as above.

4.4 Monitoring Factors

a. The Control Authority may require, to be provided and operated at the users own expense, monitoring facilities to allow inspection, sampling, and flow measurement of the building sewer and/or internal drainage systems. The monitoring facility should normally be situated on the Users premises, but The Control Authority may, when such a location would be impractical or cause undue hardship on the User, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

b. There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the User.

c. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with The Control Authority's requirements and all applicable local construction standards and specifications. Construction shall be completed within 90 days following written notification by The Control Authority.

4.5 Inspection and Sampling:

The Control Authority shall inspect the facilities of any user to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow The Control Authority, and other approval authorities, or their representatives, ready access at all reasonable times to all parts of the premises for the observation of any User personnel in the performance of any of their duties. All records of the facility pertaining in any way to the provisions of this Ordinance may be photocopied by The Control Authority and the copies removed from the facility's premises. EPA, The City or the State of Arkansas shall have the right to set up on the User's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from The City, The Control Authority, the State or EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

4.6 Sampling and Analytical Procedures:

a. All grab or composite sampling shall be done in accordance with 40 CFR 403, Appendix E - Sampling Procedures.

b. All analysis shall be performed in accordance with procedures established by the approval authority pursuant to Section 304(h) of the Act and contained in 40 CFR, Part 136 and amendments thereto or with any other test procedures approved by the Approval Authority. Sampling shall be performed in accordance with the techniques approved by the Approval Authority.

c. Where 40 CFR part 136 does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, April, 1977, and amendments thereto, or with any sampling or analytical procedure approved by the Approval Authority.

4.7 Pretreatment:

Users shall provide any and all pretreatment as necessary to comply with this Ordinance, their Wastewater Contribution Permit, all applicable State and Federal requirements and if applicable, Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Pretreatment Regulations. Any facility required to pretreat wastewater to a level acceptable to The Control Authority shall provide, operate, and maintain a pretreatment facility at the Significant Industrial Users expense. Detailed plans showing the pretreatment facility and operating procedures shall be submitted to The Control Authority for review, and shall be acceptable to The Control Authority before construction of the facility. The review of such plans and operating procedures will in no way relieve the Significant Industrial user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to The Control Authority under the provisions of this Ordinance. Any subsequent changes in the pretreatment facility or method of operation shall be reported to and be acceptable to The Control Authority prior to the Significant Industrial Users initiation of the changes.

4.8 Significant Noncompliance:

a. A User is in significant noncompliance if it meets one or more of the criteria as stated in 40 CFR 403,8(f)(2)(vii).

b. All records relating to compliance with pretreatment standards shall be made available to officials of the EPA or approval authority upon request.

4.9 Confidential Information:

a. Information and data on a user obtained from reports questionnaires, permit applications, permit and monitoring programs and from inspections, shall be available to the public or other governmental agency without restriction unless the User specifically requests, and is able to demonstrate to the satisfaction of The Control Authority, that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the User.

b. When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to this Ordinance, the National Pollutant Discharge Elimination System (NPDES) Permit, State Disposal System permit and/or the Pretreatment Programs; Provided, however, that such portions of a report shall be available for use by the State or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

c. Information accepted by The Control Authority as confidential, shall not be transmitted to any governmental agency or the general public by The Control Authority until and unless a ten-day notification is given to the User.

SECTION 5 - ENFORCEMENT

5.1. Notification of Violation:

Whenever The Control Authority finds that any User has violated or is violating this Ordinance, Wastewater Contribution Permit, or any prohibition, limitation or requirements contained therein or applicable state or Federal laws or regulations, The Control Authority may serve upon such person a written notice stating the nature of the violation. Within 30 days of the date of the notice, a plan for the satisfactory correction and prevention, to include specific required actions, shall be submitted to The Control Authority by the User. Submission of this plan in no way relieves the User of liability for any violation occurring before or after receipt of Notice of Violation.

5.2 Consent Agreement:

The Control Authority is hereby empowered to enter into Consent Agreement, assuring voluntary compliance, or other similar documents as an agreement with the user responsible for the noncompliance. Such agreements will include specific action to be taken by the User to correct the noncompliance within a time period also specified by the agreement.

5.3 Show Cause Hearing:

a. The Control Authority may order any User who causes or allows an unauthorized discharge to enter the POTW or who violates any of the conditions of this Ordinance, the permit, or applicable state or Federal laws or regulations to show cause before The Control Authority why the proposed enforcement action should not be taken. Notice shall be served on the User specifying the time and place of the show cause hearing, the reasons why the action is being taken, the proposed enforcement action, and a request that the User show cause why this proposed enforcement action should not be taken. The notice of hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation. If a duly notified User fails to appear as noticed, immediate enforcement action may be pursued.

b. The Control Authority may itself conduct the show cause hearing and take the evidence, or may designate

any of its board members or any officer or employee of The Control Authority to:

(1) Issue in the name of The Control Authority notices of hearings requiring the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;

(2) Take the evidence; and

(3) Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the Supervisor of The Control Authority for action thereon.

c. At any hearing held pursuant to this Ordinance, testimony taken must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof (i.e. postage, printing expense, etc.)

d. Following the show cause hearing, The Control Authority shall within 15 days following the recommendation of the hearing officer issue and have served on all parties the action recommended. If warranted, The Control Authority shall recommend to the City Council, after setting forth the findings of fact, that the City Attorney pursue legal action; including civil action to recover the recommended penalties for the violation, injunctive relief and/or criminal prosecution. Alternatively, The Control Authority may issue to the User in violation, notice that following a specified period of time, the sewer service will be discontinued unless its pretreatment facility shall have installed adequate devices or other related appurtenances and such devices or other related appurtenances are properly operated. Other orders and directives as are necessary and appropriate may be issued.

e. An order directing the cessation of sewer service shall not prelude a recommendation for legal action to The City.

5.4 Administrative Orders:

5.4.1 Compliance Orders:

When The Control Authority finds that a user has violated or continues to violate this Ordinance, its Wastewater Contribution Permit or orders issued thereunder, The Control Authority may issue an order to the User responsible for the violation that states that following a specified time period, sewer service shall be discontinued unless Users pretreatment facility has installed devices or other appurtenances and are properly operated. Compliance orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including, but not limited to, the installation of pretreatment technology, additional selfmonitoring and management practices.

5.4.2 Cease and Desist Orders:

When The Control Authority finds that a User has violated or continues to violate this Ordinance, its Wastewater Contribution Permit or order issued thereunder, The Control Authority may issue an order to cease and desist all such violations and direct the User in noncompliance to comply forthwith, if necessary The Control Authority may take such appropriate preventive or remedial action as may be needed to properly address a continuing or threatened violation, including halting operations and terminating discharge.

5.5 Emergency Authority:

a. The Control Authority, following only oral notice to the User, may suspend the wastewater treatment service or the Wastewater Contribution Permit of any person when, in the opinion of the Supervisor of The Control Authority, such suspension is necessary to immediately and effectively halt or prevent any actual or threatened discharge which presents, or may present, an imminent or substantial endangerment to the health, safety or welfare of persons.

b. The Control Authority, following a notice with the opportunity to respond, may halt or prevent any discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the POTW.

c. Any User notified of a suspension of its wastewater treatment service and/or its Wastewater Contribution Permit shall immediately stop or eliminate the harmful discharge. In the event of a failure of the User to comply voluntarily with the demand for cessation, The Control Authority shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent the endangering discharge. The Control Authority may reinstate the Wastewater Contribution Permit and/or the wastewater treatment service upon proof of the elimination of the endangering discharge, together with an acceptable detailed written statement submitted by the User describing the cause of the harmful discharge and the measures taken to prevent any future occurrence. The proof and required statements must be submitted to The Control Authority within 15 days of the date of endangering discharges occurrence.

5.6 Revocation of Permits:

a. Any Significant Industrial User who violates any of the following conditions or requirements of this Ordinance, or applicable state and federal laws or regulations or any provisions of its Wastewater Contribution Permit is subject to having his permit revoked:

(1) Violation of Wastewater Contribution Permit conditions.

(2) Failure to accurately report the wastewater constituents and characteristics of its discharge.

(3) Failure to report significant changes in operations or wastewater constituents and characteristics.

(4) Refusal of reasonable access to the Significant Industrial Users premises for the purpose of inspection, monitoring or sampling.

b. A noncompliant Significant Industrial User will be notified of the proposed termination of its Wastewater Contribution Permit and offered an opportunity to show cause pursuant to Section 5.3 of this Ordinance why the proposed action should not be taken.

5.7 Judicial Remedies:

If any User discharges sewage, industrial wastes or other wastes into the POTW contrary to the provisions of this Ordinance, any other applicable ordinances, federal or state Pretreatment Requirements, or any order of The City or The Control Authority, or otherwise violates provisions of this Ordinance, the Wastewater Contribution Permit, or applicable laws and regulations, The Control Authority may recommend to the City Council that the City Attorney commence action for appropriate legal and/or equitable relief in a court of competent jurisdiction.

5.7.1 Injunctive Relief:

Whenever a User has violated or continues to violate the provisions of this Ordinance or its Wastewater Contribution Permit or orders issued thereunder, The Control Authority may request that the City Attorney immediately petition the Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate to restrain or compel the activities of the User.

5.7.2 Civil Penalties:

a. Any User who is found to have violated or continues to violate an order of The City and/or The Control Authority or who negligently failed to comply with any provisions of this Ordinance or the orders, rules, regulations and permits issued thereunder, may be fined not more than One Thousand Dollars (\$1,000.00) for each offense. Jurisdiction to determine such penalties shall be in the City Municipal Court or other court of appropriate jurisdiction. Each day on which a violation shall occur or continue shall be a separate and distinct offense.

b. In addition to the civil penalties provided for herein, The City may recover, from the user in violation, any damages suffered, reasonable attorneys fees, court costs, court reporters fees and other expenses of litigation in any action in law or equity against any person or other entity.

c. The City Attorney shall petition the Court to impose, assess and recover all civil penalties, legal

fees, and costs together with damages if appropriate. In determining the amount of the penalty, The Control Authority in its recommendation for civil penalties, the City Council and the Court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained by the user in allowing the violation, the timing and nature of any corrective actions taken by the User, the compliance history of the User and any other factors as justice requires.

5.8 Criminal Prosecution:

a. The Control Authority may recommend to the City Council that the City Attorney criminally prosecute any User who knowingly or willfully violates any provision of this ordinance, its Wastewater Contribution Permit or any orders issued thereunder. If so prosecuted the User shall, upon conviction, be guilty of a misdemeanor, and punished by a fine not to exceed \$1,000.00 per violation per day or imprisonment for not more than six (6) months, or both.

b. Any person who knowingly or willfully makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Ordinance or its Wastewater Contribution Permit, or who falsifies, tampers with, or knowingly or willingly renders inaccurate any monitoring or sampling device, wastewater sample or other methods required under this Ordinance, shall be guilty of a misdemeanor, and shall, upon conviction, be punished by a fine of not more than \$1,000.00 or by imprisonment for not more than six (6) months or both.

5.9 Supplemental Enforcement Remedies:

5.9.1 Annual Publication of Users is Significant Noncompliance:

The Control Authority shall publish, at least annually in the largest daily newspaper circulated in the area, a description of those Users which are found to be in Significant Noncompliance as defined in 40 CFR 403.8(f)(2)(vii) with any provisions of this Ordinance or

any permit or order issued thereunder during the period since the previous publication.

5.9.2 Performance Bonds:

The Control Authority may decline to reissue a Wastewater Contribution Permit to any Significant Industrial user which has failed to comply with the provisions of this Ordinance or any order or previous permit issued thereunder unless such Significant Industrial User files with The Control Authority a satisfactory bond payable to The City in a sum not to exceed an amount determined by The Control Authority to be necessary to achieve consistent compliance.

SECTION 6 - SEVERABILITY

If any provision, paragraph, word, section, chapter, or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, chapters, and articles shall not be affected and shall continue in full force and effect.

SECTION 7 - AMENDED

As of the effective date of this Ordinance, all other Ordinances or parts of Ordinances in conflict with this Ordinance are amended.

SECTION 8 - EFFECTIVE DATE

This Ordinance being necessary for the health, safety and welfare of the citizens of Russellville, an emergency is declared to exist, and this Ordinance shall take effect and be enforced from and after its passage, approval and publication, as provided by law.

PASSED AND APPROVED this 13th day of February, 1992.

Update 2015 Sample PCW Operator Job Description

Exempt: No
Department: Not indicated.
Reports To: Not indicated.
Location: Not indicated.
Date Prepared: June 26, 2014
Date Revised: September 29, 2015

GENERAL DESCRIPTION OF POSITION

Not indicated

ESSENTIAL DUTIES AND RESPONSIBILITIES

Not indicated.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

High school or GED, plus specialized schooling and/or on the job education in a specific skill area; e.g. data processing, clerical/administrative, equipment operation, etc, plus 2 years related experience and/or training. Or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read, analyze, and understand general business/company related articles and professional journals; Ability to speak effectively before groups of customers or employees.

MATHEMATICAL SKILLS

Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume. Ability to apply concepts such as fractions, ratios, and proportions to practical situations.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

SOFTWARE SKILLS REQUIRED

Basic: Accounting, Alphanumeric Data Entry, Database, Payroll Systems, Presentation/PowerPoint, Spreadsheet, Word Processing/Typing

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general direction, working from policies and general directives. Rarely refers specific cases to supervisor unless clarification or interpretation of the organization's policy is required.

PLANNING

Limited responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work operations.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance, either of which would affect the work operations of small organizational component and the organization's clientele.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately structured. Fairly broad activities using moderately structured procedures with only generally guided supervision. Interpolation of learned things in somewhat varied situations.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments: Not indicated.

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Generally controlled. General processes covered by established policies and standards with supervisory oversight.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Medium. Job creates a monetary impact for the organization from \$1mm to \$10mm.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Occasional contacts with patrons on routine matters.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Outside or inside working environment, wherein there are potential hazardous working conditions and life-threatening situations exist (fire, chemicals, electrical sources, heights, dangerous people, etc.) part of the time.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to fumes or airborne particles, outdoor weather conditions, wet or humid conditions; regularly exposed to work near moving mechanical parts, toxic or caustic chemicals; frequently exposed to risk of electrical shock; and occasionally exposed to work in high, precarious places, extreme heat, vibration. The noise level in the work environment is usually loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate

amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is continuously required to talk or hear, taste or smell; regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms; and frequently required to stoop, kneel, crouch, or crawl; occasionally required to sit, climb or balance. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 50 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision; distance vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample PCW Operator in Training Job Description

Exempt: No
Department: Pollution Control Works
Reports To: Not indicated.
Location: Pollution Control Works Facility
Date Prepared: June 26, 2014
Date Revised: October 06, 2015

GENERAL DESCRIPTION OF POSITION

The incumbent is responsible for performing assigned duties to assure proper operations and maintenance of plant and equipment.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Operate various pumps and equipment.
2. Inspect pumps and equipment for defects.
3. Repair defective pumps and equipment using proper tools.
4. Read meters, record information and change charts.
5. Perform assigned duties in regard to sludge management practices.
6. Perform required laboratory analysis in regard to operational aspects of the plant.
7. Maintain records of temperature, dissolved oxygen, pH, sludge volume index and chemical readings.
8. Assist in plant maintenance as needed.
9. Perform other related duties as required or assigned.
10. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Mental alertness and adaptability to office and field area work routines. Equivalent to four years high school or GED, with particular emphasis during high school in office skills, shop skills, or others, plus 0 to 6 months related experience and/or training. Or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read, analyze, and understand general business/company related articles and professional journals; Ability to speak effectively before groups of customers or employees.

MATHEMATICAL SKILLS

Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume. Ability to apply concepts such as fractions, ratios, and proportions to practical situations.

CRITICAL THINKING SKILLS

Ability to utilize common sense understanding in order to carry out written, oral or diagrammed instructions. Ability to deal with problems involving several known variables in situations of a routine nature.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Class I Wastewater License

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

SOFTWARE SKILLS REQUIRED

Basic: Alphanumeric Data Entry, Database, Presentation/PowerPoint, Spreadsheet, Word Processing/Typing

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under immediate supervision, performs general assignments of work, with periodic check of performance by supervisor.

PLANNING

Limited responsibility with regard to specific assignments in planning time, method, manner, and/or sequence of performance of own work operations.

DECISION MAKING

Performs work operations which permit infrequent opportunity for decision-making of minor importance and which would only affect the operating efficiency of the individual involved to a slight degree.

MENTAL DEMAND

Moderate mental demand. Operations requiring almost continuous attention, but work is sufficiently repetitive that a habit cycle is formed; operations requiring intermittent directed thinking to determine or select materials, equipment or operations where variable sequences may be selected by the employee.

ANALYTICAL ABILITY / PROBLEM SOLVING

Moderately repetitive. Activities with slight variation using a definite set of processes or directions with some degree of supervision. Choice of learned things in situations which conform to clearly established patterns and modes.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

No supervision.

Supervises the following departments: Not indicated.

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$5,000 to \$150,000.

ACCURACY

Probable errors of internal and external scope would have a moderate effect on the operational efficiency of the organizational component concerned. Errors might possibly go undetected for a considerable period of time, thereby creating an inaccurate picture of an existing situation. Could cause further errors, losses, or embarrassment to the organization. The possibility for error is always present due to requirements of the job.

ACCOUNTABILITY

FREEDOM TO ACT

Directed. Freedom to complete duties as defined by wide-ranging policies and precedents with mid to upper-level managerial oversight.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

None. Job does not create any dollar monetary impact for the organization.

IMPACT ON END RESULTS

Moderate impact. Job has a definite impact on the organization's end results. Participates with others in taking action for a department and/or total organization.

PUBLIC CONTACT

Occasional contacts with patrons on routine matters.

EMPLOYEE CONTACT

Contacts occasionally with others beyond immediate associates, but generally of a routine nature. May obtain, present or discuss data, but only as pertains to an immediate and specific assignment. No responsibility for obtaining cooperation or approval of action or decision.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Occasional use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Outside or inside working environment, wherein there are potential hazardous working conditions and life-threatening situations exist (fire, chemicals, electrical sources, heights, dangerous people, etc.) part of the time.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to

perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to fumes or airborne particles, outdoor weather conditions, wet or humid conditions; regularly exposed to work near moving mechanical parts, toxic or caustic chemicals; frequently exposed to risk of electrical shock; and occasionally exposed to work in high, precarious places, extreme heat, vibration. The noise level in the work environment is usually loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is continuously required to talk or hear, taste or smell; regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms; and frequently required to stoop, kneel, crouch, or crawl; occasionally required to sit, climb or balance. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 50 pounds; regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision; distance vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

Update 2015 Sample PCW Senior Operator Job Description

Exempt: No
Department: Pollution Control Works
Reports To: Not indicated.
Location: Pollution Control Works Facility
Date Prepared: June 26, 2014
Date Revised: September 29, 2015

GENERAL DESCRIPTION OF POSITION

The incumbent is responsible for providing daily work leadership in order to ensure proper operation and maintenance of the plant and equipment.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Provide leadership and supervision to all subordinate personnel.
2. Read meters, maintain records and reports, update charts as indicated.
3. Inspect pumps and equipment for defects.
4. Repair defective pumps and equipment using appropriate tools.
5. Perform laboratory analysis in regard to operational aspects of the plant.
6. Maintain proper level of chemicals.
7. Assist with maintenance of plant buildings and grounds.
8. Assist lab with samples as needed.
9. Perform inventory of reserve chemicals.
10. Monitor levels at various locations.
11. Receive emergency calls and dispatch appropriate personnel.
12. Conduct safety training.
13. Replace monitoring charts.
14. Perform other related duties as required or assigned.
15. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Knowledge of a specialized field (however acquired), such as basic accounting,

computer, etc. Equivalent of four years in high school, plus night, trade extension, or correspondence school specialized training, equal to two years of college, plus 4 years related experience and/or training, and 1 to 6 months related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to read, analyze, and understand general business/company related articles and professional journals; Ability to speak effectively before groups of customers or employees.

MATHEMATICAL SKILLS

Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume. Ability to apply concepts such as fractions, ratios, and proportions to practical situations.

CRITICAL THINKING SKILLS

Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Class III Wastewater License

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Class IV Wastewater License

SOFTWARE SKILLS REQUIRED

Intermediate: Presentation/PowerPoint, Spreadsheet, Word Processing/Typing
Basic: Accounting, Alphanumeric Data Entry, Database, Payroll Systems

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under general direction, working from policies and general directives. Rarely refers specific cases to supervisor unless clarification or interpretation of the organization's policy is required.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work, in addition, the work operations of a group of employees, all performing basically the same type of work.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance, either of which would affect the work operations of large organizational component and the organization's clientele.

MENTAL DEMAND

Close mental demand. Operations requiring close and continuous attention for control of operations. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Directed. Supervisory and/or professional skills using structured practices or policies and directed as to execution and review. Interpolation of learned things in moderately varied situations where reasoning and decision-making are essential.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a small group (3-7) of employees, usually of lower classifications. Assigns and checks work; assists and instructs as required and performs same work as those supervised, or closely related work, a portion of the time. Content of the work supervised is of non-technical nature, but presents numerous situations to which policies and precedents must be interpreted and applied.

Supervises the following departments: Not indicated.

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Occasionally responsible for organization's property where carelessness, error, or misappropriation would result in moderate damage or moderate monetary loss to the organization. The total value for the above would range from \$150,000 to \$1,000,000.

ACCURACY

Probable errors would not likely be detected until they reached another department, office or patron, and would then require considerable time and effort to correct the situation. Frequently, possibility of error that would affect the organization's prestige and relationship with the public to a limited extent, but where succeeding operations or supervision would normally preclude the possibility of a serious situation arising as a result of the error or decision.

ACCOUNTABILITY

FREEDOM TO ACT

Directed. Freedom to complete duties as defined by wide-ranging policies and precedents with mid to upper-level managerial oversight.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Large. Job creates a monetary impact for the organization from \$10mm to \$50mm.

IMPACT ON END RESULTS

Modest impact. Job has some impact on the organizations end results, but still from an indirect level. Provides assistance and support services that facilitates decision making by others.

PUBLIC CONTACT

Regular contacts with patrons, either within the office or in the field. May also involve

occasional self-initiated contacts to patrons. Lack of tact and judgment may result in a limited type of problem for the organization.

EMPLOYEE CONTACT

Contacts of considerable importance within the department or office, such as those required in coordination of effort, or frequent contacts with other departments or offices, generally in normal course of performing duties. Requires tact in discussing problems and presenting data and making recommendations, but responsibility for action and decision reverts to others.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Outside or inside working environment, wherein there are potential hazardous working conditions and life-threatening situations exist (fire, chemicals, electrical sources, heights, dangerous people, etc.) part of the time.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to fumes or airborne particles, outdoor weather conditions, wet or humid conditions; regularly exposed to work near moving mechanical parts, toxic or caustic chemicals; frequently exposed to risk of electrical shock; and occasionally exposed to work in high, precarious places, extreme heat, vibration. The noise level in the work environment is usually loud.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

While performing the functions of this job, the employee is continuously required to talk or hear, taste or smell; regularly required to stand, walk, use hands to finger, handle, or feel, reach with hands and arms, stoop, kneel, crouch, or crawl; and occasionally required to sit, climb or balance. The employee must occasionally lift and/or move more than 100 pounds; frequently lift and/or move up to 25 pounds; regularly lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision; distance vision; depth perception; and ability to adjust focus.

ADDITIONAL INFORMATION

Not indicated.

CITY CORPORATION
RUSSELLVILLE, ARKANSAS, WATER AND SEWER SYSTEM

POLICIES AND PROCEDURES
FOR
EXTENSIONS OF THE WATER AND SEWER FACILITIES

To assure the orderly, reliable, economical and safe operation of the water and sewer system, it is necessary to establish, promulgate, and enforce a uniform set of policies and procedures for the design, construction and acceptance for service and maintenance of extensions to the system. This document consists of three sections:

- Policies and Procedures
- Design Criteria and Plan Requirements
- Standard Specifications and Details

These policies and procedures, Design Criteria and Plan Requirements, and Standard Specifications and Details shall apply uniformly to all proposed water distribution main or sewage collection main extension plans approved by City Corporation from and after the date of approval of this document.

Approved by The City Corporation Board of Directors

By:  James Biggers, Chairman

Date: March 20, 1995

Approved by the Arkansas Department of Health May 22, 1995.

POLICIES AND PROCEDURES

1. Service Policy:

The tapping of a water distribution main for water service, or connection of a building sewer to a sewage collection main will be permitted only to those water or sewer mains which have been officially accepted by City Corporation for service and maintenance. City Corporation will determine the location, size, and other details of requested water or sewer connections.

The property to be served by a proposed water or sewer service connection must have frontage on the public road or street, or utility easement in which the water or sewer main is constructed, and the water or sewer main must be adjacent to the property being served. If a water or sewer main is not adjacent to the property proposed for service, the property owner (or developer) shall construct an extension of the water or sewer main to a point adjacent to the property proposed for service.

2. Policy on Extensions of Water or Sewer Mains:

City Corporation will determine the size, location, materials and other details for extensions to the water distribution or sewage collection systems. The criteria for this determination includes the Design criteria and Standard Specifications in this document, and other generally accepted engineering practices.

All plans for proposed extensions of the water distribution system, sewage collection system, or appurtenances to either 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. The engineering design and construction inspection for proposed water main or sewer collection system extensions shall be performed by an engineer retained or employed by the individual or developer desiring the extension.

All plans for construction of proposed extensions of the water distribution system or sewage collection system must be approved by City Corporation and the Arkansas State Department of Health before construction of the proposed extensions may commence. Approval of extension plans by City Corporation is subject to the standards and criteria included in this document.

The extension of water or sewer facilities shall include the execution of a Water Main Extension Agreement, or Sewer Main Extension Agreement, as appropriate. This agreement is prepared by City Corporation for execution by the individual or developer constructing the water or sewer main extension. A sample agreement form for water main extensions, and for sewer main extensions, is included in this document.

The total cost of construction, including engineering design and Health Department review fees, shall be paid by the individual or developer desiring water or sewer service. Any financial participation by City Corporation will be as approved in writing prior to or coincident with approval of the proposed plans, and will be limited to oversizing of mains for future extensions, or extensions in addition to those required to provide the service requested, as determined by City Corporation to be necessary to improve the level of service in the community. All construction of approved water or sewer main extensions shall be by contractors employed by the individual or developer desiring service. City Corporation will not provide any construction services or materials for extensions of water or sewer mains, unless specifically approved in writing.

3. Policy on Service Connections to Newly Constructed Water or Sewer Main Extensions:

Requests for water or sewer service connections will only be approved when the water or sewer main to be tapped for service has been accepted for service by City Corporation. The following is a list of conditions for acceptance for service by City Corporation.

1. The main extension must have been constructed in accordance with plans which have been previously approved by City Corporation and the Arkansas Department of Health.
2. All construction and cleanup is complete, and all specified tests have been satisfactorily completed, with documentation in City Corporation files.
3. As constructed plans and construction cost statements have been received by City Corporation, and have been field checked for accuracy by City Corporation.
4. All easements and / or street right of way dedications have been provided to City Corporation, and filed for record in the Courthouse.
5. All appropriate agreements have been executed by the developer, and all applicable prorata rebates have been collected from the developer. Execution of the appropriate extension agreement by City Corporation constitutes acceptance for service.

DESIGN CRITERIA AND PLAN REQUIREMENTS

1. The following requirements and standards are incorporated by reference in this design criteria:
 - City of Russellville Ordinance No. 1,458, concerning water and wastewater extensions outside the City Limits of Russellville.

- Fire Protection Policy, A Joint Agreement between the Russellville Fire Department and City Corporation, dated January 29, 1993.
 - City of Russellville Ordinance No. 1,401, Land Subdivision and Development Code.
 - Rules and Regulations pertaining to Public Water Systems, as issued by The Arkansas Department of Health on January 29, 1991.
2. Unless specifically approved in writing otherwise, or authorized by this design criteria, all extensions to the water distribution system, or appurtenances, shall be designed as recommended in Recommended Standards for Water Works, (1992), as issued by the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers.
 3. Unless specifically approved in writing otherwise, or authorized by this design criteria, all extensions to the sewage collection system, or appurtenances, shall be designed as recommended in Recommended Standards for Wastewater Facilities (1990), as published by the Great Lakes - Upper Mississippi River Board of State Public Health and Environmental Managers.

City Corporation will promptly review and either approve as submitted, or request changes in writing, plans submitted for review. If City Corporation does not either approve submitted plans, or request changes in writing, within thirty (30) days of submittal, the plans shall be assumed to be approved as submitted.

4. Water Extension Design Criteria:

The pipe size of proposed water main extensions shall be at least as large as the minimum specified in the Fire Protection Policy.

Water main extensions proposed to serve more than one existing or proposed lot or parcel shall also include the construction of a water service line and meter box setting for each anticipated lot or parcel. Water main extensions requiring future road crossings by City Corporation crews will not be approved, except in extraordinary situations.

A minimum separation of 10 feet horizontal, and 1.5 feet vertical shall be maintained between water mains and sewer mains. Except for extraordinary situations the water main shall be at least 1.5 feet higher than the sewer main.

5. Sewer Extension Design Criteria:

All sewer mains must be constructed on a tangent (straight) horizontal alignment and on a constant grade from manhole to manhole.

All sewer mains must begin and end with a standard manhole. Sewer mains ending in cleanouts will not be approved.

All sewer main extensions shall be a minimum of 8 - inch inside diameter pipe, with the following exception:

- A sewer main constructed of 6 - inch inside diameter pipe will be approved if the extension cannot be extended in the future, and further provided that a maximum of eight (8) single family residential dwellings, or the hydraulic equivalent, will be served by the proposed 6" extension.

A wye shall be installed for the future connection of a sewer service line for each lot or parcel of property anticipated to be served by the proposed extension. Where lots or parcels anticipated to be connected to a proposed sewer main extension are located across an existing or proposed paved street or road from the sewer main, a sewer service stub extending to the property line of the lot to be served shall be constructed coincident with the sewer main construction.

A minimum separation of 10 feet horizontal, and 1.5 feet vertical shall be maintained between water mains and sewer mains. Except for extraordinary situations the sewer main shall be at least 1.5 feet lower than the water main.

Water Main or Sewage Collection System Extension Plan Criteria:

Proposed plans for extensions to the water distribution system or sewage collection system shall be prepared on reproducible media 24" x 36" in size, with the plan of the proposed extension drawn to scale, at a minimum scale of 1" = 100'. The plan of the proposed extension shall indicate the property lines, legal description and dimensions of the property proposed to be served. The plan sheet shall also include a vicinity map of scale 1" = 2,000' or larger showing the area of the City where the proposed extension is located.

Water distribution or sewage collection systems proposed to serve properties which are subject to the approval of the Russellville Planning Commission shall include a copy of the approved preliminary plat or site plan, or other evidence of prior Planning Commission approval. All proposed plans for water distribution main extensions shall be submitted with evidence of prior approval of the Russellville Fire Department.

The details for construction of the proposed water distribution or sewage collection extension shall be the City Corporation Standard

Details, unless departures to these standard details are specifically approved in writing by City Corporation. Drawings of standard details need not be included with proposed plans for extensions; instead the proposed extension plans may include notes incorporating these City Corporation Standard Details by reference.

Proposed plans for sewage collection main extensions shall include a profile of the proposed sewer main drawn to the same horizontal scale as the plan drawing, with the vertical information drawn at an exaggerated vertical scale of 1" = 10' or 1" = 5'. All vertical information must be referenced to National Geodetic Vertical Datum of 1929, commonly referred to as "MSL datum". Proposed sewage collection main extension plans prepared utilizing assumed datum will not be accepted for review.

A minimum of five (5) sets of plans shall be submitted to City Corporation for review. Three (3) sets of the approved plans, bearing the approval stamp of City Corporation, will be returned to the submitting engineer.

The submitting engineer shall be responsible for submitting the extension plan as approved to the Arkansas State Department of Health for further review. Proposed extension plans are not approved for construction until approved in writing by City Corporation and the Arkansas State Department of Health, and other agencies having jurisdiction.

Easements and Rights-of-Way for Water and Sewer Mains:

All water distribution main or sewage collection main extensions shall be constructed in dedicated public rights-of-way or in easements that grant the City of Russellville the right to own and maintain a water distribution or sewage collection main. a sample water distribution main easement and sewage collection main easement is included in the Appendix to this Policies and Procedures section.

Inspection and Administration of Construction of Approved Extensions:

The submitting engineer whose stamp appears on approved plans for water distribution or sewage collection main extensions (The Engineer of Record) shall be responsible for inspection and administration of the construction of the proposed extensions. The Engineer of Record shall be responsible for ensuring that the proposed extension is constructed of materials and procedures, and to the specifications and details as approved by City Corporation and the Arkansas Department of Health.

On completion of construction and testing of the extension, the Engineer of Record shall make revisions to the plans to reflect actual dimensions and configurations of facilities as constructed,

and otherwise revise the plans to reflect the actual installation. The "as constructed" plan shall include the location of and reference dimensions for all service points for future connections to the water and sewer mains. The Engineer shall submit two (2) copies of the "as constructed" plans to City Corporation promptly on completion of all construction and testing.

Included with the "as constructed" plans shall be an itemized statement of the cost of construction of the water or sewer main extension.

APPENDIX

1. Ordinance 1458
2. Fire Protection Policy
3. Water Distribution Main Extension Agreement
4. Water Distribution Extension Offsite Service Agreement
5. Sewage Collection Main Extension Agreement
6. Sewage Collection Extension Offsite Service Agreement
7. Right-of-Way Permit - Water
8. Right-of-Way Permit - Sewer

ORDINANCE NO. 1458

AN ORDINANCE ADOPTING CITY CORPORATION POLICY GOVERNING WATER AND WASTEWATER EXTENSIONS OUTSIDE THE CITY LIMITS AND APPROVING EXISTING WATER AND WASTEWATER EXTENSIONS, DECLARING AN EMERGENCY AND FOR OTHER PURPOSES

WHEREAS, the Board of Directors for City Corporation (City of Russellville Water & Sewer Company) and the City Council for the City of Russellville recently recognized the need for the establishment of a policy governing the extension of water and sewer services outside the corporate limits of the City of Russellville; and

WHEREAS, in January 1994 the Board of Directors of City Corporation appointed a committee made up of knowledgeable individuals representing City government and the business community; and

WHEREAS, with the assistance of the aforementioned committee, the City Corporation Board of Directors has adopted the policy attached hereto known as the policy effecting "City Corporation Water & Wastewater Extensions Outside City Limits"; and

WHEREAS, the City Council of the City of Russellville has determined that it is appropriate for the City Council to adopt this policy as being the policy governing such water and sewer line extensions, along with other applicable City Ordinances and State laws; and

WHEREAS, the City Council has also determined that it is appropriate to approve all water and sewer service lines currently in place providing City Corporation water and sewer service to

individuals, businesses, industries, and governmental entities located outside the city limits of the City of Russellville.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Russellville, Pope County, Arkansas, that:

Section 1: The City Corporation (Russellville Water & Sewer System) line extension policy approved by the City Corporation Board of Directors on March 9, 1994, a copy of which is attached hereto, is hereby approved by the City Council of the City of Russellville. The attached document is adopted by reference and incorporated herein as if set out herein word for word.

Section 2: Persons, businesses, industries, or governmental entities desiring to receive water or sewer service line extensions from City Corporation, outside the corporate limits of the City of Russellville, shall follow the aforementioned policy. This policy requires that no water or sewer line extensions shall be allowed outside the city limits without the approval of the Russellville City Council, Russellville Planning Commission, City Corporation, and the Arkansas Department of Health.

Persons desiring approval of water or sewer line extensions shall petition the Russellville Planning Commission for such services. Prior to the filing of the petition, the applicant shall receive approval for the service from the City Corporation Board of Directors. Such approval shall be evidenced by a letter from City Corporation signed by the City Corporation General Manager or other designated representative. In considering the application, the

Planning Commission shall ensure that the provisions of the aforementioned policy are complied with together with the City Subdivision and Development Code, and other applicable City ordinances and State laws.

If the Planning Commission, after considering the aforementioned policies, ordinances, and laws, determines that it is in the best interest of the citizens of the City of Russellville for water or sewer service line extensions to be provided to the applicant, then the Commission shall approve said application by majority vote. In considering the applications for water or sewer service, due consideration shall be given to the cost, if any, to the current customers of City Corporation, as well as the impact the proposed service shall have on the entire water and sewer system, including, but not limited to, the water treatment plant and the wastewater treatment plant. The granting of the service outside the city limits to an applicant or proposed customer outside the city limits shall not be deemed to guarantee service to the applicant or proposed customer on a permanent, indefinite basis. Said service shall only be continued for as long as it is found to be in the best interest of the citizens of Russellville, and economically feasible as determined by the City Corporation Board of Directors and the City Council of the City of Russellville.

After approval by the Planning Commission, the application shall be forwarded to the Russellville City Council together with a proposed ordinance prepared by the applicant. The proposed

ordinance shall contain and provide for all the information required by the applicable policies, ordinances, and State laws. If the City Council determines that it is in the best interest of the citizens of the City of Russellville for the application to be approved, then the ordinance shall be passed by a majority vote of the City Council.

Section 2: All water and sewer service lines currently providing service to individuals, businesses, industries, and governmental entities outside the city limits of the City of Russellville, having been put into place prior to the adoption of the aforementioned policy, shall remain in operation and are hereby approved. No future water or sewer service lines shall be extended outside the city limits until the aforementioned policy, ordinances, and State laws have been complied with, and appropriate approval has been obtained as evidenced by the passage of an ordinance.

Section 3: An emergency is hereby declared and this ordinance being necessary for the preservation of the public peace, health and safety shall be in full force and effect from and after its passage this 31 day of March, 1994.


WOODY HARRIS, MAYOR

ATTEST:


HELEN PRICE, CITY CLERK

revised 3/29/94

CITY CORPORATION
WATER AND WASTEWATER EXTENSIONS
OUTSIDE CITY LIMITS

The purpose of this policy is to establish guidelines for extending water and wastewater services outside the corporate limits of the City of Russellville, Arkansas to include, but not necessarily limited to:

Provide an adequate infrastructure requirement for developers that will minimize future upgrading of these developments in the event the area is annexed.

Provide a rational manner of interfacing other water systems with the Russellville Water System in order to promote better fire protection planning and avoid legal confrontations over service territories.

Provide an equitable cost sharing of improvements, when required, as the service area extends outward from the City limits and not place a financial burden on the citizens of Russellville.

Provide City Corporation with an acceptable means of collecting for sewer service without Russellville Water service.

Provide a means of charging for allocation of wastewater treatment capacity by users outside the City boundaries.

All extensions shall be consistent with the Land Subdivision and Development Code, as adopted by the City Council on July 9, 1992 and effective January 1, 1993. All regulations and policies that govern line extensions inside the City limits also apply outside the City limits. All appropriate approvals must be obtained by the parties responsible for the line extension. No water or sewer extensions outside the City limits shall be allowed without the following approvals:

1. City of Russellville, City Council
2. City of Russellville, Planning Commission
3. City Corporation
4. Arkansas Department of Health

Water Line Extension to Single Customer (Non-Development)

1. The line shall be sized for fire protection. Customer(s) shall bear all extension costs. Single line customers are not eligible for the recovery of any of their construction costs through contract agreement provision normally extended to developments.

Water Line Extensions for Developers

1. Water service in developments shall be solely served by the Russellville Water System. No splitting of service with another water system in the same development will be permitted.
2. If improvements not including lines and isolation valves are required to properly serve the area, the City Corporation engineer shall determine the improvements required to serve both the development and the adjacent areas that should be planned for future connections. The developer shall pay a pro-rata share of the construction costs for the facilities and related improvements required to serve the proposed development based on the capacity required to serve the proposed development as it relates to the total capacity of the facility, and City Corporation shall bear the remaining costs, upon City Corporation Board of Director approval for City Corporation's contribution. Future developments that connect within ten (10) years of completion of said improvements shall pay a pro-rata share of the construction costs based on the capacity required by the future development as it relates to the total capacity of the facility.
3. The system must provide fire protection capability in accordance with the then current Russellville Fire Protection Policy, except that flows at system connection are not mandated.

Sewer Line Extensions to Single Customer (Non-Development)

1. The customer shall bear all extension costs. If the customer is not served by the Russellville Water System, the customer is responsible for and shall obtain an agreement from the water system they are served by for the collecting of monthly sewer service charges. Said agreement shall be in a form acceptable to and provided by City Corporation. Single line customers are not eligible for the recovery of any of their construction costs through contract/agreement provisions

normally extended to developments.

Sewer Line Extensions for Developers:

1. The developer shall bear all extension costs. The developer shall also pay a pro-rata share of the cost of construction for a proposed Wastewater Treatment Plant expansion based on the capacity that will be required for the proposed development as it relates to the total capacity of the treatment plant expansion, either as a lump sum or as a connection fee in an amount and manner approved by the City Corporation Board of Directors and the City Council.
2. If the development is not served by the Russellville Water System, the developer is responsible for and shall obtain an agreement from the water system they are served by for the collecting of monthly sewer service charges. Said agreement shall be in a form acceptable to and provided by City Corporation.

This policy shall not constitute an approval procedure of any line extension outside the corporate limits of the City of Russellville without the proper review, consideration and approval of the appropriate agencies and shall not be deemed to create any rights to water and sewer services to parties outside the city limits of Russellville.

FIRE PROTECTION POLICY
A JOINT AGREEMENT BETWEEN
THE
RUSSELLVILLE FIRE DEPARTMENT
AND
CITY CORPORATION

Revised January 29, 1993

The fire protection design policy for the City of Russellville is as follows:

GENERAL

Flow criteria, as stated herein, are intended for the purpose of sizing mains for extensions from existing facilities where practical (i.e. where the system is capable of delivering the required pressures and flows) and for the design of large system improvements.

New water line extensions and Fire protection facilities, such as mains and hydrants, shall be in working order and have been accepted by the City prior to building permits being issued in a new development.

RESIDENTIAL

1. In residential areas a public main not less than six (6) inches is required for fire hydrant service and should have a minimum of 750 gpm at 20 psi residual pressure.
2. Main extensions along through streets (primary mains) that connect other residential areas shall not be less than eight (8) inches.
3. Hydrant spacing in residential areas containing one and two family dwellings not exceeding two stories in height:
 - A. Through Streets: Maximum distance measured along the curb line between hydrants should not exceed 850 feet.
 - B. Dead End Streets and Cul-de-sacs: The last hydrant in the cul-de-sac should be located 250 feet plus or minus 50 feet from the farthest building set back line at the end of the street. The next nearest hydrant outside of the dead end street should be within 700 feet of the last hydrant.

4. Hydrant spacing in residential areas containing buildings having three or more living units, or residential units exceeding three stories in height:
 - A. Through Streets: Maximum distance between hydrants should not exceed 350 feet.
 - B. Dead End Streets and Cul-de-sacs: The last hydrant in the cul-de-sac should be located 250 feet plus or minus 50 feet from the farthest building set back line at the end of the street. The next nearest hydrant outside of the dead end street should be within 500 feet of the last hydrant.
5. Where at all possible, fire hydrants should not be located on dead end mains. Exceptions should be limited to cul-de-sacs as outlined above, and mains which are planned for future extensions.

AREAS OTHER THAN RESIDENTIAL

1. Public mains shall be designed to provide adequate fire flow requirements, but not be sized less than eight (8) inch.
2. Through Streets: Maximum distance between hydrants shall not exceed 500 feet and should have a minimum of 1,000 gpm at 20 psi residual pressure.
3. Dead End Streets and Cul-de-sacs: The last hydrant in the cul-de-sac should be located 250 feet plus or minus 50 feet from the farthest building set back line at the end of the street. The next nearest hydrant outside of the dead end street should be within 500 feet of the last hydrant.
4. Buildings larger than 15,000 square feet such as commercial, industrial and residential buildings other than one and two family dwellings, that are located farther than 150 feet from a public fire hydrant system shall be provided with the required minimum number of fire hydrants and be connected to a water system capable of supplying the fire flow as determined by an ISO review by the Fire Chief. The location and number of such on-site hydrants shall have a hydrant available for distribution of hose to any portion of any building on the premises at distances not to exceed 500 feet. Where at all possible, this should be a looped system.
Refs: Arkansas State Fire Code, Sec.18.201,C.
5. Along major arterial streets that are outside residential areas and are provided with four (4) or more traffic lanes, which are divided, hydrants shall be spaced every 500 feet on each side of the street and be arranged on an alternating basis. Neither City Corporation nor the City of Russellville

shall be responsible for the cost of installation of water main extensions along new public funded street projects in undeveloped areas.

As these areas develop, each developer shall bear the cost of water main extensions to the limits of their development.

HYDRANT SPECIFICATIONS

1. All fire hydrants shall be AWWA approved and shall meet the following criteria:

A. Hydrants shall be the three-way type with two 2½ inch nozzles and one 4½ inch steamer.

B. The barrel shall be a minimum of 4½ inches in diameter.

C. The operating nut shall open counterclockwise.

D. Hydrants shall be traffic type (break away).

E. Each hydrant shall have its own auxiliary valve. This valve shall be as close to the water main as practical.

F. Leads going from the main to the hydrant shall not be less than six (6) inch.

G. Hydrants shall be painted to these specifications:

1. Hydrants and all exposed parts shall be painted with the required primer and finish coats in accordance with current AWWA standards. Finish coats shall be Benjamin Moore #071-15 Safety Yellow Industrial Enamel or equivalent. The developer shall supply the hydrant with the above mentioned coating.

2. The outlet caps shall be painted according to flow rates represented:

Black	-	Dead End Mains
Red	-	500 gpm or less
Orange	-	500 - 1,000 gpm
Green	-	1,000 - 1,500 gpm

3. All hydrants that receive pressure from a Fire Department connection or an on-site suppression system shall be classified as private hydrants and shall be painted red.

City Corporation and the Russellville Fire Department shall be responsible for flow color coding.

- H. When hydrants are put into service, the chains shall be removed. All new and existing hydrant caps shall be kept wrench tight to avoid theft. If need replacing, gaskets will not be removed, but reported to City Corporation.

HYDRANT INSTALLATION

1. Hydrants shall be installed in accordance with City Corporation specification drawings.
2. Hydrants shall be installed so that the steamer connection will face the street.
3. Where practical, hydrants shall be installed within ten (10) feet of the street intersection.
4. Replacement hydrants in developed areas shall be located at least three (3) feet from driveways, street lights, utility poles or any other objects that may obstruct the use of the hydrant. In new developments, driveways, street lights, utility poles or any other objects that may obstruct the use of the hydrant shall be located at least three (3) feet from any hydrant installation.
5. Each hydrant shall have a french drain at the shoe in order for the hydrant to drain correctly.
6. All new hydrants shall be installed with a 5' X 5' X 4" concrete slab on compacted subgrade surrounding the hydrant base and isolation valve. One edge of slab shall be contiguous with the curb back. If a sidewalk is planned, a minimum of 4' clear walk area will be provided around the hydrant. The Russellville Fire Department shall enforce and the developer shall be responsible for conforming with this requirement.
7. Proper installation and acceptance by the Fire Department and City Corporation of mains and hydrants are required prior to building permits being issued.
8. New hydrants being installed shall be inspected by City Corporation and/or the Fire Department. The developer is responsible for contacting either agency prior to backfilling. Necessary corrections shall be the responsibility and at the expense of the developer.

REVIEW OF PLANS

The Russellville Fire Department and City Corporation shall review all proposed water line extensions for residential, commercial and industrial developments and additional hydrants on existing mains. The Fire Department shall determine the need for on-site fire protection systems. Approved fire protection layouts cannot be altered, abandoned, or added to without prior approval of the Russellville Fire Department and City Corporation. Any request for such alterations must be made in writing, complete with drawings, noting the alterations being requested. Plans shall be provided to City Corporation and the Russellville Fire Department.

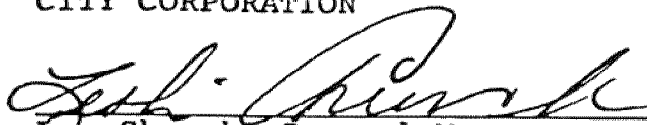
A sufficient number of copies of proposed extensions shall be submitted to the Fire Department for review, prior to submission to City Corporation and the Russellville Planning Commission for approval. This is to provide all agencies and governing bodies with an approved, stamped copy with Fire Department approval.

Plans for new or updated hydrant installations shall include:

1. Exact location and size of existing and proposed water mains and hydrants.
2. Flow calculations for each hydrant.
3. Details of hydrant installation and concrete pad.
4. Details of concrete pad and hydrant location in regard to proximity to curbs, corners, sidewalks, catch basins, etc.

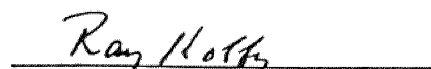
This cooperative policy and its enforcement, is required for the health, safety and welfare of the citizens and for the protection of property within and adjacent to the City of Russellville.

CITY CORPORATION


Les Church, General Manager

2/6/93
Date

RUSSELLVILLE FIRE DEPARTMENT


Ray Hobby, Fire Chief

2/9/93
Date

WATER DISTRIBUTION MAIN
EXTENSION AGREEMENT

This agreement, made and entered into this _____ day of _____, 19____, by and between City Corporation, operators of the Russellville, Arkansas Water and Sewer system, hereinafter called "Utility", and _____, hereinafter called "Applicant", witnesseth:

1. The applicant agrees to construct water distribution mains and appurtenances, as described herein and depicted on attached engineering plans, and the Utility agrees to accept these water distribution mains and appurtenances as a part of the Russellville Water and Sewer System.
2. The applicant states that his total cost to construct these water distribution mains and appurtenances is \$ _____ DOLLARS (\$ _____) as documented by the attached itemized cost statement. Total cost is inclusive of construction, engineering and surveying, and right-of-way costs.
3. It is further mutually understood and agreed that the water distribution mains and appurtenances constructed under this agreement within the limits of the streets, avenues, roadways, or easement areas, whether or not attached to or serving customers, but constructed as a part of this extension, shall be and remain the property of the Utility, its successors and assigns. The Utility shall have the right to extend, relocate, modify or adjust any or all parts of this water main extension, acting in the best interests of the Water and Sewer System, so long as water service and fire protection is continued to the properties of Applicant for which this water main extension was intended to serve. Applicant shall not be entitled to any refund of cost or rebate as a result of extensions, adjustments, relocations or modifications to this water main extension.
4. Applicant warrants that the materials and workmanship utilized in constructing this extension are in conformance with Utility's standard specifications, and Applicant further warrants that if the materials or workmanship utilized in constructing this extension are found by Utility to be defective within a period of one (1) year from the date of this agreement, Applicant will promptly and without cost to Utility repair, remedy or otherwise make good the defect to the satisfaction of Utility.
5. As a part of execution of this agreement, Applicant grants to Utility an exclusive and irrevocable easement, at no cost to the Utility, for the installation, maintenance, operation, repair and replacement of said water distribution main extension and appurtenances. Said easement is in a form acceptable to Utility, and is recorded in the Circuit Clerk's office of Pope County, Arkansas.
6. If the water distribution main constructed by Applicant fronts property of potential water customers other than the property intended for service by Applicant, Applicant is entitled to

recover a portion of his costs incurred in constructing the water main extension. The recovery of the said portion of these costs shall be through the issuance of Connection Certificates by the Utility to the Applicant. The Connection Certificates issued by Utility as a part of this agreement shall constitute the total cost recovery remedies available to Applicant, unless this agreement is accompanied by an Addendum describing additional cost recovery remedies to which Applicant is entitled.

Connection Certificates will be issued in number equal to the number of potential lots or building sites along and with frontage on the extension, in agreement with the Applicant. The value of the Certificates shall be determined by dividing the total cost of the extension, as stated in Paragraph 2 of this agreement, by the number of potential lots or building sites fronting on the Water Distribution Main Extension. The number of total lots and building sites shall include the lots and building sites intended to be served by Applicant. Applicant will, on execution of this agreement, surrender Certificates equal in number to the lots and building sites intended to be served by this extension.

Each outstanding Certificate shall earn interest at the rate of _____ percent (____%) per year, for a period of five years from the date of issue. Utility will permit service connections to this Water Distribution Main extension only on presentation of an appropriate Connection Certificate, or payment of the face value of the Certificate plus interest earned. If the utility accepts payment of the value of the Certificate in lieu of an actual certificate, Applicant agrees to surrender the certificate to the Utility in return for payment of the amount collected. Certificates shall become null and void after ten (10) years, and Utility shall have the right to connect potential customers without certificates or payment of the value of the Certificate, after ten years from the date of issue of the Certificates

7. Applicant agrees to indemnify Utility and to hold Utility harmless against any loss or damage including costs and attorney fees incurred or sustained by Utility in the administration and enforcement of this agreement.
8. This agreement is valid and binding on the Utility only when approved and executed by its General Manager.

Executed in duplicate by the parties hereto on the day and year first above mentioned.

CITY CORPORATION

By: _____
Its: General Manager

APPLICANT

OFFSITE SERVICE ADDENDUM TO
WATER DISTRIBUTION MAIN
EXTENSION AGREEMENT

This Addendum is a part of and is attached to the Water Distribution Main Extension Agreement entered into between City Corporation, operators of the Russellville, Arkansas Water and Sewer System, hereinafter called "Utility", and _____, hereinafter called "Applicant", dated this _____ day of _____, 19__.

1. The intent of this addendum is to acknowledge that Applicant, in constructing the Water Distribution Main, has invested in water distribution facilities of greater capacity than normally required for domestic water service and fire protection to Applicant's properties, and this greater capacity facilities will make water service potentially available to properties which do not front on the Water Distribution Main.
2. Due to this investment in facilities with excess capacity, Applicant is entitled to recover some of his costs in constructing said Water Distribution Main from future applicants who will construct water distribution main extensions which utilize some or all of the Water Distribution Main constructed by Applicant.
3. The recovery of that portion of the cost of the Water Distribution Main and Appurtenances which makes possible water service to properties which do not front on the Water Distribution Main shall be through the issuance of Offsite Connection Certificates. Offsite Connection Certificates shall be issued in number equal to the number of lots or building sites which do not front on the Water Distribution Main Extension, but, in the opinion of the Utility, can be provided with water service by the future construction of a water distribution main extension by applicants other than Applicant. The value of each Offsite Connection Certificate shall be the fraction of the total cost of the Water Distribution Main Extension constructed by Applicant which is not attributable to providing service to Applicant's properties or lots and building sites which front on the Water Distribution Main Extension constructed by applicant, divided by the number of offsite lots or building sites, or acreage of unplatted property.
4. The Applicant states, and the Utility agrees, that the fraction of the total cost of constructing the Water Distribution Main attributable to excess capacity, which may be in the future be utilized by future applicants who construct future water distribution main extensions to provide water service to their properties offsite from the Water Distribution Main constructed by Applicant is

_____ DOLLARS (\$_____), inclusive of construction, engineering and surveying, and right-of-way costs.

5. The location of the properties offsite from the Water Distribution Main Extension which can be provided water service in the future by construction of water distribution main extensions connecting to the Water Distribution Main Extension constructed by Applicant is shown on the engineering plans attached to and a part of the Water Distribution Main Extension Agreement.
6. The administration of the Offsite Connection Certificates shall be identical to the administration of the Connection Certificates described in Paragraph 5 of the Water Distribution Main Extension Agreement, of which this addendum is a part.
7. Applicant agrees to indemnify Utility and to hold Utility harmless against any loss or damage including costs and attorney fees incurred or sustained by Utility in the administration and enforcement of this agreement.
8. This agreement is valid and binding on the Utility only when approved and executed by its General Manager.

Executed in duplicate by the parties hereto on the day and year first above mentioned.

CITY CORPORATION

By: _____
Its: General Manager

APPLICANT

SEWAGE COLLECTION MAIN
EXTENSION AGREEMENT

This agreement, made and entered into this _____ day of _____, 19____, by and between City Corporation, operators of the Russellville, Arkansas Water and Sewer system, hereinafter called "Utility", and _____, hereinafter called "Applicant", witnesseth:

1. The applicant agrees to construct sewage collection mains and appurtenances, as described herein and depicted on attached engineering plans, and the Utility agrees to accept these sewage collection mains and appurtenances as a part of the Russellville Water and Sewer System.
2. The applicant states that his total cost to construct these sewage collection mains and appurtenances is \$ _____ DOLLARS (\$ _____) as documented by the attached itemized cost statement. Total cost is inclusive of construction, engineering and surveying, and right-of-way costs.
3. It is further mutually understood and agreed that the sewage collection mains and appurtenances constructed under this agreement within the limits of the streets, avenues, roadways, or easement areas, whether or not attached to or serving customers, but constructed as a part of this extension, shall be and remain the property of the Utility, its successors and assigns. The Utility shall have the right to extend, relocate, modify or adjust any or all parts of this sewage collection extension, acting in the best interests of the Water and Sewer System, so long as sewer service is continued to the properties of Applicant for which this sewage collection main extension was intended to serve. Applicant shall not be entitled to any refund of cost or rebate as a result of extensions, adjustments, relocations or modifications to this sewage collection main extension.
4. Applicant warrants that the materials and workmanship utilized in constructing this extension are in conformance with Utility's standard specifications, and Applicant further warrants that if the materials and workmanship utilized in constructing this extension are found by Utility to be defective within a period of one (1) year of the date of this agreement, Applicant will promptly, and without cost to Utility repair, remedy, or otherwise make good the defect to the satisfaction of Utility.
5. As a part of execution of this agreement, Applicant grants to Utility an exclusive and irrevocable easement, at no cost to the Utility, for the installation, maintenance, operation, repair and replacement of said sewage collection main extension and appurtenances. Said easement is in a form acceptable to Utility, and is recorded in the Circuit Clerk's office of Pope County, Arkansas.
6. If the sewage collection main constructed by Applicant fronts property of potential sewage customers other than the property intended for service by Applicant, Applicant is entitled to recover a portion of his costs incurred in

constructing the sewage collection main extension. The recovery of the said portion of these costs shall be through the issuance of Connection Certificates by the Utility to the Applicant. The Connection Certificates issued by Utility as a part of this agreement shall constitute the total cost recovery remedies available to Applicant, unless this agreement is accompanied by an Addendum describing additional cost recovery remedies to which Applicant is entitled.

Connection Certificates will be issued in number equal to the number of potential lots or building sites along and with frontage on the extension, in agreement with the Applicant. The value of the Certificates shall be determined by dividing the total cost of the extension, as stated in Paragraph 2 of this agreement, by the number of potential lots or building sites fronting on the Water Distribution Main Extension. The number of total lots or building sites shall include the lots or building sites intended to be served by Applicant. Applicant will, on execution of this agreement, surrender Certificates equal in number to the lots or building sites intended to be served by this extension.

Each outstanding Certificate shall earn interest at the rate of _____ percent (___%) per year, for a period of five years from the date of issue. Utility will permit service connections to this sewage collection main extension only on presentation of an appropriate Connection Certificate, or payment of the face value of the Certificate plus interest earned. If the utility accepts payment of the value of the Certificate in lieu of an actual certificate, Applicant agrees to surrender the certificate to the Utility in return for payment of the amount collected. Certificates shall become null and void after ten (10) years, and Utility shall have the right to connect potential customers without certificates or payment of the value of the Certificate, after ten years from the date of issue of the Certificates

7. Applicant agrees to indemnify Utility and to hold Utility harmless against any loss or damage including costs and attorney fees incurred or sustained by Utility in the administration and enforcement of this agreement.
8. This agreement is valid and binding on the Utility only when approved and executed by its General Manager.

Executed in duplicate by the parties hereto on the day and year first above mentioned.

CITY CORPORATION

By: _____
Its: General Manager

APPLICANT

OFFSITE SERVICE ADDENDUM TO
SEWAGE COLLECTION MAIN
EXTENSION AGREEMENT

This Addendum is a part of and is attached to the Sewage Collection Main Extension Agreement entered into between City Corporation, operators of the Russellville, Arkansas Sewer and Sewer System, hereinafter called "Utility", and _____, hereinafter called "Applicant", dated this _____ day of _____, 19____.

1. The intent of this addendum is to acknowledge that Applicant, in the opinion of the Utility, in constructing the Sewage Collection Main Extension and Appurtenances, has invested in sewage collection facilities of larger pipe diameter than the minimum diameter pipe normally required for sewage collection service or has constructed sewage pumping and/or offsite sewer collection facilities of a capacity greater than needed for Applicant's properties, and these greater capacity facilities will make sewer service potentially available to properties which do not front on the Sewage Collection Main.
2. Due to this investment in facilities with excess capacity, Applicant is entitled to recover some of his costs in constructing said Sewage Collection Main and Appurtenances from future applicants who will construct sewage collection main extensions which utilize some or all of the Sewage Collection Main and Appurtenances constructed by Applicant.
3. The recovery of that portion of the cost of the Sewage Collection Main and Appurtenances which makes possible sewer service to properties which do not front on the Sewage Collection Main shall be through the issuance of Offsite Connection Certificates. Offsite Connection Certificates shall be issued in number equal to the number of lots or building sites which do not front on the Sewage Collection Main Extension, but, in the opinion of the Utility, can be provided with sewer service by the future construction of a sewage collection main extension by applicants other than Applicant. The value of each Offsite Connection Certificate shall be the fraction of the total cost of the Sewage Collection Main Extension constructed by Applicant which is not attributable to providing service to Applicant's properties or lots and building sites which front on the Sewage Collection Main Extension constructed by applicant, divided by the number of offsite lots or building sites, or acreage of unplatted property.
4. The Applicant states, and the Utility agrees, that the fraction of the total cost of constructing the Sewage Collection Main which is attributable to excess capacity, which may be in the future be utilized by future applicants who construct future sewage collection main extensions to provide sewer service to their properties offsite from the

Sewage Collection Main constructed by Applicant is _____ DOLLARS (\$ _____), inclusive of construction, engineering and surveying, and right-of-way costs.

- 5. The location of the properties offsite from the Sewage Collection Main Extension which can be provided sewer service in the future by construction of sewer collection main extensions connecting to the Sewage Collection Main Extension constructed by Applicant is shown on the engineering plans attached to and a part of the Sewage Collection Main Extension Agreement.
- 6. The administration of the Offsite Connection Certificates shall be identical to the administration of the Connection Certificates described in Paragraph 5 of the Sewage Collection Main Extension Agreement, of which this addendum is a part.
- 7. Applicant agrees to indemnify Utility and to hold Utility harmless against any loss or damage including costs and attorney fees incurred or sustained by Utility in the administration and enforcement of this agreement.
- 8. This agreement is valid and binding on the Utility only when approved and executed by its General Manager.

Executed in duplicate by the parties hereto on the day and year first above mentioned.

CITY CORPORATION

By: _____
Its: General Manager

APPLICANT

RIGHT OF WAY PERMIT
WATER

KNOW ALL MEN BY THESE PRESENTS: That _____, hereinafter called Grantor, for and in consideration of the sum of One and No/100 Dollars (\$1.00), and other valuable considerations, to us cash in hand paid, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the City of Russellville, hereinafter called Grantee, and unto its successors and assigns, the right, privilege and easement to build and maintain over, upon and across the land hereinafter described, a pipe line with the necessary fittings for the transmission and distribution of water. The rights hereby conferred provide for the privilege and authority to enter on said lands for the purpose of construction and building said pipe line, maintenance and operation thereof, with the right to clear and keep clear a right of way, of needed width, and for the repairing, reconstructing, operating and removing of same at any and all times.

The said right of way hereby conferred shall be at or near the pipe line as staked or indicated, over, under, upon and across the following lands located and situated in Pope County, Arkansas, to-wit:

and the right of free ingress and egress over adjacent lands to or from said right of way is hereby conferred upon said Grantee, its successors and assigns, at any time for the purpose recited herein.

Grantor agrees that no building will be erected on the easement granted by this instrument, and Grantor agrees not to perform or permit any action which will interfere with the rights granted by this instrument.

The right to farm and cultivate and otherwise use said right of way by the Grantor, except for the purpose herein granted to the Grantee, is especially reserved, and if the Grantee should ever permanently abandon the use of said right of way for the purposes herein contracted, it shall revert to the Grantor, their heirs or assigns.

It is also agreed and understood by both parties that the said ground will be returned to its natural look after line is installed. Any future repairs requiring earth moving will result in a return to present state after repairs are made. This would include repairs to blacktop or concrete, whichever may be the case.

IN WITNESS HEREOF we hereto set our hands and affix our seal this _____ day of _____ 19____.

ACKNOWLEDGMENT

State of _____
County of _____

BE IT REMEMBERED that on this day came before me the undersigned, a Notary Public, within and for the county and state aforesaid, duly commissioned, and acting, _____, to me well known as the Grantor in the foregoing permit and acknowledged that they had executed the same for the consideration, uses and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public this _____ day of _____, 19 _____.

Notary Public

My Commission Expires: _____

RIGHT OF WAY PERMIT
WASTEWATER

KNOW ALL MEN BY THESE PRESENTS: That _____, hereinafter called Grantor, for and in consideration of the sum of One and No/100 Dollars (\$1.00), and other valuable considerations, to us cash in hand paid, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the City of Russellville, hereinafter called Grantee, and into its successors and assigns, the right, privilege and easement to build and maintain over, upon and across the land hereinafter described, a pipe line with the necessary fittings for the collection of wastewater. The rights hereby conferred provide for the privilege and authority to enter upon said lands for the purpose of construction and building said pipe line, maintenance and operation thereof, with the right to clear and keep clear a right of way, of needed width, and for the repairing, reconstructing, operating and the removing of same at any and all times.

The said right of way hereby conferred shall be at or near the pipe line as staked or indicated, over, under, upon and across the following lands located and situated in Pope County, Arkansas, to-wit:

and the right to free ingress and egress over adjacent lands to or from said right of way is hereby conferred upon said Grantee, its successors and assigns, at any time for the purpose recited herein.

Grantor agrees that no building will be erected on the easement granted by this instrument, and Grantor agrees not to perform or permit any action which will interfere with the rights granted by this instrument.

The right to farm and cultivate and otherwise use said right of way by the Grantor, except for the purpose herein granted to the Grantee, is especially reserved, and if the Grantee should ever permanently abandon the use of said right of way for the purposes herein contracted, it shall revert to the Grantor, their heirs or assigns.

It is also agreed and understood by both parties that the said ground will be returned to its natural look after line is installed. Any future repairs requiring earth moving will result in a return to present state after repairs are made. This would include repairs to blacktop or concrete whichever may be the case.

IN WITNESS HEREOF we hereto set our hands and affix our seals this _____ day of _____ 19, ____.

ACKNOWLEDGMENT

State of _____
County of _____

BE IT REMEMBERED that on this day came before me the undersigned, a Notary Public, within and for the county and state aforesaid, duly commissioned, and acting, _____, to me well known as the Grantor in the foregoing permit and acknowledged that they had executed the same for the consideration, uses and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public this _____ day of _____, 19 _____.

Notary Public

My Commission Expires: _____

STANDARD SPECIFICATIONS AND DETAILS

Introduction:

These material and construction specifications, and standard details of construction, are intended to describe the minimum quality of materials and construction acceptable for the extension of the water distribution system or the sewage collection system operated by City Corporation, the Russellville, Arkansas, Water and Sewer System.

The approval of proposed plans for water distribution main extensions, or sewage collection main extensions, shall be with the explicit understanding that the extensions are designed and constructed in accordance with these Standard Specifications and Details, unless City Corporation has given specific written approval for a departure from these standards for the particular extension to be constructed.

Summary:

The following summary is intended as a brief condensation of the City Corporation STANDARD SPECIFICATIONS AND DETAILS, for the convenience of those individuals planning to construct extensions to the water distribution main system or the sewage collection main system of Russellville, AR. It is not intended to substitute or replace the full text of the STANDARD SPECIFICATIONS AND DETAILS, which follows this summary.

Water Main Extensions - Materials

2" and 3" Pipe	PVC, Class 200 psi, SDR 21, Gasketed Joints
6" - 12" Pipe	PVC, Class 150 psi, AWWA C900, Gasketed Joints, Ductile Iron, Class 50, Push-on Joints
14" and Larger Pipe	Ductile Iron, Class 50, Push-on Joints
3/4" & 1" Water Service Line	Type "K" Copper
2" Valves	Screw Thread Brass Body "Tee" Head, Open CCW
6" - 10" Valves	Resilient Seat MJ End Gate Valves with 2" Square Operating nut, Open CCW
12" and Larger Valves	Butterfly Valves with MJ Ends, 2" Square Operating Nut, Open CCW

Fire Hydrants

4-1/2" Barrel "3-way" AWWA Standard Hydrants with 6" MJ Shoe, Painted Yellow, Open CCW, set with 6" "Anchor" Tee

Water Main Extensions - Procedures

30 " minimum cover over all water distribution mains.

All valves must have standard valve boxes.

Fire hydrants on curb and gutter streets require concrete pad around hydrant barrel and isolation valve box.

PVC pipe must be installed with copper tracer wire.

All water main installations shall be pressure tested, 150 psi minimum.

Contractors are not permitted to make connections to existing water lines, only City Corporation personnel may make connections or operate valves.

Completed and sterilized mains shall be flushed and sampled by City Corporation personnel. No service connections permitted or meters set until water samples are certified bacteriologically pure by the Arkansas State Department of Health.

Sewer Main Extensions - Materials

4" Service Line Pipe	SDR 26 PVC with Gasket Joints, or Schedule 40 PVC with Solvent Welded Joints
6" and Larger Sewer Main	SDR 26 PVC with Gasket Joints Class 50 Ductile Iron where specified
Manholes	Monolithically Poured Concrete Precast Reinforced Concrete
Manhole Covers	Cast Iron Traffic type, 260 lb Minimum Weight for Frame and Cover

Sewer Main Extensions - Procedures

All PVC pipe laid in full bed of gravel.

Sewer mains with less than 2'-0" of cover shall be ductile iron.

All sewer main pipe shall be laid with construction laser, on constant grade and straight alignment.

All sewer mains shall be air tested prior to acceptance.

SEWER STOPPAGES PROCEDURE

A procedure for making problem tickets to check sewer mains or customer sewer lines when the customer calls in for stoppages or other sewer related problems.

1. Obtain the name, address, and phone # for the customer with the sewer stoppage. Verify account and update as necessary. Look at notes on the account and ticket history to determine if stoppage is a reoccurring problem. This will aid you in determining if this customer needs to call a plumber or you need to place an order to check our mains for stoppages. If a reoccurring problem exists here, contact the NOC manager and discuss situation. NOC manager will advised you on how to proceed with ticket.
2. Ask the customer if stoppage is occurring in house and/or overflowing in house. If so ask the customer if they know where their clean out is. If the customer is able to take the cap off the clean out then stoppage will not overflow into house and it will make their cleanup easier.
3. Ask the customer if they have already contacted a plumber or been advised by a plumber to contact City Corp to check our sewer mains. It is common for Roto Rooter to advise customer to ask City Corp to camera their customer lines (in which we cannot do) when they cannot locate problem or clear stoppage. The customer responsibility is from the house to the main (for stoppages caused by a build up of grease, roots, trash, paper towels, etc).
4. Make a problem ticket to check City Corp mains for stoppage by selecting option 10 (S/O) next to the address and pressing F6 to create order. Select 6 (problem ticket) and press enter. Work center and work crew will be 450/450 for stoppages. Requested by must be enter by whom is calling in the stoppage and verify phone number to contact customer about results and press enter. Type stoppage on the find line on the next screen and select transaction # 52316 (sewer stoppage – main line) and press enter. Add notes as to what was discussed with customer and a phone number to contact or if customer will be home etc then press enter and schedule for the current days date and press enter. Print the order by selecting 6 (print) next to the order and choosing printer PRT04.

SEWER RATE ADJUSTMENT PROCEDURE

During the months of January, February, and March of every year, City Corporation readjusts the sewer rates for residential customers according to the average water usage during those 3 months. The new sewer rate goes into effect on the April invoice for the residential customers. The rate structure for sewer charges is set by Russellville city ordinance (see attached). If a residential customer had/has a water leak that did not flow into their sewer lines during the first 3 months of the year, their sewer rate will be set at that average effected by the leak. City Corporation can readjust the sewer rates if the residential customer effected will provide us with proof of leak and repair.

1. Ask customer to provide us a copy of plumbers receipt or if they fixed leak their selves, a receipt for parts to fix leak. We **CAN NOT** readjust sewer without a copy of the plumbers receipt or parts receipt. If the current month is before March, file the copy of the plumbers receipt in the current year's sewer adjustment folder with the customers name, address, and account number written on the receipt (this will be need by the Administrative Office to adjust sewer) and add notes (option 7) to the customer master (name) as to what was done.
2. If the current month is after March, the Business Office will take care of the readjustment. Verify on the customers account that usage was abnormal during Jan., Feb., and Mar. Look up the customers account (option 1 customer master information from the front office menu) ((type name on the find line and take option 9 (meters) on the profile (account address) take option 5 (display readings) and verify usage)). Look up the previous and current sewer rate. Current sewer rate can be found by looking at the transactions (option 15) on the profile (address). Previous sewer rate can be found by looking at invoice ((option 14 on profile then option 8 (detail) on the invoice) before April of the same year.
3. Readjust current sewer rate to previous year sewer rate. Choose transaction (option 15) on profile (address) tab down to sewer transaction and change (option 2) sewer to previous year amount. Add notes (option 7) on customer master (name) about changing sewer rate from current sewer amount to last year sewer amount. File plumber's receipt in the sewer adjustment folder for the correct year. If customer does not have previous year history to readjust sewer, see Business Office Supervisor for adjustment procedure.

COMMERCIAL SEWER RATE ADJUSTMENT PROCEDURE

Commercial sewer rates are not prorated for the average usage. The sewer rates are a direct result of the water usage used during the billing period. If a commercial customer has a leak during a billing period that did not flow into the sewer, an adjustment can be made on the sewer charges if the commercial customer will provide us with proof of leak and repair. A sewer adjustment can also be issued if a commercial customer fills a swimming pool. Proof of the dimensions of the swimming pool will need to be provided by the commercial customer to accurately measure the amount of water the pool contains.

1. Ask customer to provide us a copy of plumbers receipt or if they fixed leak their selves, a receipt for parts to fix leak. We **CAN NOT** readjust sewer without a copy of the plumbers receipt or parts receipt. We **CAN NOT** issue credit for leaks that flowed into the sewer. After obtaining the receipt you may issue the credit and file a copy of the receipt in the sewer adjustment folder for the correct year. Place notes on the customer master as to what occurred.
2. Figure a 12 month average water usage for the commercial customer by reviewing the meter usage. This will be used to give credit toward the sewer rate. You will also need to know the current sewer charged on the invoice you are giving credit toward. Subtract the average usage from the sewer charged (This will be the amount of credit you will issue).
3. Create a problem ticket for the address you want to issue the credit. On the credit invoice field you will need to press F4 for the drop down menu and select the invoice you are giving credit toward. The transaction you will choose is 52339 (ADJ SEWER RATE-OUTSIDE WTR USE) then take an option 2 to change the charge override amount to the credit you want to issue. You will need to place the dollar amount in the field without decimals and then a minus sign (field -) to issue credit on that invoice. Finish the ticket out by pressing enter and adding notes as to why you are giving the credit toward the sewer rate. Schedule the ticket for yourself and release the order to issue the credit.

DOVER MONTHLY SEWER REPORT PROCEDURE

1. Locate the "Dover Sewer Accts" folder. You can access this by choosing "My Computer" from your start menu or desktop, then under network drives choose "public on 'Ccrnws1' (P:)", next choose the "PC300" folder, finally choose the "Dover Sewer Accts" folder.
2. Choose the current year's excel file and locate the current month's tab and print the sheet by choosing file and print at the top of the page.
3. You will then look up the water usages and meter readings in the AS/400. Choose customer master information (option 1) then flop to work with service location information (F11). Enter the address on the find line and select readings (option 16) next to address. Write the reading and usage on the sheet for later use. Also, note the date the meter was read at the top of the sheet for later use. Complete for all addresses.
4. If any corrections need to be made with the customer name changing, meter being replaced, or account number changing, etc., note this on the sheet for later use.
5. Go back into the excel file and enter meter reading date in cell "A2" using the 2 digit month, 2 digit day, and 4 digit year format with slashes (/) in between. Example: 01/01/2010. The field "Date Read" will now be occupied by the date you entered in cell "A2".
6. Now enter the meter readings in row "G" next to the correct meter number and update all incorrect information for that address if applicable. The "Cons." field in row "I" should now recalculate the correct usage automatically. Check with your records written on the sheet to make sure these updated correctly.
7. After all the information has been updated and meter readings have been entered in you can print and save the excel file to the current year's spreadsheet. Print by selecting "file" and "print" at the top of the page and save by selecting "file" and "save as" and making sure the file name is correct, then select the "save" button from the window that popped up.
8. Take the updated and printed "Dover Monthly Sewer Report" to the fax machine and fax this to Dover Water fax # 331-3388.

NEW CUSTOMER MASTER SETUP

1. From front office menu choose option 1 (customer master information). Type customer name on find line and press enter. Check for name matches if no matches, then press F6 to add new customer. If name match verify social and if it matches update that customer master instead of making a new customer master.
2. After pressing F6 tab down to Soc. Sec. or Tax Id Number field and fill in social (residential accounts) or tax I.D. (commercial accounts). The first set is for the primary account holder the second set is for spouse or roommate. Tab down to Scan drivers license and swipe the magnetic strip to check for matches. If magnetic strip does not work or its an out of state I.D. without a magnetic strip you will need to tab back to the top and fill out the rest of the information (customer/business name, drivers license #, D.O.B.) required to set up account. Press enter when finished to scan for matches. (Note: last name goes first followed by first name then middle name or initial and finally the Sr., Jr., II, III, etc.)
3. The next screen will show you any matches to the information you have entered. Check all the matches with option 5 for 700 (bad debt) F/C (financial class) code and make sure the new customer you are setting up does not owe us any bad debt. If you found a match then select the match with option 1 and update that account instead of creating a new account and collect any debt owing. If no matches were found press enter for information review, then press enter again to proceed with account set up.
4. Financial class is set to default for new customers unless there is reason to change this. You can select a drop down menu by pressing F4 wherever you see a plus (+) sign next to an entry field.
5. Account type will usually be residential (1) or commercial (2). Again a drop down menu is provided, press F4 for menu to select correct account type. (Note: you will need to ask the customer questions if you are unsure of the account type. i.e. will you be living here, will you be running a business from this address, etc.) If this is a commercial account you will also need for the customer to fill out a nonresidential application before a connect order can be competed.
6. The customer name and sort sequence should already be filled out from the information you have already entered. Make sure the sort sequence matches the customer name.
7. Owner name must be filled in if this is a commercial account. If this is an Inc. or there are several owners, list at least one of the owners names in this field.
8. There are 3 address lines. For normal address you will type the address starting on line 3. Line 2 is for C/O (in care of). Line 1 is for additional info usually only used for commercial accounts. Fill out the City, State, and Zip. For Russellville addresses only you may type the zip code (72801) on the first line and after pressing enter this will update with the correct zip+4. If you are having trouble finding a zip code, tab over to the zip code line and press F4 for the drop down menu and enter the city on the find line. This will help you determine the correct zip code.
9. The social, D.O.B, and drivers license field should have already been entered. Verify to make sure they are correct. You will also need to add a phone number in the phone number field. This can be a home phone or cell phone. (Note: add the area code first to all phone numbers, local and out of town.) If there is and extension number you

- may also enter this in after the phone number field. If the customer has a fax number you can enter this in also. Press enter to move to the next data entry screen.
10. Own/Rent field is next. Again a drop down menu is provided. (O) for own (R) for rent. If this is a rent property type in the landlord name in the field provided.
 11. Next are how many persons in total live in the household. This is used to set the sewer rate outside of the proration period (Jan., Feb., Mar.)
 12. Terms code should always be N20 (Net 20) unless the customer is disabled and they only receive a check once a month. This is used to extend the due date 10 more days so they get paid before their bill is due. This will not be changed on a new customer set up because the due dates of the bills vary.
 13. Sales tax exempt ID is for sales tax exempt businesses and can only be entered after they supply us with a copy of their sales tax exempt ID form. Number of copies is for multiple invoices, special invoice print code is for sorting, job/PO/password required is for exceptions when more security is required on a customer account. You can select (Y) or (N) and add notes to the account if the customer requires a password to access their account.
 14. Next is employer information (i.e. unemployed, SSI, disability, retired, self employed) or any other company name and phone number. Enter the area code in first and if they have an extension enter this after the phone number. Press enter to move on to the next data entry screen.
 15. Spouse/Roommate info is next, if you entered a social during the initial set up on the secondary social line then this will already be entered in now. You will need to fill out the marital status and relationship to the primary, again there is a drop down menu here for selection. Fill out the name in the name field, last name first unless they have a large last name that is the same as the primary last name, then you may only put the first name here. Enter the social if not already here and the D.O.B. their employer information and the phone number or a cell phone number for the secondary with area code first then extension number if applicable last.
 16. Finally nearest relative information is required. Ask the customer for a nearest friend or preferably relative that does not live in the household. Must at least have a name and phone number. Fill out as much info as you can. If they don't know the street address maybe they know the city and state their relative lives in. The last field is for the relationship to the primary account holder, again a drop down menu is provided. The relative information is mainly used for debt collection purposes but you need to explain to the customer that this is for an emergency contact in case we cannot reach them by any other means. This is required to set up an account. Press enter when complete and this will bring you to the next data entry screen.
 17. This next screen is for direct deposit information. If the customer chooses to set up their account on direct deposit there is a form to fill out and a voided check is needed to set this up. They can also set this up online and no voided check is needed. If the customer chooses to set up bank draft, place completed form with voided check attached in the administrative depts. box for bank drafts. The administrative dept. will set this up in the AS/400. Pressing enter from the bank draft screen will bring you back to the customer master account where you can now create the connect order.

CONNECT ORDER

1. Choose option 32 (service location) to check address before connecting. Type address on find line and choose option 10 (work with S/O) to check for service orders for no-billers or disconnects etc. You are looking for potential problems associated with address. Choose option 7 (notes pad) next to address to check for any notes associated with the address. Choose option 8 (transactions) next to address so you will know what transactions you will be connecting the customer to. Verify that the revenue & tax codes are correct (i.e. commercial, residential, inside city, outside city). Make sure the address is not on hold for any reasons, this would make it impossible for a connect order to be issued until the address is taken off hold by the customer service supervisor or the administrative department. If there are no holds or problems with the address proceed with making connect order.
2. Note: if you are connecting to an existing customer master, make sure you have updated the entire account and verified that the person you are speaking with has access to the account. You will need to verify with a state issued picture I.D. and social security number. You will also need to obtain a lease/rental agreement if the address is owned you will need to obtain acceptance or title papers showing the customer is purchasing the address in question. If you are setting up a new customer master, see the SOP on how to set up a new customer in the AS/400. Due to "The Red Flag Rule" you will need to stay diligent on asking for verification and making sure accounts are up to date. If you have any questions or problems updating or feel as if someone is not being honest with the information they are providing, you will need to notify your supervisor before moving forward in creating or updating the account.
3. From front office menu choose option 1 (customer master information). Type customer name on find line and press enter. Choose option 10 (S/O) next to name and press enter. Press F6 and choose selection 3 (connect) then press F4 on service location line to bring up the service location window and enter address to connect and press enter, finally choose option 1 next to address and press enter. Verify address and order option and press enter again to create connect order.
4. This next screen is a verification screen. Make sure the number of people in household, bank draft code, terms code, tax district/revenue code, and e-mail billing code are correct. Make modifications here if needed and press enter.
5. Next verify info at top of screen is correct and verify phone #, then schedule ticket for work center 300 (business office) and work crew 521 (service truck). The line for job, PO, or password is for added customer security. If a password is required you will have to go back to the customer's notes on their master and verify the password with the customer before typing this password on this line to proceed with order. Type in customer's name that is requesting the connect order. Note: this can only be connected for the primary or secondary on the account or in the case of property management or realty company type in whom you are speaking with. Do not just type in Mr. or Mrs.
6. The bottom of this screen will tell you if this is currently connected in a different customer's name, if so you can schedule the connect order when the customer chooses and a disconnect order will generate on the day the connect order is worked for customer moving out. If there is already a disconnect date you will need to schedule the connect order for the same date and time as the disconnect order. Either way you

will type IN/OUT notes on this order to make the ticket an in & out order (this means someone is moving in and someone is moving out and we will not be turning the water on here because the water should already be on). Press enter to move to the next screen.

7. This screen will tell you the transactions connecting on this address. The deposit can be increased by taking a option 2 (change) next to the transaction with the deposit and typing the new deposit figure in dollar amount without decimal in the deposit amount line and pressing enter. Note: the deposit cannot be decreased, only increased according to the customer credit history. You can also wipe out this amount if this is a financial class that a security deposit is not required on (i.e. property mgmt, VIP, realtor, preferred contractor, etc.) The sewer transaction can also be changed at this screen. This would only apply to new construction or rental property. You may choose option 2 (change) next to the sewer transaction and change this to the current rate for new construction or rental property. The meter connection fee can also be changed at this screen. This would need to be changed for no-billers. Choose option 2 (change) next to the connection fee and change the charge override amount to \$10.00. You can also double the \$7.50 fee for repeat trips if the order has not been released. When you are finished press enter to move to the next screen.
8. Here you can take a payment with cash or check for the deposit amount only. Note: if the amount you want to apply to the account is more than just the regular deposit in cases of non-pay or no-billers you will need to apply the payment through the payment option screen. If this is just a regular connect order with just a deposit amount owing you can enter in the deposit amount and the check # or if paying by cash enter *cash and type your notes about the connect order or press enter for the receipt to print.
9. Next you will schedule the connect order for when the customer wants to meet us for water service. If the customer cannot meet us they can opt to give us a verbal release of liability to turn the water on without them home. (this option can cause house floods if faucets are not in the off position or they have water leaks) In cases of IN/OUT orders the water would already be on and you may just type IN/OUT on the notes. To access the notepad from here press F7 and type in notes for connect order. Choose the date and time frame when the customer can meet you or would like for the order to be worked. Note: IN/OUT orders should be placed with the already scheduled disconnect date if applicable. After entering date on the Pos to Date line choose the correct time frame with the number 1 next to the date/time and press enter.
10. The connect order should now be created. If you need to change this order select option 2 (change) next to the ticket number and repeat steps. If the order is for the same date print this order by choosing option 6 (print) next to the correct ticket #. If for some reason you need to cancel this order choose option 4 (cancel) next to the correct ticket #. Press enter from the service order screen and refresh (F5) and address and account number should show up under the customer name.
11. Choose option 7 (notepad) on the customer name and type notes about the lease agreement. Example (How many persons are living at address, whom the address is leased from, what are the lease terms (to and from dates of lease), any other information from the lease that may be needed to cross reference at a later date)

12. If customer has brought in a letter of credit you will need to place notes on the customer name about the letter of credit and e-mail the administration department to credit the deposit. Notes will need to be applied to the account for previous good credit history with City Corp., when you are waiving a deposit also. E-mail the administrative department to waive deposit. Note on the e-mail if this is an initial deposit or an additional deposit. You can also check the WUDB (water user data base) for a previous utility request if the customer has notified you that they are moving from a water system in the state of Arkansas. Note: before a connect order is placed the customer will have to pay the deposit or provide City Corp. with a letter of credit. City Corporation does not advertise that a deposit can be waived if the customer furnishes us with a letter of credit.

DISCONNECT ORDER

1. From front office menu choose option 1 (customer master information) and tab to the find line and enter the customer name that is requesting a disconnect order. If you are unable to locate the customer name you may need to look up the address and verify the name on the account. Verify the last 4 digits of the social security number on the account and verify the address the customer is requesting to disconnect. The disconnect order may only be requested by persons with access to the account. Choose option 10 (S/O) next to address to enter the service order selection screen.
2. Press F6 to add order. You should select 4 (disconnect) next to selection and the address should already show up in the service location field. Press enter to create disconnect order and verify the forwarding phone number from the customer. Update this phone number here if needed. Select work center (300) and work crew (521) and enter a job, PO, or password if needed. You will have to check notes if a password is active on account and verify password is correct with the customer. Type password into this field and fill in the requested by with the persons name requesting the disconnect order. If you wish to have the meter pulled you can change the (N) to a (Y) in the remove meter from service field. If another customer is connecting to this address this will show at the bottom of the screen in red notifying you to schedule the disconnect order on the same date and time as the connect order to make this an IN/OUT order. Press enter to proceed to next screen.
3. This is the transaction screen that you are disconnecting. There should not be a need to change any of the transactions here. This is just to verify what transactions you are disconnecting. Press enter to proceed to next screen.
4. You will need to ask the customer for a forwarding address. Change the current address on this screen to the forwarding address furnished by the customer. This will update the customer master when the disconnect order is released. If additional notes are needed you may type them in here on the notes lines. Unless this is something out of the ordinary, notes are not required on disconnect orders. Press enter to proceed.
5. Place a date in the pos to date field for when the customer is requesting the disconnect order and choose an open time slot by selecting the number (1) by the correct time. Ask the customer if they prefer this to be shut-off in the AM or PM or if it matters at all. If they request a specific time slot you should also add a note to the order by pressing F7 and typing in "cust. request PM or AM only". Note: orders can only be scheduled out 30 days or less. Press enter and the order is complete. If the order is to be worked in the same day make sure you print the order by selecting option 6 (print) next to the correct order and printing to the output printer (prt04) which is the NOC (network operations center) printer.

GRINDER PUMP PROCESS

1) CUSTOMER APPLIES FOR PERMIT

At this time, a connect order should also be generated. The need for a grinder pump (if not predetermined and reported to the Business Office) should be immediately reported back to the Business Office Manager upon this determination being made. Any changes necessary to the connect order will then be made by the Business Office. This includes adding the necessary transactions to the service address. The customer is contacted by the Business Office to be sure they have been notified of the need for this equipment. The customer should be made aware of the costs related to this (initial cost of the grinder pump and the monthly charge). The time and material ticket that is generated for sewer should have notes added stating the customer should be billed for the cost of the grinder pump on this ticket.

2) The grinder pump is ordered by the Construction Supervisor upon receipt of the permit order. If permit is printed to NOC, be sure that another copy of the permit is printed to the construction printer (CONPRT01).

3) Customer is billed for the cost of the grinder pump as soon as the pump is received. Customer should be notified of this fact at the time they have applied for service. The direct bill form for billing the customer (along with the time and material ticket) should be attached to the invoice when the invoice is submitted to the Administrative Dept. for payment. The construction supervisor will assign a unique serial number to identify the grinder pump. Before assigning this number, they will check with the Administrative Office to determine the number that is to be assigned. The construction supervisor will mark the grinder pump with this number and note the number assigned on the customer service order tickets.

4) The Permit/Connect Order should be closed at the time this pump is picked up. This will begin billing of the sewer and grinder pump transactions on the next customer invoice. The customer should be notified of this at the initial contact. This Permit/Connect Order should be turned into Administrative Department by the Construction Supervisor as soon as the pump is picked up (unless the paperwork has already been turned in with the grinder pump vendor's invoice) for the process to be completed.

RULES AND REGULATIONS GOVERNING THE RENDERING OF SEWER SERVICE

SECTION 1 Definitions

1.1 Utility: Shall mean City Corporation, acting through its properly authorized officers, agents or employees, each acting within the scope of the particular duties entrusted to him.

1.2 Customer: Shall be the party contracting for a supply of water through a single meter and service through each meter shall be considered, for billing purposes, as service to a separate customer.

1.2.1. Residential Customer:

A building under one roof, which is owned, leased or rented by one family and occupied as a residence.

Each family unit of a townhouse or apartment type building, which is individually owned or leased to tenants.

1.2.2. Commercial Customer:

A building under one roof containing two or more apartments or family units, which are rented or leased to tenants.

Any building occupied by a retail or service business.

Any building containing any combination of the above two items.

Any building or combination of buildings in the same compound whose primary use is for the manufacture, fabrication and or assembly of any product.

A publicly owned building such as a school, city hall, court house, fire house, hospital or other public institution.

A system which is city-owned and operated or a system which is operated or owned by a district or community.

The purpose of the foregoing definitions is to preserve to the maximum extent possible, the obligations of the Utility to furnish service, and to preserve the jurisdiction of City Corporation Board of Directors over service being furnished by the utility, and shall be construed and applied to accomplish that purpose

Section 2 Application for Installation of New Service

2.1 Service connection will be made and sewer service will be furnished upon application by the prospective customer (or his properly authorized agent) and after approval of such application by the Utility. The application for service shall state clearly the class, scope and type of use to be made of the service, as well as the purpose for which it will be used.

2.2 The application and these rules and regulations constitute the contract between the customer and the Utility and each customer, by the accepting of sewer service agrees to be bound thereby.

- 2.3 A new application must be made to and approved by the Utility upon any change in the identity of the contracting customer at a property or in the service as described in the application. The Utility may discontinue the sewer service until such new application has been made and approved.
- 2.4 Each application for service shall be made on the basis of rates applicable to customers under the existing ordinances.

Section 3 Service Connection

- 3.1 Each building shall be connected through a separate sewer line,
- 3.2 There shall be two (2) classes of building sewer permits: (a) for residential and commercial service, and (b) for service to establishments producing industrial wastes. In either case, the owner or his agent shall make application to the Utility. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgement of the Utility. A permit and inspection fee of \$150.00 dollars for a residential or commercial building sewer permit and \$500.00 dollars for an industrial building sewer permit shall be paid to the Utility at the time the application is filed.
- 3.3 All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the Utility from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.
- 3.4 Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Utility, to meet all requirements of this ordinance.
- 3.5 All sewer connections must meet specifications set forth in City Ordinance No. 1075.
- 3.6 All service lines from the sewer main to the customer's building shall be approved by the Utility as to size, kind of pipe and installation, and shall be installed and kept in good repair by the customer at his expense.
- 3.7 The Utility shall in no event be responsible for maintenance of or damage caused by sewer escaping from the service line or any other pipe or fixture. The customer at all times shall comply with state and municipal regulations in reference thereto and shall make any changes thereon which may be required because of change of grade, relocation of mains or otherwise.
- 3.8 The property owner will be responsible for the cleanout of any stoppage of the sewer service line from the sewer main to the dwelling or other types of structures
- 3.9 The use of sewer service by a customer shall be in accordance with the class, scope, and type of use and for the purpose stated in his application and service contract. A customer shall not use or allow use of sewer service through his service facilities for others or for purposes other than those covered by his application. To make service available for other purposes or character of use a new application and contract is required.

Section 4 Bills

- 4.1 Each customer is subject to a minimum charge, the amount of which is set forth in the Schedule of Rates.
- 4.2 Bills for sewer service will be rendered and are due and payable as specified on the Schedule of Rates.
- 4.3 The presentation or non-presentation of a bill shall not be held to be a waiver of any of the rules or regulations.

Section 5 Discontinuance of Services

- 5.1 Whenever the customer desires to have his service contract terminated or his sewer service discontinued, he shall notify the Utility to that affect.
- 5.2 Service to any customer may be discontinued for violation of any of these rules and regulations. However, before service may be discontinued for any violation, the Utility shall give at least five (5) days written notice to the customer, stating the rule violated, the manner of violation, and the date after which service will be discontinued if the violation continues, with exception to disconnect due to invalid checks or obtaining service by fraudulent means. After service is thus discontinued for violation of rules and regulations, service will not be resumed until reasonable assurance is given that the customer will comply with the rules and regulations and until the Utility is reimbursed for costs of discontinuance and restoration of service.

Section 6 Customer Deposits

- 6.1 The Utility has the right to require a deposit of \$50.00 for those residential customers with sewer service only. The Utility will refund said deposit on notice to disconnect service and after payment in full has been made for all service rendered.
- 6.2 The payment of any undisputed bill within the meaning of these rules shall be payment of the bill within twenty (20) days following presentation of the bill, or the payment of any contested bill, payment of which is withheld beyond the period herein mentioned and the dispute is terminated substantially in favor of the customer and payment made by the customer within ten (10) days thereafter.

Section 7 Customer Service Charges

- 7.1 The Utility will require a service fee of \$_____ to be charged an applicant for service or an existing customer who is requesting service at a new location.
- 7.2 The Utility will assess the customer a \$_____ charge upon receipt of an invalid check other than in case of a bank error.
- 7.3 The Utility will charge a \$_____ collection fee when a trip to the customer's premises is required to collect for service.

Section 8 Miscellaneous

- 8.1 The Utility will not be liable for any claim or damage arising from the breaking of machinery or other facilities, or for any other cause.**
- 8.2 No agent or employee of the Utility shall have the right or authority to bind it by any promise, agreement or representation contrary to the letter or intent of these rules and regulations.**
- 8.3 The Utility reserves the right to alter or amend these rules and regulations in the manner provided by law.**

SEWER STOPPAGE/OVERFLOW QUESTIONS for Customer Service Representatives

1. Is the sewer backing up into the home, or just "slow" to drain?
2. Is this happening in all drains (toilets, baths) or just one?
3. Will the customer of record be the address in question?
4. What is phone or cell number that the customer can be reached on?
5. Has a plumber been contacted?
6. Is a plumber on site at this time?
7. If an overflow is reported to be running down the street, ask for the closest house number or street name (report to NOC).
8. If customer reports home flooding due to sewer backup:
 - a. Do not offer to provide clean-up services.
 - b. Create service order for NOC to dispatch a construction crew to check mains and manholes in the service area.
 - c. Ask the customer if their service line clean-out cap has been removed (if this advise is given, be sure to let customer know to open cap with caution as sewer will be under pressure and likely to spray from opening; also that the cap will have to be replaced once overflow stops).
 - d. Have customer call a plumber to check their service line.
 - e. Inform customer of their need to contact their homeowner's insurance agent to determine coverage and/or liability, and to ask agent what actions to take.
 - f. For after-hours callout, inform customer that the NOC/Safety Director will contact them during regular business office hours.

City Corporation "B" Report Procedures

Purpose - the "B" Report is used as an enforcement tool to ensure that privately owned plumbing, both water and sewer is maintained to required standards in order to protect the health, safety, and the environment for City Corporation Customers. The *Arkansas Plumbing Code* is used as the standard reference; more stringent local ordinance and codes may also be cited for references.

Scope – this procedure shall be applicable to water and/or sewer customers in the City Corporation service area. A licensed City Corporation plumbing inspector will make final determination of compliance with the required standards. Failure to meet the "B" Report requirements will result in termination of service.

Procedures:

1. Business Office is notified of possible plumbing code violation:
 - a) Business Office will create a service order for a "B" Report inspection.
 - b) Network Operations Center (NOC) will dispatch a licensed plumbing inspector to the address. Assignment of service orders will be rotated among all City Corporation licensed plumbing inspectors.
 - c) Plumbing Inspector will conduct inspection at reported address. Results will be hand written on blank "B" Report form and turned into NOC.
 - d) If no violation is found, the service order is closed with notes on the address. No "B" Report is filed. No further action is required.

2. Plumbing Inspector identifies a violation:
 - a) Plumbing Inspector will leave a door hanger with violation notice and required corrective actions.
 - b) Plumbing Inspector will meet with Safety Coordinator to discuss violation. Safety Coordinator may contact others for input. Utility officials and/or Arkansas Department of Health (ADH) officials shall be notified.
 - c) NOC will reschedule the original "B" Report inspection service order to a date coinciding with the required repair date written on the "B" Report by the Inspector/Coordinator.
 - d) Safety Coordinator will draft correspondence to accompany the original "B" Report to the customer stating the required actions and completion due date. Correspondence will be sent by certified mail.
 - e) NOC will dispatch plumbing inspector (preferably the inspector sent on the initial service order) to determine if required repairs were made by due date.

Procedures: (cont.)

- f) Plumbing inspector will conduct follow-up inspection. Results will be hand written on blank "B" Report form and turned into NOC.

3. Required actions and dates:

- a) If the follow-up inspection reveals that the customer has made repairs by the due date, the service order is closed, notes are entered on the service address, and no further action is required.
- b) If the customer fails to complete repairs in the required time:
 - o Plumbing Inspector will notify NOC and pull the water meter. The meter will be stored separately from regular inventory meters in the meter maintenance shop.
 - o NOC will add notes to disconnect order requesting the Administration Department to place service address on hold until required actions completed.
 - o NOC dispatches service order to disconnect water and/or sewer service at the customer's address. Safety Coordinator is notified upon completion.
- c) All printed correspondence will be maintained in a file cabinet located in the Business Office. Electronic files will be saved in the "Sewer B Reports" folder located in the "PC300" folder, inside the "Public" folder on the network.
- d) At the General Manager's discretion, certain violations discovered on a "B" Report inspection will be forwarded directly to the local State Plumbing Inspector for compliance actions.

CITY CORPORATION "B" REPORT

WATER _____ **SEWER** _____

Report Number: _____

Date: _____

Service Location: _____

Customer Name: _____

Mailing Address: _____

Notice: *The plumbing installation at this service location has violations of the Arkansas State Plumbing Code and/or City Corporation regulations as listed below. You are directed to change this installation to meet these requirements within _____ days. Failure to comply will result in charges against plumber's license, legal action, and disconnection of water service. If there are any questions, contact City Corporation immediately @ 479-968-2105, extension 117.*

Code Violation & Description:

Action to be taken:

Inspector: _____

License Number: _____ **Signature:** _____

CITY CORPORATION "B" REPORT

.....example.....

WATER _____ SEWER _____

Report Number: YY-## (consecutive)

Date: (use inspection date)

Service Location: _____

Customer Name: _____

Mailing Address: _____

Notice: The plumbing installation at this service location has violations of the Arkansas State Plumbing Code and/or City Corporation regulations as listed below. You are directed to change this installation to meet these requirements within (0-30) days. Failure to comply will result in charges against plumber's license, legal action, and disconnection of water service. If there are any questions, contact City Corporation immediately @ 479-968-2105, extension 117.

Code Violation & Description:

Action to be taken:

Inspector: _____

License Number: _____ Signature: _____

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

.....*example letter*.....

October 7, 2008

John Doe
1234 N Arkansas Ave
Russellville, AR 72802

Mr. Doe:

Please find the enclosed City Corporation "B" Report, No. 08-##. This report is used to notify the property owner of violations with the Arkansas State Plumbing Code or City Corporation plumbing regulations.

On September 24, 2008, violation found at service location, as a result of some problem or act of nature. This is a violation of Arkansas State Plumbing Code No. ###, and deemed a hazard to human health and the local environment.

You are hereby notified of the requirement to list corrective action, so that your service line is fully operational no later than ## days from the date of this report. A City Corporation plumbing inspector must conduct a follow-up inspection at this address to determine compliance with the requirements of this "B" Report.

If you are not the property owner, it is your responsibility to notify the owner of the required repairs. You must notify this office upon completion of required actions so that a follow-up inspection can be scheduled. If you have any questions, call me at 968-2105.

Respectfully,

Ricky, Harry, Jeremy, or Jim
Plumbing Inspector

cc: Kenny Lutz
NOC
Bill Bolin
Inspector

3/17/2010



CITY CORPORATION -- RUSSELLVILLE

WATER RATE STUDY WASTEWATER RATE STUDY

December 2014 – FINAL

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**CITY CORPORATION -- RUSSELLVILLE
WATER RATE STUDY
WASTEWATER RATE STUDY
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Appendix A – Water and Wastewater Rate Model – Scenario 2 Conservation



Acknowledgements

During the course of this rate study, several City Corporation employees expended considerable time and effort in assisting the project team. These employees included the Mayor and Council of the City of Russellville, City Corporation's Board of Directors, Mr. Steve Mallett, Hope Penman, Taryn Childers, Kenny Lutz, and Larry Collins. The project team owes a debt of gratitude to the hard work, dedication and professionalism of these individuals, without whom this project would not have been successfully completed.

The project team has relied upon the extensive data supplied by City Corporation. Thus, the integrity of the study is largely dependent upon the accuracy of this financial and volumetric data. Every effort has been made by the project team to validate and confirm the information contained herein prior to the preparation of the final study documents. This report presents no assurance or guarantee that the forecast contained herein will be consistent with actual results or performances. These represent forecasts based on a series of assumptions about future behavior, and are not guarantees. Any changes in assumptions or actual events may result in significant revisions to the forecast and its conclusions. The cash flow projections and debt service coverage calculations are not intended to present overall financial positions, results of operations, and/or cash flows for the periods indicated, which is in conformity with guidelines for presentation of a forecast established by the American Institute of Certified Public Accountants.

Executive Summary

Executive Summary



In December 2012, City Corporation of Russellville, Arkansas (“City Corporation”) engaged **Economists.com** to conduct a water rate study and a wastewater rate study. City Corporation was interested in developing a comprehensive water and wastewater rate and general financial plan for a ten year period. The objective was to develop a long-term rate plan that will enable City Corporation to recover sufficient funds to meet operating expenses, capital outlays, debt service and coverage requirements, while at the same time to the best extent possible minimizing the impact on ratepayers.

City Corporation requested that the study be suspended for a period of time so that the Capital Improvement Plan could be revised and other City objectives could be achieved. The study was therefore put on hold for a

twelve-month period and updated with the information contained in this final version.

The City identified numerous objectives for the water and wastewater rate studies, including but not limited to the following:

- ❑ A detailed analysis and comparison of City Corporation’s current and proposed rates to the Arkansas state average as well as other surrounding communities
- ❑ A comprehensive analysis and evaluation of the water and wastewater systems’ current cost of service and revenue requirements
- ❑ An estimate of current and forecast accounts, volumes and billing units for the ten year forecast period
- ❑ A forecast of operating and capital expenses over the next decade, taking into consideration such factors as inflation, system growth, and increases in staffing levels
- ❑ An analysis of the cost of providing service to Tri-County Regional Water Distribution District under the terms of the contract for wholesale water service executed between Tri-County and City Corporation
- ❑ The development of a proposed rate structures that would recover City Corporation’s cost of service, ensure equitable, just and reasonable treatment of identified customer classes, and maintain critical financial ratios

In conjunction with City Corporation staff, the project team evaluated several alternative rate structures, which would allow it to achieve these objectives while continuing to provide ratepayers with superior quality water and wastewater services. After a series of meetings with City Corporation officials and the Board of Directors, the



**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Model Summary

Scen: 2014 12 12 -- Scen 2 -- Conservation

1 Water and Wastewater Rates

Water Rates

Monthly Minimum Charge

5/8" - 3/4"	\$ 8.69	\$ 9.30	\$ 10.14	\$ 10.44	\$ 11.28	\$ 11.62	\$ 11.97	\$ 12.69	\$ 13.07	\$ 13.46	\$ 13.86
3/4"	8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
1"	12.03	12.87	14.03	14.45	15.61	16.08	16.56	17.55	18.08	18.62	19.18
1 1/2"	22.86	24.46	26.66	27.46	29.66	30.55	31.47	33.36	34.36	35.39	36.45
2"	29.99	32.09	34.98	36.03	38.91	40.08	41.28	43.76	45.07	46.42	47.81
3"	49.20	52.64	57.38	59.10	63.83	65.74	67.71	71.77	73.92	76.14	78.42
4"	157.48	168.50	183.67	189.15	204.31	210.44	216.75	229.76	236.65	243.75	251.06
6"	194.26	207.66	225.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71

Volume Rate/1,000 Gal

Residential	City	-	2,000	1.71	1.71	1.86	1.82	2.07	2.13	2.19	2.32	2.39	2.46	2.53
		2,001	Above	1.94	2.05	2.23	2.30	2.46	2.55	2.63	2.79	2.87	2.96	3.05
Residential	Outside City	-	2,000	3.52	2.57	2.79	2.88	3.11	3.20	3.29	3.48	3.59	3.69	3.80
		2,001	Above	3.90	3.08	3.35	3.45	3.72	3.83	3.95	4.19	4.31	4.44	4.58
Commercial	City			1.78	1.90	2.07	2.13	2.30	2.37	2.44	2.59	2.67	2.75	2.83
Industrial	City			1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29	2.36
Public Authorities	City			1.99	2.13	2.32	2.39	2.58	2.65	2.74	2.90	2.99	3.08	3.17
Municipal	City			1.53	1.64	1.79	1.84	1.98	2.05	2.11	2.24	2.31	2.38	2.45
Tri County				1.7400	1.7400	1.9080	1.9627	2.0200	2.0802	2.1432	2.2094	2.2787	2.3514	2.4278

Wastewater Rates - Residential

Inside City

Base Charge		\$ 6.67	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Chg	1,001	20,000	2.59	3.17	3.88	4.80	4.95	5.32	5.48	5.81	5.98	6.16
	20,001	Above	2.20	2.70	3.31	3.82	4.21	4.53	4.67	4.81	4.95	5.10

2 Residential Monthly Bill - 5/8" Meter

5,000 W	Total	\$ 34.96	\$ 39.72	\$ 46.08	\$ 51.44	\$ 55.41	\$ 58.52	\$ 60.28	\$ 62.80	\$ 64.68	\$ 66.61	\$ 68.60
5,000 WW	Dollar Inc		4.76	6.36	5.36	3.97	3.11	1.76	2.52	1.88	1.93	1.99
	Percent Inc		13.6%	16.0%	11.8%	7.7%	5.6%	3.0%	4.2%	3.0%	3.0%	3.0%
10,000 W	Total	44.68	49.87	57.23	62.94	67.81	71.27	73.43	76.75	79.03	81.41	83.85
5,000 WW	Dollar Inc		5.31	7.28	5.71	4.87	3.46	2.16	3.32	2.28	2.36	2.44
	Percent Inc		11.9%	14.5%	10.0%	7.7%	5.1%	3.0%	4.5%	3.0%	3.0%	3.0%
20,000 W	Total	64.06	70.47	79.53	85.94	92.61	96.77	99.73	104.55	107.73	111.01	114.35
5,000 WW	Dollar Inc		6.41	9.06	6.41	6.67	4.16	2.96	4.92	3.08	3.28	3.34
	Percent Inc		10.0%	12.9%	8.1%	7.8%	4.5%	3.1%	4.0%	2.9%	3.0%	3.0%
30,000 W	Total	83.46	90.97	101.83	108.94	117.41	122.27	126.03	132.55	136.43	140.61	144.85
5,000 WW	Dollar Inc		7.51	10.85	7.11	6.47	4.86	3.76	6.52	3.88	4.18	4.24
	Percent Inc		9.0%	11.9%	7.0%	7.8%	4.1%	3.1%	5.2%	2.9%	3.1%	3.0%
50,000 W	Total	139.72	150.42	166.50	175.84	189.33	196.22	202.30	213.46	219.66	226.45	233.30
5,000 WW	Dollar Inc		10.70	16.08	8.14	13.69	6.88	6.08	11.16	6.20	6.79	6.85
	Percent Inc		7.7%	10.7%	5.5%	7.8%	3.6%	3.1%	5.5%	2.9%	3.1%	3.0%



CITY CORPORATION -- RUSSELLVILLE											
WATER/WASTEWATER COST OF SERVICE MODEL											
	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Model Summary
Scen: 2014 12 12 -- Scen 2 -- Conservation

3 Revenues and Expenses - CASH BASIS	\$	9,890,753	\$	11,273,436	\$	12,697,839	\$	13,833,170	\$	14,732,806	\$	15,398,206	\$	15,969,290	\$	16,584,547	\$	17,119,141	\$	17,673,257
Water Fund																				
Water Rate Revenues	\$	5,510,136	\$	5,671,084	\$	5,043,965	\$	6,339,687	\$	6,688,806	\$	6,902,495	\$	7,185,626	\$	7,527,768	\$	7,769,190	\$	8,020,239
Non-Rate Revenues		308,932		612,980		631,369		550,310		699,820		889,914		710,612		731,930		753,888		776,505
Total Revenues		5,819,068		6,284,064		5,675,334		6,889,997		7,388,626		7,792,409		7,906,240		8,259,698		8,523,078		8,796,744
Operating Expenses		3,591,863		3,753,267		3,922,548		4,100,118		4,286,414		4,481,698		4,687,056		4,902,402		5,129,480		5,365,864
Debt Service -- P&I			1,395,461			1,395,461			1,395,461			2,093,191			2,093,191			2,093,191		
Debt Service -- Reserve																				
Capital Outlays		1,656,000		1,656,000		1,656,000		500,000		500,000		500,000		500,000		500,000		500,000		500,000
Total Cost of Service		5,247,863		6,804,728		6,974,008		5,995,579		6,879,606		7,075,089		7,280,247		7,495,594		7,721,671		7,959,055
Net Cash Flow Available for Contingency		671,205		(520,664)		(298,674)		894,419		479,019		617,320		625,993		764,105		801,408		837,689
Percent of COS		9.8%		-8.3%		-4.5%		14.2%		6.5%		6.8%		7.9%		9.3%		9.4%		9.5%
Debt Coverage				1.81		1.97		2.07		1.47		1.49		1.54		1.60		1.62		1.64
Wastewater Fund																				
WW Rate Revenues	\$	3,998,730	\$	4,914,229	\$	5,945,106	\$	6,763,453	\$	7,292,070	\$	7,721,222	\$	7,975,938	\$	8,235,123	\$	8,503,646	\$	8,761,323
Non-Rate Revenues		72,955		75,144		77,398		79,720		82,111		84,575		87,112		89,725		92,417		95,190
Total Revenues		4,071,685		4,989,372		6,022,504		6,843,173		7,374,181		7,805,797		8,063,050		8,324,849		8,596,064		8,876,513
Operating Expenses		2,837,482		2,955,026		3,098,766		3,239,024		3,386,142		3,540,477		3,702,409		3,872,338		4,050,685		4,237,898
Debt Service -- P&I		614,297		2,009,758		2,009,758		2,009,758		3,059,353		3,056,353		3,474,992		3,474,992		3,474,992		3,474,992
Debt Service -- Reserve		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224
Capital Outlays		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000
Total Cost of Service		3,925,003		5,448,008		5,581,748		5,722,006		6,915,719		7,070,055		7,650,625		7,820,554		7,998,901		8,186,113
Net Cash Flow Available for Contingency		146,682		(468,635)		440,757		1,121,167		458,462		735,742		412,426		504,296		597,183		690,400
Percent of COS		3.6%		-9.2%		7.3%		16.4%		6.2%		9.4%		5.1%		6.1%		6.9%		7.8%
Debt Coverage		2.01		1.01		1.45		1.79		1.30		1.40		1.25		1.28		1.31		1.33
Water/WW Net Cash Flow for Contingency		717,887		(979,300)		142,083		2,115,684		937,481		1,263,062		1,038,418		1,268,400		1,398,669		1,528,089
Debt Coverage		6.53		1.34		1.67		1.91		1.37		1.43		1.36		1.40		1.43		1.45
2013 Bond Requirement	1.50																			

**CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

CURRENT 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Model Summary

Scen: 2014 12 12 -- Scen 2 -- Conservation

4 Capital Project Funding Summary - TOTAL

Beginning Balance	\$	12,684,924	\$	37,629,232	\$	35,705,414	\$	26,620,872	\$	48,878,290	\$	39,282,356	\$	37,214,003	\$	30,946,942	\$	24,315,881	\$	17,552,198
Plus Sources of Funds:																				
Interest	2.0%	253,698	752,585	714,108	532,417	937,566	785,547	744,280	618,939	486,318	351,044									
Replacement Reserve		1,906,000	1,906,000	1,906,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000									
Long-Term Debt		40,000,000	-	-	25,000,000	-	6,000,000	-	-	-	-									
Water Impact Fees		-	-	-	-	-	-	-	-	-	-									
Total Sources		42,573,896	3,724,585	3,686,108	27,348,417	2,753,566	8,601,647	1,732,939	1,388,939	1,236,318	1,101,044									
Total 2013-2018		88,688,180																		
Less 2013		(42,573,896)																		
Net Total		46,114,323																		
Less Uses of Funds:																				
Capital Improvement Plan - TOTAL		17,620,548	5,648,403	12,770,850	7,091,000	10,349,500	10,670,000	8,000,000	8,000,000	8,000,000	8,000,000									
Ending Balance		37,629,232	35,705,414	26,620,872	48,878,290	39,282,356	37,214,003	30,946,942	24,315,881	17,552,198	10,853,242									

5 TRUCK ACCOUNTS

Water Accounts

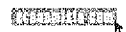
Total Accounts		12,497	12,529	12,661	12,893	12,826	12,667	12,668	12,721	12,763	12,785									
New Accounts			32	32	32	32	32	32	32	32	32									
Avg. Annual Growth Rate			0.26%	0.26%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%									

Wastewater Accounts

Total Accounts		11,100	11,132	11,164	11,196	11,228	11,260	11,292	11,324	11,356	11,388									
New Accounts			32	32	32	32	32	32	32	32	32									
Avg. Annual Growth Rate			0.29%	0.29%	0.29%	0.29%	0.28%	0.28%	0.28%	0.28%	0.28%									

6 Annual Water Consumption

W.1 Residential City		594,082,000	595,288,681	598,455,261	597,642,042	598,828,723	600,015,493	601,202,094	602,388,765	603,575,445	604,762,126									
W.2 Residential Outside City		33,622,000	33,689,255	33,756,510	33,823,766	33,891,021	33,958,276	34,025,531	34,092,786	34,160,042	34,227,297									
W.3 Commercial City		283,579,000	285,303,321	287,027,643	288,751,964	290,476,285	292,200,606	293,924,928	295,649,249	297,373,570	299,097,891									
W.4 Commercial Outside City		3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000									
W.5 Industrial City		513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000									
W.6 Industrial Outside City		81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000									
W.7 Ind. Discounts City		-	-	-	-	-	-	-	-	-	-									
W.8 Public Authorities City		98,810,000	99,278,684	99,747,328	100,215,992	100,684,656	101,153,320	101,621,984	102,090,648	102,559,312	103,027,976									
W.9 Municipal City		33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000									
W.10 Fire Protection City		242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000									
o Other City		-	-	-	-	-	-	-	-	-	-									
o Other City		-	-	-	-	-	-	-	-	-	-									
o Other City		-	-	-	-	-	-	-	-	-	-									
o Other City		-	-	-	-	-	-	-	-	-	-									
W.11 Tri County Outside City		549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000									
Total System		2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,686	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,369	2,223,043,290									



**CITY CORPORATION – RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WATER Fund Summary -- CASH Basis

Scen: 2014 12 12 -- Scen 2 -- Conservation

1 Water Rates

Monthly Minimum Charge

5/8" -- 3/4"	\$	8.69	\$	9.30	\$	10.14	\$	10.44	\$	11.28	\$	11.62	\$	11.97	\$	12.69	\$	13.07	\$	13.46	\$	13.86
3/4"		8.69		9.30		10.14		10.44		11.28		11.62		11.97		12.69		13.07		13.46		13.86
1"		12.03		12.67		14.03		14.45		15.61		16.08		16.56		17.55		18.08		18.62		19.18
1 1/2"		22.86		24.46		28.66		27.46		29.66		30.55		31.47		33.36		34.36		35.39		36.45
2"		29.99		32.09		34.98		36.03		38.91		40.08		41.28		43.76		45.07		46.42		47.81
3"		49.20		52.64		57.39		59.10		63.83		65.74		67.71		71.77		73.92		76.14		78.42
4"		157.48		168.60		183.67		189.18		204.31		210.44		216.75		229.76		236.65		243.75		251.06
6"		194.26		207.66		228.57		233.37		252.04		259.60		267.39		283.43		291.93		300.69		309.71

Volume Rate/1,000 Gal

Residential	City	-	2,000	1.71	1.71	1.88	1.92	2.07	2.13	2.19	2.32	2.39	2.46	2.53
		2,001	Above	1.94	2.05	2.23	2.30	2.46	2.55	2.63	2.79	2.87	2.96	3.05
Residential	Outside City	-	2,000	3.52	2.57	2.79	2.88	3.11	3.20	3.29	3.48	3.59	3.69	3.80
		2,001	Above	3.90	3.08	3.35	3.45	3.72	3.83	3.95	4.19	4.31	4.44	4.58
Commercial	City			1.78	1.90	2.07	2.13	2.30	2.37	2.44	2.59	2.67	2.75	2.83
Industrial	City			1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29	2.36
Public Authorities	City			1.99	2.13	2.32	2.39	2.56	2.66	2.74	2.90	2.99	3.08	3.17
Municipal	City			1.53	1.64	1.79	1.84	1.99	2.05	2.11	2.24	2.31	2.38	2.45
Tri County				1.7400	1.7400	1.9080	1.9627	2.0200	2.0802	2.1432	2.2084	2.2787	2.3514	2.4278

2 Residential Monthly Water Bill - 5000 Gallons

5,000 W	Total	\$	17.93	\$	18.87	\$	20.55	\$	21.18	\$	22.86	\$	23.53	\$	24.24	\$	25.70	\$	26.48	\$	27.26	\$	28.07
	Dollar Inc		0.94		1.68		0.83		1.68		0.67		0.71		1.46		0.76		0.80		0.81		0.81
	Percent Inc				5.2%		8.9%		3.1%		7.9%		2.9%		3.0%		6.0%		3.0%		3.0%		3.0%
10,000 W	Total		27.63		29.12		31.70		32.68		35.26		36.28		37.39		39.65		40.81		42.06		43.32
5,000 WW	Dollar Inc		1.49		2.58		0.98		2.58		1.02		1.11		2.26		1.16		1.25		1.26		1.26
	Percent Inc				5.4%		8.9%		3.1%		7.9%		2.9%		3.1%		6.0%		2.8%		3.1%		3.0%
20,000 W	Total		47.03		49.62		54.00		55.68		60.08		61.78		63.69		67.55		69.51		71.66		73.82
5,000 WW	Dollar Inc		2.59		4.38		1.88		4.38		1.72		1.91		3.88		1.96		2.15		2.16		2.16
	Percent Inc				5.5%		8.8%		3.1%		7.9%		2.9%		3.1%		6.1%		2.9%		3.1%		3.0%
30,000 W	Total		66.43		70.12		76.30		78.68		84.85		87.28		89.99		95.45		98.21		101.26		104.32
5,000 WW	Dollar Inc		3.69		6.18		2.38		6.18		2.42		2.71		5.45		2.76		3.05		3.06		3.06
	Percent Inc				5.6%		8.8%		3.1%		7.9%		2.9%		3.1%		6.1%		2.9%		3.1%		3.0%
50,000 W	Total		122.69		129.57		140.97		145.38		156.78		161.23		166.26		176.36		181.44		187.10		192.77
	Dollar Inc		6.88		11.40		4.41		11.40		4.45		5.03		10.10		5.08		5.68		5.67		5.67
	Percent Inc				5.6%		6.8%		3.1%		7.8%		2.8%		3.1%		6.1%		2.9%		3.1%		3.0%

**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WATER Fund Summary -- CASH Basis
Scen: 2014 12 12 -- Scen 2 -- Conservation

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WATER Revenues -- CASH Basis												
Water Revenues												
W.1	Residential City	\$ 2,187,308	\$ 2,358,998	\$ 2,513,538	\$ 2,647,238	\$ 2,805,698	\$ 2,894,322	\$ 3,022,971	\$ 3,170,980	\$ 3,271,703	\$ 3,375,483	
W.2	Residential Outside City	194,014	188,645	201,000	211,692	224,354	231,433	241,714	253,548	261,598	269,895	
W.3	Commercial City	788,209	753,886	808,368	852,320	907,457	940,296	988,530	1,038,941	1,077,746	1,116,128	
W.4	Commercial Outside City	14,054	13,854	14,516	15,251	16,142	16,627	17,342	18,175	18,727	19,282	
W.5	Industrial City	832,156	856,884	910,183	955,683	1,011,141	1,042,325	1,088,519	1,136,927	1,169,293	1,205,866	
W.6	Industrial Outside City	192,566	202,727	215,335	226,099	239,218	246,597	257,052	266,738	276,831	285,239	
W.7	Ind. Discounts City	-	-	-	-	-	-	-	-	-	-	
W.8	Public Authorities City	283,877	243,853	260,540	275,137	292,566	302,913	317,148	333,477	345,247	357,137	
W.9	Municipal City	53,431	56,692	60,209	63,352	67,098	69,086	72,085	75,561	77,891	80,222	
W.10	Fire Protection City	7,933	728	775	815	863	888	925	969	998	1,027	
0	Other City	-	-	-	-	-	-	-	-	-	-	
0	Other City	-	-	-	-	-	-	-	-	-	-	
0	Other City	-	-	-	-	-	-	-	-	-	-	
0	Other City	-	-	-	-	-	-	-	-	-	-	
W.11	Tri County Outside City	956,546	995,017	1,061,411	1,092,099	1,124,270	1,157,899	1,183,366	1,230,455	1,269,355	1,310,160	
Water Rate Revenues		5,510,136	5,671,084	6,043,965	6,339,687	6,688,805	6,902,495	7,195,828	7,527,768	7,769,190	8,020,239	
Water Non-Rate Revenues		308,932	612,980	631,389	650,310	669,820	669,914	710,612	731,930	753,688	776,505	
Total Revenues		5,819,068	6,284,064	6,675,334	6,989,997	7,358,625	7,592,409	7,906,240	8,259,698	8,523,078	8,796,744	
Total Operating		3,591,863	3,753,287	3,922,548	4,100,118	4,286,414	4,481,898	4,667,056	4,902,402	5,128,480	5,365,664	
Net Revenues Available for Replacement Reserve/Debt Service		2,227,205	2,530,796	2,752,787	2,889,879	3,072,210	3,110,511	3,219,184	3,357,296	3,394,597	3,430,880	
Debt Service -- Prin&Int		-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	
Debt Service -- Reserve		-	-	-	-	-	-	-	-	-	-	
Total Debt Service		-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	
Net Revenues Available for Replacement Reserve		2,227,205	1,135,336	1,357,326	1,494,419	979,019	1,017,320	1,125,993	1,264,105	1,301,406	1,337,689	
Replacement Reserve		1,666,000	1,666,000	1,666,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
Total Cost of Service		5,247,863	6,804,728	6,974,008	5,995,579	6,879,606	7,075,089	7,280,247	7,495,594	7,721,671	7,959,055	
Net Cash Flow Available for Contingency		671,205	(520,684)	(298,674)	894,419	479,019	517,320	626,993	764,105	801,406	837,689	
		8.8%	-8.3%	-4.6%	14.2%	6.5%	6.8%	7.9%	9.3%	9.4%	9.5%	
WATER Debt Coverage		-	1.81	1.97	2.07	1.47	1.49	1.54	1.60	1.62	1.64	
<small>(NOTE: excludes reserve funding)</small>												

**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WATER Fund Summary -- CASH Basis

Scen: 2014 12 12 -- Scen 2 -- Conservation

4 Capital Project Funding Summary -- WATER

Beginning Balance		\$ 6,342,482	\$ 24,713,311	\$ 25,105,076	\$ 20,877,853	\$ 28,249,910	\$ 24,140,158	\$ 19,787,961	\$ 16,683,721	\$ 13,517,395	\$ 10,287,743
Plus Sources of Funds:											
Interest	2.0%	126,849	494,266	502,102	417,557	564,998	482,803	395,759	333,674	270,348	205,755
Replacement Reserve		1,656,000	1,656,000	1,656,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Long-Term Debt		20,000,000	-	-	10,000,000	-	-	-	-	-	-
Water Impact Fees		-	-	-	-	-	-	-	-	-	-
Total Sources		39,056,575	21,782,849	2,158,102	10,917,557	1,064,998	982,803	895,759	833,674	770,348	705,755
	Total 2013-2018	39,056,575	21,782,849	2,158,102	10,917,557	1,064,998	982,803	895,759	833,674	770,348	705,755
	Less 2013	(21,782,849)									
	Net Total	17,273,726									
Less Uses of Funds:											
Capital Improvement Plan -- WATER		3,412,000	1,758,501	8,395,325	3,545,500	5,174,760	5,335,900	4,000,000	4,000,000	4,000,000	4,000,000
Ending Balance		24,713,311	25,105,076	20,877,853	28,249,910	24,140,158	19,787,961	16,683,721	13,517,395	10,287,743	6,993,498

5 Total Accounts

Total Accounts	12,487	12,529	12,561	12,593	12,625	12,657	12,689	12,721	12,753	12,785
New Accounts		32	32	32	32	32	32	32	32	32
Avg. Annual Growth Rate		0.26%	0.26%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%

6 Annual Water Consumption

W.1 Residential City	594,082,000	595,268,681	596,455,361	597,642,042	598,828,723	600,015,403	601,202,084	602,388,765	603,575,445	604,762,126
W.2 Residential Outside City	33,622,000	33,669,255	33,756,510	33,823,766	33,891,021	33,958,276	34,025,531	34,092,786	34,160,042	34,227,297
W.3 Commercial City	263,579,000	265,303,321	267,027,643	268,751,964	290,476,285	292,200,606	293,924,928	295,649,249	297,373,570	299,097,891
W.4 Commercial Outside City	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000
W.5 Industrial City	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000
W.6 Industrial Outside City	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000
W.7 Ind. Discounts City	-	-	-	-	-	-	-	-	-	-
W.8 Public Authorities City	98,810,000	99,278,664	99,747,328	100,215,992	100,684,656	101,153,320	101,621,984	102,090,648	102,559,312	103,027,976
W.9 Municipal City	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000
W.10 Fire Protection City	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000
0 Other City	-	-	-	-	-	-	-	-	-	-
0 Other City	-	-	-	-	-	-	-	-	-	-
0 Other City	-	-	-	-	-	-	-	-	-	-
0 Other City	-	-	-	-	-	-	-	-	-	-
W.11 Tri County Outside City	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000
Total System	2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,685	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,369	2,223,043,290

**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WASTEWATER Fund Summary -- CASH Basis
Scen: 2014 12 12 -- Scen 2 -- Conservation

1 Wastewater Rates -- Residential

Inside City

Base Charge			\$ 6.67	\$ 8.17	\$ 10.01	\$ 11.88	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Chg	1,001	20,000	2.59	3.17	3.88	4.60	4.95	5.32	5.48	5.64	5.81	5.98	6.16
	20,001	Above	2.20	2.70	3.31	3.92	4.21	4.53	4.67	4.81	4.95	5.10	5.25

2 Residential Monthly Bill -- 5/8" Meter

5,000 WW	Total	\$ 17.03	\$ 20.85	\$ 25.53	\$ 30.28	\$ 32.55	\$ 34.99	\$ 38.04	\$ 37.10	\$ 38.22	\$ 39.35	\$ 40.53
	Dollar Inc		3.82	4.68	4.73	2.29	2.44	1.05	1.08	1.12	1.13	1.18
	Percent Inc		22.4%	22.4%	18.5%	7.5%	7.5%	3.0%	2.9%	3.0%	3.0%	3.0%
10,000 WW	Total	29.98	38.70	44.93	53.26	57.30	61.59	63.44	65.30	67.27	69.25	71.33
	Dollar Inc		6.72	8.23	8.33	4.04	4.29	1.85	1.86	1.97	1.98	2.08
	Percent Inc		22.4%	22.4%	18.5%	7.6%	7.5%	3.0%	2.9%	3.0%	2.9%	3.0%
20,000 WW	Total	55.88	68.40	83.73	99.26	106.80	114.79	118.24	121.70	125.37	129.05	132.93
	Dollar Inc		12.52	15.33	15.53	7.54	7.99	3.45	3.46	3.67	3.68	3.88
	Percent Inc		22.4%	22.4%	18.5%	7.6%	7.5%	3.0%	2.9%	3.0%	2.9%	3.0%
30,000 WW	Total	77.88	95.40	116.83	138.46	148.90	160.09	164.94	169.80	174.87	180.05	185.43
	Dollar Inc		17.52	21.43	21.63	10.44	11.19	4.85	4.86	5.07	5.18	5.38
	Percent Inc		22.5%	22.5%	18.5%	7.5%	7.5%	3.0%	2.9%	3.0%	3.0%	3.0%
50,000 WW	Total	121.88	149.40	183.03	216.86	233.10	250.69	258.34	286.00	273.67	282.05	290.43
	Dollar Inc		27.52	33.63	33.83	16.24	17.59	7.65	7.66	7.87	8.18	8.38
	Percent Inc		22.6%	22.5%	18.5%	7.5%	7.5%	3.1%	3.0%	3.0%	3.0%	3.0%



**CITY CORPORATION – RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WASTEWATER Fund Summary – CASH Basis
Scen: 2014 12 12 -- Scen 2 -- Conservation

3 WASTEWATER Revenues and Expenses

WW Revenues

Residential City	\$ 1,727,670	\$ 2,120,695	\$ 2,563,620	\$ 2,915,260	\$ 3,141,346	\$ 3,323,115	\$ 3,429,718	\$ 3,539,348	\$ 3,653,041	\$ 3,769,931
Residential Outside City	89,844	110,395	133,587	152,065	164,023	173,887	179,437	185,355	191,497	197,817
Commercial City	780,763	939,149	1,141,559	1,305,266	1,414,136	1,504,152	1,560,809	1,619,012	1,679,497	1,742,116
Commercial Outside City	2,538	3,109	3,750	4,255	4,575	4,830	4,975	5,123	5,275	5,432
Industrial City	1,213,551	1,488,398	1,795,697	2,036,026	2,188,522	2,311,632	2,392,258	2,452,793	2,525,455	2,600,985
Industrial Outside City	34,646	42,493	51,266	58,127	62,481	66,001	68,011	70,025	72,100	74,256
Ind. Discounts City	(51,881)	(63,158)	(75,937)	(85,830)	(92,125)	(97,128)	(99,903)	(103,282)	(106,660)	(110,068)
Public Authorities	221,378	273,148	331,565	378,294	409,111	434,733	450,634	456,759	463,461	500,853
WW Rate Revenues	3,898,730	4,914,229	5,945,106	6,783,453	7,292,070	7,721,222	7,975,938	8,235,123	8,503,646	8,781,323
WW Non-Rate Revenues	72,955	75,144	77,398	79,720	82,111	84,575	87,112	89,725	92,417	95,180
Total Revenues	4,071,685	4,989,372	6,022,504	6,843,173	7,374,181	7,805,797	8,063,050	8,324,849	8,596,064	8,876,513

Operating Expenses	2,837,462	2,965,028	3,098,766	3,239,024	3,386,142	3,540,477	3,702,409	3,872,336	4,050,685	4,237,898
Net Revenues Available for Replacement Reserve/Debt Service	1,234,203	2,024,348	2,923,739	3,604,148	3,988,039	4,265,319	4,360,640	4,452,511	4,545,378	4,638,616

Debt Service -- Prin&Int	614,297	2,009,758	2,009,758	2,009,758	3,056,353	3,056,353	3,474,992	3,474,992	3,474,992	3,474,992
Debt Service -- Reserve	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224
Total Debt Service	837,521	2,232,982	2,232,982	2,232,982	3,279,577	3,279,577	3,698,216	3,698,216	3,698,216	3,698,216

Net Revenues Available for Replacement Reserve	396,682	(208,635)	690,757	1,371,167	708,462	985,742	682,425	754,295	847,163	940,400
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Replacement Reserve	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
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Total Cost of Service	3,925,003	5,448,008	5,581,748	5,722,006	6,915,719	7,070,055	7,650,625	7,820,554	7,998,901	8,186,113
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Net Cash Flow Available for Contingency	146,682	(458,635)	440,757	1,121,187	458,462	735,742	412,425	504,295	597,163	690,400
	3.6%	-9.2%	7.3%	16.4%	6.2%	9.4%	5.1%	6.1%	6.9%	7.8%

WASTEWATER Debt Coverage	2.01	1.01	1.45	1.79	1.30	1.40	1.25	1.28	1.31	1.33
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(NOTE: excludes reserve funding)



**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

WASTEWATER Fund Summary -- CASH Basis
Scen: 2014 12 12 -- Scen 2 -- Conservation

4 Capital Project Funding Summary -- WASTEWATER

Beginning Balance	\$	6,342,462	\$	12,915,921	\$	10,600,338	\$	5,743,019	\$	18,628,360	\$	15,142,197	\$	17,426,041	\$	14,263,221	\$	10,798,486	\$	7,264,455		
Plus Sources of Funds:																						
Interest		2.0%		128,849		258,318		212,007		114,860		372,568		302,844		348,521		265,264		215,970		145,289
Replacement Reserve				250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000
Long-Term Debt				20,000,000		-		-		15,000,000		-		6,000,000		-		-		-		-
WW Impact Fees				-		-		-		-		-		-		-		-		-		-
Total Sources				20,791,007		1,574,318		1,528,007		16,430,880		1,688,568		7,618,844		837,180		535,264		465,970		395,289
Less Uses of Funds:																						
Capital Improvement Plan -- WW				14,217,548		3,889,902		6,385,325		3,545,600		5,174,750		5,335,000		4,000,000		4,000,000		4,000,000		4,000,000
Ending Balance				12,915,921		10,600,338		5,743,019		18,628,360		15,142,197		17,426,041		14,263,221		10,798,486		7,264,455		3,658,744

5 Total Accounts

Wastewater Accounts																						
Total Accounts				11,100		11,132		11,164		11,196		11,228		11,260		11,292		11,324		11,356		11,388
New Accounts						32		32		32		32		32		32		32		32		32
Avg. Annual Growth Rate						0.29%		0.29%		0.29%		0.29%		0.28%		0.28%		0.28%		0.28%		0.28%



CITY CORPORATION – RUSSELLVILLE										
WATER/WASTEWATER COST OF SERVICE MODEL										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Revenue and Expense Summary – CASH Basis
Scen: 2014 12 12 – Scen 2 – Conservation

1 TOTAL Revenues and Expenses – CASH Basis

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Revenues										
Water Rate Revenues	\$ 5,510,136	\$ 5,671,084	\$ 6,043,965	\$ 6,339,687	\$ 6,686,805	\$ 6,902,495	\$ 7,195,628	\$ 7,527,768	\$ 7,789,180	\$ 8,020,239
WW Rate Revenues	3,998,730	4,914,229	5,945,106	6,763,453	7,292,070	7,721,222	7,975,938	8,235,123	8,503,646	8,781,323
Non-Rate Revenues	391,887	668,124	708,767	730,030	751,931	774,489	797,724	821,656	846,305	871,694
Total Revenues	9,890,753	11,273,436	12,697,839	13,833,170	14,732,806	15,398,206	15,969,290	16,584,547	17,119,141	17,673,257
Operating Expenses	6,429,345	6,718,293	7,021,313	7,339,142	7,672,556	8,022,375	8,369,465	8,774,740	9,179,186	9,603,761
Net Revenues Available for Capital Outlays/Debt Service	3,461,408	4,555,143	5,676,525	6,494,028	7,060,250	7,375,830	7,579,825	7,609,807	7,939,976	8,069,496
Debt Service – Prin&int	614,297	3,405,219	3,405,219	3,405,219	5,149,545	5,149,545	5,568,183	5,568,183	5,568,183	5,568,183
Debt Service -- Reserve	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224
Total Debt Service	837,521	3,628,443	3,628,443	3,628,443	5,372,769	5,372,769	5,791,407	5,791,407	5,791,407	5,791,407
Net Revenues Available for Capital Outlays	2,623,887	926,700	2,048,083	2,865,585	1,687,481	2,003,062	1,788,418	2,016,400	2,148,569	2,278,089
Capital Outlays	1,906,000	1,906,000	1,906,000	750,000	750,000	750,000	750,000	750,000	750,000	750,000
Total Cost of Service	9,172,806	12,252,736	12,555,756	11,717,505	13,786,325	14,145,144	14,930,872	15,316,147	15,720,572	16,145,168
Net Cash Flow Available for Contingency	717,887	(979,300)	142,083	2,115,585	697,481	1,253,062	1,038,418	1,268,400	1,398,569	1,528,089
Total Debt Coverage	5.63	1.34	1.67	1.91	1.37	1.43	1.38	1.40	1.43	1.46
Ending Cash Balance	717,887	(261,412)	(119,330)	1,996,256	2,933,737	4,186,799	5,225,217	6,493,616	7,892,165	9,420,275
Operating Expense/Net Cash Balance Ratio		(0.04)	(0.02)	0.27	0.38	0.52	0.62	0.74	0.86	0.98

**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Revenue and Expense Summary -- CASH Basis

Scen: 2014 12 12 -- Scen 2 -- Conservation

2 WATER Revenue and Expense - CASH Basis

Water Revenues

Water Monthly Rates

W.1 Residential	City	\$ 2,187,308	\$ 2,358,966	\$ 2,513,538	\$ 2,647,238	\$ 2,805,696	\$ 2,894,322	\$ 3,022,971	\$ 3,170,980	\$ 3,271,703	\$ 3,375,483
W.2 Residential	Outside City	194,014	188,645	201,000	211,692	224,354	231,433	241,714	253,546	261,598	269,895
W.3 Commercial	City	788,209	753,886	806,366	852,320	907,457	940,296	986,530	1,038,941	1,077,746	1,116,128
W.4 Commercial	Outside City	14,054	13,854	14,516	15,251	16,142	16,627	17,342	18,175	18,727	19,282
W.5 Industrial	City	832,196	856,884	910,183	955,683	1,011,141	1,042,325	1,066,519	1,135,927	1,169,293	1,205,686
W.6 Industrial	Outside City	192,568	202,727	215,335	228,099	239,218	248,597	257,052	268,738	276,631	285,239
W.7 Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8 Public Authorities	City	283,877	243,853	260,540	275,137	292,568	302,913	317,146	333,477	345,247	357,137
W.9 Municipal	City	53,431	56,892	60,299	63,352	67,098	69,096	72,065	75,561	77,991	80,222
W.10 Fire Protection	City	7,933	728	775	815	863	888	925	989	998	1,027
0 Other	City	-	-	-	-	-	-	-	-	-	-
0 Other	City	-	-	-	-	-	-	-	-	-	-
0 Other	City	-	-	-	-	-	-	-	-	-	-
0 Other	City	-	-	-	-	-	-	-	-	-	-
W.11 Tri County	Outside City	956,546	995,017	1,061,411	1,092,099	1,124,270	1,157,999	1,193,368	1,230,455	1,269,355	1,310,160
Water Rate Revenues		5,510,136	5,671,084	6,043,965	6,339,687	6,688,805	6,902,495	7,195,628	7,527,768	7,769,190	8,020,239
Water Non-Rate Revenues		308,932	612,980	631,369	650,310	669,820	669,914	710,612	731,930	753,688	776,505
Total Revenues		5,819,068	6,284,064	6,675,334	6,989,997	7,358,625	7,592,409	7,906,240	8,259,698	8,523,078	8,796,744
Total Operating		3,591,863	3,753,267	3,922,548	4,100,118	4,286,414	4,461,898	4,687,056	4,902,402	5,128,480	5,365,864
Net Revenues Available for Capital Outlays/Debt Service		2,227,205	2,530,798	2,752,787	2,889,879	3,072,210	3,110,511	3,219,184	3,357,296	3,394,597	3,430,880
Debt Service -- Prin&int		-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191
Debt Service -- Reserve		-	-	-	-	-	-	-	-	-	-
Total Debt Service		-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191
Net Revenues Available for Capital Outlays		2,227,205	1,135,336	1,357,326	1,494,419	979,019	1,017,320	1,125,993	1,264,105	1,301,406	1,337,689
Capital Outlays		1,656,000	1,656,000	1,656,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Total Cost of Service		5,247,863	6,804,728	6,974,008	5,995,579	6,879,606	7,075,089	7,280,247	7,495,504	7,721,671	7,959,055
Water Debt Coverage		8.8%	-8.3%	-4.5%	14.2%	6.5%	6.6%	7.9%	9.3%	9.4%	9.5%
WATER Debt Coverage		-	1.81	1.97	2.07	1.47	1.49	1.54	1.60	1.62	1.64
(NOTE: excludes reserve funding)											

CITY CORPORATION – RUSSELLVILLE										
WATER/WASTEWATER COST OF SERVICE MODEL										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Revenue and Expense Summary -- CASH Basis
Scen: 2014 12 12 -- Scen 2 -- Conservation

3 WASTEWATER Revenues and Expenses

WW Revenues

Residential City	\$ 1,727,870	\$ 2,120,695	\$ 2,563,620	\$ 2,915,260	\$ 3,141,346	\$ 3,323,115	\$ 3,429,718	\$ 3,539,348	\$ 3,653,041	\$ 3,769,931
Residential Outside City	89,844	110,395	133,587	152,065	164,023	173,687	179,437	185,355	191,497	197,817
Commercial City	760,783	939,149	1,141,659	1,305,268	1,414,138	1,504,152	1,560,809	1,619,012	1,679,497	1,742,119
Commercial Outside City	2,538	3,109	3,750	4,255	4,575	4,830	4,975	5,123	5,275	5,432
Industrial City	1,213,551	1,488,398	1,795,697	2,038,028	2,189,522	2,311,832	2,382,256	2,452,793	2,525,455	2,600,985
Industrial Outside City	34,646	42,493	51,266	58,127	62,481	68,001	68,011	70,025	72,100	74,256
Ind. Discounts City	(51,681)	(63,158)	(75,937)	(85,630)	(92,125)	(97,128)	(99,903)	(103,292)	(108,680)	(110,068)
Public Authorities	221,378	273,148	331,565	378,284	409,111	434,733	450,834	466,759	483,481	500,853
WW Rate Revenues	3,998,730	4,914,229	5,945,106	6,763,453	7,292,079	7,721,222	7,975,938	8,235,123	8,503,646	8,781,323
WW Non-Rate Revenues	72,955	75,144	77,398	79,720	82,111	84,575	87,112	89,725	92,417	95,190
Total Revenues	4,071,685	4,989,372	6,022,504	6,843,173	7,374,181	7,805,797	8,063,050	8,324,849	8,596,064	8,876,513
Operating Expenses	2,837,482	2,965,028	3,098,766	3,239,024	3,386,142	3,540,477	3,702,409	3,872,338	4,050,665	4,237,898
Net Revenues Available for Debt Service	1,234,203	2,024,346	2,923,738	3,604,148	3,988,039	4,265,319	4,360,640	4,462,511	4,545,378	4,638,616
Debt Service -- Prin&Int	814,287	2,009,758	2,009,758	2,009,758	3,056,353	3,056,353	3,474,992	3,474,992	3,474,992	3,474,992
Debt Service -- Reserve	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224
Total Debt Service	837,521	2,232,982	2,232,982	2,232,982	3,279,577	3,279,577	3,698,216	3,698,216	3,698,216	3,698,216
Net Revenues Available for Capital Outlays	396,682	(208,635)	690,757	1,371,167	708,462	985,742	662,425	754,295	847,163	940,400
Capital Outlays	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Total Cost of Service	3,925,003	5,448,008	5,581,748	5,722,006	6,915,719	7,070,055	7,650,625	7,820,554	7,998,901	8,186,113
Net Cash Flow Available for Contingency	146,682	(458,635)	440,757	1,121,167	458,462	735,742	412,425	504,295	597,163	680,400
WASTEWATER Debt Coverage	2.01	1.01	1.45	1.79	1.30	1.40	1.25	1.28	1.31	1.33

Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Total Expense:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Water Division - CASH BASIS

NON-RATE REVENUES

Total	\$	308,932	\$	612,980	\$	631,369	\$	650,310	\$	669,820	\$	689,914	\$	710,612	\$	731,930	\$	753,888	\$	776,505
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OPERATING EXPENSES

TOTAL OPERATING EXPENSES

Supply	\$	159,313	\$	169,745	\$	174,542	\$	182,722	\$	191,307	\$	200,315	\$	209,770	\$	219,693	\$	230,110	\$	241,046
Pumping		211,949		223,344		235,379		248,091		261,519		275,704		290,693		306,530		323,267		340,956
Treatment		1,218,383		1,269,279		1,324,659		1,382,646		1,443,375		1,508,982		1,573,616		1,643,430		1,716,587		1,793,280
Transmission & Distribution		85,309		88,176		91,149		94,230		97,423		100,732		104,162		107,719		111,406		115,231
Maintenance		665,438		696,882		729,882		764,585		801,061		839,408		879,728		922,129		968,725		1,013,637
Customer Account		378,763		396,188		414,486		433,704		453,893		475,104		497,394		520,821		545,447		571,338
Administration and General		874,711		912,673		952,451		994,139		1,037,838		1,083,652		1,131,694		1,182,081		1,234,938		1,290,396
Depreciation and Amortization		-		-		-		-		-		-		-		-		-		-
Total		3,591,863		3,753,267		3,922,548		4,100,118		4,286,414		4,481,898		4,687,056		4,902,402		5,128,480		5,365,864

CAPITAL OUTLAYS

Total	\$	1,656,000	\$	1,656,000	\$	1,656,000	\$	500,000	\$	500,000	\$	500,000	\$	500,000	\$	500,000	\$	500,000	\$	500,000
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DEBT SERVICE – CURRENT

Principal	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Interest		-		-		-		-		-		-		-		-		-		-
Reserve		-		-		-		-		-		-		-		-		-		-
TOTAL		-		-		-		-		-		-		-		-		-		-

DEBT SERVICE – FUTURE

Principal	\$	-	\$	523,461	\$	644,399	\$	866,175	\$	850,553	\$	884,575	\$	919,958	\$	958,756	\$	995,026	\$	1,034,627
Interest		-		872,000		851,062		829,286		1,242,639		1,208,616		1,173,234		1,136,435		1,098,165		1,058,364
Reserve		-		-		-		-		-		-		-		-		-		-
TOTAL		-		1,395,461		1,395,461		1,395,461		2,093,191		2,093,191		2,093,191		2,093,191		2,093,191		2,093,191

TOTAL COST OF SERVICE

Operating	\$	3,591,863	\$	3,753,267	\$	3,922,548	\$	4,100,118	\$	4,286,414	\$	4,481,898	\$	4,687,056	\$	4,902,402	\$	5,128,480	\$	5,365,864
Capital Outlays		1,656,000		1,656,000		1,656,000		500,000		500,000		500,000		500,000		500,000		500,000		500,000
Debt service -- Current		-		-		-		-		-		-		-		-		-		-
Debt service -- Future		-		1,395,461		1,395,461		1,395,461		2,093,191		2,093,191		2,093,191		2,093,191		2,093,191		2,093,191
Total		5,247,863		6,804,728		6,974,008		5,995,579		6,879,606		7,076,089		7,280,247		7,485,594		7,721,671		7,959,055



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL										
Total Expense	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Wastewater Division – CASH BASIS

NON-RATE REVENUES

Total	\$	72,955	\$	75,144	\$	77,398	\$	79,720	\$	82,111	\$	84,575	\$	87,112	\$	89,725	\$	92,417	\$	95,190
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OPERATING EXPENSES

TOTAL OPERATING EXPENSES

Pumping	\$	210,914	\$	220,172	\$	229,661	\$	240,003	\$	250,620	\$	261,737	\$	273,376	\$	285,565	\$	298,331	\$	311,702
Treatment		992,529		1,039,838		1,089,526		1,141,714		1,196,537		1,254,132		1,314,646		1,378,234		1,445,059		1,515,294
Collection		470,700		493,017		516,468		541,116		567,025		594,263		622,904		653,024		684,704		718,031
Customer Accounts		231,146		241,543		252,455		263,910		275,938		288,569		301,836		315,775		330,422		345,818
Administration		806,351		838,098		871,228		905,810		941,913		979,612		1,018,985		1,060,113		1,103,084		1,147,989
Pretreatment		125,843		132,358		139,227		146,470		154,108		162,165		170,662		179,627		189,085		199,065
Depreciation and Amortization		-		-		-		-		-		-		-		-		-		-
Total		2,837,482		2,965,026		3,098,766		3,239,024		3,386,142		3,540,477		3,702,409		3,872,338		4,050,685		4,237,898

CAPITAL OUTLAYS

Total	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000
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DEBT SERVICE – CURRENT

Principal	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297	\$	614,297
Interest		-		-		-		-		-		-		-		-		-		-
Reserve		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224		223,224
TOTAL		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521

DEBT SERVICE – FUTURE

Principal	\$	-	\$	523,460.8	\$	544,399.2	\$	566,175.2	\$	981,417.8	\$	1,020,674.5	\$	1,218,539.7	\$	1,267,281.3	\$	1,317,972.6	\$	1,370,691.5
Interest		-		872,000		851,062		829,286		1,460,639		1,421,362		1,642,155		1,593,413		1,542,722		1,490,003
Reserve		-		-		-		-		-		-		-		-		-		-
TOTAL		-		1,395,461		1,395,461		1,395,461		2,442,056		2,442,056		2,860,695		2,860,695		2,860,695		2,860,695

TOTAL COST OF SERVICE

Operating	\$	2,837,482	\$	2,965,026	\$	3,098,766	\$	3,239,024	\$	3,386,142	\$	3,540,477	\$	3,702,409	\$	3,872,338	\$	4,050,685	\$	4,237,898
Capital Outlays		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000
Debt service -- Current		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521
Debt service -- Future		-		1,395,461		1,395,461		1,395,461		2,442,056		2,442,056		2,860,695		2,860,695		2,860,695		2,860,695
Total		3,925,003		5,448,008		5,581,748		5,722,006		6,915,719		7,070,055		7,669,625		7,820,564		7,998,901		8,186,113

CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

Water Rates

Month of Adjustment (Jul = 1)		?	?	?	?	?	?	?	?	?	?
Outside City Premium		50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%
Annual Adjustment		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Monthly Charge		7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.1 Residential	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.2 Residential	Outside City	na	na	na	na	na	na	na	na	na	na
W.3 Commercial	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.4 Commercial	Outside City	na	na	na	na	na	na	na	na	na	na
W.5 Industrial	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.6 Industrial	Outside City	na	na	na	na	na	na	na	na	na	na
W.7 Ind. Discounts	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.8 Public Authorities	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.9 Municipal	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.10 Fire Protection	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
0 Other	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
0 Other	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
0 Other	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
0 Other	City	7.00%	9.00%	3.00%	6.00%	3.00%	3.00%	6.00%	3.00%	3.00%	3.00%
W.11 Tr. County	Outside City	na	na	na	na	na	na	na	na	na	na

Water Monthly Charge

Residential - City

Base Charge	5/8" - 3/4"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	Usage Charge
Base Charge	\$ 8.89	\$ 9.30	\$ 10.14	\$ 10.44	\$ 11.28	\$ 11.82	\$ 11.97	\$ 12.69	\$ 13.07	\$ 13.46	\$ 13.88
Base Charge	2,001	5,000	5,001	20,000	20,001	Above					
Usage Charge	1.77	1.94	1.94	1.94	1.77	2.00	2.00	2.00	2.00	2.00	2.53

Residential - Outside City

Base Charge	5/8" - 3/4"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	Usage Charge
Base Charge	\$ 13.04	\$ 13.95	\$ 15.21	\$ 15.66	\$ 16.92	\$ 17.43	\$ 17.96	\$ 19.04	\$ 19.61	\$ 20.19	\$ 20.76
Base Charge	2,001	5,000	5,001	20,000	20,001	Above					
Usage Charge	3.52	3.60	3.60	3.60	3.11	3.20	3.20	3.20	3.20	3.20	3.80



**CITY CORPORATION – RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Input Area – Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Commercial City												
Base Charge	5/8" – 3/4"	\$ 8.89	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	3/4"	8.89	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	1"	12.03	12.87	14.03	14.45	15.61	16.08	16.56	17.55	18.08	18.62	19.18
Base Charge	1 1/2"	22.89	24.46	26.66	27.46	29.66	30.55	31.47	33.36	34.38	35.39	36.45
Base Charge	2"	28.99	32.09	34.88	36.03	38.91	40.08	41.28	43.76	45.07	46.42	47.81
Base Charge	3"	49.20	52.84	57.38	59.10	63.83	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	4"	157.48	168.50	183.67	189.18	204.31	210.44	216.75	229.76	238.65	243.75	251.06
Base Charge	6"	194.26	207.88	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.78	1.90	2.07	2.13	2.30	2.37	2.44	2.59	2.67	2.75
	2,001	10,000	1.76	1.90	2.07	2.13	2.30	2.37	2.44	2.56	2.67	2.75
	10,001	20,000	1.78	1.90	2.07	2.13	2.30	2.37	2.44	2.59	2.67	2.75
	10,001	Above	1.78	1.90	2.07	2.13	2.30	2.37	2.44	2.69	2.67	2.75

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Commercial Outside												
Base Charge	5/8" – 3/4"	\$ 13.04	\$ 13.95	\$ 15.21	\$ 15.66	\$ 16.92	\$ 17.43	\$ 17.95	\$ 19.04	\$ 19.61	\$ 20.19	\$ 20.79
Base Charge	3/4"	13.04	13.95	15.21	15.66	16.92	17.43	17.95	19.04	19.61	20.19	20.79
Base Charge	1"	18.05	19.31	21.05	21.68	23.42	24.12	24.84	26.33	27.12	27.93	28.77
Base Charge	1 1/2"	34.29	36.09	39.98	41.19	44.48	45.83	47.21	50.04	51.54	53.09	54.68
Base Charge	2"	44.99	49.14	52.47	54.05	58.37	60.12	61.92	65.64	67.61	69.63	71.72
Base Charge	3"	73.80	79.96	86.07	88.65	95.75	98.81	101.57	107.66	110.88	114.21	117.63
Base Charge	4"	236.22	252.75	275.51	283.77	308.47	315.66	325.13	344.64	354.98	365.83	378.59
Base Charge	6"	291.39	311.79	339.86	350.06	378.06	389.40	401.09	425.15	437.90	451.04	464.57
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	2.67	2.85	3.11	3.20	3.45	3.55	3.68	3.89	4.01	4.13
	2,001	10,000	2.67	2.85	3.11	3.20	3.45	3.55	3.68	3.86	4.01	4.13
	10,001	20,000	2.67	2.85	3.11	3.20	3.45	3.55	3.68	3.86	4.01	4.13
	10,001	Above	2.67	2.85	3.11	3.20	3.45	3.55	3.68	3.89	4.01	4.13

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Residential												
Base Charge	5/8" – 3/4"	\$ 8.89	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	3/4"	8.89	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	1"	12.03	12.87	14.03	14.45	15.61	16.08	16.56	17.55	18.08	18.62	19.18
Base Charge	1 1/2"	22.89	24.46	26.66	27.46	29.66	30.55	31.47	33.36	34.38	35.39	36.45
Base Charge	2"	28.99	32.09	34.88	36.03	38.91	40.08	41.28	43.76	45.07	46.42	47.81
Base Charge	3"	49.20	52.84	57.38	59.10	63.83	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	4"	157.48	168.50	183.67	189.18	204.31	210.44	216.75	229.76	238.65	243.75	251.06
Base Charge	6"	194.26	207.88	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29
	2,001	10,000	1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29
	10,001	20,000	1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29
	10,001	Above	1.49	1.59	1.73	1.78	1.92	1.98	2.04	2.16	2.22	2.29

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Water Distribution - Outside City												
Base Charge	5/8" - 3/4"	\$ 13.04	\$ 13.95	\$ 15.21	\$ 15.96	\$ 16.92	\$ 17.43	\$ 17.99	\$ 19.04	\$ 19.61	\$ 20.19	\$ 20.79
Base Charge	3/4"	13.04	13.95	15.21	15.96	16.92	17.43	17.99	19.04	19.61	20.19	20.79
Base Charge	1"	18.05	19.31	21.05	21.98	23.42	24.12	24.84	26.33	27.12	27.93	28.77
Base Charge	1 1/2"	34.28	36.69	39.99	41.19	44.49	45.83	47.21	50.04	51.54	53.09	54.68
Base Charge	2"	44.99	48.14	52.47	54.05	58.37	60.12	61.92	65.84	67.61	69.63	71.72
Base Charge	3"	73.80	78.96	85.07	88.55	95.75	98.61	101.57	107.60	110.88	114.21	117.63
Base Charge	4"	236.22	252.75	275.51	283.77	306.47	315.06	325.13	344.84	354.88	365.63	378.59
Base Charge	6"	291.39	311.79	339.88	350.06	378.05	389.40	401.09	425.15	437.90	451.04	464.57
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	2.24	2.39	2.60	2.67	2.88	2.97	3.08	3.24	3.33	3.44
Usage Charge	2,001	10,000	2.24	2.39	2.60	2.67	2.88	2.97	3.08	3.24	3.33	3.44
Usage Charge	10,001	20,000	2.24	2.39	2.60	2.67	2.88	2.97	3.08	3.24	3.33	3.44
Usage Charge	10,001	Above	2.24	2.39	2.60	2.67	2.88	2.97	3.08	3.24	3.33	3.44
Water Distribution - Inside City												
Base Charge	5/8" - 3/4"	\$ 8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	3/4"	8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	1"	12.03	12.87	14.03	14.45	15.61	16.06	16.55	17.55	18.08	18.62	19.18
Base Charge	1 1/2"	22.86	24.46	26.88	27.46	29.68	30.55	31.47	33.36	34.38	35.39	36.45
Base Charge	2"	29.99	32.09	34.98	36.03	38.91	40.08	41.28	43.78	45.07	46.42	47.81
Base Charge	3"	49.20	52.64	57.38	59.10	63.83	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	4"	157.48	168.50	183.67	189.18	204.31	210.44	216.75	229.78	236.65	243.75	251.08
Base Charge	6"	194.26	207.85	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.49	1.59	1.73	1.78	1.92	1.95	2.04	2.18	2.22	2.29
Usage Charge	2,001	10,000	1.49	1.59	1.73	1.78	1.92	1.95	2.04	2.18	2.22	2.29
Usage Charge	10,001	20,000	1.49	1.59	1.73	1.78	1.92	1.95	2.04	2.18	2.22	2.29
Usage Charge	10,001	Above	1.49	1.59	1.73	1.78	1.92	1.95	2.04	2.18	2.22	2.29
Water Distribution - Inside City - 2014												
Base Charge	5/8" - 3/4"	\$ 8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	3/4"	8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.86
Base Charge	1"	12.03	12.87	14.03	14.45	15.61	16.06	16.55	17.55	18.08	18.62	19.18
Base Charge	1 1/2"	22.86	24.46	26.88	27.46	29.68	30.55	31.47	33.36	34.38	35.39	36.45
Base Charge	2"	29.99	32.09	34.98	36.03	38.91	40.08	41.28	43.78	45.07	46.42	47.81
Base Charge	3"	49.20	52.64	57.38	59.10	63.83	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	4"	157.48	168.50	183.67	189.18	204.31	210.44	216.75	229.78	236.65	243.75	251.08
Base Charge	6"	194.26	207.85	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.99	2.13	2.32	2.39	2.58	2.66	2.74	2.90	2.98	3.17
Usage Charge	2,001	10,000	1.99	2.13	2.32	2.39	2.58	2.66	2.74	2.90	2.98	3.17
Usage Charge	10,001	20,000	1.99	2.13	2.32	2.39	2.58	2.66	2.74	2.90	2.98	3.17
Usage Charge	10,001	Above	1.99	2.13	2.32	2.39	2.58	2.66	2.74	2.90	2.98	3.17

CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scenario: 2014 12 12 -- Scan 2 -- Conservation

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
5/8" - 3/4"											
Base Charge	\$ 8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.66
Base Charge	8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.66
Base Charge	12.03	12.87	14.03	14.45	15.61	16.08	16.56	17.55	18.08	18.62	19.18
Base Charge	22.86	24.46	26.66	27.46	29.66	30.55	31.47	33.36	34.36	35.39	36.45
Base Charge	29.99	32.09	34.96	36.03	38.91	40.08	41.28	43.76	45.07	46.42	47.81
Base Charge	49.20	52.64	57.38	59.10	63.63	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	157.46	168.50	183.07	189.16	204.31	210.44	216.75	229.76	236.65	243.75	251.06
Base Charge	194.26	207.86	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.53	1.64	1.79	1.84	1.99	2.05	2.11	2.24	2.31
	2,001	10,000	1.53	1.64	1.79	1.84	1.99	2.05	2.11	2.24	2.31
	10,001	20,000	1.53	1.64	1.79	1.84	1.99	2.05	2.11	2.24	2.31
	10,001	Above	1.53	1.64	1.79	1.84	1.99	2.05	2.11	2.24	2.31
3/4" - 1"											
Base Charge	\$ 8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.66
Base Charge	8.69	9.30	10.14	10.44	11.28	11.62	11.97	12.69	13.07	13.46	13.66
Base Charge	12.03	12.87	14.03	14.45	15.61	16.08	16.56	17.55	18.08	18.62	19.18
Base Charge	22.86	24.46	26.66	27.46	29.66	30.55	31.47	33.36	34.36	35.39	36.45
Base Charge	29.99	32.09	34.96	36.03	38.91	40.08	41.28	43.76	45.07	46.42	47.81
Base Charge	49.20	52.64	57.38	59.10	63.63	65.74	67.71	71.77	73.92	76.14	78.42
Base Charge	157.46	168.50	183.07	189.16	204.31	210.44	216.75	229.76	236.65	243.75	251.06
Base Charge	194.26	207.86	226.57	233.37	252.04	259.60	267.39	283.43	291.93	300.69	309.71
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	1.35	1.44	1.57	1.62	1.75	1.80	1.85	1.96	2.02
	2,001	10,000	1.35	1.44	1.57	1.62	1.75	1.80	1.85	1.96	2.02
	10,001	20,000	1.35	1.44	1.57	1.62	1.75	1.80	1.85	1.96	2.02
	10,001	Above	1.35	1.44	1.57	1.62	1.75	1.80	1.85	1.96	2.02
1" - 1 1/2"											
Base Charge	\$ -	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Base Charge	-	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	-	-	-	-	-	-	-	-	-
	2,001	10,000	-	-	-	-	-	-	-	-	-
	10,001	20,000	-	-	-	-	-	-	-	-	-
	10,001	Above	-	-	-	-	-	-	-	-	-



CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scen: 2014 12 12 - Scen 2 -- Conservation

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
City											
Base Charge	5/8" - 3/4"	\$ -	-	-	-	-	-	-	-	-	-
Base Charge	3/4"	-	-	-	-	-	-	-	-	-	-
Base Charge	1"	-	-	-	-	-	-	-	-	-	-
Base Charge	1 1/2"	-	-	-	-	-	-	-	-	-	-
Base Charge	2"	-	-	-	-	-	-	-	-	-	-
Base Charge	3"	-	-	-	-	-	-	-	-	-	-
Base Charge	4"	-	-	-	-	-	-	-	-	-	-
Base Charge	6"	-	-	-	-	-	-	-	-	-	-
Base Charge	8"	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	-	-	-	-	-	-	-	-	-
	2,001	10,000	-	-	-	-	-	-	-	-	-
	10,001	20,000	-	-	-	-	-	-	-	-	-
	10,001	Above	-	-	-	-	-	-	-	-	-
City											
Base Charge	5/8" - 3/4"	-	-	-	-	-	-	-	-	-	-
Base Charge	3/4"	-	-	-	-	-	-	-	-	-	-
Base Charge	1"	-	-	-	-	-	-	-	-	-	-
Base Charge	1 1/2"	-	-	-	-	-	-	-	-	-	-
Base Charge	2"	-	-	-	-	-	-	-	-	-	-
Base Charge	3"	-	-	-	-	-	-	-	-	-	-
Base Charge	4"	-	-	-	-	-	-	-	-	-	-
Base Charge	6"	-	-	-	-	-	-	-	-	-	-
Base Charge	8"	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	-	-	-	-	-	-	-	-	-
	2,001	10,000	-	-	-	-	-	-	-	-	-
	10,001	20,000	-	-	-	-	-	-	-	-	-
	10,001	Above	-	-	-	-	-	-	-	-	-
City											
Base Charge	5/8" - 3/4"	\$ -	-	-	-	-	-	-	-	-	-
Base Charge	3/4"	-	-	-	-	-	-	-	-	-	-
Base Charge	1"	-	-	-	-	-	-	-	-	-	-
Base Charge	1 1/2"	-	-	-	-	-	-	-	-	-	-
Base Charge	2"	-	-	-	-	-	-	-	-	-	-
Base Charge	3"	-	-	-	-	-	-	-	-	-	-
Base Charge	4"	-	-	-	-	-	-	-	-	-	-
Base Charge	6"	-	-	-	-	-	-	-	-	-	-
Base Charge	8"	-	-	-	-	-	-	-	-	-	-
Base Charge	10"	-	-	-	-	-	-	-	-	-	-
Usage Charge	-	2,000	-	-	-	-	-	-	-	-	-
	2,001	10,000	-	-	-	-	-	-	-	-	-
	10,001	20,000	-	-	-	-	-	-	-	-	-
	10,001	Above	-	-	-	-	-	-	-	-	-

**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Current 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

Category	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Base Charge											
Base Charge 5/8" - 3/4"	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Base Charge 1"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 1 1/2"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 2"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 3"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 4"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 6"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 8"	-	-	-	-	-	-	-	-	-	-	-
Base Charge 10"	-	-	-	-	-	-	-	-	-	-	-
Usage Charge											
Usage Charge -	2,000	1,740	1,740	1,906	1,907	2,020	2,080	2,143	2,204	2,277	2,351
Usage Charge 2,001 - 10,000	10,000	1,740	1,740	1,906	1,907	2,020	2,080	2,143	2,204	2,277	2,351
Usage Charge 10,001 - 20,000	20,000	1,740	1,740	1,906	1,907	2,020	2,080	2,143	2,204	2,277	2,351
Usage Charge 20,001 - Above	10,001	1,740	1,740	1,906	1,907	2,020	2,080	2,143	2,204	2,277	2,351

Category	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Annual Adjustment											
WW1 Residential City	22.50%	22.50%	18.50%	7.50%	7.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
WW2 Residential Outside City	na	na	na	na	na	na	na	na	na	na	na
WW3 Commercial City	22.50%	22.50%	18.50%	7.50%	7.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
WW4 Commercial Outside City	na	na	na	na	na	na	na	na	na	na	na
WW5 Industrial City	22.50%	22.50%	18.50%	7.50%	7.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
WW6 Industrial Outside City	na	na	na	na	na	na	na	na	na	na	na
WW7 Ind. Discounts City	22.50%	22.50%	18.50%	7.50%	7.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
WW8 Public Authorities	22.50%	22.50%	18.50%	7.50%	7.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%

Category	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WW1 Residential City											
Base Charge	\$ 8.87	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Charge	1,001 - 20,000	2.59 - 3.17	3.68 - 3.31	4.60 - 3.92	4.95 - 4.21	5.32 - 4.53	5.48 - 4.67	5.64 - 4.81	5.81 - 4.95	5.98 - 5.10	6.16 - 5.25
WW2 Residential Outside City											
Base Charge	\$ 10.01	\$ 12.06	\$ 15.02	\$ 17.78	\$ 19.13	\$ 20.57	\$ 21.18	\$ 21.81	\$ 22.47	\$ 23.15	\$ 23.84
Usage Charge	1,001 - 20,000	3.69 - 3.38	4.76 - 4.05	5.62 - 4.97	6.90 - 5.86	7.43 - 6.32	7.98 - 7.01	8.22 - 7.22	8.48 - 7.43	8.72 - 7.65	8.97 - 7.88



**CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

			Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator													
Scen: 2014 12 12 -- Scen 2 -- Conservation													
WW4 Commercial City													
Base Charge		\$	8.67	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Charge	1,001 20,001	20,000 Above	2.59 2.20	3.17 2.70	3.88 3.31	4.60 3.92	4.95 4.21	5.32 4.53	5.48 4.67	5.64 4.81	5.81 4.95	5.98 5.10	6.16 5.25
WW4 Commercial Outside City													
Base Charge		\$	10.01	\$ 12.29	\$ 15.02	\$ 17.79	\$ 19.13	\$ 20.57	\$ 21.18	\$ 21.81	\$ 22.47	\$ 23.15	\$ 23.84
Usage Charge	1,001 20,001	20,000 Above	3.89 3.30	4.76 4.05	5.62 4.97	6.90 5.88	7.43 6.32	7.98 6.80	8.22 7.01	8.46 7.22	8.72 7.43	8.97 7.85	9.24 7.88
WW4 Industrial City													
Base Charge		\$	8.67	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Charge	1,001 20,001	20,000 Above	2.59 2.20	3.17 2.70	3.88 3.31	4.60 3.92	4.95 4.21	5.32 4.53	5.48 4.67	5.64 4.81	5.81 4.95	5.98 5.10	6.16 5.25
WW4 Industrial Outside City													
Base Charge		\$	10.01	\$ 12.29	\$ 15.02	\$ 17.79	\$ 19.13	\$ 20.57	\$ 21.18	\$ 21.81	\$ 22.47	\$ 23.15	\$ 23.84
Usage Charge	1,001 20,001	20,000 Above	3.89 3.30	4.76 4.05	5.62 4.97	6.90 5.88	7.43 6.32	7.98 6.80	8.22 7.01	8.46 7.22	8.72 7.43	8.97 7.85	9.24 7.88
WW4 Ind. Discount City													
Base Charge		-15.8%	\$ (1.05)	\$ (1.28)	\$ (1.58)	\$ (1.87)	\$ (2.01)	\$ (2.16)	\$ (2.22)	\$ (2.29)	\$ (2.36)	\$ (2.43)	\$ (2.50)
Usage Charge	1,001 20,001	20,000 Above	\$(0.41) \$(0.35)	\$(0.50) \$(0.43)	\$(0.61) \$(0.53)	\$(0.72) \$(0.63)	\$(0.77) \$(0.68)	\$(0.83) \$(0.73)	\$(0.85) \$(0.75)	\$(0.88) \$(0.77)	\$(0.91) \$(0.79)	\$(0.94) \$(0.81)	\$(0.97) \$(0.63)
WW4 Public Authorities													
Base Charge		\$	8.67	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71	\$ 14.12	\$ 14.54	\$ 14.98	\$ 15.43	\$ 15.89
Usage Charge	1,001 20,001	20,000 Above	2.59 2.20	3.17 2.70	3.88 3.31	4.60 3.92	4.95 4.21	5.32 4.53	5.48 4.67	5.64 4.81	5.81 4.95	5.98 5.10	6.16 5.25

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Current 2012 2016 2017 2018 2019 2020 2021 2022 2023 2024

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

Summary of Revenue Requirements

	2012	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenues Less Revenue Requirement										
Water	571,205	(520,864)	(298,874)	894,418	475,019	517,320	825,593	784,105	601,400	837,680
Wastewater	145,682	(458,635)	440,757	1,121,167	458,482	735,742	412,425	504,295	597,163	590,400
Total	716,887	(979,499)	142,883	2,015,585	933,501	1,253,062	1,238,018	1,288,400	1,198,563	1,428,080
	7.5%	-9.2%	1.2%	16.0%	6.7%	6.5%	6.8%	6.0%	6.5%	9.0%

Debt Coverage Calculation

Water	-	1.81	1.97	2.07	1.47	1.49	1.54	1.60	1.62	1.64
Wastewater	2.01	1.01	1.45	1.79	1.30	1.40	1.25	1.28	1.31	1.33
Total	5.63	1.34	1.67	1.91	1.37	1.43	1.36	1.40	1.43	1.45

Water Rate Worksheet

Category	City	2012	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1 Residential	City										
	Base Charge	\$ 1,074,842	\$ 1,161,764	\$ 1,238,267	\$ 1,304,187	\$ 1,383,278	\$ 1,427,784	\$ 1,491,909	\$ 1,565,312	\$ 1,615,291	\$ 1,686,678
	Volume Charge	\$ 1,112,656	\$ 1,197,234	\$ 1,275,271	\$ 1,345,051	\$ 1,422,418	\$ 1,469,538	\$ 1,531,091	\$ 1,605,867	\$ 1,656,412	\$ 1,708,826
	Total	\$ 2,187,500	\$ 2,358,998	\$ 2,513,538	\$ 2,649,238	\$ 2,805,696	\$ 2,897,322	\$ 3,022,971	\$ 3,170,980	\$ 3,271,703	\$ 3,395,483
	Scen 2	\$ 2,155,462	\$ 2,225,432	\$ 2,290,931	\$ 2,371,217	\$ 2,448,580	\$ 2,530,503	\$ 2,613,045	\$ 2,765,062	\$ 3,022,153	\$ 3,223,757
W.2 Residential	Outside City										
	Base Charge	\$ 80,484	\$ 87,009	\$ 92,729	\$ 97,876	\$ 103,600	\$ 106,834	\$ 111,737	\$ 117,235	\$ 120,978	\$ 124,827
	Volume Charge	\$ 113,630	\$ 101,838	\$ 102,281	\$ 114,018	\$ 120,784	\$ 124,500	\$ 129,878	\$ 136,311	\$ 140,820	\$ 145,098
	Total	\$ 194,014	\$ 188,845	\$ 201,000	\$ 211,892	\$ 224,384	\$ 231,433	\$ 241,714	\$ 253,546	\$ 261,598	\$ 269,895
	Scen 2	191,441	177,874	183,491	189,325	195,488	201,860	208,348	229,386	240,745	256,687
W.3 Commercial	City										
	Base Charge	\$ 269,280	\$ 191,601	\$ 205,043	\$ 216,825	\$ 230,889	\$ 239,258	\$ 250,983	\$ 264,354	\$ 273,847	\$ 283,839
	Volume Charge	\$ 518,950	\$ 582,265	\$ 601,323	\$ 635,455	\$ 676,588	\$ 701,038	\$ 735,547	\$ 773,587	\$ 809,900	\$ 852,489
	Total	\$ 788,230	\$ 753,866	\$ 806,366	\$ 852,280	\$ 907,457	\$ 940,296	\$ 986,530	\$ 1,039,941	\$ 1,077,748	\$ 1,116,128
W.4 Commercial	Outside City										
	Base Charge	\$ 4,283	\$ 3,141	\$ 3,341	\$ 3,512	\$ 3,718	\$ 3,850	\$ 3,994	\$ 4,162	\$ 4,357	\$ 4,435
	Volume Charge	\$ 8,761	\$ 10,512	\$ 11,175	\$ 11,738	\$ 12,424	\$ 12,707	\$ 13,348	\$ 13,993	\$ 14,420	\$ 14,840
	Total	\$ 14,054	\$ 13,654	\$ 14,516	\$ 15,251	\$ 16,142	\$ 16,627	\$ 17,342	\$ 18,175	\$ 18,727	\$ 19,282
W.5 Industrial	City										
	Base Charge	\$ 45,233	\$ 9,978	\$ 10,614	\$ 11,157	\$ 11,810	\$ 12,166	\$ 12,867	\$ 13,285	\$ 13,882	\$ 14,050
	Volume Charge	\$ 784,503	\$ 845,805	\$ 899,569	\$ 944,526	\$ 999,331	\$ 1,039,159	\$ 1,073,852	\$ 1,122,842	\$ 1,155,811	\$ 1,191,576
	Total	\$ 829,736	\$ 855,784	\$ 910,183	\$ 955,683	\$ 1,011,141	\$ 1,042,325	\$ 1,086,519	\$ 1,136,927	\$ 1,169,293	\$ 1,205,666
W.6 Industrial	Outside City										
	Base Charge	\$ 5,320	\$ 1,218	\$ 1,293	\$ 1,360	\$ 1,439	\$ 1,462	\$ 1,540	\$ 1,819	\$ 1,867	\$ 1,717
	Volume Charge	\$ 187,249	\$ 201,611	\$ 214,042	\$ 224,739	\$ 237,779	\$ 245,114	\$ 255,306	\$ 267,120	\$ 274,964	\$ 283,922
	Total	\$ 192,569	\$ 202,727	\$ 215,335	\$ 226,099	\$ 239,218	\$ 246,597	\$ 257,052	\$ 268,738	\$ 276,831	\$ 285,239
W.7 Ind. Discounts	City										
	Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Volume Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
W.8 Public Authorities	City										
	Base Charge	\$ 81,481	\$ 24,530	\$ 26,217	\$ 27,887	\$ 28,445	\$ 30,474	\$ 31,927	\$ 33,586	\$ 34,749	\$ 35,947
	Volume Charge	\$ 202,396	\$ 215,373	\$ 234,323	\$ 247,450	\$ 263,123	\$ 272,440	\$ 285,219	\$ 299,891	\$ 310,498	\$ 321,190
	Total	\$ 283,877	\$ 243,853	\$ 260,540	\$ 275,137	\$ 282,568	\$ 302,913	\$ 317,146	\$ 333,477	\$ 345,247	\$ 357,137
W.9 Municipal	City										
	Base Charge	\$ 1,279	\$ 347	\$ 370	\$ 388	\$ 411	\$ 424	\$ 442	\$ 463	\$ 476	\$ 491
	Volume Charge	\$ 52,152	\$ 56,344	\$ 59,930	\$ 62,963	\$ 66,886	\$ 68,672	\$ 71,623	\$ 75,058	\$ 77,415	\$ 79,731
	Total	\$ 53,431	\$ 56,692	\$ 60,299	\$ 63,352	\$ 67,000	\$ 69,098	\$ 72,065	\$ 75,561	\$ 77,891	\$ 80,222

CITY CORPORATION -- RUSSELLVILLE											
WATER/WASTEWATER COST OF SERVICE MODEL											
	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

W.10	Fire Protection	City										
		Base Charge	\$ 7,587	\$ 367	\$ 390	\$ 410	\$ 434	\$ 447	\$ 466	\$ 483	\$ 503	\$ 518
		Volume Charge	336	362	385	405	429	441	452	460	495	509
	Total	\$ 7,933	\$ 728	\$ 775	\$ 815	\$ 863	\$ 888	\$ 925	\$ 969	\$ 998	\$ 1,027	
0	Other	City										
		Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Volume Charge	-	-	-	-	-	-	-	-	-	-
	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
0	Other	City										
		Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Volume Charge	-	-	-	-	-	-	-	-	-	-
	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
0	Other	City										
		Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Volume Charge	-	-	-	-	-	-	-	-	-	-
	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
0	Other	City										
		Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Volume Charge	-	-	-	-	-	-	-	-	-	-
	Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
W.11	Tri County	Outside City										
		Base Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Volume Charge	958,646	995,017	1,061,411	1,092,099	1,124,270	1,157,993	1,193,366	1,230,455	1,269,355	1,310,160
	Total	\$ 958,646	\$ 995,017	\$ 1,061,411	\$ 1,092,099	\$ 1,124,270	\$ 1,157,993	\$ 1,193,366	\$ 1,230,455	\$ 1,269,355	\$ 1,310,160	
Total Water Revenue			\$ 5,610,136	\$ 6,671,084	\$ 8,043,965	\$ 8,339,887	\$ 8,888,605	\$ 8,802,485	\$ 7,195,928	\$ 7,527,768	\$ 7,769,160	\$ 8,020,239

CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024									
Input Area -- Rate Calculator																				
Scen: 2014 12 12 -- Scen 2 -- Conservation																				
<u>Less Revenue to be Raised from Rates:</u>																				
W1 Residential City	\$	2,091,679	\$	2,701,420	\$	2,767,960	\$	2,259,039	\$	2,682,399	\$	2,759,914	\$	2,841,496	\$	2,827,371	\$	3,017,777	\$	3,112,968
W2 Residential Outside City		149,663		191,132		195,703		158,419		168,894		184,220		199,825		205,725		211,938		218,475
W3 Commercial City		434,221		573,176		583,841		474,740		579,638		568,627		607,560		627,491		648,478		670,570
W4 Commercial Outside City		14,180		18,752		10,138		15,228		18,263		18,717		19,194		19,897		20,225		20,783
W5 Industrial City		681,529		921,318		938,666		731,995		887,043		907,510		929,037		951,754		975,039		1,000,783
W6 Industrial Outside City		202,870		277,875		277,182		217,687		262,853		269,210		275,794		282,725		290,021		297,702
W7 Ind. Discounts City		-		-		-		-		-		-		-		-		-		-
W8 Public Authorities City		267,029		358,445		367,348		291,837		352,772		363,028		373,814		385,197		397,110		409,702
W9 Municipal City		75,439		101,194		103,161		81,022		97,825		100,144		102,566		105,156		107,882		110,710
W10 Fire Protection City		4,068		5,398		5,510		4,390		5,261		5,393		5,531		5,676		5,830		5,991
0 Other City		169		162		169		171		182		180		199		208		218		226
0 Other City		-		-		-		-		-		-		-		-		-		-
0 Other City		-		-		-		-		-		-		-		-		-		-
0 Other City		-		-		-		-		-		-		-		-		-		-
W11 Tri County Outside City		1,020,175		1,049,878		1,078,690		1,110,494		1,143,555		1,178,220		1,214,570		1,252,693		1,292,681		1,334,630
Sub-Total		4,938,931		6,191,748		6,342,639		5,346,268		6,209,786		8,385,175		6,569,636		6,763,083		6,967,793		7,182,550
<u>Rate Revenue Less RRRR:</u>																				
W1 Residential City	\$	96,629	\$	(342,422)	\$	(254,421)	\$	398,151	\$	123,297	\$	134,408	\$	161,475	\$	243,609	\$	259,926	\$	262,516
W2 Residential Outside City		47,351		(2,487)		5,297		53,273		35,480		37,213		41,888		47,821		49,662		51,420
W3 Commercial City		353,988		180,710		217,526		377,580		338,820		351,669		378,970		412,450		429,270		445,590
W4 Commercial Outside City		(126)		(5,099)		(4,822)		24		(2,121)		(2,090)		(1,852)		(1,522)		(1,469)		(1,501)
W5 Industrial City		150,668		(64,434)		(28,485)		223,849		124,098		134,809		157,452		164,173		190,654		204,093
W6 Industrial Outside City		(10,302)		(89,148)		(61,847)		8,212		(23,736)		(22,813)		(18,742)		(13,986)		(13,390)		(12,463)
W7 Ind. Discounts City		-		-		-		-		-		-		-		-		-		-
W8 Public Authorities City		15,948		(114,592)		(106,868)		(16,700)		(60,204)		(60,112)		(50,668)		(51,690)		(51,672)		(52,565)
W9 Municipal City		(22,007)		(44,502)		(42,862)		(17,671)		(30,727)		(31,049)		(30,521)		(29,595)		(29,871)		(30,458)
W10 Fire Protection City		3,845		(4,670)		(4,735)		(3,575)		(4,395)		(4,505)		(4,606)		(4,708)		(4,832)		(4,964)
0 Other City		(159)		(162)		(169)		(171)		(182)		(180)		(199)		(208)		(218)		(226)
0 Other City		-		-		-		-		-		-		-		-		-		-
0 Other City		-		-		-		-		-		-		-		-		-		-
0 Other City		-		-		-		-		-		-		-		-		-		-
W11 Tri County Outside City		(63,629)		(53,859)		(17,548)		(16,395)		(19,285)		(20,221)		(21,204)		(22,239)		(23,326)		(24,470)
Total		471,801		(629,964)		(199,975)		940,432		271,113		517,321		625,977		764,164		801,496		837,848

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator											
Scen: 2014 12 12 -- Scen 2 -- Conservation											
WW Rate Revenue											
WW1 Residential City	Base Charge	\$ 811,437	\$ 996,188	\$ 1,204,348	\$ 1,368,266	\$ 1,475,325	\$ 1,560,650	\$ 1,610,646	\$ 1,662,441	\$ 1,710,233	\$ 1,771,372
	Volume Charge	816,233	1,124,507	1,355,271	1,545,094	1,656,021	1,762,468	1,819,072	1,876,807	1,936,809	1,998,559
	Total	1,727,670	2,120,695	2,560,620	2,915,260	3,141,346	3,323,118	3,429,718	3,539,348	3,653,041	3,769,931
WW2 Residential Outside City	Base Charge	\$ 41,286	\$ 50,738	\$ 61,402	\$ 69,881	\$ 75,369	\$ 79,608	\$ 82,448	\$ 85,162	\$ 88,025	\$ 90,942
	Volume Charge	48,553,733	59,657	72,165	62,184	88,653	93,678	86,991	100,173	103,472	106,876
	Total	69,644	110,395	133,567	152,065	164,023	173,687	179,437	185,355	191,497	197,817
WW3 Commercial City	Base Charge	\$ 112,803	\$ 139,260	\$ 168,281	\$ 193,628	\$ 208,650	\$ 222,668	\$ 231,330	\$ 240,035	\$ 249,098	\$ 258,429
	Volume Charge	847,980	755,368	972,067	1,111,737	1,204,466	1,261,164	1,329,473	1,378,977	1,430,401	1,483,866
	Total	760,783	939,149	1,141,559	1,305,265	1,414,139	1,504,152	1,560,809	1,619,012	1,679,497	1,742,116
WW4 Commercial Outside City	Base Charge	\$ 525	\$ 643	\$ 770	\$ 881	\$ 947	\$ 999	\$ 1,029	\$ 1,060	\$ 1,092	\$ 1,125
	Volume Charge	2,013	2,465	2,974	3,375	3,629	3,831	3,948	4,083	4,163	4,308
	Total	2,538	3,109	3,750	4,255	4,575	4,830	4,975	5,123	5,275	5,432
WW5 Industrial City	Base Charge	\$ 4,589	\$ 5,621	\$ 6,761	\$ 7,093	\$ 6,271	\$ 8,731	\$ 8,602	\$ 9,261	\$ 9,540	\$ 9,828
	Volume Charge	1,238,963	1,482,777	1,788,816	2,028,332	2,189,251	2,303,101	2,371,265	2,443,532	2,519,915	2,591,159
	Total	1,243,552	1,488,398	1,795,577	2,035,425	2,195,522	2,311,832	2,382,296	2,452,793	2,529,455	2,600,987
WW6 Industrial Outside City	Base Charge	\$ 525	\$ 643	\$ 770	\$ 881	\$ 947	\$ 999	\$ 1,029	\$ 1,060	\$ 1,092	\$ 1,125
	Volume Charge	34,121	41,849	50,469	57,247	61,534	65,001	66,992	68,985	71,008	73,131
	Total	34,646	42,493	51,268	58,127	62,481	66,001	68,011	70,025	72,100	74,256
WW7 Ind. Discounts City	Base Charge	\$ (83)	\$ (102)	\$ (122)	\$ (139)	\$ (149)	\$ (157)	\$ (162)	\$ (167)	\$ (172)	\$ (177)
	Volume Charge	(51,593)	(63,057)	(75,614)	(85,881)	(91,975)	(96,970)	(99,741)	(103,128)	(106,508)	(109,891)
	Total	(51,676)	(63,159)	(75,736)	(86,020)	(92,126)	(97,128)	(99,903)	(103,292)	(107,600)	(110,968)
WW8 Public Authorities	Base Charge	\$ 14,123	\$ 17,408	\$ 21,130	\$ 24,119	\$ 26,050	\$ 27,706	\$ 28,704	\$ 29,741	\$ 30,820	\$ 31,931
	Volume Charge	207,255	255,738	310,435	354,165	383,021	407,027	421,630	437,018	452,640	468,922
	Total	221,378	273,146	331,565	378,284	409,071	434,733	450,334	467,759	483,461	500,853
Total WW Rate Revenues		4,650,411	4,977,387	6,021,043	6,549,283	7,394,194	7,816,360	8,075,640	8,338,415	8,610,326	8,891,391

**CITY CORPORATION - RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL**

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

Less Revenues to be Raised from Rates:

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Residential City	\$ 1,354,207	\$ 1,627,372	\$ 1,874,982	\$ 1,924,949	\$ 2,295,893	\$ 2,354,812	\$ 2,541,254	\$ 2,601,488	\$ 2,664,759	\$ 2,731,230	
Residential Outside City	47,121	63,742	65,463	67,270	80,501	82,483	89,132	91,327	93,632	96,053	
Commercial City	874,986	933,898	981,889	1,011,206	1,234,607	1,208,056	1,382,774	1,417,068	1,456,324	1,496,842	
Commercial Outside City	1,472	2,050	2,095	2,142	2,589	2,640	2,852	2,908	2,968	3,028	
Industrial City	1,236,793	1,760,508	1,798,801	1,834,060	2,236,783	2,277,508	2,465,191	2,510,383	2,557,378	2,607,793	
Industrial Outside City	23,436	33,329	34,018	34,741	42,334	43,116	45,855	47,513	48,415	49,362	
Ind. Discounts City	265,381	420,532	423,188	428,292	534,326	544,168	588,892	598,682	611,021	622,939	
Public Authorities	218,651	311,436	318,913	328,797	402,384	412,401	449,705	459,851	471,488	483,678	
Sub-Total	3,852,048	5,372,864	5,504,380	5,542,286	6,633,608	6,681,480	7,603,513	7,730,828	7,905,484	8,090,923	

Rate Revenue Less RRRR:

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Residential City	\$ 373,463	\$ 263,324	\$ 688,638	\$ 890,311	\$ 841,484	\$ 988,503	\$ 888,465	\$ 937,880	\$ 988,282	\$ 1,038,702	
Residential Outside City	42,724	46,653	88,124	84,765	83,621	91,195	90,308	94,029	97,865	101,764	
Commercial City	85,797	(14,750)	159,878	294,060	179,329	236,095	180,035	201,344	233,173	245,274	
Commercial Outside City	1,066	1,059	1,855	2,113	1,986	2,180	2,123	2,215	2,309	2,405	
Industrial City	(23,241)	(272,107)	(1,104)	201,138	(48,261)	33,635	(82,034)	(57,589)	(32,423)	(6,508)	
Industrial Outside City	11,208	9,164	17,249	23,365	20,147	22,885	21,356	22,512	23,085	24,894	
Ind. Discounts City	(347,052)	(483,690)	(505,134)	(524,121)	(626,451)	(641,294)	(688,794)	(702,973)	(717,701)	(733,007)	
Public Authorities	2,726	(28,288)	11,652	49,488	5,726	22,332	1,688	8,898	11,873	17,177	
	148,882	(458,835)	440,757	1,121,167	458,482	735,742	412,425	504,295	597,163	690,400	

Rate Revenue less Revenue Rrrr: 148,882 (458,835) 440,757 1,121,167 458,482 735,742 412,425 504,295 597,163 690,400

Net Annual Volume after Minimum (060 gal)

W.1 Residential	City	Rate	50.0%	20.0%	25.0%	5.0%	100.0%	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
	-	2,000	50.0%	297,041	297,634	286,226	288,821	299,414	300,055	300,691	301,194	301,788	302,381				
	2,001	5,000	20.0%	119,816	119,054	119,291	119,528	119,766	120,003	120,240	120,478	120,715	120,952				
	5,001	20,000	25.0%	148,521	148,917	149,114	149,411	149,707	150,004	150,301	150,597	150,894	151,191				
	20,001	Above	5.0%	29,704	29,763	29,823	29,882	29,941	30,001	30,060	30,119	30,179	30,238				
	Avg Mthly Usage =	4,945	100.0%	594,082	595,269	596,455	597,642	598,829	600,015	601,202	602,389	603,575	604,762				
W.2 Residential	Outside City																
	-	2,000	50.0%	18,811	16,846	16,678	16,912	18,946	10,979	17,013	17,048	17,080	17,114				
	2,001	5,000	20.0%	8,724	6,736	6,751	6,765	6,778	6,792	6,805	6,819	6,832	6,845				
	5,001	20,000	25.0%	8,400	8,422	8,439	8,456	8,473	8,490	8,506	8,523	8,540	8,557				
	10,001	Above	5.0%	1,881	1,884	1,886	1,891	1,895	1,898	1,901	1,905	1,908	1,911				
	Avg Mthly Usage =	5,665	100.0%	33,622	33,669	33,757	33,824	33,891	33,958	34,026	34,093	34,160	34,227				
W.3 Commercial	City																
	-	2,000	30.0%	85,074	85,591	86,108	86,626	87,143	87,660	88,177	88,695	89,212	89,729				
	2,001	10,000	40.0%	113,432	114,121	114,811	115,501	116,191	116,880	117,570	118,260	118,949	119,639				
	10,001	20,000	15.0%	42,537	42,785	43,054	43,313	43,571	43,830	44,089	44,347	44,605	44,865				
	10,001	Above	15.0%	42,537	42,785	43,054	43,313	43,571	43,830	44,089	44,347	44,605	44,865				
	Avg Mthly Usage =	14,389	100.0%	283,579	285,303	287,028	288,752	290,476	292,201	293,925	295,649	297,374	299,098				

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator												
Scen: 2014 12 12 -- Scen 2 -- Conservation												
W.4 Commercial	Outside City	-										
	2,001	2,000	30.0%	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067	1,067
	10,001	10,000	40.0%	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422	1,422
	10,001	20,000	15.0%	533	533	533	533	533	533	533	533	533
	10,001	Above	15.0%	533	533	533	533	533	533	533	533	533
	Avg Mthly Usage =	16,387	100.0%	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556	3,556
W.5 Industrial	City	-										
	2,001	2,000	5.0%	25,690	25,690	25,690	25,690	25,690	25,690	25,690	25,690	25,690
	10,001	10,000	25.0%	128,449	128,449	128,449	128,449	128,449	128,449	128,449	128,449	128,449
	10,001	20,000	25.0%	128,449	128,449	128,449	128,449	128,449	128,449	128,449	128,449	128,449
	10,001	Above	45.0%	231,208	231,208	231,208	231,208	231,208	231,208	231,208	231,208	231,208
	Avg Mthly Usage =	486,900	100.0%	513,795	513,795	513,795	513,795	513,795	513,795	513,795	513,795	513,795
W.6 Industrial	Outside City	-										
	2,001	2,000	5.0%	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075	4,075
	10,001	10,000	10.0%	8,150	8,150	8,150	8,150	8,150	8,150	8,150	8,150	8,150
	10,001	20,000	10.0%	8,150	8,150	8,150	8,150	8,150	8,150	8,150	8,150	8,150
	10,001	Above	75.0%	61,126	61,126	61,126	61,126	61,126	61,126	61,126	61,126	61,126
	Avg Mthly Usage =	970,250	100.0%	81,501	81,501	81,501	81,501	81,501	81,501	81,501	81,501	81,501
W.7 Ind. Discounts	City	-										
	2,001	2,000	5.0%	-	-	-	-	-	-	-	-	-
	10,001	10,000	10.0%	-	-	-	-	-	-	-	-	-
	10,001	20,000	10.0%	-	-	-	-	-	-	-	-	-
	10,001	Above	75.0%	-	-	-	-	-	-	-	-	-
	Avg Mthly Usage =	-	100.0%	-	-	-	-	-	-	-	-	-
W.8 Public Authorities	City	-										
	2,001	2,000	25.0%	24,703	24,820	24,937	25,054	25,171	25,288	25,405	25,523	25,640
	10,001	10,000	25.0%	24,703	24,820	24,937	25,054	25,171	25,288	25,405	25,523	25,640
	10,001	20,000	25.0%	24,703	24,820	24,937	25,054	25,171	25,288	25,405	25,523	25,640
	10,001	Above	25.0%	24,703	24,820	24,937	25,054	25,171	25,288	25,405	25,523	25,640
	Avg Mthly Usage =	36,065	100.0%	98,810	99,279	99,747	100,216	100,685	101,153	101,622	102,091	102,559
W.9 Municipal	City	-										
	2,001	2,000	5.0%	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655	1,655
	10,001	10,000	10.0%	3,310	3,310	3,310	3,310	3,310	3,310	3,310	3,310	3,310
	10,001	20,000	10.0%	3,310	3,310	3,310	3,310	3,310	3,310	3,310	3,310	3,310
	10,001	Above	75.0%	24,821	24,821	24,821	24,821	24,821	24,821	24,821	24,821	24,821
	Avg Mthly Usage =	918,306	100.0%	33,095	33,095	33,095	33,095	33,095	33,095	33,095	33,095	33,095
W.10 Fire Protection	City	-										
	2,001	2,000	30.0%	73	73	73	73	73	73	73	73	73
	10,001	10,000	40.0%	97	97	97	97	97	97	97	97	97
	10,001	20,000	15.0%	36	36	36	36	36	36	36	36	36
	10,001	Above	15.0%	36	36	36	36	36	36	36	36	36
	Avg Mthly Usage =	8,368	100.0%	242	242	242	242	242	242	242	242	242
0 Other	City	-										
	2,001	2,000	30.0%	-	-	-	-	-	-	-	-	-
	10,001	10,000	40.0%	-	-	-	-	-	-	-	-	-
	10,001	20,000	15.0%	-	-	-	-	-	-	-	-	-
	10,001	Above	15.0%	-	-	-	-	-	-	-	-	-
	Avg Mthly Usage =	-	100.0%	-	-	-	-	-	-	-	-	-

			CITY CORPORATION -- RUSSELLVILLE WATER/WASTEWATER COST OF SERVICE MODEL										
			Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator													
Scen: 2014 12 12 -- Scen 2 -- Conservation													
0	Other	City	-	2,000	30.0%	-	-	-	-	-	-	-	-
		2,001	10,000	40.0%	-	-	-	-	-	-	-	-	-
		10,001	20,000	15.0%	-	-	-	-	-	-	-	-	-
		10,001	Above	15.0%	-	-	-	-	-	-	-	-	-
		Avg Mthly Usage =	-	100.0%	-	-	-	-	-	-	-	-	-
0	Other	City	-	2,000	30.0%	-	-	-	-	-	-	-	-
		2,001	10,000	40.0%	-	-	-	-	-	-	-	-	-
		10,001	20,000	15.0%	-	-	-	-	-	-	-	-	-
		10,001	Above	15.0%	-	-	-	-	-	-	-	-	-
		Avg Mthly Usage =	-	100.0%	-	-	-	-	-	-	-	-	-
0	Other	City	-	2,000	30.0%	-	-	-	-	-	-	-	-
		2,001	10,000	40.0%	-	-	-	-	-	-	-	-	-
		10,001	20,000	15.0%	-	-	-	-	-	-	-	-	-
		10,001	Above	15.0%	-	-	-	-	-	-	-	-	-
		Avg Mthly Usage =	-	100.0%	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	-	2,000	1.0%	5,497	5,497	5,497	5,497	5,497	5,497	5,497	5,497
		2,001	10,000	1.0%	5,497	5,497	5,497	5,497	5,497	5,497	5,497	5,497	5,497
		10,001	20,000	1.0%	5,497	5,497	5,497	5,497	5,497	5,497	5,497	5,497	5,497
		10,001	Above	97.0%	533,247	533,247	533,247	533,247	533,247	533,247	533,247	533,247	533,247
		Avg Mthly Usage =	6,544,612	100.0%	549,739	549,739	549,739	549,739	549,739	549,739	549,739	549,739	549,739
Total													
				2,192,021	2,195,468	2,199,915	2,202,362	2,205,809	2,208,256	2,212,703	2,216,149	2,219,596	2,223,043
				2,192,021	2,195,468	2,199,915	2,202,362	2,205,809	2,208,256	2,212,703	2,216,149	2,219,596	2,223,043

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
 Scen: 2014 12 12 -- Scen 2 -- Conservation

Current	2016	2017	2018	2019	2020	2021	2022	2023	2024	
W1 Residential City										
5/8"	120,150	120,350	120,630	120,870	121,110	121,350	121,590	121,830	122,070	122,310
3/4"	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
5/8"	120,150	120,350	120,630	120,870	121,110	121,350	121,590	121,830	122,070	122,310
3/4"	-	-	-	-	-	-	-	-	-	-
1"	-	-	-	-	-	-	-	-	-	-
1 1/2"	-	-	-	-	-	-	-	-	-	-
2"	-	-	-	-	-	-	-	-	-	-
3"	-	-	-	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-
	120,150	120,350	120,630	120,870	121,110	121,350	121,590	121,830	122,070	122,310
W2 Residential Outside City										
5/8"	5,989	6,011	6,023	6,035	6,047	6,059	6,071	6,083	6,095	6,107
3/4"	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
5/8"	5,989	6,011	6,023	6,035	6,047	6,059	6,071	6,083	6,095	6,107
3/4"	-	-	-	-	-	-	-	-	-	-
1"	-	-	-	-	-	-	-	-	-	-
1 1/2"	-	-	-	-	-	-	-	-	-	-
2"	-	-	-	-	-	-	-	-	-	-
3"	-	-	-	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-
	5,989	6,011	6,023	6,035	6,047	6,059	6,071	6,083	6,095	6,107

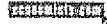
CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator			Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Scen: 2014 12 12 -- Scen 2 -- Conservation													
W.3	Commercial	City	19,735	19,855	19,975	20,095	20,215	20,335	20,455	20,575	20,695	20,815	
		5/8"	90.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1 1/2"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		2"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		3"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		4"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
		5/8"	17,762	18,855	19,975	20,095	20,215	20,335	20,455	20,575	20,695	20,815	
		3/4"	-	-	-	-	-	-	-	-	-	-	
		1"	395	-	-	-	-	-	-	-	-	-	
		1 1/2"	395	-	-	-	-	-	-	-	-	-	
		2"	395	-	-	-	-	-	-	-	-	-	
		3"	395	-	-	-	-	-	-	-	-	-	
		4"	395	-	-	-	-	-	-	-	-	-	
		6"	-	-	-	-	-	-	-	-	-	-	
		8"	-	-	-	-	-	-	-	-	-	-	
		10"	-	-	-	-	-	-	-	-	-	-	
			19,737	19,855	19,975	20,095	20,215	20,335	20,455	20,575	20,695	20,815	
W.4	Commercial	Outside City	217	217	217	217	217	217	217	217	217	217	
		5/8"	90.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1 1/2"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		2"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		3"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		4"	2.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
		5/8"	195	217	217	217	217	217	217	217	217	217	
		3/4"	-	-	-	-	-	-	-	-	-	-	
		1"	4	-	-	-	-	-	-	-	-	-	
		1 1/2"	4	-	-	-	-	-	-	-	-	-	
		2"	4	-	-	-	-	-	-	-	-	-	
		3"	4	-	-	-	-	-	-	-	-	-	
		4"	4	-	-	-	-	-	-	-	-	-	
		6"	-	-	-	-	-	-	-	-	-	-	
		8"	-	-	-	-	-	-	-	-	-	-	
		10"	-	-	-	-	-	-	-	-	-	-	
			215	217	217	217	217	217	217	217	217	217	



CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

			Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
Input Area -- Rate Calculator														
Scen: 2014 12 12 -- Scen 2 -- Conservation														
W5	Industrial	City	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	
		5/8"	25.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
			5/8"	259	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034
			3/4"	-	-	-	-	-	-	-	-	-	-	-
			1"	207	-	-	-	-	-	-	-	-	-	-
			1 1/2"	207	-	-	-	-	-	-	-	-	-	-
			2"	103	-	-	-	-	-	-	-	-	-	-
			3"	103	-	-	-	-	-	-	-	-	-	-
			4"	103	-	-	-	-	-	-	-	-	-	-
			6"	52	-	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-	-	-		
	10"	-	-	-	-	-	-	-	-	-	-	-		
		1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034		
W6	Industrial	Outside City	84	84	84	84	84	84	84	84	84	84	84	
		5/8"	25.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1"	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		1 1/2"	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		2"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		3"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		4"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		6"	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
			5/8"	21	84	84	84	84	84	84	84	84	84	84
			3/4"	-	-	-	-	-	-	-	-	-	-	-
			1"	17	-	-	-	-	-	-	-	-	-	-
			1 1/2"	17	-	-	-	-	-	-	-	-	-	-
			2"	8	-	-	-	-	-	-	-	-	-	-
			3"	8	-	-	-	-	-	-	-	-	-	-
			4"	8	-	-	-	-	-	-	-	-	-	-
			6"	4	-	-	-	-	-	-	-	-	-	-
	8"	-	-	-	-	-	-	-	-	-	-	-		
	10"	-	-	-	-	-	-	-	-	-	-	-		
		84	84	84	84	84	84	84	84	84	84	84		



CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

	Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W7 Ind. Discounts City											
5/8"	-	25.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
3/4"	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
1"	-	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
1 1/2"	-	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2"	-	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
3"	-	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
4"	-	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
6"	-	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
8"	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
10"	-	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
	-	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
5/8"	-	-	-	-	-	-	-	-	-	-	-
3/4"	-	-	-	-	-	-	-	-	-	-	-
1"	-	-	-	-	-	-	-	-	-	-	-
1 1/2"	-	-	-	-	-	-	-	-	-	-	-
2"	-	-	-	-	-	-	-	-	-	-	-
3"	-	-	-	-	-	-	-	-	-	-	-
4"	-	-	-	-	-	-	-	-	-	-	-
6"	-	-	-	-	-	-	-	-	-	-	-
8"	-	-	-	-	-	-	-	-	-	-	-
10"	-	-	-	-	-	-	-	-	-	-	-
W8 Public Authorities City											
5/8"	2,530	2,542	2,554	2,566	2,578	2,590	2,602	2,614	2,626	2,638	
3/4"	40.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	
1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
1 1/2"	20.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
2"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
3"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
4"	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
6"	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
8"	5.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
5/8"	1,012	2,542	2,554	2,566	2,578	2,590	2,602	2,614	2,626	2,638	
3/4"	-	-	-	-	-	-	-	-	-	-	
1"	508	-	-	-	-	-	-	-	-	-	
1 1/2"	253	-	-	-	-	-	-	-	-	-	
2"	253	-	-	-	-	-	-	-	-	-	
3"	127	-	-	-	-	-	-	-	-	-	
4"	127	-	-	-	-	-	-	-	-	-	
6"	127	-	-	-	-	-	-	-	-	-	
8"	127	-	-	-	-	-	-	-	-	-	
10"	-	-	-	-	-	-	-	-	-	-	
	2,532	2,542	2,554	2,566	2,578	2,590	2,602	2,614	2,626	2,638	



CITY CORPORATION -- RUSSELLVILLE											
WATER/WASTEWATER COST OF SERVICE MODEL											
Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Input Area -- Rate Calculator
 Scen: 2014 12 12 -- Scen 2 -- Conservation

W9	Municipal	City	36	36	36	36	36	36	36	36	36	36
		5/8"	50.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	10.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		5/8"	16	36	36	36	36	36	36	36	36	36
		3/4"	-	-	-	-	-	-	-	-	-	-
		1"	4	-	-	-	-	-	-	-	-	-
		1 1/2"	4	-	-	-	-	-	-	-	-	-
		2"	4	-	-	-	-	-	-	-	-	-
		3"	4	-	-	-	-	-	-	-	-	-
		4"	4	-	-	-	-	-	-	-	-	-
		6"	-	-	-	-	-	-	-	-	-	-
		8"	-	-	-	-	-	-	-	-	-	-
		10"	-	-	-	-	-	-	-	-	-	-
			36	36	36	36	36	36	36	36	36	36
W10	Fire Protection	City	38	38	38	38	38	38	38	38	38	38
		5/8"	0.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	100.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		5/8"	-	38	38	38	38	38	38	38	38	38
		3/4"	-	-	-	-	-	-	-	-	-	-
		1"	-	-	-	-	-	-	-	-	-	-
		1 1/2"	-	-	-	-	-	-	-	-	-	-
		2"	-	-	-	-	-	-	-	-	-	-
		3"	-	-	-	-	-	-	-	-	-	-
		4"	-	-	-	-	-	-	-	-	-	-
		6"	38	-	-	-	-	-	-	-	-	-
		8"	-	-	-	-	-	-	-	-	-	-
		10"	-	-	-	-	-	-	-	-	-	-
			38	38	38	38	38	38	38	38	38	38

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

		Current	2016	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator												
Scen: 2014 12 12 -- Scen 2 -- Conservation												
0	Other	City	60	60	60	60	60	60	60	60	60	60
		5/8"	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		5/8"	60	60	60	60	60	60	60	60	60	60
		3/4"	-	-	-	-	-	-	-	-	-	-
		1"	-	-	-	-	-	-	-	-	-	-
		1 1/2"	-	-	-	-	-	-	-	-	-	-
		2"	-	-	-	-	-	-	-	-	-	-
		3"	-	-	-	-	-	-	-	-	-	-
		4"	-	-	-	-	-	-	-	-	-	-
		6"	-	-	-	-	-	-	-	-	-	-
		8"	-	-	-	-	-	-	-	-	-	-
		10"	-	-	-	-	-	-	-	-	-	-
			60	60	60	60	60	60	60	60	60	60
0	Other	City	-	-	-	-	-	-	-	-	-	-
		5/8"	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		5/8"	-	-	-	-	-	-	-	-	-	-
		3/4"	-	-	-	-	-	-	-	-	-	-
		1"	-	-	-	-	-	-	-	-	-	-
		1 1/2"	-	-	-	-	-	-	-	-	-	-
		2"	-	-	-	-	-	-	-	-	-	-
		3"	-	-	-	-	-	-	-	-	-	-
		4"	-	-	-	-	-	-	-	-	-	-
		6"	-	-	-	-	-	-	-	-	-	-
		8"	-	-	-	-	-	-	-	-	-	-
		10"	-	-	-	-	-	-	-	-	-	-



CITY CORPORATION -- RUSSELLVILLE
WATERWASTEWATER COST OF SERVICE MODEL

2017 2018 2019 2020 2021 2022 2023 2024

Input Area -- Rate Calculator
 Scen: 2014 12 -- Scen 2 -- Conservation

	5/8	3/4	1 1/2"	2"	3"	4"	6"	8"	10"	5/8	3/4	1 1/2"	2"	3"	4"	6"	8"	10"
City	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

City Other 0

City Other 0

5/8	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
3/4	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

		Current	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Area -- Rate Calculator												
Scen: 2014 12 12 -- Scen 2 -- Conservation												
W.Lt	Tri County	Outside City	84	84	84	84	84	84	84	84	84	84
		5/8"	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
		3/4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		1 1/2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		2"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		3"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		4"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		6"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		8"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
		10"	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
		5/8"	84	84	84	84	84	84	84	84	84	84
		3/4"	-	-	-	-	-	-	-	-	-	-
		1"	-	-	-	-	-	-	-	-	-	-
		1 1/2"	-	-	-	-	-	-	-	-	-	-
		2"	-	-	-	-	-	-	-	-	-	-
		3"	-	-	-	-	-	-	-	-	-	-
		4"	-	-	-	-	-	-	-	-	-	-
		6"	-	-	-	-	-	-	-	-	-	-
		8"	-	-	-	-	-	-	-	-	-	-
		10"	-	-	-	-	-	-	-	-	-	-
			84	84	84	84	84	84	84	84	84	84
		Total	149,967	150,351	150,735	151,119	151,503	151,887	152,271	152,655	153,039	153,423
			149,367	150,351	150,735	151,119	151,503	151,887	152,271	152,655	153,039	153,423



CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

WASTEWATER -- Customer & Usage Data

Customer Class Units -- Net Usage After Minimum (000 gallons)

	Current	2016	2016	2017	2018	2018	2019	2020	2021	2022	2023	2024
WW1 Residential City	338,760	339,491	340,222	340,953	341,684	342,415	343,146	343,877	344,607	345,338	346,069	346,800
WW2 Residential Outside City	11,989	12,007	12,045	12,083	12,121	12,159	12,197	12,235	12,274	12,312	12,350	12,388
WW3 Commercial City	243,388	245,277	247,166	249,054	250,943	252,832	254,721	256,610	258,499	260,387	262,276	264,165
WW4 Commercial Outside City	504	504	504	504	504	504	504	504	504	504	504	504
WW5 Industrial City	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618
WW6 Industrial Outside City	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363
WW7 Ind. Discounts City	117,127	117,115	117,103	117,091	117,079	117,067	117,055	117,043	117,031	117,019	117,007	116,995
WW8 Public Authorities	84,571	85,095	85,619	86,144	86,668	87,192	87,716	88,240	88,764	89,288	89,812	90,336
Total Wastewater	1,303,300	1,306,470	1,309,640	1,312,810	1,315,980	1,319,150	1,322,320	1,325,490	1,328,660	1,331,830	1,335,000	1,338,170

Net Annual Volume after Minimum:

WW1 Residential City	1,001	20,000	70%	237,132	237,644	238,155	238,667	239,179	239,690	240,202	240,714	241,225	241,737
	20,001	Above	30%	101,628	101,847	102,067	102,286	102,505	102,724	102,944	103,163	103,382	103,602
	Total			338,760	339,491	340,222	340,953	341,684	342,415	343,146	343,877	344,607	345,338
Avg Mthly Usage =				4,046									
WW2 Residential Outside City	1,001	20,000	70%	8,378	8,405	8,432	8,459	8,485	8,512	8,538	8,565	8,591	8,618
	20,001	Above	30%	3,591	3,602	3,614	3,625	3,636	3,648	3,659	3,671	3,682	3,693
	Total			11,969	12,007	12,045	12,083	12,121	12,159	12,197	12,235	12,274	12,312
Avg Mthly Usage =				4,172									
WW3 Commercial City	1,001	20,000	60%	146,033	147,166	148,299	149,433	150,566	151,699	152,832	153,965	155,099	156,232
	20,001	Above	40%	97,355	98,111	98,866	99,622	100,377	101,133	101,888	102,644	103,399	104,155
	Total			243,388	245,277	247,166	249,054	250,943	252,832	254,721	256,610	258,499	260,387
Avg Mthly Usage =				16,740									
WW4 Commercial Outside City	1,001	20,000	60%	302	302	302	302	302	302	302	302	302	302
	20,001	Above	40%	202	202	202	202	202	202	202	202	202	202
	Total			504	504	504	504	504	504	504	504	504	504
Avg Mthly Usage =				11,500									
WW5 Industrial City	1,001	20,000	5%	24,881	24,881	24,881	24,881	24,881	24,881	24,881	24,881	24,881	24,881
	20,001	Above	95%	472,737	472,737	472,737	472,737	472,737	472,737	472,737	472,737	472,737	472,737
	Total			497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618	497,618
Avg Mthly Usage =				792,126									
WW6 Industrial Outside City	1,001	20,000	5%	468	468	468	468	468	468	468	468	468	468
	20,001	Above	95%	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
	Total			9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363	9,363
Avg Mthly Usage =				198,063									
WW7 Ind. Discounts City	1,001	20,000	60%	105,414	105,404	105,393	105,382	105,371	105,360	105,350	105,339	105,328	105,317
	20,001	Above	10%	11,713	11,712	11,710	11,709	11,708	11,707	11,706	11,704	11,703	11,702
	Total			117,127	117,115	117,103	117,091	117,079	117,067	117,055	117,043	117,031	117,019
Avg Mthly Usage =				1,853,653									
WW8 Public Authorities	1,001	20,000	10%	8,457	8,510	8,562	8,614	8,667	8,719	8,772	8,824	8,876	8,929
	20,001	Above	90%	76,114	76,586	77,057	77,529	78,001	78,473	78,945	79,416	79,888	80,360
	Total			84,571	85,095	85,619	86,144	86,668	87,192	87,716	88,240	88,764	89,288
Avg Mthly Usage =				44,663									
Total Wastewater				1,303,300	1,306,470	1,309,640	1,312,810	1,315,980	1,319,150	1,322,320	1,325,490	1,328,660	1,331,830

CITY CORPORATION -- RUSSELLVILLE
WATER/WASTEWATER COST OF SERVICE MODEL

Input Area -- Rate Calculator
Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class	Units	Total Bill	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WW1 Residential City	111,232		111,472	111,472	111,712	111,952	112,192	112,432	112,672	112,912	113,152	113,392	113,632
WW2 Residential Outside City	3,773		3,765	3,765	3,797	3,809	3,821	3,833	3,845	3,857	3,869	3,881	3,893
WW3 Commercial City	15,403		15,383	15,383	15,703	15,823	15,943	16,063	16,183	16,303	16,423	16,543	16,663
WW4 Commercial Outside City	48		48	48	48	48	48	48	48	48	48	48	48
WW5 Industrial City	629		629	629	629	629	629	629	629	629	629	629	629
WW6 Industrial Outside City	48		48	48	48	48	48	48	48	48	48	48	48
WW7 Ind. Discounts City	72		72	72	72	72	72	72	72	72	72	72	72
WW8 Public Authorities	1,936		1,948	1,960	1,972	1,984	1,996	2,008	2,020	2,032	2,044	2,056	2,068
Total Wastewater			133,201	133,865	133,969	134,353	134,737	135,121	135,505	135,889	136,273	136,657	137,041

Test Year 2015	CITY CORPORATION - RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing

Test Year W 1.0 - Water Department Cost Functionalization
 Scen: 2014 12 12 -- Scen 2 -- Conservation

NON-RATE REVENUES

Account	Description	Total	Water	Treatment	Distribution	Admin	Customer
01.01.461100	Water Division Sales - Residential	\$ -	\$ -	na	na	na	na
01.01.461200	Sales - Commercial	-	-	na	na	na	na
01.01.461300	Sales - Industrial	-	-	na	na	na	na
01.01.461400	Sales - Public Authorities	-	-	na	na	na	na
01.01.461450	Sales - Municipal	-	-	na	na	na	na
01.01.461500	Sales - Wholesale	-	-	na	na	na	na
01.01.461550	Sales - Donation	-	-	na	na	na	na
01.01.462000	Private Fire Protection Service	-	-	na	na	na	na
01.01.471100	Misc. Service Revenue	174,000	174,000	na	na	na	na
01.01.474100	Other Revenue (Sales of Supplies)	-	-	na	na	na	na
01.01.474200	London/Wrk Nuclear One Revenue	13,282	13,282	na	na	na	na
01.01.475100	Tapping Fees	26,500	26,500	na	na	na	na
01.01.475200	Other Service Fees	-	-	na	na	na	na
01.01.475300	Cross Connection Fees	-	-	na	na	na	na
01.01.475500	Solid Waste Fees	64,200	64,200	na	na	na	na
01.01.419000	Interest Income	19,200	19,200	na	na	na	na
01.01.419100	Misc. Non-Operating Revenue	11,750	11,750	na	na	na	na
0	Revenue	-	-	na	na	na	na
0	Revenue	-	-	na	na	na	na
0	Revenue	-	-	na	na	na	na
0	Revenue	-	-	na	na	na	na
		308,932	308,932				
TOTAL NON-RATE REVENUES							
	Cash Basis	308,932	308,932	na	na	na	na



Test Year 2015	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
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**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Test Year *W 1.0 – Water Department Cost Functionalization*
Scen: 2014 12 12 – Scen 2 -- Conservation

OPERATING EXPENSES

Water Division

0	SUPPLY EXPENSES						
01.01.600000	Supervision	\$ 5,574	\$ 5,574	\$ 2,787	\$ 2,787	\$ -	\$ -
01.01.601000	Labor	1,764	1,764	882	882	-	-
01.01.603000	Licenses and Fees	3,913	3,913	1,957	1,957	-	-
01.01.604000	Reservoir Power	70,950	70,950	35,475	35,475	-	-
01.01.605000	Reservoir Other Utility Purchases	2,220	2,220	1,110	1,110	-	-
01.01.607000	Reservoir Transportation	1,950	1,950	975	975	-	-
01.01.609000	Reservoir Maint of Gen. Plant	-	-	-	-	-	-
01.01.611100	Labor -- Maint of Structures and Imp	22,872	22,872	11,436	11,436	-	-
01.01.611200	Materials -- Maint of Structures and Imp	2,880	2,880	1,440	1,440	-	-
01.01.611300	O/S Cont. Maint. Of Structures and Imp	9,477	9,477	4,739	4,739	-	-
01.01.621100	Employee Benefits -- Supply	9,817	9,817	4,909	4,909	-	-
01.01.666000	Safety Equipment & Supplies	960	960	480	480	-	-
01.01.672200	Materials -- Maint. of Dist. Reserve	1,350	1,350	675	675	-	-
01.01.672300	Maint. Dist. Reservoir Standpipe	-	-	-	-	-	-
01.01.903300	Postage	-	-	-	-	-	-
01.01.903400	Computer Expense	2,822	2,822	1,411	1,411	-	-
01.01.903600	Training Expense	2,324	2,324	1,162	1,162	-	-
01.01.921100	Office Supplies and Stationary	2,500	2,500	1,250	1,250	-	-
01.01.921200	Dues and Subscriptions	-	-	-	-	-	-
01.01.921400	Communication Services	6,000	6,000	3,000	3,000	-	-
01.01.921600	Transportation	4,850	4,850	2,425	2,425	-	-
01.01.921700	Travel and Personal Exp	4,320	4,320	2,160	2,160	-	-
01.01.932000	Maint. Of General Plant	2,770	2,770	1,385	1,385	-	-
		169,313	169,313	79,657	79,657		
	PUMPING EXPENSES						
01.01.623100	Power Purchases for Pumping	124,493	124,493	124,493	-	-	-
01.01.623150	Power Purchases for Pumping L/ano	3,000	3,000	3,000	-	-	-
01.01.623200	Other Utility Purchases	264	264	264	-	-	-
01.01.623300	Water Purchased	-	-	-	-	-	-
01.01.624000	Labor -- Pumping	-	-	-	-	-	-
01.01.626100	Misc. Pumping	1,080	1,080	1,080	-	-	-
01.01.630000	Supervision -- Pumping	5,574	5,574	5,574	-	-	-
01.01.631100	Employee Benefits -- Pumping	14,426	14,426	14,426	-	-	-
01.01.633100	Labor -- Maint. Of Pumping Equipment	28,910	28,910	28,910	-	-	-
01.01.633150	Labor -- Maint of Pump Equipment L/ano	9,901	9,901	9,901	-	-	-
01.01.633200	Materials -- Maint of Pumping Equip	5,700	5,700	5,700	-	-	-
01.01.633250	Materials -- Maint of Pump Equip L/ano	-	-	-	-	-	-
01.01.633300	O/S Cont -- Maint of Pumping Equip	18,301	18,301	18,301	-	-	-
01.01.633350	O/S Cont -- Maint of Pump Equip L/ano	300	300	300	-	-	-
	Total	211,949	211,949	211,949			



Test Year	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
2015						

**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Test Year *W 1.0 -- Water Department Cost Functionalization*
Scen: 2014 12 12 -- Scen 2 -- Conservation

Code	Description	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
TREATMENT EXPENSES							
01.01.640100	Labor -- Treatment	243,649	243,649	243,649	-	-	-
01.01.641000	Chemical Exp	369,840	369,840	369,840	-	-	-
01.01.642000	Laboratory	9,670	9,670	9,670	-	-	-
01.01.642100	Labor -- Laboratory	31,434	31,434	31,434	-	-	-
01.01.643000	Misc. Treatment Exp	-	-	-	-	-	-
01.01.644000	Power Purchases for Treatment	204,175	204,175	204,175	-	-	-
01.01.650000	Supervision -- Treatment	26,140	26,140	26,140	-	-	-
01.01.651100	Employee Benefits -- Treatment	109,415	109,415	109,415	-	-	-
01.01.652100	Labor -- Treatment Equipment	35,442	35,442	35,442	-	-	-
01.01.652200	Materials -- Treatment Equipment	18,850	18,850	18,850	-	-	-
01.01.652300	O/S Cost -- Treatment Equipment	166,648	166,648	166,648	-	-	-
01.01.662100	Labor -- Overhead	-	-	-	-	-	-
01.01.921600	Transportation	1,120	1,120	1,120	-	-	-
	Total	1,216,383	1,216,383	1,216,383	-	-	-

Code	Description	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
TRANSMISSION AND DISTRIBUTION EXPENSES							
01.01.660000	Supervision -- T&D	8,796	8,796	-	8,796	-	-
01.01.661100	Employee Benefits -- T&D	2,855	2,855	-	2,855	-	-
01.01.662100	Labor -- Overhead	-	-	-	-	-	-
01.01.662200	Materials -- T&D	6,000	6,000	-	6,000	-	-
01.01.666000	Safety Equipment & Supplies	3,900	3,900	-	3,900	-	-
01.01.903400	Computer Expense	953	953	-	953	-	-
01.01.903600	Training Exp	8,592	8,592	-	8,592	-	-
01.01.921100	Office Supplies & Stationary	1,035	1,035	-	1,035	-	-
01.01.921200	Dues and Subscriptions	255	255	-	255	-	-
01.01.921400	Communication	4,800	4,800	-	4,800	-	-
01.01.921600	Transportation	39,000	39,000	-	39,000	-	-
01.01.921700	Travel and Personal	6,000	6,000	-	6,000	-	-
01.01.932000	Maint. Of General Plant	3,120	3,120	-	3,120	-	-
	Total	85,306	85,306	-	85,306	-	-

Code	Description	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
MAINTENANCE EXPENSE							
01.01.666000	Safety Equipment	960	960	480	480	-	-
01.01.670000	Supervision -- Maintenance	8,796	8,796	4,398	4,398	-	-
01.01.673100	Labor -- Maint of Transmission Main	149,280	149,280	-	149,280	-	-
01.01.673200	Materials -- Maint of Transmission Main	99,000	99,000	-	99,000	-	-
01.01.673300	O/S Cost -- Main of Trans. Main	18,000	18,000	-	18,000	-	-
01.01.675100	Labor -- Maint of Services	126,260	126,260	63,130	63,130	-	-
01.01.675200	Materials -- Maint of Services	57,208	57,208	28,604	28,604	-	-
01.01.676100	Labor -- Maint of Meters	36,877	36,877	-	-	-	36,877
01.01.676200	Materials -- Maint of Meters	23,064	23,064	-	-	-	23,064
01.01.676300	O/S Cost -- Maint of Meters	5,000	5,000	-	-	-	5,000
01.01.677100	Labor -- Maint of Hydrants	15,272	15,272	-	15,272	-	-
01.01.677200	Materials -- Maint of Hydrants	3,300	3,300	-	3,300	-	-
01.01.680100	Employee Benefits -- Maint	109,356	109,356	54,678	54,678	-	-
01.01.903600	Training Exp	1,335	1,335	668	668	-	-
01.01.921100	Office Supplies and Stationary	820	820	410	410	-	-
01.01.921200	Dues and Subscriptions	44	44	22	22	-	-
01.01.921400	Communication Services	696	696	348	348	-	-
01.01.921600	Transportation	9,330	9,330	4,665	4,665	-	-
01.01.921700	Travel and Personal Exp	840	840	420	420	-	-
	Total	665,438	665,438	167,823	442,675	-	64,941

Test Year 2015	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					Customer Billing
	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	

Test Year W 1.0 -- Water Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

CUSTOMER ACCOUNT EXPENSES

01.01.666000	Safety Equipment and Supplies	-	-	-	-	-
01.01.901000	Supervision -- Customer Accounts	59,388	59,388	-	-	59,388
01.01.902100	Labor Meter Reading	31,029	31,029	-	-	31,029
01.01.902150	Labor Cross Connection	-	-	-	-	-
01.01.902200	Supplies -- Meter Reading	1,296	1,296	-	-	1,296
01.01.902300	Cross Connection Supplies	-	-	-	-	-
01.01.903100	Labor Customer Records	92,982	92,982	-	-	92,982
01.01.903200	Stationary and Supplies	3,828	3,828	-	-	3,828
01.01.903300	Postage	-	-	-	-	-
01.01.903400	Computer Expense	7,830	7,830	-	-	7,830
01.01.903500	Collection Costs/Uncollectible	39,100	39,100	-	-	39,100
01.01.903600	Training Costs	2,496	2,496	-	-	2,496
01.01.905000	Misc. Customer Accounting Exp	24	24	-	-	24
01.01.910100	Employee Benefits -- Cust Acct	59,604	59,604	-	-	59,604
01.01.921200	Dues and Subscriptions	96	96	-	-	96
01.01.921400	Communication Services	2,880	2,880	-	-	2,880
01.01.921600	Transportation	10,800	10,800	-	-	10,800
01.01.921700	Travel and Personal Exp	2,550	2,550	-	-	2,550
01.01.923000	Outside Services	63,600	63,600	-	-	63,600
01.01.932000	Maint of General Plant	1,260	1,260	-	-	1,260
	Total	378,763	378,763			378,763

ADMIN AND GENERAL EXPENSES

01.01.666000	Safety Equipment and Supplies	330	330	-	-	330
01.01.903300	Postage	5,480	5,480	-	-	5,480
01.01.903400	Computer	43,947	43,947	-	-	43,947
01.01.903600	Training Exp	18,090	18,090	-	-	18,090
01.01.920100	Salaries -- General Management	75,870	75,870	-	-	75,870
01.01.920200	Salaries -- Accounting	59,195	59,195	-	-	59,195
01.01.920300	Salaries -- Other	52,862	52,862	-	-	52,862
01.01.920400	Salaries -- Engineering	165,405	165,405	-	-	165,405
01.01.920500	Supplies -- Engineering	1,776	1,776	-	-	1,776
01.01.921100	Office Supplies and Stationary	16,293	16,293	-	-	16,293
01.01.921200	Dues and Subscriptions	10,781	10,781	-	-	10,781
01.01.921300	Public Relations	8,255	8,255	-	-	8,255
01.01.921400	Communication Services	20,376	20,376	-	-	20,376
01.01.921500	Employee Relations	9,700	9,700	-	-	9,700
01.01.921600	Transportation	21,342	21,342	-	-	21,342
01.01.921700	Travel and Personal Exp	1,800	1,800	-	-	1,800
01.01.921800	Employee Benefits	114,831	114,831	-	-	114,831
01.01.921900	Payroll Tax	-	-	-	-	-
01.01.922000	Contributions	-	-	-	-	-
01.01.923000	Outside Services	150,912	150,912	-	-	150,912
01.01.924000	insurance	67,932	67,932	-	-	67,932
01.01.925000	Payroll Penny Round Off	-	-	-	-	-
01.01.926000	CWP FUTA Exp	-	-	-	-	-
01.01.927000	CWP SUTA Exp	-	-	-	-	-
01.01.931000	Office Equipment Rental	2,160	2,160	-	-	2,160
01.01.932000	Maint. Of General Plant	27,374	27,374	-	-	27,374
01.01.950000	Loss on Sale of Assets	-	-	-	-	-
01.01.950100	Excess Costs on Retirement of Bond	-	-	-	-	-
01.01.950200	Gain/Loss -- Cont. in Aid of Const	-	-	-	-	-
	Total	874,711	874,711			874,711



Test Year 2015	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing

Test Year W 1.0 -- Water Department Cost Functionalization
 Scen: 2014 12 12 -- Scen 2 -- Conservation

	DEPRECIATION AND AMORTIZATION					
01.01.426000	Interest Revenue Bonds 1992	-	-	-	-	-
01.01.428000	Paying Agent Fees	-	-	-	-	-
01.01.429000	Interest	-	-	-	-	-
01.01.403000	Depreciation	-	-	-	-	-
01.01.404000	Amortization	-	-	-	-	-
0	Expense	-	-	-	-	-
0	Expense	-	-	-	-	-
0	Expense	-	-	-	-	-
0	Expense	-	-	-	-	-
0	Expense	-	-	-	-	-
	Total	-	-	-	-	-

TOTAL OPERATING EXPENSES

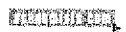
Cash Basis	\$ 3,591,883	\$ 3,591,863	\$ 1,685,811	\$ 607,637	\$ 874,711	\$ 443,704
		100.0%	46.4%	16.9%	24.4%	12.4%

CAPITAL OUTLAYS

WATER SYSTEM						
Treatment	\$ 828,000	\$ 828,000	828,000	-	-	-
Distribution	828,000	828,000	-	828,000	-	-
Administration	-	-	-	-	-	-
Customer	-	-	-	-	-	-
	1,656,000	1,656,000	828,000	828,000	-	-

TOTAL CAPITAL OUTLAYS

Cash Basis	\$ 1,656,000	\$ 1,656,000	\$ 828,000	\$ 828,000	\$ -	\$ -
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Test Year 2015	CITY CORPORATION -- RUSSELLVILLE					
	WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing

Test Year W 1.0 -- Water Department Cost Functionalization
 Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- CURRENT

1	<u>2013 Bond</u>						
	Principal	\$ 614,297	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	223,224	-	-	-	-	-
	Sub-Total	837,521	-	-	-	-	-
2	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
3	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
4	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
5	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
6	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
7	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
8	<u>Debt</u>						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-

TOTAL CURRENT DEBT SERVICE

Principal	\$ 614,297	\$ -	\$ -	\$ -	\$ -	\$ -
Interest	-	-	-	-	-	-
Reserve	223,224	-	-	-	-	-
TOTAL	837,521	-	-	-	-	-
Cash Basis	\$ 837,521	\$ -	\$ -	\$ -	\$ -	\$ -

Test Year 2015	Total Revenue Requirement	Water Revenue Requirement	Treatment	Distribution	Admin	Customer Billing
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**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Test Year *W 1.0 -- Water Department Cost Functionalization*
 Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- FUTURE

Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest	-	-	-	-	-	-
Reserve	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-
Cash Basis	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Utility Basis	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TOTAL EXPENSES:

Cash Basis	\$ 6,085,384	\$ 5,147,863	\$ 2,493,011	\$ 1,435,637	\$ 874,711	\$ 443,704
Less Non-Rate Revenues	\$ 5,776,452	\$ 4,930,931	na	na	na	na

Test Year 2015	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Base Annual Use	Base Daily Average	Capacity Factor	Max Day Total Capacity	Extra Capacity	Water Bills

Test Year W 2.0 -- Water Cost Allocations to Defined Customer Class Units
Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class Units - Test Year Forecast Volume								
W.1	Residential	City	594,082,000	1,627,822	150	2,434,058	808,438	120,150
W.2	Residential	Outside City	33,622,000	92,115	169	156,081	63,963	5,999
W.3	Commercial	City	283,579,000	776,929	114	861,868	105,059	19,735
W.4	Commercial	Outside City	3,558,000	9,742	168	16,373	6,630	217
W.5	Industrial	City	513,795,000	1,407,659	113	1,590,115	162,458	1,034
W.6	Industrial	Outside City	81,501,000	223,290	139	309,458	86,178	84
W.7	Ind. Discounts	City	-	-	-	-	-	-
W.8	Public Authorities	City	98,810,000	270,712	142	384,553	113,641	2,530
W.9	Municipal	City	33,095,000	90,671	134	121,479	30,608	36
W.10	Fire Protection	City	242,000	663	446	2,950	2,298	38
0	Other	City	-	-	-	-	-	60
0	Other	City	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-
W.11	Tri County	Outside City	549,739,000	1,506,134	149	2,239,003	732,888	84
Total System			2,192,021,000	6,005,537		8,136,078	2,130,541	149,967

Allocation Factors		
Base		100.00%
Maximum Day		50.00%
Maximum Hour		25.00%
		75.00%

Customer Class Units - Percent of Annual Volumes					
W.1	Residential	City	27.10%	37.85%	60.12%
W.2	Residential	Outside City	1.53%	3.00%	4.00%
W.3	Commercial	City	12.94%	4.93%	13.16%
W.4	Commercial	Outside City	0.16%	0.31%	0.14%
W.5	Industrial	City	23.44%	6.56%	0.69%
W.6	Industrial	Outside City	3.72%	4.04%	0.06%
W.7	Ind. Discounts	City	0.00%	0.00%	0.00%
W.8	Public Authorities	City	4.51%	5.34%	1.69%
W.9	Municipal	City	1.51%	1.45%	0.02%
W.10	Fire Protection	City	0.01%	0.11%	0.03%
0	Other	City	0.00%	0.00%	0.04%
0	Other	City	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%
W.11	Tri County	Outside City	25.08%	34.40%	0.06%
Total System			100.00%	100.00%	100.00%

SOURCE: Volume input spreadsheet



CITY CORPORATION -- RUSSELLVILLE									
WATER/WW COST OF SERVICE MODEL									
Test Year									
2015	Base	Max Day	Max Hour	Cust Billing	Total Water	Base	Max Day	Max Hour	Cust Billing

Test Year W 3.0 -- Water Cost Classification
 Scen: 2014 12 12 -- Scen 2 -- Conservation

CASH BASIS

	Base	Max Day	Max Hour	Cust Billing	Total Water	Base	Max Day	Max Hour	Cust Billing
Treatment									
Operating Expenses	25.00%	0.00%	75.00%	0.00%	\$ 1,865,811	\$ 416,453	\$ -	\$ 1,249,358	\$ -
Capital Outlays	25.00%	0.00%	75.00%	0.00%	828,000	207,000	-	621,000	-
Debt Service -- Current	25.00%	0.00%	75.00%	0.00%	-	-	-	-	-
Debt Service -- Future	25.00%	0.00%	75.00%	0.00%	-	-	-	-	-
Total Treatment					2,493,811	623,453	-	1,870,358	-
	100.00%	25.00%	0.00%	75.00%					0.00%
Distribution									
Operating Expenses	50.00%	50.00%	0.00%	0.00%	\$ 807,637	\$ 303,819	\$ 303,819	\$ -	\$ -
Capital Outlays	50.00%	50.00%	0.00%	0.00%	828,000	414,000	414,000	-	-
Debt Service -- Current	50.00%	50.00%	0.00%	0.00%	-	-	-	-	-
Debt Service -- Future	50.00%	50.00%	0.00%	0.00%	-	-	-	-	-
Total Distribution					1,435,637	717,819	717,819	0.00%	0.00%
	100.00%	50.00%	0.00%	0.00%					
Customer Billing									
Operating Expenses	0.00%	0.00%	0.00%	100.00%	\$ 443,704	\$ -	\$ -	\$ -	\$ 443,704
Capital Outlays	0.00%	0.00%	0.00%	100.00%	-	-	-	-	-
Debt Service -- Current	0.00%	0.00%	0.00%	100.00%	-	-	-	-	-
Debt Service -- Future	0.00%	0.00%	0.00%	100.00%	-	-	-	-	-
Total Customer Billing					443,704	0.00%	0.00%	0.00%	443,704
	100.00%	0.00%	0.00%	100.00%					100.00%
Sub-Total					4,373,152	1,341,271	717,819	1,870,358	443,704
Percentage	100.00%	30.67%	16.41%	42.77%	10.15%				
Administration									
Operating Expenses	30.67%	16.41%	42.77%	10.15%	874,711	268,279	143,577	374,106	88,749
Capital Outlays	30.67%	16.41%	42.77%	10.15%	-	-	-	-	-
Debt Service -- Current	30.67%	16.41%	42.77%	10.15%	-	-	-	-	-
Debt Service -- Future	30.67%	16.41%	42.77%	10.15%	-	-	-	-	-
Total Administration					874,711	268,279	143,577	374,106	88,749
						30.67%	18.41%	42.77%	10.15%
TOTAL OPERATING CAPITAL					\$ 5,247,863	\$ 1,609,550	\$ 861,395	\$ 2,244,464	\$ 532,463
Percentage					100.00%	30.67%	16.41%	42.77%	10.15%
Less Non-Rate Revenues	30.67%	16.41%	42.77%	10.15%	(308,932)	(94,751)	(50,708)	(132,127)	(31,345)
CASH BASIS -- WATER COST CLASSIFICATION					\$ 4,938,931	\$ 1,514,799	\$ 810,687	\$ 2,112,337	\$ 501,118

Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Test Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast W 4.0 – Water Utility Cost of Service
 Scen: 2014 12 12 -- Scen 2 -- Conservation

NON-RATE REVENUES

Water Division																				
Sales -- Residential	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-								
Sales -- Commercial		-		-		-		-		-		-								
Sales -- Industrial		-		-		-		-		-		-								
Sales -- Public Authorities		-		-		-		-		-		-								
Sales -- Municipal		-		-		-		-		-		-								
Sales -- Wholesale		-		-		-		-		-		-								
Sales -- Donation		-		-		-		-		-		-								
Private Fire Protection Service		-		-		-		-		-		-								
Misc. Service Revenue		174,000		474,000		488,220		502,867		517,953		533,491		549,496		565,981		582,980		600,449
Other Revenue (Sales of Supplies)		-		-		-		-		-		-		-		-		-		-
London/Ark Nuclear One Revenue		53,282		13,680		14,091		14,514		14,949		15,397		15,859		16,335		16,825		17,330
Tapping Fees		26,500		27,295		28,114		28,957		29,825		30,721		31,642		32,592		33,569		34,576
Other Service Fees		-		-		-		-		-		-		-		-		-		-
Cross Connection Fees		-		-		-		-		-		-		-		-		-		-
Solid Waste Fees		64,200		66,126		68,110		70,153		72,258		74,425		76,658		78,958		81,327		83,766
Interest Income		19,200		19,778		20,369		20,980		21,610		22,258		22,925		23,614		24,322		25,052
Misc. Non-Operating Revenue		11,750		12,103		12,466		12,840		13,225		13,621		14,030		14,451		14,885		15,331
Revenue		-		-		-		-		-		-		-		-		-		-
Revenue		-		-		-		-		-		-		-		-		-		-
Revenue		-		-		-		-		-		-		-		-		-		-
Revenue		-		-		-		-		-		-		-		-		-		-
		308,932		612,980		631,369		650,310		669,820		689,914		710,612		731,930		753,886		776,505

TOTAL NON-RATE REVENUES

Cash Basis	\$	308,932	\$	612,980	\$	631,369	\$	650,310	\$	669,820	\$	689,914	\$	710,612	\$	731,930	\$	753,886	\$	776,505
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CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL

Forecast
2015-2024

Year Year
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Forecast W 4.0 -- Water Utility Cost of Service
 Scen: 2014 12 12 -- Scen 2 -- Conservation

OPERATING EXPENSES

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
SUPPLY EXPENSES										
01.01.600000 Supervision	\$ 5,574	\$ 5,853	\$ 6,145	\$ 6,453	\$ 6,775	\$ 7,114	\$ 7,470	\$ 7,843	\$ 8,235	\$ 8,647
01.01.601000 Labor	1,764	1,852	1,945	2,042	2,144	2,251	2,364	2,482	2,606	2,737
01.01.603000 Licenses and Fees	3,913	4,030	4,151	4,276	4,404	4,536	4,672	4,812	4,957	5,106
01.01.604000 Reservoir Power	70,950	74,809	78,457	82,502	86,757	91,230	95,934	100,880	106,081	111,550
01.01.605000 Reservoir Other Utility Purchases	2,220	2,334	2,455	2,581	2,715	2,855	3,002	3,157	3,319	3,490
01.01.607000 Reservoir Transportation	1,950	2,051	2,156	2,268	2,384	2,507	2,637	2,773	2,916	3,066
01.01.609000 Reservoir Maint of Gen. Plant	-	-	-	-	-	-	-	-	-	-
01.01.611100 Labor -- Maint of Structures and Imp	22,572	24,016	25,216	26,477	27,801	29,191	30,651	32,183	33,792	35,482
01.01.611200 Materials -- Maint of Structures and Imp	2,580	2,971	3,065	3,161	3,261	3,364	3,470	3,580	3,693	3,809
01.01.611300 O/S Cont. Maint. Of Structures and Imp	9,477	9,776	10,085	10,403	10,732	11,076	11,420	11,780	12,152	12,535
01.01.621100 Employee Benefits -- Supply	9,817	10,504	11,230	12,026	12,868	13,769	14,733	15,764	16,867	18,048
01.01.656000 Safety Equipment & Supplies	960	990	1,022	1,054	1,087	1,121	1,157	1,193	1,231	1,270
01.01.672200 Materials -- Maint. of Dist. Reserve	1,350	1,393	1,437	1,482	1,529	1,577	1,627	1,678	1,731	1,786
01.01.672300 Maint. Dist. Reservoir Standpipe	-	-	-	-	-	-	-	-	-	-
01.01.903300 Postage	-	-	-	-	-	-	-	-	-	-
01.01.903400 Computer Expense	2,822	2,907	2,994	3,084	3,176	3,271	3,370	3,471	3,575	3,682
01.01.903600 Training Expense	2,324	2,394	2,468	2,539	2,616	2,694	2,775	2,858	2,944	3,032
01.01.921100 Office Supplies and Stationary	2,500	2,575	2,652	2,732	2,814	2,898	2,985	3,075	3,167	3,262
01.01.921200 Dues and Subscriptions	-	-	-	-	-	-	-	-	-	-
01.01.921400 Communication Services	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829
01.01.921600 Transportation	4,830	5,003	5,181	5,324	5,492	5,665	5,844	6,029	6,219	6,415
01.01.921700 Travel and Personal Exp	4,320	4,450	4,583	4,721	4,862	5,008	5,158	5,313	5,472	5,637
01.01.932800 Maint. Of General Plant	2,770	2,857	2,948	3,041	3,137	3,236	3,338	3,443	3,552	3,664
Total	169,313	166,745	174,542	182,722	191,307	200,315	209,770	219,693	230,110	241,046
PUMPING EXPENSES										
01.01.623100 Power Purchases for Pumping	124,493	130,913	137,885	144,764	152,226	160,078	168,331	177,010	186,136	195,732
01.01.623150 Power Purchases for Pumping W/and	3,000	3,155	3,317	3,488	3,666	3,858	4,056	4,266	4,485	4,717
01.01.623200 Other Utility Purchases	264	278	292	307	323	339	357	375	395	415
01.01.623300 Water Purchased	-	-	-	-	-	-	-	-	-	-
01.01.624000 Labor -- Pumping	-	-	-	-	-	-	-	-	-	-
01.01.626100 Misc. Pumping	1,080	1,114	1,149	1,186	1,223	1,262	1,301	1,342	1,385	1,429
01.01.630000 Supervision -- Pumping	5,574	5,853	6,145	6,453	6,775	7,114	7,470	7,843	8,235	8,647
01.01.631100 Employee Benefits -- Pumping	14,426	15,436	16,516	17,672	18,910	20,233	21,650	23,165	24,787	26,522
01.01.633100 Labor -- Maint. Of Pumping Equipment	28,910	30,934	33,099	35,416	37,895	40,548	43,386	46,423	49,673	53,150
01.01.633150 Labor -- Maint of Pump Equipment W/ano	9,901	10,594	11,338	12,129	12,978	13,887	14,859	15,899	17,012	18,203
01.01.633200 Materials -- Maint of Pumping Equip	5,700	5,880	6,066	6,257	6,455	6,658	6,868	7,085	7,309	7,539
01.01.633250 Materials -- Maint of Pump Equip W/ano	-	-	-	-	-	-	-	-	-	-
01.01.633300 O/S Cont -- Maint of Pumping Equip	18,301	18,879	19,475	20,090	20,724	21,378	22,052	22,746	23,466	24,207
01.01.633350 O/S Cont -- Maint of Pump Equip W/ano	300	309	319	329	340	350	361	373	385	397
Total	211,949	223,344	235,379	248,091	261,619	276,704	290,693	306,830	323,267	340,986
TREATMENT EXPENSES										
01.01.640100 Labor -- Treatment	243,649	255,531	268,623	282,054	296,157	310,965	326,513	342,839	359,961	377,990
01.01.641000 Chemical Exp	369,840	381,517	393,561	405,985	418,800	432,018	445,653	459,717	474,223	489,187
01.01.642000 Laboratory	9,670	9,975	10,290	10,615	10,950	11,296	11,652	12,020	12,399	12,790
01.01.642100 Labor -- Laboratory	31,434	33,006	34,656	36,389	38,208	40,119	42,125	44,231	46,442	48,764
01.01.643000 Misc. Treatment Exp	-	-	-	-	-	-	-	-	-	-
01.01.644000 Power Purchases for Treatment	204,175	214,705	225,777	237,420	249,663	262,536	276,072	290,306	305,273	321,010
01.01.650000 Supervision -- Treatment	26,140	27,447	28,819	30,260	31,773	33,362	35,030	36,782	38,621	40,552
01.01.651100 Employee Benefits -- Treatment	109,415	117,074	125,269	134,038	143,421	153,460	164,202	175,697	187,995	201,155
01.01.652100 Labor -- Treatment Equipment	35,442	37,214	39,075	41,029	43,080	45,234	47,496	49,870	52,364	54,982
01.01.652200 Materials -- Treatment Equipment	18,850	19,445	20,059	20,892	21,345	22,019	22,714	23,431	24,170	24,933
01.01.652300 O/S Cont -- Treatment Equipment	166,648	171,909	177,337	182,935	188,700	194,665	200,809	207,148	213,683	220,425
01.01.662100 Labor -- Overhead	-	-	-	-	-	-	-	-	-	-
01.01.921600 Transportation	1,120	1,155	1,192	1,229	1,268	1,308	1,350	1,392	1,436	1,481
Total	1,216,383	1,269,279	1,324,659	1,382,646	1,443,375	1,506,982	1,573,616	1,643,430	1,716,587	1,793,280

**CITY CORPORATION -- RUSSELLVILLE
WATERMW COST OF SERVICE MODEL**

Forecast W 4.0 -- Water Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TRANSMISSION AND DISTRIBUTION EXPENSES												
01.01.660000	8,796	9,236	9,588	10,162	10,692	11,226	11,787	12,377	12,996	13,645	14,328	15,045
01.01.661100	2,855	3,055	3,269	3,497	3,742	4,004	4,285	4,585	4,905	5,248	5,615	6,005
01.01.662100	-	-	-	-	-	-	-	-	-	-	-	-
01.01.662200	6,000	6,189	6,365	6,704	7,009	7,358	7,758	8,199	8,681	9,195	9,744	10,328
01.01.663000	3,930	4,023	4,150	4,316	4,508	4,727	4,974	5,248	5,550	5,881	6,241	6,631
01.01.903400	953	982	1,011	1,041	1,073	1,105	1,137	1,172	1,207	1,243	1,281	1,320
01.01.903500	8,592	8,850	9,115	9,383	9,670	9,980	10,299	10,637	10,995	11,374	11,773	12,193
01.01.921100	1,035	1,066	1,098	1,131	1,165	1,200	1,236	1,273	1,311	1,350	1,390	1,430
01.01.921200	253	263	271	279	286	294	304	314	323	333	343	353
01.01.921400	4,800	4,944	5,092	5,245	5,402	5,563	5,731	5,903	6,080	6,263	6,451	6,644
01.01.921600	39,000	40,170	41,375	42,616	43,895	45,212	46,568	47,965	49,404	50,886	52,408	53,971
01.01.921700	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829	8,064	8,305
01.01.922000	3,120	3,219	3,320	3,425	3,533	3,645	3,760	3,878	4,001	4,127	4,257	4,391
Total	85,306	88,176	91,149	94,230	97,433	100,752	104,182	107,719	111,406	115,251	119,264	123,455
MAINTENANCE EXPENSE												
01.01.670000	960	990	1,022	1,054	1,087	1,121	1,157	1,193	1,231	1,270	1,310	1,350
01.01.670100	8,796	9,236	9,688	10,162	10,692	11,226	11,787	12,377	12,996	13,645	14,328	15,045
01.01.671100	149,280	156,744	164,551	172,810	181,451	190,503	199,984	209,923	220,355	231,292	242,741	254,708
01.01.673200	89,000	102,126	115,350	128,775	142,500	156,525	170,860	185,505	200,470	215,765	231,400	247,385
01.01.673300	18,000	18,568	19,155	19,759	20,383	21,026	21,689	22,374	23,080	23,809	24,561	25,336
01.01.675100	126,250	132,573	139,202	146,162	153,470	161,143	169,200	177,660	186,544	195,871	205,651	215,884
01.01.675200	57,208	59,014	60,877	62,799	64,781	66,826	68,939	71,110	73,354	75,669	78,051	80,500
01.01.676100	36,871	38,721	40,657	42,680	44,784	46,969	49,237	51,590	54,030	56,554	59,166	61,869
01.01.676200	23,964	25,792	27,704	29,704	31,796	33,982	36,267	38,656	41,152	43,758	46,478	49,307
01.01.676300	5,000	5,163	5,331	5,504	5,683	5,868	6,059	6,256	6,459	6,667	6,880	7,098
01.01.677200	15,272	16,036	16,837	17,676	18,553	19,469	20,426	21,426	22,469	23,556	24,688	25,856
01.01.677300	3,300	3,407	3,516	3,633	3,761	3,898	4,046	4,205	4,374	4,554	4,744	4,945
01.01.680100	109,356	117,011	125,202	133,966	143,343	153,377	164,114	175,602	187,894	201,047	215,122	230,197
01.01.903500	1,335	1,375	1,416	1,459	1,503	1,548	1,594	1,642	1,691	1,742	1,794	1,847
01.01.921100	920	945	970	996	1,023	1,050	1,079	1,108	1,138	1,168	1,199	1,230
01.01.921200	44	45	47	48	50	51	53	54	56	57	59	61
01.01.921400	696	717	738	761	783	807	831	856	882	908	934	961
01.01.921600	9,330	9,634	9,947	10,271	10,605	10,950	11,307	11,674	12,054	12,446	12,851	13,268
01.01.921700	640	655	671	687	704	721	739	757	776	795	814	834
Total	665,438	696,882	729,882	764,585	801,061	839,408	879,728	922,129	966,725	1,013,837	1,063,574	1,115,049
CUSTOMER ACCOUNT EXPENSES												
01.01.680000	-	-	-	-	-	-	-	-	-	-	-	-
01.01.680100	59,385	62,357	65,475	68,749	72,186	75,795	79,586	83,569	87,743	92,130	96,743	101,591
01.01.680200	31,029	32,560	34,209	35,920	37,716	39,602	41,582	43,661	45,844	48,136	50,541	53,062
01.01.680300	-	-	-	-	-	-	-	-	-	-	-	-
01.01.680400	1,205	1,238	1,272	1,307	1,343	1,380	1,418	1,457	1,497	1,538	1,580	1,623
01.01.680500	92,882	97,631	102,513	107,638	113,020	118,671	124,605	130,835	137,377	144,246	151,468	159,057
01.01.680600	3,825	3,943	4,061	4,183	4,308	4,438	4,571	4,708	4,849	4,995	5,145	5,300
01.01.680700	-	-	-	-	-	-	-	-	-	-	-	-
01.01.680800	7,830	8,065	8,307	8,556	8,813	9,077	9,349	9,630	9,919	10,216	10,521	10,834
01.01.680900	39,100	40,273	41,461	42,726	44,067	45,428	46,887	48,408	49,991	51,637	53,347	55,121
01.01.681000	2,486	2,577	2,661	2,748	2,837	2,930	3,025	3,123	3,225	3,330	3,437	3,547
01.01.681100	24	25	25	26	27	28	29	30	31	32	33	34
01.01.681200	59,604	63,776	68,241	73,019	78,129	83,596	89,441	95,691	102,411	109,580	117,241	125,444
01.01.681300	95	99	102	105	108	111	115	118	122	125	129	133
01.01.681400	2,880	2,968	3,055	3,147	3,241	3,339	3,440	3,544	3,651	3,761	3,874	3,990
01.01.681500	10,800	11,124	11,458	11,800	12,150	12,508	12,866	13,233	13,608	14,002	14,415	14,847
01.01.681600	2,550	2,627	2,705	2,786	2,870	2,956	3,045	3,136	3,229	3,325	3,423	3,524
01.01.681700	63,600	65,908	68,497	71,382	74,561	78,044	81,841	85,971	90,454	95,301	100,534	106,174
01.01.681800	1,260	1,298	1,337	1,377	1,418	1,461	1,505	1,550	1,596	1,644	1,693	1,743
Total	376,763	396,188	414,466	433,704	453,883	475,104	497,394	522,831	549,447	577,338	606,525	637,039

Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Fiscal Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast W 4.0 – Water Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

ADMIN AND GENERAL EXPENSES

01.01.866000	Safety Equipment and Supplies	330	341	352	363	375	387	400	413	426	440
01.01.903300	Postage	5,480	5,558	5,843	6,033	6,229	6,432	6,641	6,857	7,080	7,310
01.01.903400	Computer	43,947	45,265	46,623	48,022	49,463	50,947	52,475	54,049	55,671	57,341
01.01.903600	Training Exp	18,090	18,633	19,192	19,767	20,360	20,971	21,600	22,248	22,916	23,603
01.01.920100	Salaries – General Management	75,870	79,664	83,647	87,829	92,220	96,831	101,673	106,757	112,085	117,699
01.01.920200	Salaries – Accounting	59,195	62,155	65,262	68,526	71,952	75,549	79,327	83,293	87,458	91,831
01.01.920300	Salaries – Other	52,862	56,505	58,280	61,194	64,254	67,467	70,840	74,382	78,101	82,006
01.01.920400	Salaries – Engineering	165,405	173,575	182,359	191,477	201,051	211,103	221,658	232,741	244,379	256,597
01.01.920500	Supplies – Engineering	1,776	1,834	1,894	1,955	2,019	2,084	2,152	2,222	2,295	2,369
01.01.921100	Office Supplies and Stationary	16,293	16,824	17,371	17,937	18,520	19,123	19,745	20,387	21,050	21,734
01.01.921200	Dues and Subscriptions	10,781	11,104	11,438	11,781	12,134	12,498	12,873	13,259	13,657	14,067
01.01.921300	Public Relations	8,255	8,503	8,758	9,020	9,291	9,570	9,857	10,153	10,457	10,771
01.01.921400	Communication Services	20,376	20,987	21,617	22,265	22,933	23,621	24,330	25,060	25,812	26,586
01.01.921500	Employee Relations	9,700	9,991	10,291	10,599	10,917	11,245	11,582	11,930	12,288	12,656
01.01.921600	Transportation	21,342	21,982	22,642	23,321	24,021	24,741	25,483	26,248	27,035	27,846
01.01.921700	Travel and Personal Exp	1,800	1,854	1,910	1,967	2,026	2,087	2,149	2,214	2,280	2,349
01.01.921800	Employee Benefits	114,831	122,869	131,470	140,673	150,520	161,056	172,330	184,393	197,301	211,112
01.01.921900	Payroll Tax	-	-	-	-	-	-	-	-	-	-
01.01.922000	Contributions	-	-	-	-	-	-	-	-	-	-
01.01.923000	Outside Services	150,912	155,439	160,103	164,906	169,853	174,948	180,197	185,603	191,171	196,906
01.01.924000	Insurance	67,932	69,970	72,069	74,231	76,458	78,752	81,114	83,548	86,054	88,636
01.01.925000	Payroll Penny Round Off	-	-	-	-	-	-	-	-	-	-
01.01.926000	CWIP FUTA Exp	-	-	-	-	-	-	-	-	-	-
01.01.927000	CWIP SUTA Exp	-	-	-	-	-	-	-	-	-	-
01.01.931000	Office Equipment Rental	2,160	2,225	2,292	2,360	2,431	2,504	2,579	2,657	2,736	2,818
01.01.932000	Maint. Of General Plant	27,374	28,195	29,041	29,912	30,810	31,734	32,686	33,667	34,677	35,717
01.01.950000	Loss on Sale of Assets	-	-	-	-	-	-	-	-	-	-
01.01.950100	Excess Costs on Retirement of Bond	-	-	-	-	-	-	-	-	-	-
01.01.950200	Gain/Loss -- Cont. in Aid of Const	-	-	-	-	-	-	-	-	-	-
	Total	674,711	812,673	862,461	914,139	1,037,838	1,083,652	1,131,694	1,182,081	1,234,933	1,280,386

DEPRECIATION AND AMORTIZATION

01.01.426000	Interest Revenue Bonds 1992	-	-	-	-	-	-	-	-	-	-
01.01.428000	Paying Agent Fees	-	-	-	-	-	-	-	-	-	-
01.01.429000	Interest	-	-	-	-	-	-	-	-	-	-
01.01.403000	Depreciation	-	-	-	-	-	-	-	-	-	-
01.01.404000	Amortization	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
0	Expense	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

TOTAL OPERATING EXPENSES

Cash Basis	\$	3,591,863	\$	3,763,267	\$	3,922,846	\$	4,100,118	\$	4,286,414	\$	4,481,896	\$	4,687,056	\$	4,902,402	\$	5,128,480	\$	5,366,864
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Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Test Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 4.0 – Water Utility Cost of Service
 Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- CURRENT											
1	2013 Bond										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
2	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
3	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
4	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
5	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
6	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
7	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
8	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
TOTAL DEBT SERVICE -- CURRENT											
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	TOTAL	-	-	-	-	-	-	-	-	-	-
	Cash Basis	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL										
	Test Year										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast W 4.0 -- Water Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- FUTURE

Principal	\$	-	\$	523,461	\$	544,399	\$	566,176	\$	850,553	\$	884,575	\$	919,958	\$	956,756	\$	995,026	\$	1,034,827		
Interest	-	872,000	851,062	829,286	1,242,639	1,208,616	1,173,234	1,136,435	1,098,165	1,058,364	-	-	-	-	-	-	-	-	-	-		
Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TOTAL	-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	
Cash Basis	\$	-	\$	1,395,461	\$	1,395,461	\$	1,395,461	\$	2,093,191	\$	2,093,191	\$	2,093,191	\$	2,093,191	\$	2,093,191	\$	2,093,191	\$	2,093,191

TOTAL COST OF SERVICE

Cash Basis	\$	6,247,063	\$	6,504,720	\$	6,974,008	\$	6,995,579	\$	6,879,606	\$	7,076,069	\$	7,260,247	\$	7,495,694	\$	7,721,671	\$	7,969,056
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Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL										
Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast W 5.0 -- Water Utility Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

OPERATING EXPENSES

Water Division

WATER - Total Operating Expense		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Treatment	46.38%	1,695,611	1,740,666	1,819,174	1,901,526	1,987,926	2,078,585	2,173,733	2,273,604	2,378,453	2,488,546
Distribution	16.92%	907,637	934,942	963,579	993,619	1,025,135	1,058,205	1,092,911	1,129,341	1,167,587	1,207,745
Admin	24.35%	874,711	914,017	955,241	998,484	1,043,852	1,091,457	1,141,419	1,193,851	1,248,917	1,306,726
Customer	12.35%	443,704	463,642	484,554	506,489	529,502	553,650	578,894	605,595	633,523	662,847
TOTAL		3,961,663	4,053,267	4,222,548	4,400,118	4,587,415	4,781,892	4,982,963	5,192,401	5,410,283	5,635,864

CAPITAL OUTLAYS

Treatment	\$	828,000	\$	828,000	\$	828,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000	\$	250,000
Distribution		828,000		828,000		828,000		250,000		250,000		250,000		250,000		250,000		250,000		250,000
Admin		-		-		-		-		-		-		-		-		-		-
Customer		-		-		-		-		-		-		-		-		-		-
TOTAL		1,656,000		1,656,000		1,656,000		500,000		500,000		500,000		500,000		500,000		500,000		500,000



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023

Forecast W 5.0 – Water Utility Cost Functionalization
Scen: 2014 12 12 – Scen 2 -- Conservation

DEPT SERVICE – CURRENT

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1 2013 Bond										
Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Distribution	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-
2 Debt										
Treatment	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-
3 Debt										
Treatment	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-
4 Debt										
Treatment	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-
5 Debt										
Treatment	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-

CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL											
Forecast 2015-2024	Allocation	2016	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 5.0 -- Water Utility Cost Functionalization

Scen: 2014 12 12 -- Scen 2 -- Conservation

6 Debt											
Treatment	-	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-	-
7 Debt											
Treatment	-	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-	-
8 Debt											
Treatment	-	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	-	-	-	-	-	-	-	-	-	-	-
Total Debt Service -- Current											
Treatment	-	-	-	-	-	-	-	-	-	-	-
Distribution	-	-	-	-	-	-	-	-	-	-	-
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	-	-

DEBT SERVICE -- FUTURE

Treatment	\$ -	\$ 697,730	\$ 697,730	\$ 697,730	\$ 1,046,596	\$ 1,046,596	\$ 1,046,596	\$ 1,046,596	\$ 1,046,596	\$ 1,046,596	\$ 1,046,596
Distribution	-	697,730	697,730	697,730	1,046,596	1,046,596	1,046,596	1,046,596	1,046,596	1,046,596	1,046,596
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	1,395,461	1,395,461	1,395,461	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191	2,093,191

TOTAL EXPENSES

Treatment	\$ 2,493,811	\$ 3,266,366	\$ 3,344,904	\$ 2,849,257	\$ 3,264,521	\$ 3,375,181	\$ 3,470,328	\$ 3,570,200	\$ 3,675,049	\$ 3,785,141
Distribution	1,435,637	2,160,872	2,189,309	1,641,349	2,021,730	2,054,800	2,059,507	2,125,937	2,164,183	2,204,341
Admin	874,711	914,917	935,241	998,484	1,043,852	1,091,457	1,141,419	1,193,861	1,248,917	1,306,726
Customer	443,704	463,642	484,554	506,489	529,502	553,850	578,994	605,595	633,523	662,647
TOTAL	5,247,863	6,804,728	6,974,008	6,995,579	6,879,606	7,075,089	7,260,247	7,495,594	7,721,671	7,959,055

CHECK	\$ 5,247,863	\$ 6,804,728	\$ 6,974,008	\$ 6,995,579	\$ 6,879,606	\$ 7,075,089	\$ 7,260,247	\$ 7,495,594	\$ 7,721,671	\$ 7,959,055
CHECK WITH W4	5,247,863	6,804,728	6,974,008	6,995,579	6,879,606	7,075,089	7,260,247	7,495,594	7,721,671	7,959,055

**CITY CORPORATION – RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Forecast
2015-2024

2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Forecast W 6.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

WATER

Customer Class Units – Base Annual Usage

W.1	Residential	City	594,082,000	595,268,681	596,455,361	597,642,042	598,828,723	600,015,403	601,202,084	602,388,765	603,575,445	604,762,126
W.2	Residential	Outside City	33,822,000	33,689,285	33,758,510	33,823,766	33,891,021	33,958,276	34,025,531	34,092,786	34,160,042	34,227,297
W.3	Commercial	City	283,579,000	285,303,321	287,027,643	288,751,964	290,476,285	292,200,606	293,924,928	295,649,249	297,373,570	299,097,891
W.4	Commercial	Outside City	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000
W.5	Industrial	City	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000
W.6	Industrial	Outside City	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	98,810,000	99,278,664	99,747,328	100,215,992	100,684,656	101,153,320	101,621,984	102,090,648	102,559,312	103,027,976
W.9	Municipal	City	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000
W.10	Fire Protection	City	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
	Sub-Total		1,642,282,000	1,645,728,921	1,649,175,842	1,652,622,763	1,656,069,685	1,659,516,606	1,662,963,527	1,666,410,448	1,669,857,369	1,673,304,290
W.11	Tri County	Outside City	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000
TOTAL			2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,685	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,369	2,223,043,290
Percent Increase				0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Percent of Total

W.1	Residential	City	27.16%	27.11%	27.12%	27.14%	27.15%	27.16%	27.17%	27.18%	27.19%	27.20%
W.2	Residential	Outside City	1.53%	1.53%	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%
W.3	Commercial	City	12.94%	13.00%	13.05%	13.11%	13.17%	13.23%	13.28%	13.34%	13.40%	13.45%
W.4	Commercial	Outside City	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%
W.5	Industrial	City	23.44%	23.40%	23.37%	23.33%	23.29%	23.26%	23.22%	23.18%	23.15%	23.11%
W.6	Industrial	Outside City	3.72%	3.71%	3.71%	3.70%	3.69%	3.69%	3.68%	3.68%	3.67%	3.67%
W.7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities	City	4.51%	4.52%	4.54%	4.55%	4.56%	4.58%	4.59%	4.61%	4.62%	4.63%
W.9	Municipal	City	1.51%	1.51%	1.51%	1.50%	1.50%	1.50%	1.49%	1.49%	1.49%	1.49%
W.10	Fire Protection	City	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.11	Tri County	Outside City	25.08%	25.04%	25.00%	24.96%	24.92%	24.88%	24.84%	24.81%	24.77%	24.73%
TOTAL			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Percent of Total -- Adjusted

W.1	Residential	City	36.17%	36.17%	36.17%	36.16%	36.16%	36.16%	36.15%	36.15%	36.15%	36.14%
W.2	Residential	Outside City	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%
W.3	Commercial	City	17.27%	17.34%	17.40%	17.47%	17.54%	17.61%	17.67%	17.74%	17.81%	17.87%
W.4	Commercial	Outside City	0.22%	0.22%	0.22%	0.22%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%
W.5	Industrial	City	31.29%	31.22%	31.15%	31.09%	31.02%	30.96%	30.90%	30.83%	30.77%	30.71%
W.6	Industrial	Outside City	4.99%	4.95%	4.94%	4.93%	4.92%	4.91%	4.90%	4.89%	4.88%	4.87%
W.7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities	City	6.02%	6.03%	6.05%	6.06%	6.08%	6.11%	6.13%	6.14%	6.14%	6.16%
W.9	Municipal	City	2.02%	2.01%	2.01%	2.00%	2.00%	1.99%	1.99%	1.99%	1.98%	1.98%
W.10	Fire Protection	City	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 6.0 – Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

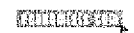
Not Annual Volume after Minimum:			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	594,082,000	595,268,681	596,455,361	597,642,042	598,828,723	600,015,403	601,202,084	602,388,765	603,575,445	604,762,126
W.2	Residential	Outside City	33,622,000	33,689,255	33,756,510	33,823,766	33,891,021	33,958,276	34,025,531	34,092,786	34,160,042	34,227,297
W.3	Commercial	City	283,579,000	285,303,321	287,027,643	288,751,964	290,476,285	292,200,606	293,924,928	295,649,249	297,373,570	299,097,891
W.4	Commercial	Outside City	3,556,000	3,566,000	3,566,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000	3,556,000
W.5	Industrial	City	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000	513,795,000
W.6	Industrial	Outside City	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000	81,501,000
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	98,810,000	99,278,864	99,747,728	100,216,592	100,684,656	101,153,320	101,621,984	102,090,848	102,559,712	103,027,976
W.9	Municipal	City	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000	33,095,000
W.10	Fire Protection	City	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000	242,000
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000
TOTAL			2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,685	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,369	2,223,043,290
Base Daily Average			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	1,627,622	1,630,873	1,634,124	1,637,375	1,640,627	1,643,878	1,647,129	1,650,380	1,653,631	1,656,883
W.2	Residential	Outside City	92,115	92,289	92,464	92,668	92,852	93,036	93,221	93,405	93,589	93,773
W.3	Commercial	City	776,829	781,653	786,377	791,101	795,825	800,550	805,274	809,998	814,722	819,446
W.4	Commercial	Outside City	9,742	9,742	9,742	9,742	9,742	9,742	9,742	9,742	9,742	9,742
W.5	Industrial	City	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658	1,407,658
W.6	Industrial	Outside City	223,290	223,290	223,290	223,290	223,290	223,290	223,290	223,290	223,290	223,290
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	270,712	271,986	273,280	274,564	275,848	277,132	278,416	279,700	280,984	282,268
W.9	Municipal	City	90,671	90,671	90,671	90,671	90,671	90,671	90,671	90,671	90,671	90,671
W.10	Fire Protection	City	663	663	663	663	663	663	663	663	663	663
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134	1,506,134
TOTAL			6,005,637	6,014,981	6,024,424	6,033,868	6,043,311	6,052,755	6,062,199	6,071,642	6,081,086	6,090,530
Capacity Factor			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	150	150	150	150	150	150	150	150	150	150
W.2	Residential	Outside City	169	169	169	169	169	169	169	169	169	169
W.3	Commercial	City	114	114	114	114	114	114	114	114	114	114
W.4	Commercial	Outside City	168	168	168	168	168	168	168	168	168	168
W.5	Industrial	City	113	113	113	113	113	113	113	113	113	113
W.6	Industrial	Outside City	139	139	139	139	139	139	139	139	139	139
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	142	142	142	142	142	142	142	142	142	142
W.9	Municipal	City	134	134	134	134	134	134	134	134	134	134
W.10	Fire Protection	City	446	446	446	446	446	446	446	446	446	446
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	149	149	149	149	149	149	149	149	149	149



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 6.0 – Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

Max Day Total Capacity		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	2,434,058	2,438,920	2,443,782	2,448,644	2,453,506	2,458,368	2,463,230	2,468,092	2,472,954	2,477,816
W.2	Residential Outside City	156,081	156,393	156,706	157,018	157,330	157,642	157,955	158,267	158,579	158,891
W.3	Commercial City	881,988	887,351	892,714	898,077	903,440	908,803	914,166	919,529	924,892	930,255
W.4	Commercial Outside City	16,373	16,373	16,373	16,373	16,373	16,373	16,373	16,373	16,373	16,373
W.5	Industrial City	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115	1,590,115
W.6	Industrial Outside City	309,468	309,468	309,468	309,468	309,468	309,468	309,468	309,468	309,468	309,468
W.7	Ind. Discounts City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities City	384,553	388,377	388,201	390,025	391,849	393,673	395,497	397,321	399,145	400,969
W.9	Municipal City	121,479	121,479	121,479	121,479	121,479	121,479	121,479	121,479	121,479	121,479
W.10	Fire Protection City	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959	2,959
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County Outside City	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003	2,239,003
TOTAL		8,138,078	8,148,439	8,160,800	8,173,161	8,185,523	8,197,884	8,210,245	8,222,606	8,234,968	8,247,329
Extra Capacity		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	806,436	808,047	809,658	811,269	812,880	814,490	816,101	817,712	819,323	820,934
W.2	Residential Outside City	63,966	64,094	64,222	64,350	64,478	64,606	64,734	64,862	64,990	65,118
W.3	Commercial City	105,059	105,698	106,337	106,976	107,615	108,254	108,892	109,531	110,170	110,809
W.4	Commercial Outside City	6,630	6,630	6,630	6,630	6,630	6,630	6,630	6,630	6,630	6,630
W.5	Industrial City	182,458	182,458	182,458	182,458	182,458	182,458	182,458	182,458	182,458	182,458
W.6	Industrial Outside City	86,178	86,178	86,178	86,178	86,178	86,178	86,178	86,178	86,178	86,178
W.7	Ind. Discounts City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities City	113,841	114,921	114,921	115,451	116,001	116,540	117,080	117,620	118,160	118,700
W.9	Municipal City	30,808	30,808	30,808	30,808	30,808	30,808	30,808	30,808	30,808	30,808
W.10	Fire Protection City	2,296	2,296	2,296	2,296	2,296	2,296	2,296	2,296	2,296	2,296
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
Sub-Total		1,397,672	1,400,590	1,403,508	1,406,425	1,409,343	1,412,260	1,415,178	1,418,096	1,421,013	1,423,931
W.11	Tri County Outside City	732,868	732,868	732,868	732,868	732,868	732,868	732,868	732,868	732,868	732,868
TOTAL		2,130,541	2,133,458	2,136,376	2,139,294	2,142,211	2,145,129	2,148,046	2,150,964	2,153,882	2,156,799
Percent of Total		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	37.85%	37.87%	37.80%	37.92%	37.95%	37.97%	37.99%	38.02%	38.04%	38.05%
W.2	Residential Outside City	3.00%	3.00%	3.01%	3.01%	3.01%	3.01%	3.01%	3.02%	3.02%	3.02%
W.3	Commercial City	4.93%	4.95%	4.88%	5.00%	5.02%	5.05%	5.07%	5.09%	5.11%	5.14%
W.4	Commercial Outside City	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%	0.31%
W.5	Industrial City	8.56%	8.55%	8.54%	8.53%	8.52%	8.51%	8.49%	8.47%	8.47%	8.46%
W.6	Industrial Outside City	4.04%	4.04%	4.03%	4.03%	4.02%	4.02%	4.01%	4.01%	4.00%	4.00%
W.7	Ind. Discounts City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities City	5.34%	5.36%	5.38%	5.40%	5.41%	5.43%	5.45%	5.47%	5.49%	5.50%
W.9	Municipal City	1.45%	1.44%	1.44%	1.44%	1.44%	1.44%	1.43%	1.43%	1.43%	1.43%
W.10	Fire Protection City	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.11	Tri County Outside City	34.40%	34.35%	34.30%	34.25%	34.21%	34.16%	34.12%	34.07%	34.03%	33.98%
TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



Forecast 2015 - 2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 6.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

Percent of Total -- Adjusted		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	57.70%	57.69%	57.68%	57.68%	57.68%	57.67%	57.67%	57.66%	57.66%	57.65%
W.2	Residential Outside City	4.58%	4.58%	4.58%	4.58%	4.58%	4.57%	4.57%	4.57%	4.57%	4.57%
W.3	Commercial City	7.52%	7.52%	7.52%	7.61%	7.64%	7.67%	7.69%	7.72%	7.75%	7.78%
W.4	Commercial Outside City	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%
W.5	Industrial City	13.05%	13.03%	13.09%	12.97%	12.95%	12.92%	12.89%	12.87%	12.84%	12.81%
W.6	Industrial Outside City	6.17%	6.15%	6.14%	6.13%	6.11%	6.10%	6.09%	6.08%	6.08%	6.06%
W.7	Ind. Discounts City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities City	8.15%	8.17%	8.19%	8.21%	8.23%	8.25%	8.27%	8.29%	8.32%	8.34%
W.9	Municipal City	2.20%	2.20%	2.20%	2.19%	2.19%	2.18%	2.17%	2.17%	2.17%	2.16%
W.10	Fire Protection City	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Customer Class Units -- Annual Bills

Total Bills		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	120,150	120,390	120,630	120,870	121,110	121,350	121,590	121,830	122,070	122,310
W.2	Residential Outside City	5,999	6,011	6,023	6,035	6,047	6,059	6,071	6,083	6,095	6,107
W.3	Commercial City	19,735	19,856	19,975	20,095	20,215	20,335	20,455	20,575	20,695	20,815
W.4	Commercial Outside City	217	217	217	217	217	217	217	217	217	217
W.5	Industrial City	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034
W.6	Industrial Outside City	84	84	84	84	84	84	84	84	84	84
W.7	Ind. Discounts City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities City	2,530	2,542	2,554	2,566	2,578	2,590	2,602	2,614	2,626	2,638
W.9	Municipal City	36	36	36	36	36	36	36	36	36	36
W.10	Fire Protection City	38	38	38	38	38	38	38	38	38	38
0	Other City	60	60	60	60	60	60	60	60	60	60
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
0	Other City	-	-	-	-	-	-	-	-	-	-
Sub-Total		149,883	150,267	150,651	151,035	151,419	151,803	152,187	152,571	152,955	153,339
W.11	Tri County Outside City	84	84	84	84	84	84	84	84	84	84
TOTAL		149,967	150,351	150,735	151,119	151,503	151,887	152,271	152,655	153,039	153,423
Percent Increase			0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%

Percent of Total Bills		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential City	80.12%	80.07%	80.03%	79.98%	79.94%	79.89%	79.85%	79.81%	79.76%	79.72%
W.2	Residential Outside City	4.00%	4.00%	4.00%	3.99%	3.99%	3.99%	3.99%	3.98%	3.98%	3.98%
W.3	Commercial City	13.18%	13.21%	13.25%	13.30%	13.34%	13.39%	13.43%	13.48%	13.52%	13.57%
W.4	Commercial Outside City	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
W.5	Industrial City	0.69%	0.69%	0.69%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.67%
W.6	Industrial Outside City	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%
W.7	Ind. Discounts City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities City	1.69%	1.69%	1.69%	1.70%	1.70%	1.71%	1.71%	1.71%	1.72%	1.72%
W.9	Municipal City	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
W.10	Fire Protection City	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%	0.02%	0.02%	0.02%
0	Other City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.11	Tri County Outside City	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.05%
TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 6.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

Percent of Total Bills -- Adjusted			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	80.16%	80.12%	80.07%	80.03%	79.98%	79.94%	79.90%	79.85%	79.81%	79.76%
W.2	Residential	Outside City	4.00%	4.00%	4.00%	4.00%	3.99%	3.99%	3.99%	3.99%	3.98%	3.98%
W.3	Commercial	City	13.17%	13.21%	13.26%	13.30%	13.35%	13.40%	13.44%	13.49%	13.53%	13.57%
W.4	Commercial	Outside City	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
W.5	Industrial	City	0.69%	0.69%	0.69%	0.69%	0.68%	0.68%	0.68%	0.68%	0.68%	0.67%
W.5	Industrial	Outside City	0.05%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.05%	0.06%
W.7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities	City	1.69%	1.69%	1.70%	1.70%	1.70%	1.71%	1.71%	1.71%	1.72%	1.72%
W.9	Municipal	City	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
W.10	Fire Protection	City	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%	0.02%	0.02%	0.02%
0	Other	City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Average Accounts			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	10,013	10,033	10,053	10,073	10,093	10,113	10,133	10,153	10,173	10,193
W.2	Residential	Outside City	500	501	502	503	504	505	506	507	508	509
W.3	Commercial	City	1,645	1,655	1,665	1,675	1,685	1,695	1,705	1,715	1,725	1,735
W.4	Commercial	Outside City	18	18	18	18	18	18	18	18	18	18
W.5	Industrial	City	86	86	86	86	86	86	86	86	86	86
W.6	Industrial	Outside City	7	7	7	7	7	7	7	7	7	7
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	211	212	213	214	215	216	217	218	219	220
W.9	Municipal	City	3	3	3	3	3	3	3	3	3	3
W.10	Fire Protection	City	3	3	3	3	3	3	3	3	3	3
0	Other	City	5	5	5	5	5	5	5	5	5	5
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	7	7	7	7	7	7	7	7	7	7
TOTAL			12,497	12,529	12,561	12,593	12,625	12,657	12,689	12,721	12,753	12,785
Percent Increase				0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%



Forecast 2014-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 6.0 -- Customer and Volume Totals

Scen: 2014 12 12 -- Scen 2 -- Conservation

New Accounts			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	20	20	20	20	20	20	20	20	20	20
W.2	Residential	Outside City	1	1	1	1	1	1	1	1	1	1
W.3	Commercial	City	10	10	10	10	10	10	10	10	10	10
W.4	Commercial	Outside City	-	-	-	-	-	-	-	-	-	-
W.5	Industrial	City	-	-	-	-	-	-	-	-	-	-
W.6	Industrial	Outside City	-	-	-	-	-	-	-	-	-	-
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	1	1	1	1	1	1	1	1	1	1
W.9	Municipal	City	-	-	-	-	-	-	-	-	-	-
W.10	Fire Protection	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	-	-	-	-	-	-	-	-	-	-
TOTAL			32	32	32	32	32	32	32	32	32	32
Average Monthly Usage Per Connection			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	4,945	4,945	4,945	4,945	4,945	4,945	4,945	4,945	4,945	4,945
W.2	Residential	Outside City	5,605	5,605	5,605	5,605	5,605	5,605	5,605	5,605	5,605	5,605
W.3	Commercial	City	14,369	14,369	14,369	14,369	14,369	14,369	14,369	14,369	14,369	14,369
W.4	Commercial	Outside City	16,387	16,387	16,387	16,387	16,387	16,387	16,387	16,387	16,387	16,387
W.5	Industrial	City	496,900	496,900	496,900	496,900	496,900	496,900	496,900	496,900	496,900	496,900
W.6	Industrial	Outside City	970,250	970,250	970,250	970,250	970,250	970,250	970,250	970,250	970,250	970,250
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	39,055	39,055	39,055	39,055	39,055	39,055	39,055	39,055	39,055	39,055
W.9	Municipal	City	919,306	919,306	919,306	919,306	919,306	919,306	919,306	919,306	919,306	919,306
W.10	Fire Protection	City	6,368	6,368	6,368	6,368	6,368	6,368	6,368	6,368	6,368	6,368
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512	6,544,512
TOTAL			14,617	14,602	14,888	14,574	14,560	14,845	14,831	14,617	14,503	14,490



Forecast 2015-2024 Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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**CITY CORPORATION – RUSSELLVILLE
WATER/MW COST OF SERVICE MODEL**

Forecast W 7.0 -- Water Cost Classification
Scen: 2014 12 12 -- Scen 2 -- Conservation

CASH BASIS

Total Water Costs																				
Treatment	\$	2,493,811	\$	3,266,396	\$	3,344,904	\$	2,849,257	\$	3,284,521	\$	3,375,181	\$	3,470,328	\$	3,570,200	\$	3,675,049	\$	3,785,141
Distribution		1,435,637		2,160,672		2,189,309		1,641,349		2,021,730		2,054,800		2,089,507		2,125,937		2,164,183		2,204,341
Admin		874,711		914,017		955,241		996,484		1,043,852		1,091,457		1,141,419		1,193,861		1,248,917		1,306,726
Customer		443,704		463,642		484,554		506,489		529,502		553,650		578,994		605,595		633,523		662,847
Net Water Costs		5,247,863		6,804,728		6,974,008		5,995,579		6,879,608		7,075,089		7,280,247		7,495,594		7,721,671		7,989,055
Water Cost Classification																				
Treatment																				
Base	25.00%	\$ 623,453	\$ 816,599	\$ 836,226	\$ 712,314	\$ 821,130	\$ 843,795	\$ 867,582	\$ 892,550	\$ 918,762	\$ 946,285									
Max Day	0.00%	-	-	-	-	-	-	-	-	-	-									
Max Hour	75.00%	1,870,358	2,449,797	2,508,678	2,136,942	2,463,391	2,531,386	2,602,746	2,677,650	2,756,267	2,838,856									
Customer Billing	0.00%	-	-	-	-	-	-	-	-	-	-									
Total Treatment		2,493,811	3,266,396	3,344,904	2,849,257	3,284,521	3,375,181	3,470,328	3,570,200	3,675,049	3,785,141									
Distribution																				
Base	50.00%	\$ 717,819	\$ 1,080,336	\$ 1,094,655	\$ 820,675	\$ 1,010,865	\$ 1,027,400	\$ 1,044,753	\$ 1,062,969	\$ 1,082,091	\$ 1,102,171									
Max Day	50.00%	717,819	1,080,336	1,094,655	820,675	1,010,865	1,027,400	1,044,753	1,062,969	1,082,091	1,102,171									
Max Hour	0.00%	-	-	-	-	-	-	-	-	-	-									
Customer Billing	0.00%	-	-	-	-	-	-	-	-	-	-									
Total Distribution		1,435,637	2,160,672	2,189,309	1,641,349	2,021,730	2,054,800	2,089,507	2,125,937	2,164,183	2,204,341									
Customer Billing																				
Base	0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -									
Max Day	0.00%	-	-	-	-	-	-	-	-	-	-									
Max Hour	0.00%	-	-	-	-	-	-	-	-	-	-									
Customer Billing	100.00%	443,704	463,642	484,554	506,489	529,502	553,650	578,994	605,595	633,523	662,847									
Total Customer Billing		443,704	463,642	484,554	506,489	529,502	553,650	578,994	605,595	633,523	662,847									
Sub-Total																				
Base	\$	1,341,271	\$ 1,696,935	\$ 1,930,881	\$ 1,532,989	\$ 1,831,995	\$ 1,871,195	\$ 1,912,335	\$ 1,955,519	\$ 2,000,854	\$ 2,048,466									
Max Day		717,819	1,080,336	1,094,655	820,675	1,010,865	1,027,400	1,044,753	1,062,969	1,082,091	1,102,171									
Max Hour		1,870,358	2,449,797	2,508,678	2,136,942	2,463,391	2,531,386	2,602,746	2,677,650	2,756,267	2,838,856									
Customer Billing		443,704	463,642	484,554	506,489	529,502	553,650	578,994	605,595	633,523	662,847									
Sub-Total		4,373,152	5,890,711	6,018,767	4,997,095	5,835,753	5,983,632	6,138,829	6,301,732	6,472,755	6,652,329									

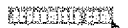


Forecast 2015-2024 Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Forecast W 7.0 -- Water Cost Classification
Scen: 2014 12 12 -- Scen 2 -- Conservation

Percentage										
Base	30.67%	32.20%	32.08%	30.68%	31.39%	31.27%	31.15%	31.03%	30.91%	30.79%
Max Day	16.41%	16.34%	16.19%	16.42%	17.32%	17.17%	17.02%	16.87%	16.72%	16.57%
Max Hour	42.77%	41.59%	41.68%	42.76%	42.21%	42.31%	42.40%	42.49%	42.58%	42.67%
Customer Billing	10.15%	7.87%	8.05%	10.14%	9.07%	9.25%	9.43%	9.61%	9.79%	9.96%
Sub-Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Administration Allocation										
Base	\$ 268,279	\$ 294,333	\$ 306,451	\$ 306,311	\$ 327,692	\$ 341,319	\$ 355,569	\$ 370,472	\$ 386,064	\$ 402,381
Max Day	143,577	167,628	173,733	163,581	180,815	187,405	194,255	201,379	208,789	216,501
Max Hour	374,105	380,117	398,153	426,989	440,631	461,743	483,940	507,280	531,825	557,640
Customer Billing	88,749	71,940	76,904	101,293	94,713	100,990	107,655	114,730	122,238	130,204
Total Administration	874,711	914,017	955,241	998,484	1,043,852	1,091,457	1,141,419	1,193,851	1,248,917	1,306,728
Total Expenses										
Base	\$ 1,509,550	\$ 2,191,268	\$ 2,237,332	\$ 1,839,300	\$ 2,159,688	\$ 2,212,515	\$ 2,267,904	\$ 2,325,991	\$ 2,385,918	\$ 2,450,837
Max Day	861,395	1,247,964	1,268,380	984,656	1,191,680	1,214,805	1,239,009	1,264,348	1,290,881	1,318,671
Max Hour	2,244,464	2,829,914	2,906,832	2,563,931	2,904,022	2,993,129	3,086,686	3,184,930	3,288,112	3,395,496
Customer Billing	532,453	535,582	561,457	607,692	624,215	654,540	686,648	720,325	755,761	793,051
Total	5,247,863	6,804,728	6,974,008	5,995,579	6,879,406	7,075,089	7,280,247	7,495,594	7,721,671	7,959,055
Less Non-Rate Revenues										
Base	\$ 94,751	\$ 197,393	\$ 202,550	\$ 199,500	\$ 210,274	\$ 215,749	\$ 221,366	\$ 227,128	\$ 233,041	\$ 239,110
Max Day	50,709	112,418	114,829	106,801	116,026	118,460	120,837	123,461	126,032	128,653
Max Hour	132,127	254,923	263,161	278,087	282,745	291,869	301,286	311,002	321,027	331,370
Customer Billing	31,345	48,246	50,830	65,913	60,776	63,836	67,022	70,336	73,787	77,372
Total	399,932	612,980	631,369	660,310	689,820	699,914	710,612	731,930	753,886	776,505
Net Water Cost Classification										
Base	\$ 1,514,799	\$ 1,993,876	\$ 2,034,782	\$ 1,639,800	\$ 1,949,414	\$ 1,996,766	\$ 2,046,538	\$ 2,098,862	\$ 2,153,877	\$ 2,211,727
Max Day	810,687	1,135,545	1,153,559	877,855	1,075,655	1,096,346	1,118,071	1,140,886	1,164,848	1,190,019
Max Hour	2,112,337	2,574,991	2,643,671	2,285,834	2,621,278	2,701,260	2,785,400	2,873,928	2,967,084	3,065,126
Customer Billing	501,108	487,336	510,628	541,779	563,440	590,804	619,626	649,887	681,974	715,679
Total	4,938,931	6,161,748	6,342,639	5,345,268	6,209,786	6,385,175	6,569,636	6,763,663	6,967,783	7,182,650
Check to W5 Difference	5,247,883	6,804,728	6,974,008	5,995,579	6,879,606	7,075,089	7,280,247	7,495,594	7,721,671	7,959,055



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL											
	2011 Audit	2012 Audit	Test Year 2016	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 8.0 -- Tri-County Rate Calculation
Scen: 2014 12 12 -- Scen 2 -- Conservation

TRI-COUNTY TREATMENT COST OF SERVICE												
Supply	\$ 162,111	\$ 108,706	\$ 159,313	\$ 166,745	\$ 174,542	\$ 182,722	\$ 191,307	\$ 200,315	\$ 209,770	\$ 219,693	\$ 230,110	\$ 241,046
Pumping	188,832	200,298	211,949	223,344	235,379	248,091	261,519	275,704	290,693	306,530	323,287	340,956
Treatment	1,295,827	1,030,947	1,216,383	1,269,279	1,324,659	1,382,646	1,443,375	1,506,982	1,573,616	1,643,430	1,716,587	1,793,260
Depreciation												
Distribution Mains – 500 System	78,037	78,037	78,037	78,037	78,037	78,037	78,037	78,037	78,037	78,037	78,037	78,037
Huckleberry Impoundment	384,306	384,306	384,306	384,306	384,306	384,306	384,306	384,306	384,306	384,306	384,306	384,306
Water Treatment Plant	285,959	285,623	285,623	285,623	285,623	285,623	285,623	285,623	285,623	285,623	285,623	285,623
Weir Road Tank	38,664	38,664	38,664	38,664	38,664	38,664	38,664	38,664	38,664	38,664	38,664	38,664
	<u>786,966</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>	<u>786,630</u>
Total Treatment Cost	2,433,736	2,126,581	2,374,275	2,445,998	2,521,210	2,600,090	2,682,630	2,769,632	2,860,798	2,956,283	3,056,694	3,161,892
Total Water Sold by City Corporation	2,470,074,000	2,454,130,000	2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,685	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,389	2,223,043,290
Treatment Cost/1,000 Gallons	\$ 0.9853	\$ 0.8665	\$ 1.0831	\$ 1.1141	\$ 1.1466	\$ 1.1806	\$ 1.2163	\$ 1.2536	\$ 1.2929	\$ 1.3340	\$ 1.3771	\$ 1.4223

TRI-COUNTY OPERATION AND MAINTENANCE COST OF SERVICE												
Transmission and Distribution	\$ 74,388	\$ 86,916	\$ 85,306	\$ 88,176	\$ 91,149	\$ 94,230	\$ 97,423	\$ 100,732	\$ 104,162	\$ 107,719	\$ 111,406	\$ 115,231
Maintenance	520,157	567,517	665,438	696,662	729,862	764,585	801,061	839,408	879,728	922,129	966,725	1,013,637
Administration and General	505,184	513,481	874,711	912,673	952,451	994,139	1,037,838	1,083,652	1,131,694	1,182,091	1,234,938	1,290,396
Depreciation	1,068,547	872,190	872,190	872,190	872,190	872,190	872,190	872,190	872,190	872,190	872,190	872,190
Sub-Total	2,168,276	2,040,104	2,497,645	2,569,901	2,645,672	2,725,144	2,806,512	2,895,982	2,987,774	3,084,119	3,185,259	3,291,454
Contract Adjustment Factor	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%	53.00%
Net Cost of Service	1,149,188	1,061,255	1,323,752	1,382,048	1,402,206	1,444,326	1,488,511	1,534,871	1,583,520	1,634,583	1,688,187	1,744,471
Total Water Sold by City Corporation	2,470,074,000	2,454,130,000	2,192,021,000	2,195,467,921	2,198,914,842	2,202,361,763	2,205,808,685	2,209,255,606	2,212,702,527	2,216,149,448	2,219,596,389	2,223,043,290
O&M Cost/1,000 Gallons	\$ 0.4652	\$ 0.4406	\$ 0.6039	\$ 0.6204	\$ 0.6377	\$ 0.6558	\$ 0.6748	\$ 0.6947	\$ 0.7156	\$ 0.7376	\$ 0.7606	\$ 0.7847

TRI-COUNTY RATE CALCULATION SUMMARY												
Treatment Cost	\$ 0.9853	\$ 0.8665	\$ 1.0831	\$ 1.1141	\$ 1.1466	\$ 1.1806	\$ 1.2163	\$ 1.2536	\$ 1.2929	\$ 1.3340	\$ 1.3771	\$ 1.4223
O&M Cost	0.4652	0.4406	0.6039	0.6204	0.6377	0.6558	0.6748	0.6947	0.7156	0.7376	0.7606	0.7847
Sub-Total	1.4505	1.3071	1.6870	1.7345	1.7843	1.8354	1.8911	1.9484	2.0085	2.0716	2.1377	2.2070
Contract Adjustment Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Tri-County Rate Per 1,000 Gallons	\$ 1.5956	\$ 1.4378	\$ 1.8557	\$ 1.9080	\$ 1.9627	\$ 2.0200	\$ 2.0692	\$ 2.1432	\$ 2.2094	\$ 2.2787	\$ 2.3514	\$ 2.4278



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 9.0 -- CASH BASIS Not Water Cost Classification less Tri-County

Scen: 2014 12 12 -- Scen 2 -- Conservation

Water System Cost Classification (W7)

Base	\$ 1,514,799	\$ 1,883,876	\$ 2,034,782	\$ 1,638,800	\$ 1,949,414	\$ 1,996,766	\$ 2,046,538	\$ 2,098,862	\$ 2,153,877	\$ 2,211,727
Max Day	810,687	1,135,545	1,153,558	877,855	1,075,655	1,086,346	1,118,071	1,140,886	1,164,848	1,190,019
Max Hour	2,112,337	2,574,991	2,643,671	2,285,834	2,621,275	2,701,260	2,785,400	2,873,928	2,967,084	3,065,126
Customer Billing	501,198	487,336	510,628	541,779	563,440	566,804	619,628	649,997	681,974	715,879
Total	4,938,931	6,191,748	6,342,639	6,345,268	6,209,786	6,366,175	6,569,636	6,763,663	6,967,783	7,102,550

Percent of Total

Base	30.57%	32.20%	32.08%	30.68%	31.39%	31.27%	31.15%	31.03%	30.91%	30.79%
Max Day	16.41%	18.34%	18.19%	16.42%	17.32%	17.17%	17.02%	16.87%	16.72%	16.57%
Max Hour	42.77%	41.59%	41.68%	42.76%	42.21%	42.31%	42.40%	42.49%	42.58%	42.67%
Customer Billing	10.15%	7.87%	8.05%	8.54%	9.07%	8.92%	9.43%	9.61%	9.78%	9.96%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Tri-County Revenue

Tri-County Volume (W5)	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000	549,739,000
Contract Rate/1,000 Gallons (W8)	1.8557	1.9080	1.9627	2.0200	2.0802	2.1432	2.2094	2.2787	2.3514	2.4278

W-11	Tri County	Outside City	\$ 1,020,175	\$ 1,048,876	\$ 1,078,960	\$ 1,110,494	\$ 1,143,658	\$ 1,176,220	\$ 1,214,670	\$ 1,252,693	\$ 1,292,681	\$ 1,334,630
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Allocated to:

Base	\$ 312,894	\$ 337,761	\$ 346,141	\$ 340,673	\$ 358,992	\$ 368,462	\$ 378,356	\$ 388,729	\$ 399,593	\$ 410,973
Max Day	167,454	192,380	196,234	182,377	198,066	202,302	206,705	211,303	216,108	221,124
Max Hour	436,320	436,201	449,720	474,888	482,718	498,448	514,955	532,278	550,461	569,548
Customer Billing	103,508	82,954	86,964	112,556	103,762	109,018	114,554	120,384	126,522	132,864
Total	1,020,175	1,048,876	1,078,960	1,110,494	1,143,666	1,176,220	1,214,670	1,252,693	1,292,681	1,334,630

Net Water System Cost Classification

Base	\$ 1,201,905	\$ 1,556,115	\$ 1,688,641	\$ 1,299,127	\$ 1,590,422	\$ 1,628,314	\$ 1,668,182	\$ 1,710,134	\$ 1,754,284	\$ 1,800,754
Max Day	643,233	943,185	957,324	695,478	877,569	894,043	911,267	929,584	948,743	968,895
Max Hour	1,676,017	2,138,790	2,193,951	1,810,945	2,138,560	2,202,812	2,270,445	2,341,650	2,416,623	2,495,577
Customer Billing	397,601	404,782	423,764	429,223	459,680	481,788	505,072	529,603	555,452	582,894
Total	3,918,766	5,142,872	5,263,680	4,234,774	5,066,231	5,206,956	5,356,966	5,510,970	5,675,102	5,847,920



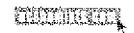
Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 10.0 -- CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

I. Net Water System Cost Classification																				
Base	\$	1,201,905	\$	1,656,115	\$	1,888,641	\$	1,299,127	\$	1,590,422	\$	1,628,314	\$	1,668,182	\$	1,710,134	\$	1,754,284	\$	1,800,754
Extra Capacity		2,319,250		3,081,975		3,151,275		2,506,424		3,018,128		3,095,855		3,181,812		3,271,233		3,365,366		3,464,472
Sub-Total Non Customer		3,521,156		4,738,090		4,839,916		3,805,551		4,606,551		4,725,169		4,849,994		4,981,367		5,119,850		5,265,228
Customer		397,601		404,782		423,764		429,223		459,680		481,786		505,072		529,603		555,452		582,604
Total Cost Classification		3,918,758		5,142,872		5,263,680		4,234,774		5,066,231		5,206,956		5,355,066		5,510,970		5,675,102		5,847,820
Base		30.7%		32.2%		32.1%		30.7%		31.4%		31.3%		31.2%		31.0%		30.9%		30.6%
Extra Capacity		59.2%		59.9%		59.9%		59.2%		59.5%		59.5%		59.4%		59.4%		59.3%		59.2%
Sub-Total Non Customer		89.9%		92.1%		91.9%		89.9%		90.9%		90.7%		90.6%		90.4%		90.2%		90.0%
Customer		10.1%		7.9%		8.1%		10.1%		8.1%		9.3%		9.4%		9.6%		9.8%		10.0%
Total Cost Classification		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%		100.0%

IV. Customer Class Allocation Factors:																				
Base -- Percent Adjusted																				
W.1	Residential	City	36.17%	36.17%	36.17%	36.16%	36.16%	36.16%	36.16%	36.15%	36.15%	36.15%	36.15%	36.15%	36.15%	36.15%	36.15%	36.15%	36.15%	36.14%
W.2	Residential	Outside City	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%
W.3	Commercial	City	17.27%	17.34%	17.40%	17.47%	17.54%	17.61%	17.67%	17.74%	17.81%	17.87%	17.94%	18.01%	18.08%	18.15%	18.22%	18.29%	18.36%	18.43%
W.4	Commercial	Outside City	0.22%	0.22%	0.22%	0.22%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%	0.21%
W.5	Industrial	City	31.29%	31.22%	31.15%	31.08%	31.02%	30.96%	30.90%	30.83%	30.77%	30.71%	30.65%	30.59%	30.53%	30.47%	30.41%	30.35%	30.29%	30.23%
W.6	Industrial	Outside City	4.95%	4.95%	4.94%	4.93%	4.92%	4.91%	4.90%	4.89%	4.88%	4.87%	4.86%	4.85%	4.84%	4.83%	4.82%	4.81%	4.80%	4.79%
W.7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W.8	Public Authorities	City	6.02%	6.03%	6.05%	6.06%	6.08%	6.10%	6.11%	6.13%	6.14%	6.16%	6.17%	6.18%	6.19%	6.20%	6.21%	6.22%	6.23%	6.24%
W.9	Municipal	City	2.02%	2.01%	2.01%	2.00%	2.00%	1.99%	1.99%	1.98%	1.98%	1.97%	1.97%	1.96%	1.96%	1.95%	1.95%	1.94%	1.94%	1.93%
W.10	Fire Protection	City	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 10.0 – CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

Extra Capacity – Adjusted			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W1	Residential	City	57.70%	57.69%	57.69%	57.68%	57.68%	57.67%	57.67%	57.66%	57.66%	57.65%
W2	Residential	Outside City	4.58%	4.58%	4.58%	4.58%	4.58%	4.57%	4.57%	4.57%	4.57%	4.57%
W3	Commercial	City	7.52%	7.55%	7.58%	7.61%	7.64%	7.67%	7.69%	7.72%	7.75%	7.78%
W4	Commercial	Outside City	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%
W5	Industrial	City	13.05%	13.03%	13.00%	12.97%	12.95%	12.92%	12.89%	12.87%	12.84%	12.81%
W6	Industrial	Outside City	6.17%	6.15%	6.14%	6.13%	6.11%	6.09%	6.08%	6.08%	6.05%	6.05%
W7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W8	Public Authorities	City	8.15%	8.17%	8.19%	8.21%	8.23%	8.25%	8.27%	8.29%	8.32%	8.34%
W9	Municipal	City	2.20%	2.20%	2.20%	2.19%	2.19%	2.18%	2.18%	2.17%	2.17%	2.18%
W10	Fire Protection	City	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%	0.16%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Customer -- Adjusted			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W1	Residential	City	80.16%	80.12%	80.07%	80.03%	79.98%	79.94%	79.90%	79.85%	79.81%	79.78%
W2	Residential	Outside City	4.00%	4.00%	4.00%	4.00%	3.99%	3.99%	3.99%	3.99%	3.98%	3.98%
W3	Commercial	City	13.17%	13.21%	13.26%	13.30%	13.35%	13.40%	13.44%	13.49%	13.53%	13.57%
W4	Commercial	Outside City	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
W5	Industrial	City	0.69%	0.69%	0.69%	0.68%	0.68%	0.68%	0.68%	0.68%	0.68%	0.67%
W6	Industrial	Outside City	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.06%	0.05%	0.05%
W7	Ind. Discounts	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
W8	Public Authorities	City	1.69%	1.69%	1.70%	1.70%	1.70%	1.71%	1.71%	1.72%	1.72%	1.72%
W9	Municipal	City	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
W10	Fire Protection	City	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.02%	0.02%	0.02%	0.02%
0	Other	City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0	Other	City	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTAL		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2016	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 10.0 -- CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

V. Total Cost by Customer Class

W1 Residential - City																				
Base	\$	434,779	\$	599,025	\$	610,729	\$	469,806	\$	575,091	\$	588,734	\$	603,089	\$	618,194	\$	634,092	\$	650,825
Extra Capacity		1,338,173		1,778,094		1,817,913		1,445,782		1,738,640		1,708,044		1,834,880		1,886,281		1,940,392		1,997,360
Customer		318,727		324,301		339,318		343,497		367,666		385,136		403,528		422,685		443,294		464,783
Total		2,091,679		2,701,420		2,767,960		2,259,084		2,681,371		2,740,914		2,842,497		2,927,160		3,017,778		3,112,968

W2 Residential - Outside City																				
Base	\$	24,806	\$	33,902	\$	34,564	\$	26,589	\$	32,548	\$	33,320	\$	34,132	\$	34,987	\$	35,887	\$	36,834
Extra Capacity		106,143		141,038		144,197		114,680		137,989		141,670		145,544		148,622		153,015		159,434
Customer		19,914		16,192		16,942		17,151		18,358		19,230		20,148		21,115		22,134		23,207
Total		149,863		191,132		195,703		158,419		188,894		194,120		199,824		204,724		211,936		223,475

W3 Commercial - City																				
Base	\$	207,538	\$	287,104	\$	293,896	\$	226,988	\$	278,962	\$	286,707	\$	294,847	\$	303,406	\$	312,409	\$	321,879
Extra Capacity		174,332		232,587		238,757		190,644		230,306		237,382		244,828		252,664		260,914		269,602
Customer		52,352		53,484		56,187		57,107		61,369		64,538		67,885		71,420		75,153		79,098
Total		434,222		573,175		588,840		474,276		570,637		588,827		607,560		627,490		648,476		670,583

W4 Commercial - Outside City																				
Base	\$	2,602	\$	3,578	\$	3,641	\$	2,795	\$	3,415	\$	3,469	\$	3,567	\$	3,649	\$	3,736	\$	3,827
Extra Capacity		11,052		14,580		14,887		11,816		14,189		14,539		14,907		15,294		15,702		16,131
Customer		576		585		610		617		659		689		720		753		788		825
Total		14,230		18,743		19,138		15,228		18,263		18,717		19,194		19,696		20,226		20,783

W5 Industrial - City																				
Base	\$	376,021	\$	517,037	\$	526,090	\$	403,894	\$	493,428	\$	504,134	\$	515,407	\$	527,276	\$	539,772	\$	552,929
Extra Capacity		302,764		401,495		409,669		325,162		390,477		400,099		410,228		420,889		432,112		443,925
Customer		2,743		2,795		2,909		2,938		3,139		3,282		3,432		3,589		3,755		3,929
Total		681,528		921,327		938,668		731,994		887,044		907,515		929,069		951,754		975,643		1,000,783

W6 Industrial - Outside City																				
Base	\$	59,647	\$	82,015	\$	83,451	\$	64,068	\$	78,270	\$	79,969	\$	81,757	\$	83,639	\$	85,622	\$	87,709
Extra Capacity		143,001		189,833		193,494		153,580		184,429		188,974		193,758		198,794		204,094		209,674
Customer		223		226		236		239		255		267		279		292		305		319
Total		202,871		271,074		277,181		217,887		266,935		269,210		276,290		282,725		290,021		297,702



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 10.0 -- CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

W7: Int. Discipline: Cb)											
Base	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Extra Capacity	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
Total											

W8: Public Authorities: Cb)											
Base	\$ 72,314	\$ 99,905	\$ 102,134	\$ 78,780	\$ 96,693	\$ 99,251	\$ 101,941	\$ 104,789	\$ 107,745	\$ 110,875	
Extra Capacity	188,903	251,693	258,030	205,765	248,262	255,554	263,237	271,324	279,838	288,802	
Customer	5,711	6,848	7,184	7,292	7,825	8,220	8,635	9,074	9,526	10,025	
Total	267,928	358,446	367,348	291,837	452,779	463,025	473,813	485,187	497,109	509,702	

W9: Municipal: Cb)											
Base	\$ 24,221	\$ 33,304	\$ 33,887	\$ 26,016	\$ 31,783	\$ 32,473	\$ 33,199	\$ 33,953	\$ 34,768	\$ 35,618	
Extra Capacity	51,122	67,793	69,173	54,904	65,933	67,557	69,268	71,058	72,963	74,957	
Customer	95	97	101	102	109	114	119	125	131	137	
Total	76,438	101,194	103,161	81,022	97,825	100,144	102,586	105,136	107,862	110,712	

Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 10.0 -- CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class	2015		2016		2017		2018		2019		2020		2021		2022		2023		2024	
Fire Protection - City																				
Base	\$	177	\$	244	\$	248	\$	190	\$	232	\$	237	\$	243	\$	248	\$	254	\$	260
Extra Capacity		3,810		5,052		3,155		4,092		4,913		5,035		5,162		5,296		5,437		5,596
Customer		101		102		107		108		115		121		126		132		138		144
Total		<u>3,908</u>		<u>5,296</u>		<u>3,410</u>		<u>4,380</u>		<u>5,201</u>		<u>5,273</u>		<u>5,331</u>		<u>5,476</u>		<u>5,613</u>		<u>5,801</u>
Other - City																				
Base	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Extra Capacity		-		-		-		-		-		-		-		-		-		-
Customer		159		162		169		171		182		190		199		208		216		228
Total		<u>159</u>		<u>162</u>		<u>169</u>		<u>171</u>		<u>182</u>		<u>190</u>		<u>199</u>		<u>208</u>		<u>216</u>		<u>228</u>
Other - City																				
Base	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Extra Capacity		-		-		-		-		-		-		-		-		-		-
Customer		-		-		-		-		-		-		-		-		-		-
Total		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>
Other - City																				
Base	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Extra Capacity		-		-		-		-		-		-		-		-		-		-
Customer		-		-		-		-		-		-		-		-		-		-
Total		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>
Other - City																				
Base	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Extra Capacity		-		-		-		-		-		-		-		-		-		-
Customer		-		-		-		-		-		-		-		-		-		-
Total		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>		<u>-</u>
Total																				
Base	\$	1,201,905	\$	1,656,115	\$	1,659,641	\$	1,299,127	\$	1,590,422	\$	1,628,314	\$	1,665,162	\$	1,710,134	\$	1,754,284	\$	1,800,754
Extra Capacity		2,319,250		3,081,975		3,151,275		2,506,424		3,016,128		3,086,855		3,181,812		3,271,233		3,365,366		3,464,472
Customer		397,601		404,782		423,764		429,223		459,680		481,786		505,072		529,603		555,452		592,694
Total		<u>3,918,756</u>		<u>5,142,872</u>		<u>5,263,680</u>		<u>4,234,774</u>		<u>5,066,231</u>		<u>5,206,955</u>		<u>5,365,065</u>		<u>5,510,970</u>		<u>5,675,102</u>		<u>5,847,920</u>

Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast W 11.0 -- CASH Basis Retail Water Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

I Water Cost Classification by Customer Class			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
W.1	Residential	City	\$ 2,091,079	\$ 2,701,420	\$ 2,767,960	\$ 2,259,086	\$ 2,582,399	\$ 2,759,914	\$ 2,841,496	\$ 2,927,371	\$ 3,017,777	\$ 3,112,968
W.2	Residential	Outside City	146,663	191,132	195,703	158,419	188,894	194,220	199,625	205,725	211,938	218,475
W.3	Commercial	City	434,221	573,176	588,841	474,740	570,636	588,627	607,560	627,491	645,476	670,579
W.4	Commercial	Outside City	14,180	18,752	19,138	15,228	18,263	18,717	19,194	19,697	20,226	20,783
W.5	Industrial	City	681,528	921,318	930,658	731,995	887,043	907,518	929,067	951,794	975,639	1,000,783
W.6	Industrial	Outside City	202,870	271,875	277,182	217,887	262,955	269,210	275,794	282,725	290,021	297,702
W.7	Ind. Discounts	City	-	-	-	-	-	-	-	-	-	-
W.8	Public Authorities	City	267,929	358,445	367,348	291,837	352,772	363,026	373,814	385,167	397,118	409,702
W.9	Municipal	City	75,438	101,194	103,161	81,022	97,825	100,144	102,566	105,156	107,862	110,710
W.10	Fire Protection	City	4,088	5,398	5,510	4,390	5,261	5,393	5,531	5,676	5,830	5,991
0	Other	City	159	162	169	171	182	190	199	208	218	228
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
0	Other	City	-	-	-	-	-	-	-	-	-	-
W.11	Tri County	Outside City	1,020,175	1,048,876	1,078,960	1,110,494	1,143,555	1,178,220	1,214,570	1,252,693	1,292,661	1,334,630
TOTAL			4,938,931	6,191,748	6,342,639	5,345,268	6,209,786	6,385,175	6,569,635	6,763,663	6,967,783	7,182,550

III Total Water Cost Classification -- Cash Basis			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CASH Basis												
Total Cost of Service			\$ 5,247,863	\$ 6,804,728	\$ 6,974,008	\$ 5,995,579	\$ 6,879,606	\$ 7,075,089	\$ 7,280,247	\$ 7,485,594	\$ 7,721,671	\$ 7,959,055
Non-Rate Revenues			308,932	652,980	631,369	650,310	669,820	689,914	710,612	731,930	753,888	778,505
Net Revenue Requirement			4,938,931	6,191,748	6,342,639	5,345,268	6,209,786	6,385,175	6,569,635	6,763,663	6,967,783	7,182,550
Difference			-	-	-	-	-	-	-	-	-	-

Test Year 2014	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin	Customer Billing

Test Year WW 1.0 – Wastewater Department Cost Functionalization
 Scen: 2014 12 12 – Scen 2 -- Conservation

NON-RATE REVENUES

Wastewater Division							
Sales – Customer Billing	\$	-	\$	-	na	na	na
Sales – Dumping		-	-	-	na	na	na
Sewer Surcharge		26,400		26,400	na	na	na
Grinder Pump Fees		3,360		3,360	na	na	na
Other Revenue		-		-	na	na	na
Tapping Fees		38,800		38,800	na	na	na
Other Service Fees		720		720	na	na	na
Interest Income		3,675		3,675	na	na	na
Revenue		-		-	na	na	na
Revenue		-		-	na	na	na
Revenue		-		-	na	na	na
Revenue		-		-	na	na	na
Revenue		-		-	na	na	na
Revenue		-		-	na	na	na
Total		72,955		72,955	na	na	na
TOTAL NON-RATE REVENUES							
Cash Basis		72,955		72,955	na	na	na



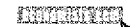
Test Year 2016	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin	Customer Billing

Test Year WW 1.0 -- Wastewater Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

OPERATING EXPENSES

Wastewater Division

Account	Description	Total	WW	Treatment	Collection	Admin	Customer Billing
PUMPING							
01.02.623100	Power Purchases for Pumping	\$ 83,120	\$ 83,120	-	\$ 83,120	-	-
01.02.623200	Other Utility Purchases	15,000	15,000	-	15,000	-	-
01.02.624000	Labor -- Pumping	-	-	-	-	-	-
01.02.626100	Misc. Pumping	1,800	1,800	-	1,800	-	-
01.02.630000	Supervision -- Pumping	5,574	5,574	-	5,574	-	-
01.02.631100	Employee Benefits -- Pumping	9,256	9,256	-	9,256	-	-
01.02.633100	Labor -- Maint of Pumping Equipment	22,912	22,912	-	22,912	-	-
01.02.633200	Materials -- Maint of Pumping Equipment	7,800	7,800	-	7,800	-	-
01.02.633300	O/S Cost -- Maint of Pumping Equipment	65,452	65,452	-	65,452	-	-
	Total	210,914	210,914	-	210,914	-	-
TREATMENT							
01.02.640100	Labor -- Treatment	172,436	172,436	172,436	-	-	-
01.02.641000	Chemical Expense	81,600	81,600	81,600	-	-	-
01.02.642000	Laboratory	42,800	42,800	42,800	-	-	-
01.02.642100	Labor -- Laboratory	72,470	72,470	72,470	-	-	-
01.02.643100	Licenses and Fees -- Treatment	10,670	10,670	10,670	-	-	-
01.02.644000	Power Purchases for Treatment	321,190	321,190	321,190	-	-	-
01.02.650000	Supervision -- Treatment	26,983	26,983	26,983	-	-	-
01.02.651100	Employee Benefits -- Treatment	95,797	95,797	95,797	-	-	-
01.02.652100	Labor -- Treatment Equipment	22,872	22,872	22,872	-	-	-
01.02.652200	Materials -- Treatment Equipment	24,960	24,960	24,960	-	-	-
01.02.652300	O/S Cost -- Treatment Equipment	66,505	66,505	66,505	-	-	-
01.02.662100	Labor -- Overhead	-	-	-	-	-	-
01.02.666000	Safety Equipment and Supplies	2,620	2,620	2,620	-	-	-
01.02.903400	Computer	4,967	4,967	4,967	-	-	-
01.02.903600	Training	8,293	8,293	8,293	-	-	-
01.02.921100	Office Supplies and Stationary	5,040	5,040	5,040	-	-	-
01.02.921200	Dues and Subscriptions	31	31	31	-	-	-
01.02.921400	Communication Services	7,044	7,044	7,044	-	-	-
01.02.921600	Transportation	14,850	14,850	14,850	-	-	-
01.02.921700	Travel and Personal	7,800	7,800	7,800	-	-	-
01.02.932000	Maint. Of General Plant	3,600	3,600	3,600	-	-	-
	Total	992,528	992,528	992,528	-	-	-
COLLECTION							
01.02.660000	Supervision -- T&D	8,796	8,796	-	8,796	-	-
01.02.662100	Labor -- Overhead	-	-	-	-	-	-
01.02.662200	Materials -- T&D	3,000	3,000	-	3,000	-	-
01.02.666000	Safety Equipment and Supplies	3,900	3,900	-	3,900	-	-
01.02.670100	Supervision -- Collection	8,796	8,796	-	8,796	-	-
01.02.672140	Labor -- I&I	-	-	-	-	-	-
01.02.672240	Materials -- I&I	30,000	30,000	-	30,000	-	-
01.02.903100	O&S Cost -- I&I	-	-	-	-	-	-
01.02.673150	Labor -- Maint of Collection Lines	196,180	196,180	-	196,180	-	-
01.02.673250	Materials -- Maint of Collection Lines	25,200	25,200	-	25,200	-	-
01.02.673400	O/S -- Maint of Collection Lines	18,000	18,000	-	18,000	-	-
01.02.676100	Labor -- Maint of Meters	24,589	24,589	-	24,589	-	-
01.02.676200	Materials -- Maint of Meters	15,376	15,376	-	15,376	-	-
01.02.680200	Employee Benefits -- Collection	77,469	77,469	-	77,469	-	-
01.02.903400	Computer Exp	1,248	1,248	-	1,248	-	-
01.02.903600	Training	5,972	5,972	-	5,972	-	-
01.02.921100	Office Supplies	1,415	1,415	-	1,415	-	-
01.02.921200	Dues and Subscriptions	35	35	-	35	-	-
01.02.921400	Communication	4,536	4,536	-	4,536	-	-
01.02.921600	Transportation	37,908	37,908	-	37,908	-	-



Test Year 2014		CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					Customer Billing
	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin		

Test Year WW 1.0 – Wastewater Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

01.02.921700	Travel and Personal	5,580	5,580	-	5,580	-	-
01.02.932000	Maint. Of General Plant	2,700	2,700	-	2,700	-	-
	Total	470,760	470,760	-	470,700	-	-
CUSTOMER ACCOUNT							
01.02.866000	Safety Equipment and Supplies	-	-	-	-	-	-
01.02.901000	Supervision -- Cust Acct	38,161	38,161	-	-	-	38,161
01.02.902100	Labor -- Meter Reading	20,689	20,689	-	-	-	20,689
01.02.902200	Supplies -- Meter Reading	864	864	-	-	-	864
01.02.903100	Labor Customer Records	65,725	65,725	-	-	-	65,725
01.02.903200	Stationary and Supplies	2,552	2,552	-	-	-	2,552
01.02.903300	Postage	-	-	-	-	-	-
01.02.903400	Computer	5,220	5,220	-	-	-	5,220
01.02.903600	Training	3,304	3,304	-	-	-	3,304
01.02.910100	Employee Benefits -- Cust Acct	40,487	40,487	-	-	-	40,487
01.02.921200	Dues and Subscriptions	64	64	-	-	-	64
01.02.921400	Communication	1,920	1,920	-	-	-	1,920
01.02.921600	Transportation	7,200	7,200	-	-	-	7,200
01.02.921700	Travel and Personal	1,700	1,700	-	-	-	1,700
01.02.923000	Outside Services	42,420	42,420	-	-	-	42,420
01.02.932000	Maint. Of General Plant	840	840	-	-	-	840
	Total	231,146	231,146	-	-	-	231,146
ADMINISTRATION							
01.02.866000	Safety Equipment and Supplies	220	220	-	-	220	-
01.02.903300	Postage	3,654	3,654	-	-	3,654	-
01.02.903400	Computer	29,298	29,298	-	-	29,298	-
01.02.903600	Training	10,020	10,020	-	-	10,020	-
01.02.920100	Salaries -- General Management	37,128	37,128	-	-	37,128	-
01.02.920300	Salaries -- Accounting/Other	68,998	68,998	-	-	68,998	-
01.02.920400	Salaries -- Engineering	101,176	101,176	-	-	101,176	-
01.02.921100	Office Supplies	11,962	11,962	-	-	11,962	-
01.02.921200	Dues and Subscriptions	7,193	7,193	-	-	7,193	-
01.02.921300	Public Relations	5,505	5,505	-	-	5,505	-
01.02.921400	Communication	13,584	13,584	-	-	13,584	-
01.02.921500	Employee Relations	6,460	6,460	-	-	6,460	-
01.02.921600	Transportation	14,236	14,236	-	-	14,236	-
01.02.921700	Travel and Personal	1,200	1,200	-	-	1,200	-
01.02.921800	Employee Benefits -- Admin and Gen	67,373	67,373	-	-	67,373	-
01.02.921900	Payroll Tax	-	-	-	-	-	-
01.02.922000	Contributions	-	-	-	-	-	-
01.02.922300	Outside Services	370,328	370,328	-	-	370,328	-
01.02.922400	Insurance	35,760	35,760	-	-	35,760	-
01.02.922600	CWIP FUTA Exp	-	-	-	-	-	-
01.02.922700	CWIP SUTA Exp	-	-	-	-	-	-
01.02.931000	Office Equipment Rental	1,440	1,440	-	-	1,440	-
01.02.932000	Maint of General Plant	20,816	20,816	-	-	20,816	-
01.02.950000	Loss on Sale of Assets	-	-	-	-	-	-
01.02.950200	Gains/Loss -- Cont in Aid of Const	-	-	-	-	-	-
	Total	806,351	806,351	-	-	806,351	-

Test Year 2014	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin	Customer Billing

Test Year WW 1.0 -- Wastewater Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

		PRETREATMENT				
01.02.960000	Supervision -- Pretreatment	10,197	10,197	10,197	-	-
01.02.960100	Labor -- Pretreatment	72,825	72,825	72,825	-	-
01.02.960200	Laboratory Exp -- Pretreatment	15,840	15,840	15,840	-	-
01.02.961100	Employee Benefits -- Pretreatment	26,981	26,981	26,981	-	-
	Total	125,843	125,843	125,843	-	-
		DEPRECIATION AND AMORTIZATION				
01.02.426000	Interest Revenue Bonds 1992	-	-	-	-	-
01.02.428000	Paying Agent Fees	-	-	-	-	-
01.02.429000	Interest	-	-	-	-	-
01.02.403000	Depreciation	-	-	-	-	-
	Total	-	-	-	-	-

TOTAL OPERATING EXPENSES

Cash Basis	\$	2,837,482	\$	2,837,482	\$	1,118,371	\$	681,814	\$	806,351	\$	231,146
				100.0%		39.4%		24.0%		28.4%		8.1%

CAPITAL OUTLAYS

Wastewater Division											
Replacement Reserve		0	\$	250,000	\$	250,000	\$	-	\$	250,000	\$
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	
Other	Other			-		-		-		-	



Test Year 2015	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin	Customer Billing
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**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Test Year WW 1.0 -- Wastewater Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE - CURRENT

1	2013 Bond						
	Principal	\$ 614,297	\$ 614,297	\$ 614,297	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	223,224	223,224	223,224	-	-	-
	Sub-Total	837,521	837,521	837,521	-	-	-
2	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
3	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
4	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
5	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-



Test Year 2019		CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					Customer Billing
	Total Revenue Requirement	WW Revenue Requirement	Treatment	Collection	Admin		

Test Year WW 1.0 -- Wastewater Department Cost Functionalization
Scen: 2014 12 12 -- Scen 2 -- Conservation

6	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
7	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
8	Debt						
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-
TOTAL DEBT SERVICE -- CURRENT							
	Principal	\$ 614,297	\$ 614,297	\$ 614,297	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-
	Reserve	223,224	223,224	223,224	-	-	-
	TOTAL	837,521	837,521	837,521	-	-	-
	Cash Basis	\$ 837,521	\$ 837,521	\$ 837,521	\$ -	\$ -	\$ -

Test Year 2015	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL					
	Total Revenue Requirement	WW Revenue Requirements	Treatment	Collection	Admin	Customer Billing

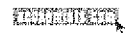
Test Year *WW 1.0 -- Wastewater Department Cost Functionalization*
 Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE - FUTURE

Principal	\$	-	\$	-	\$	-	\$	-	\$	-
Interest	-	-	-	-	-	-	-	-	-	-
Reserve	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	-
Cash Basis	\$	-	\$	-	\$	-	\$	-	\$	-

TOTAL EXPENSES

Cash Basis	\$	3,826,003	\$	3,826,003	\$	1,955,892	\$	931,614	\$	806,351	\$	231,146
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Test Year 2015	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL				
	Total Wastewater	Treatment	Collection	Administration	Cust. Billing

Test Year WW 2.0 -- Wastewater Cost Classification
Scen: 2014 12 12 -- Scen 2 -- Conservation

CASH BASIS

Operating Expenses	\$ 2,837,482	\$ 1,118,371	\$ 881,814	\$ 806,351	\$ 231,146
Capital Outlays	250,000	-	250,000	-	-
Debt Service -- Current	837,521	837,521	-	-	-
Debt Service -- Future	-	-	-	-	-
TOTAL EXPENSES	\$ 3,925,003	\$ 1,955,892	\$ 931,614	\$ 806,351	\$ 231,146
Percentage	100.00%	49.83%	23.74%	20.54%	5.89%
Allocation of Administration:					
Total WW less Admin	3,118,652	1,955,892	931,614	na	231,146
Percent of Total	<u>100.00%</u>	<u>62.72%</u>	<u>29.87%</u>	na	<u>7.41%</u>
Administration Allocation	806,351	505,711	240,876	na	59,765
Sub-Total	3,925,003	2,461,603	1,172,490	na	290,911
Sub-Total Percentage	100.00%	62.72%	29.87%	na	7.41%
Non-Rate Revenues	(72,955)	(45,754)	(21,793)	na	(5,407)
WASTEWATER COST CLASSIFICATION	\$ 3,852,048	\$ 2,415,848	\$ 1,150,696	na	\$ 285,503



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Total Expense									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 3.0 – Wastewater Utility Cost of Service
 Scen: 2014 12 12 -- Scen 2 -- Conservation

NON-RATE REVENUES

Wastewater Division	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Sales – Customer Billing	-	-	-	-	-	-	-	-	-	-	-
Sales – Dumping	-	-	-	-	-	-	-	-	-	-	-
Sewer Surcharge	26,460	27,192	28,008	28,848	29,713	30,605	31,523	32,469	33,443	34,446	34,446
Grinder Pump Fees	3,360	3,461	3,565	3,672	3,782	3,895	4,012	4,132	4,256	4,384	4,384
Other Revenue	-	-	-	-	-	-	-	-	-	-	-
Tapping Fees	38,800	39,964	41,163	42,398	43,670	44,980	46,329	47,719	48,151	50,625	50,625
Other Service Fees	720	742	764	787	810	835	860	886	912	939	939
Interest Income	3,875	3,785	3,639	4,016	4,135	4,260	4,388	4,520	4,655	4,795	4,795
Revenue	-	-	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-	-	-
Revenue	-	-	-	-	-	-	-	-	-	-	-
Sub-Total	72,955	75,144	77,398	79,720	82,111	84,575	87,112	89,725	92,417	95,190	95,190

TOTAL NON-RATE REVENUES

Cash Basis	\$	72,955	\$	75,144	\$	77,398	\$	79,720	\$	82,111	\$	84,575	\$	87,112	\$	89,725	\$	92,417	\$	95,190
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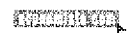
Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Total Expense									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 3.0 – Wastewater Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

OPERATING EXPENSES

Wastewater Division

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
PUMPING										
01.02.523100	\$ 83,120	\$ 87,482	\$ 92,873	\$ 96,903	\$ 101,987	\$ 107,337	\$ 112,966	\$ 118,891	\$ 125,125	\$ 131,685
01.02.523200	15,000	15,787	16,516	17,487	18,405	19,370	20,386	21,455	22,580	23,764
01.02.524000	-	-	-	-	-	-	-	-	-	-
01.02.526100	1,800	1,856	1,919	1,981	2,045	2,112	2,180	2,251	2,324	2,399
01.02.630000	5,574	5,853	6,145	6,453	6,775	7,114	7,470	7,843	8,235	8,647
01.02.631100	9,256	9,904	10,597	11,338	12,133	12,982	13,891	14,863	15,904	17,017
01.02.633100	22,812	23,556	24,424	25,217	26,036	26,881	27,753	28,654	29,583	30,542
01.02.633200	7,800	8,053	8,315	8,585	8,863	9,151	9,448	9,755	10,071	10,398
01.02.633300	55,452	57,578	59,772	62,038	64,376	66,790	69,282	71,854	74,509	77,249
Total	210,914	220,172	229,861	240,003	250,620	261,737	273,376	285,566	298,331	311,762
TREATMENT										
01.02.640100	172,436	181,058	190,111	199,616	209,597	220,077	231,061	242,635	254,757	267,505
01.02.641000	51,600	54,250	56,998	59,810	62,726	65,735	68,842	72,048	75,358	78,775
01.02.642000	42,600	44,190	45,825	47,106	48,638	50,214	51,843	53,525	55,262	57,054
01.02.642100	72,470	76,094	79,898	83,893	88,088	92,492	97,117	101,973	107,071	112,425
01.02.643100	10,570	10,990	11,320	11,659	12,009	12,369	12,741	13,123	13,516	13,922
01.02.644000	321,190	338,046	355,784	374,451	394,095	414,767	436,521	459,414	483,504	508,855
01.02.650000	26,983	28,332	29,749	31,236	32,798	34,438	36,160	37,966	39,866	41,859
01.02.651100	95,797	102,503	109,678	117,355	125,570	134,380	143,785	153,829	164,597	176,119
01.02.652100	22,672	24,016	25,216	26,477	27,801	29,191	30,651	32,183	33,792	35,482
01.02.652200	24,960	25,771	26,608	27,471	28,363	29,284	30,234	31,215	32,227	33,272
01.02.652300	66,505	68,685	70,895	73,197	75,573	78,025	80,557	83,171	85,868	88,653
01.02.662100	-	-	-	-	-	-	-	-	-	-
01.02.666000	2,620	2,705	2,793	2,884	2,977	3,074	3,174	3,277	3,383	3,493
01.02.903400	4,967	5,116	5,269	5,428	5,590	5,758	5,931	6,109	6,292	6,481
01.02.903600	8,293	8,542	8,798	9,062	9,334	9,614	9,902	10,199	10,505	10,820
01.02.921100	5,040	5,191	5,347	5,507	5,673	5,843	6,018	6,199	6,385	6,576
01.02.921200	31	32	33	34	35	36	37	38	39	40
01.02.921400	7,044	7,255	7,473	7,697	7,928	8,165	8,411	8,663	8,923	9,191
01.02.921800	14,850	15,332	15,830	16,344	16,875	17,422	17,989	18,571	19,174	19,795
01.02.921700	7,800	8,034	8,273	8,523	8,779	9,042	9,314	9,593	9,881	10,177
01.02.932000	3,600	3,717	3,838	3,962	4,091	4,224	4,361	4,502	4,648	4,799
Total	892,528	1,039,838	1,089,626	1,141,714	1,196,637	1,254,132	1,314,646	1,378,234	1,445,059	1,515,294



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL										
	Total Expense										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast WW 3.0 -- Wastewater Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

COLLECTION											
01.02.960000	Supervision -- T&D	8,796	9,236	9,699	10,182	10,662	11,226	11,787	12,377	12,996	13,645
01.02.862100	Labor -- Overhead	-	-	-	-	-	-	-	-	-	-
01.02.662200	Materials -- T&D	3,000	3,690	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914
01.02.666000	Safety Equipment and Supplies	3,900	4,027	4,157	4,292	4,432	4,576	4,724	4,877	5,036	5,199
01.02.670100	Supervision -- Collection	8,796	9,236	9,699	10,182	10,692	11,226	11,787	12,377	12,996	13,645
01.02.672140	Labor -- I&I	-	-	-	-	-	-	-	-	-	-
01.02.672240	Materials -- I&I	30,000	30,974	31,980	33,019	34,090	35,197	36,339	37,518	38,735	39,991
01.02.903100	O&S Cont -- I&I	-	-	-	-	-	-	-	-	-	-
01.02.673150	Labor -- Maint of Collection Lines	198,180	205,989	216,265	227,103	238,458	250,381	262,900	276,045	289,847	304,340
01.02.673250	Materials -- Maint of Collection Lines	25,200	26,018	26,863	27,736	28,636	29,565	30,525	31,515	32,537	33,592
01.02.673400	O/S -- Maint of Collection Lines	18,000	18,585	19,188	19,811	20,454	21,118	21,803	22,511	23,241	23,995
01.02.676100	Labor -- Maint of Meters	24,589	25,818	27,109	28,465	29,888	31,382	32,952	34,599	36,329	38,146
01.02.676200	Materials -- Maint of Meters	15,376	15,875	16,391	16,923	17,472	18,039	18,625	19,229	19,853	20,497
01.02.660200	Employee Benefits -- Collection	77,469	82,892	88,694	94,903	101,545	108,554	116,260	124,398	133,106	142,424
01.02.903400	Computer Exp	1,248	1,285	1,324	1,364	1,405	1,447	1,490	1,535	1,581	1,628
01.02.903600	Training	5,972	6,151	6,336	6,526	6,722	6,923	7,131	7,345	7,565	7,792
01.02.921100	Office Supplies	1,415	1,457	1,501	1,546	1,593	1,640	1,690	1,740	1,792	1,846
01.02.921200	Dues and Subscriptions	35	36	37	38	39	41	42	43	44	46
01.02.921400	Communication	4,536	4,672	4,812	4,957	5,105	5,256	5,418	5,579	5,746	5,918
01.02.921600	Transportation	37,808	39,129	40,410	41,722	43,077	44,475	45,918	47,407	48,945	50,533
01.02.921700	Travel and Personal	5,590	5,747	5,920	6,097	6,280	6,469	6,663	6,863	7,069	7,281
01.02.932000	Maint. Of General Plant	2,700	2,788	2,878	2,972	3,068	3,168	3,270	3,377	3,486	3,599
	Total	470,700	493,017	518,466	541,116	567,026	594,263	622,904	653,024	684,704	718,031
CUSTOMER ACCOUNT											
01.02.966000	Safety Equipment and Supplies	-	-	-	-	-	-	-	-	-	-
01.02.901000	Supervision -- Cust Acct	38,161	39,416	40,712	42,050	43,431	44,856	46,331	47,853	49,423	51,045
01.02.902100	Labor -- Meter Reading	20,689	21,723	22,810	23,950	25,148	26,405	27,725	29,112	30,567	32,095
01.02.902200	Supplies -- Meter Reading	684	892	922	952	983	1,016	1,049	1,083	1,119	1,156
01.02.903100	Labor Customer Records	65,725	69,011	72,452	76,085	79,889	83,884	88,078	92,482	97,106	101,961
01.02.903200	Stationary and Supplies	2,552	2,629	2,707	2,789	2,872	2,956	3,047	3,139	3,233	3,330
01.02.903300	Postage	-	-	-	-	-	-	-	-	-	-
01.02.903400	Computer	5,220	5,377	5,538	5,704	5,875	6,051	6,233	6,420	6,613	6,811
01.02.903600	Training	3,304	3,403	3,505	3,610	3,719	3,830	3,945	4,064	4,185	4,311
01.02.910100	Employee Benefits -- Cust Acct	40,487	43,321	46,354	49,598	53,070	56,785	60,760	65,013	69,564	74,434
01.02.921200	Dues and Subscriptions	64	66	68	70	72	74	76	79	81	84
01.02.921400	Communication	1,820	1,978	2,037	2,098	2,161	2,226	2,293	2,361	2,432	2,505
01.02.921600	Transportation	7,200	7,416	7,638	7,868	8,104	8,347	8,597	8,855	9,121	9,394
01.02.921700	Travel and Personal	1,700	1,751	1,804	1,858	1,913	1,971	2,030	2,091	2,154	2,218
01.02.923000	Outside Services	42,420	43,693	45,003	46,353	47,744	49,176	50,652	52,171	53,736	55,348
01.02.932000	Maint. Of General Plant	840	868	896	926	956	987	1,020	1,053	1,088	1,124
	Total	231,146	241,543	252,455	263,910	275,938	288,589	301,836	315,776	330,422	345,816

Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Total Expense									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 3.0 – Wastewater Utility Cost of Service
Scen: 2014 12 12 – Scen 2 – Conservation

ADMINISTRATION										
01.02.668000	Safety Equipment and Supplies	220		233	240	248	255	253	271	279
01.02.903300	Postage	3,654	3,764	3,877	3,993	4,113	4,236	4,363	4,494	4,629
01.02.903400	Computer	29,298	30,177	31,082	32,015	32,975	33,964	34,983	36,033	37,114
01.02.903600	Training	10,020	10,321	10,630	10,949	11,278	11,616	11,964	12,323	12,693
01.02.920100	Salaries -- General Management	37,128	38,984	40,934	42,980	45,129	47,386	49,755	52,243	54,855
01.02.920300	Salaries -- Accounting/Other	68,990	72,448	76,070	79,874	83,868	88,091	92,454	97,087	101,941
01.02.920400	Salaries -- Engineering	101,176	105,235	111,547	117,124	122,980	129,129	135,586	142,365	149,483
01.02.921100	Office Supplies	11,952	12,321	12,690	13,071	13,463	13,867	14,283	14,712	15,153
01.02.921200	Dues and Subscriptions	7,193	7,409	7,631	7,860	8,096	8,339	8,589	8,846	9,112
01.02.921300	Public Relations	5,505	5,670	5,840	6,015	6,196	6,382	6,573	6,770	6,974
01.02.921400	Communication	13,584	13,992	14,411	14,844	15,289	15,748	16,220	16,707	17,208
01.02.921500	Employee Relations	6,460	6,654	6,853	7,058	7,271	7,489	7,714	7,946	8,183
01.02.921800	Transportation	14,236	14,663	15,103	15,556	16,023	16,503	16,999	17,508	18,034
01.02.921700	Travel and Personal	1,200	1,236	1,273	1,311	1,351	1,391	1,433	1,476	1,520
01.02.921800	Employee Benefits -- Admin and Gen	67,373	72,089	77,135	82,535	88,312	94,494	101,109	108,166	115,759
01.02.921900	Payroll Tax	-	-	-	-	-	-	-	-	-
01.02.922000	Contributions	-	-	-	-	-	-	-	-	-
01.02.922300	Outside Services	370,328	381,438	392,881	404,667	416,807	429,312	442,191	455,457	469,120
01.02.922400	Insurance	35,760	37,548	39,425	41,397	43,467	45,640	47,922	50,318	52,834
01.02.922600	CWMP FUTA Exp	-	-	-	-	-	-	-	-	-
01.02.922700	CWMP SUTA Exp	-	-	-	-	-	-	-	-	-
01.02.931000	Office Equipment Rental	1,440	1,483	1,528	1,574	1,621	1,669	1,719	1,771	1,824
01.02.932000	Maint of General Plant	20,816	21,440	22,084	22,748	23,429	24,131	24,855	25,601	26,369
01.02.950000	Leas on Sale of Assets	-	-	-	-	-	-	-	-	-
01.02.950200	Gain/Loss -- Cont in Aid of Const	-	-	-	-	-	-	-	-	-
	Total	806,351	838,098	871,226	905,810	941,913	979,612	1,018,985	1,060,113	1,103,084
PRETREATMENT										
01.02.960000	Supervision -- Pretreatment	10,197	10,707	11,242	11,804	12,395	13,014	13,655	14,348	15,066
01.02.960100	Labor -- Pretreatment	72,825	76,466	80,290	84,304	88,519	92,945	97,592	102,472	107,596
01.02.960200	Laboratory Exp -- Pretreatment	15,840	16,315	16,805	17,309	17,828	18,363	18,914	19,481	20,066
01.02.961100	Employee Benefits -- Pretreatment	26,981	28,870	30,891	33,053	35,367	37,842	40,491	43,326	46,358
	Total	125,843	132,358	139,227	146,470	154,108	162,165	170,662	179,627	189,086
DEPRECIATION AND AMORTIZATION										
01.02.426000	Interest Revenue Bonds 1992	-	-	-	-	-	-	-	-	-
01.02.428000	Paying Agent Fees	-	-	-	-	-	-	-	-	-
01.02.429000	Interest	-	-	-	-	-	-	-	-	-
01.02.403000	Depreciation	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-

TOTAL OPERATING EXPENSES

Cash Basis	\$	2,837,482	\$	2,965,026	\$	3,098,766	\$	3,239,024	\$	3,386,142	\$	3,540,477	\$	3,702,409	\$	3,872,338	\$	4,050,686	\$	4,237,898
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CITY CORPORATION - RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL

Forecast
2015-2024

Total Expense
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

Forecast WW 3.0 - Wastewater Utility Cost of Service
 Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- CURRENT											
1	2013 Bond										
	Principal	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224
	Sub-Total	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521
2	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
3	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
4	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
5	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
6	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
7	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
8	Debt										
	Principal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	-	-	-	-	-	-	-	-	-	-
	Sub-Total	-	-	-	-	-	-	-	-	-	-
TOTAL DEBT SERVICE -- CURRENT											
	Principal	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297	\$ 614,297
	Interest	-	-	-	-	-	-	-	-	-	-
	Reserve	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224	223,224
	TOTAL	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521	837,521
	Cash Basis	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521	\$ 837,521



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Total Expenses									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 3.0 -- Wastewater Utility Cost of Service
Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- FUTURE											
Principal	\$	-	\$ 523,461	\$ 544,399	\$ 566,175	\$ 981,418	\$ 1,020,674	\$ 1,218,540	\$ 1,267,281	\$ 1,317,973	\$ 1,370,691
Interest	-	872,000	851,062	829,286	1,460,639	1,421,382	1,642,155	1,593,413	1,542,722	1,490,503	1,490,503
Reserve	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	1,395,461	1,395,461	1,395,461	2,442,056	2,442,056	2,860,695	2,860,695	2,860,695	2,860,695	2,860,695
Cash Basis	\$	-	\$ 1,395,461	\$ 1,395,461	\$ 1,395,461	\$ 2,442,056	\$ 2,442,056	\$ 2,860,695	\$ 2,860,695	\$ 2,860,695	\$ 2,860,695
TOTAL EXPENSES											
Cash Basis	\$	3,925,003	\$ 6,448,008	\$ 6,681,748	\$ 6,722,006	\$ 6,915,719	\$ 7,070,355	\$ 7,550,626	\$ 7,820,354	\$ 7,998,901	\$ 8,180,113

Forecast 2015-2024	Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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**CITY CORPORATION - RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Forecast WW 4.0 - Wastewater Utility Cost Functionalization

Scen: 2014 12 12 -- Scen 2 -- Conservation

OPERATING EXPENSES

Treatment	39.41%	\$ 1,118,371	\$ 1,168,641	\$ 1,221,354	\$ 1,276,836	\$ 1,334,621	\$ 1,395,451	\$ 1,459,276	\$ 1,526,261	\$ 1,596,546	\$ 1,670,334
Collection	24.92%	661,614	712,252	744,379	775,072	813,412	850,466	889,365	930,205	973,047	1,018,019
Admin	28.42%	806,351	842,596	880,602	920,461	962,268	1,006,127	1,052,145	1,100,435	1,151,117	1,204,319
Customer	8.15%	231,146	241,336	252,431	263,856	275,841	288,413	301,604	315,447	329,978	345,226
TOTAL	100.00%	2,837,482	2,965,026	3,098,766	3,239,024	3,386,142	3,540,477	3,702,409	3,872,338	4,060,685	4,237,898

CAPITAL OUTLAYS

Treatment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Admin	-	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-	-
TOTAL	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000



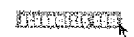
Forecast 2015-2024		CITY CORPORATION - RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Allocation %		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 4.0 -- Wastewater Utility Cost Functionalization

Scen: 2014 12 12 -- Scen 2 -- Conservation

DEBT SERVICE -- CURRENT

1	<u>2013 Bond</u>	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	
	Treatment																							
	Collection																							
	Admin																							
	Customer																							
	Sub-Total		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521		837,521	
2	<u>Debt</u>	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
	Treatment																							
	Collection																							
	Admin																							
	Customer																							
	Sub-Total																							
3	<u>Debt</u>	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
	Treatment																							
	Collection																							
	Admin																							
	Customer																							
	Sub-Total																							
4	<u>Debt</u>	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
	Treatment																							
	Collection																							
	Admin																							
	Customer																							
	Sub-Total																							
5	<u>Debt</u>	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
	Treatment																							
	Collection																							
	Admin																							
	Customer																							
	Sub-Total																							



Forecast 2015-2024	Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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Forecast WW 4.0 -- Wastewater Utility Cost Functionalization

Scen: 2014 12 12 -- Scen 2 -- Conservation

6	Debt Treatment	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	Collection														
	Admin														
	Customer														
	Sub-Total														
7	Debt Treatment	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	Collection														
	Admin														
	Customer														
	Sub-Total														
8	Debt Treatment	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	Collection														
	Admin														
	Customer														
	Sub-Total														
Total Debt Service															
	Treatment	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521	\$	837,521
	Collection		-		-		-		-		-		-		-
	Admin		-		-		-		-		-		-		-
	Customer		-		-		-		-		-		-		-
	TOTAL		837,521		837,521		837,521		837,521		837,521		837,521		837,521

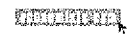
DEBT SERVICE - FUTURE

Total Debt Service																
Treatment	\$	-	\$	697,730	\$	697,730	\$	697,730	\$	1,221,028	\$	1,221,028	\$	1,430,347	\$	1,430,347
Collection		-		697,730		697,730		697,730		1,221,028		1,221,028		1,430,347		1,430,347
Admin		-		-		-		-		-		-		-		-
Customer		-		-		-		-		-		-		-		-
TOTAL				1,395,461		1,395,461		1,395,461		2,442,056		2,442,056		2,860,695		2,860,695

TOTAL EXPENSES

Treatment	\$	1,955,892	\$	2,703,893	\$	2,758,605	\$	2,811,887	\$	3,393,170	\$	3,454,000	\$	3,727,144	\$	3,794,120	\$	3,864,414	\$	3,958,202
Collection		931,614		1,859,983		1,692,109		1,725,802		2,284,440		2,321,514		2,569,732		2,610,552		2,693,395		2,698,366
Admin		806,351		842,596		880,602		920,461		962,268		1,006,127		1,052,145		1,100,435		1,151,117		1,204,319
Customer		231,148		241,536		252,431		263,856		275,841		288,413		301,804		315,447		329,976		345,228
TOTAL		3,925,003		5,448,008		5,581,748		5,722,006		6,915,719		7,070,655		7,660,625		7,820,654		7,998,901		8,186,513

Check with WW3		3,925,003	TRUE	5,448,008	TRUE	5,581,748	TRUE	5,722,006	TRUE	6,915,719	TRUE	7,070,655	TRUE	7,660,625	TRUE	7,820,654	TRUE	7,998,901	TRUE	8,186,513	TRUE
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Forecast 2015-2024 Allocation %	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
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**CITY CORPORATION -- RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

Forecast WW 5.0 -- Wastewater Cost Classification

Scen: 2014 12 12 -- Scen 2 -- Conservation

Total WW Costs																				
Treatment	\$	1,955,892	\$	2,703,893	\$	2,756,605	\$	2,811,887	\$	3,393,170	\$	3,454,000	\$	3,727,144	\$	3,794,120	\$	3,864,414	\$	3,938,202
Collection		831,614		1,659,983		1,692,109		1,725,802		2,284,440		2,321,514		2,568,732		2,610,552		2,653,395		2,698,366
Admin		806,351		842,586		880,602		920,461		962,268		1,006,127		1,052,145		1,100,435		1,151,117		1,204,319
Customer		231,146		241,536		252,431		253,656		279,841		288,413		301,604		315,447		329,975		345,226
Total WW Costs	\$	3,825,003	\$	5,448,008	\$	5,681,748	\$	5,722,006	\$	6,916,719	\$	7,070,068	\$	7,660,626	\$	7,820,654	\$	7,996,901	\$	8,188,113
Non-Administration Costs:																				
Treatment	\$	1,955,892	\$	2,703,893	\$	2,756,605	\$	2,811,887	\$	3,393,170	\$	3,454,000	\$	3,727,144	\$	3,794,120	\$	3,864,414	\$	3,938,202
Collection		831,614		1,659,983		1,692,109		1,725,802		2,284,440		2,321,514		2,568,732		2,610,552		2,653,395		2,698,366
Customer		231,146		241,536		252,431		253,656		279,841		288,413		301,604		315,447		329,975		345,226
Sub-Total	\$	3,118,652	\$	4,605,411	\$	4,701,145	\$	4,801,646	\$	5,953,451	\$	6,063,928	\$	6,598,480	\$	6,720,119	\$	6,847,784	\$	6,981,794
Allocation Percentages:																				
Treatment		62.72%		58.71%		58.84%		59.56%		57.00%		56.96%		56.48%		56.46%		56.43%		56.41%
Collection		29.87%		36.04%		35.99%		35.94%		38.37%		38.28%		38.94%		36.85%		38.75%		38.85%
Customer		7.41%		5.24%		5.37%		5.50%		4.63%		4.76%		4.57%		4.69%		4.82%		4.94%
Sub-Total		100.00%		100.00%		100.00%		100.00%		100.00%		100.00%		100.00%		100.00%		100.00%		100.00%
Allocation of Administration																				
Treatment	\$	505,711	\$	494,588	\$	516,358	\$	539,041	\$	548,445	\$	573,088	\$	594,303	\$	621,296	\$	649,611	\$	679,317
Collection		240,876		303,707		316,960		330,838		369,239		385,186		409,750		427,404		446,037		465,452
Customer		59,765		44,191		47,284		50,581		44,535		47,051		48,082		51,655		55,469		59,550
Total	\$	806,351	\$	842,586	\$	880,602	\$	920,461	\$	962,268	\$	1,006,127	\$	1,052,145	\$	1,100,435	\$	1,151,117	\$	1,204,319
Allocation of Non-Rate Revenues																				
Treatment	\$	45,754	\$	44,118	\$	45,384	\$	46,686	\$	46,799	\$	48,174	\$	49,205	\$	50,656	\$	52,154	\$	53,693
Collection		21,793		27,085		27,858		28,653		31,508		32,379		33,925		34,856		35,810		36,790
Customer		5,497		3,941		4,156		4,381		3,804		4,023		3,982		4,212		4,453		4,707
Total	\$	72,955	\$	75,144	\$	77,398	\$	79,720	\$	82,111	\$	84,575	\$	87,112	\$	89,726	\$	92,417	\$	95,190
Total WW Classification																				
Treatment	\$	2,415,848	\$	3,154,473	\$	3,227,579	\$	3,304,243	\$	3,894,816	\$	3,978,014	\$	4,272,241	\$	4,364,767	\$	4,461,671	\$	4,563,825
Collection		1,150,696		1,934,605		1,991,211		2,027,986		2,622,171		2,674,321		2,945,558		3,003,181		3,063,622		3,127,029
Customer		285,503		281,786		295,959		310,057		316,621		332,244		345,714		362,890		380,991		400,089
TOTAL	\$	3,852,048	\$	5,372,864	\$	5,504,360	\$	5,642,286	\$	6,833,608	\$	6,985,460	\$	7,563,513	\$	7,730,828	\$	7,906,484	\$	8,090,923



10 Year Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 6.0 -- WASTEWATER Cost Classification
Scen: 2014 12 12 -- Scen 2 -- Conservation

Wastewater Cost Classification	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Treatment	\$ 2,415,848	\$ 3,154,473	\$ 3,227,579	\$ 3,304,243	\$ 3,894,816	\$ 3,978,914	\$ 4,272,241	\$ 4,364,757	\$ 4,481,871	\$ 4,563,825
Collection	1,150,686	1,938,605	1,987,211	2,027,886	2,822,171	2,674,321	2,945,588	3,093,181	3,083,622	3,127,029
Customer	285,503	281,786	295,559	310,057	315,621	332,244	345,714	382,890	380,991	400,069
Total	\$ 3,852,048	\$ 5,372,864	\$ 5,504,359	\$ 5,642,286	\$ 6,832,608	\$ 6,985,469	\$ 7,563,513	\$ 7,730,828	\$ 7,906,484	\$ 8,090,921

Functional Cost Components

Functional Cost Component	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Treatment										
Volume	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
BOD	43.0%	43.0%	43.0%	43.0%	43.0%	43.0%	43.0%	43.0%	43.0%	43.0%
TSS	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Ammonia	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Customer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Collection										
Volume	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
BOD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TSS	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ammonia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Customer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Customer										
Volume	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
BOD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TSS	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ammonia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Customer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



10 Year Forecast 2015-2024	CITY CORPORATION – RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
Test Year	Forecast									
2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2024

Forecast WW 6.0 – WASTEWATER Cost Classification
 Scan: 2014 12 12 -- Scen 2 -- Conservation

Functionalized Cost

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Treatment										
Volume	\$ 724,754	\$ 946,342	\$ 958,274	\$ 991,273	\$ 1,150,445	\$ 1,193,574	\$ 1,261,672	\$ 1,309,427	\$ 1,338,561	\$ 1,369,148
BOD	1,038,815	1,356,424	1,387,859	1,420,824	1,674,771	1,710,933	1,837,064	1,876,846	1,918,604	1,962,445
TSS	603,962	788,618	806,895	826,061	973,704	994,729	1,068,060	1,091,189	1,115,468	1,140,956
Ammonia	48,317	63,089	64,552	66,085	77,895	79,578	85,445	87,295	89,237	91,277
Customer	-	-	-	-	-	-	-	-	-	-
Total	2,415,848	3,154,473	3,227,579	3,304,243	3,894,816	3,978,914	4,272,241	4,364,757	4,461,871	4,563,825
Collection										
Volume	\$ 1,150,696	\$ 1,036,605	\$ 1,981,211	\$ 2,027,986	\$ 2,622,171	\$ 2,674,321	\$ 2,945,558	\$ 3,003,181	\$ 3,063,622	\$ 3,127,029
BOD	-	-	-	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-	-	-	-	-
Customer	-	-	-	-	-	-	-	-	-	-
Total	1,150,696	1,036,605	1,981,211	2,027,986	2,622,171	2,674,321	2,945,558	3,003,181	3,063,622	3,127,029
Customer										
Volume	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BOD	-	-	-	-	-	-	-	-	-	-
TSS	-	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-	-	-	-	-
Customer	285,503	281,786	295,559	310,057	316,621	332,244	345,714	362,890	380,991	400,069
Total	285,503	281,786	295,559	310,057	316,621	332,244	345,714	362,890	380,991	400,069
Total										
Volume	\$ 1,875,451	\$ 2,882,947	\$ 2,949,485	\$ 3,019,259	\$ 3,780,616	\$ 3,867,996	\$ 4,227,230	\$ 4,312,608	\$ 4,402,183	\$ 4,486,177
BOD	1,038,815	1,356,424	1,387,859	1,420,824	1,674,771	1,710,933	1,837,064	1,876,846	1,918,604	1,962,445
TSS	603,962	788,618	806,895	826,061	973,704	994,729	1,068,060	1,091,189	1,115,468	1,140,956
Ammonia	48,317	63,089	64,552	66,085	77,895	79,578	85,445	87,295	89,237	91,277
Customer	285,503	281,786	295,559	310,057	316,621	332,244	345,714	362,890	380,991	400,069
Total	3,862,046	5,372,864	5,504,150	5,642,286	6,833,608	6,985,480	7,563,513	7,790,828	7,906,464	8,090,923



Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 7.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

WASTEWATER BILLING UNITS AND STRENGTHS										
Customer Class Units -- Base Annual Usage										
WW1 Residential City	449,992,000	450,962,926	451,933,853	452,904,779	453,875,705	454,846,632	455,817,558	456,788,484	457,759,411	458,730,337
WW2 Residential Outside City	15,742,000	15,792,067	15,842,135	15,892,202	15,942,269	15,992,337	16,042,404	16,092,471	16,142,539	16,192,606
WW3 Commercial City	258,851,000	260,899,803	262,948,606	264,997,409	266,946,212	268,895,015	270,903,818	272,912,621	274,921,424	276,930,227
WW4 Commercial Outside City	552,000	552,000	552,000	552,000	552,000	552,000	552,000	552,000	552,000	552,000
WW5 Industrial City	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000	498,247,000
WW6 Industrial Outside City	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000	9,411,000
WW7 Ind. Discounts City	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000	119,063,000
WW8 Public Authorities	85,507,000	87,043,200	87,579,401	88,115,601	88,651,802	89,188,002	89,724,202	90,260,403	90,796,603	91,332,804
Total System	1,438,365,000	1,441,930,997	1,445,496,994	1,449,062,991	1,452,628,988	1,456,194,985	1,459,760,982	1,463,326,979	1,466,892,976	1,470,458,973
Percent increase		0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Percent of Total										
WW1 Residential City	31.26%	31.27%	31.26%	31.26%	31.25%	31.24%	31.23%	31.22%	31.21%	31.20%
WW2 Residential Outside City	1.09%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
WW3 Commercial City	18.00%	18.09%	18.19%	18.20%	18.37%	18.47%	18.56%	18.65%	18.74%	18.83%
WW4 Commercial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW5 Industrial City	34.64%	34.55%	34.47%	34.38%	34.30%	34.22%	34.13%	34.05%	33.97%	33.88%
WW6 Industrial Outside City	0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	0.64%	0.64%	0.64%	0.64%
WW7 Ind. Discounts City	8.28%	8.26%	8.24%	8.23%	8.20%	8.18%	8.16%	8.14%	8.12%	8.10%
WW8 Public Authorities	6.01%	6.04%	6.06%	6.08%	6.10%	6.12%	6.15%	6.17%	6.19%	6.21%
Total System	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Net Annual Volume after Minimum:										
WW1 Residential City	338,760,000	339,490,926	340,221,853	340,952,779	341,683,705	342,414,632	343,145,558	343,876,484	344,607,411	345,338,337
WW2 Residential Outside City	11,969,000	12,007,067	12,045,135	12,083,202	12,121,269	12,159,337	12,197,404	12,235,471	12,273,539	12,311,606
WW3 Commercial City	243,386,000	245,276,803	247,165,606	249,054,409	250,943,212	252,832,015	254,720,818	256,609,621	258,498,424	260,387,227
WW4 Commercial Outside City	504,000	504,000	504,000	504,000	504,000	504,000	504,000	504,000	504,000	504,000
WW5 Industrial City	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000	497,618,000
WW6 Industrial Outside City	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000	9,363,000
WW7 Ind. Discounts City	117,127,000	117,115,000	117,103,000	117,091,000	117,079,000	117,067,000	117,055,000	117,043,000	117,031,000	117,019,000
WW8 Public Authorities	84,571,000	85,095,200	85,619,401	86,143,601	86,667,802	87,192,002	87,716,202	88,240,403	88,764,603	89,288,804
	1,303,309,000	1,306,469,997	1,309,629,994	1,312,789,991	1,315,949,988	1,319,109,985	1,322,269,982	1,325,429,979	1,328,589,976	1,331,749,973
Forecast Plant Flows										
Total WW Billing Units	1,438,365,000	1,441,930,997	1,445,496,994	1,449,062,991	1,452,628,988	1,456,194,985	1,459,760,982	1,463,326,979	1,466,892,976	1,470,458,973
Inflow/Infiltration Percentage	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Total WW Flow	1,510,263,250	1,514,027,547	1,517,771,844	1,521,516,141	1,525,260,438	1,529,004,734	1,532,749,031	1,536,493,328	1,540,237,625	1,543,981,922
Million Gallons/Day	4.14	4.15	4.16	4.17	4.18	4.19	4.20	4.21	4.22	4.23

Forecast 2016-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2016	2016	2017	2018	2018	2020	2021	2022	2023	2024

Forecast WW 7.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class Units -- BOD Strength Levels (mg/l)

WW1 Residential City	250	250	250	250	250	250	250	250	250	250
WW2 Residential Outside City	250	250	250	250	250	250	250	250	250	250
WW3 Commercial City	250	250	250	250	250	250	250	250	250	250
WW4 Commercial Outside City	250	250	250	250	250	250	250	250	250	250
WW5 Industrial City	250	250	250	250	250	250	250	250	250	250
WW6 Industrial Outside City	250	250	250	250	250	250	250	250	250	250
WW7 Ind. Discounts City	250	250	250	250	250	250	250	250	250	250
WW8 Public Authorities	250	250	250	250	250	250	250	250	250	250
Total System	250	250	250	250	250	250	250	250	250	250

Customer Class Units -- TSS Strength Levels (mg/l)

WW1 Residential City	250	250	250	250	250	250	250	250	250	250
WW2 Residential Outside City	250	250	250	250	250	250	250	250	250	250
WW3 Commercial City	250	250	250	250	250	250	250	250	250	250
WW4 Commercial Outside City	250	250	250	250	250	250	250	250	250	250
WW5 Industrial City	250	250	250	250	250	250	250	250	250	250
WW6 Industrial Outside City	250	250	250	250	250	250	250	250	250	250
WW7 Ind. Discounts City	250	250	250	250	250	250	250	250	250	250
WW8 Public Authorities	250	250	250	250	250	250	250	250	250	250
Total System	250	250	250	250	250	250	250	250	250	250

Customer Class Units -- BOD Total mg

WW1 Residential City	426,469,990,909	427,389,864,293	428,310,037,677	429,230,211,060	430,150,384,444	431,070,557,828	431,990,731,211	432,910,904,595	433,831,077,979	434,751,251,363
WW2 Residential Outside City	14,919,122,727	14,966,572,892	15,014,023,057	15,061,473,222	15,108,923,387	15,156,373,553	15,203,823,718	15,251,273,883	15,298,724,048	15,346,174,213
WW3 Commercial City	245,320,152,273	247,223,949,613	249,127,746,953	251,031,544,294	252,935,341,634	254,839,138,974	256,742,936,314	258,646,733,655	260,550,530,995	262,454,328,335
WW4 Commercial Outside City	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455
WW5 Industrial City	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455
WW6 Industrial Outside City	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364
WW7 Ind. Discounts City	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273
WW8 Public Authorities	81,865,043,182	82,493,214,937	83,001,386,692	83,509,558,448	84,017,730,203	84,525,901,958	85,034,073,713	85,542,245,469	86,050,417,224	86,558,588,979
Total	1,363,177,738,636	1,366,667,331,281	1,369,936,923,925	1,373,316,616,569	1,376,696,109,214	1,380,075,701,858	1,383,455,294,502	1,386,834,887,147	1,390,214,479,791	1,393,594,072,435

Customer Class Units -- TSS Total mg

WW1 Residential City	426,469,990,909	427,389,864,293	428,310,037,677	429,230,211,060	430,150,384,444	431,070,557,828	431,990,731,211	432,910,904,595	433,831,077,979	434,751,251,363
WW2 Residential Outside City	14,919,122,727	14,966,572,892	15,014,023,057	15,061,473,222	15,108,923,387	15,156,373,553	15,203,823,718	15,251,273,883	15,298,724,048	15,346,174,213
WW3 Commercial City	245,320,152,273	247,223,949,613	249,127,746,953	251,031,544,294	252,935,341,634	254,839,138,974	256,742,936,314	258,646,733,655	260,550,530,995	262,454,328,335
WW4 Commercial Outside City	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455	523,145,455
WW5 Industrial City	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455	472,202,270,455
WW6 Industrial Outside City	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364	8,919,061,364
WW7 Ind. Discounts City	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273	112,839,252,273
WW8 Public Authorities	81,865,043,182	82,493,214,937	83,001,386,692	83,509,558,448	84,017,730,203	84,525,901,958	85,034,073,713	85,542,245,469	86,050,417,224	86,558,588,979
Total	1,363,177,738,636	1,366,667,331,281	1,369,936,923,925	1,373,316,616,569	1,376,696,109,214	1,380,075,701,858	1,383,455,294,502	1,386,834,887,147	1,390,214,479,791	1,393,594,072,435

Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 7.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class Units -- BOD Total Lbs.		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WW1	Residential City	938,233	940,258	942,282	944,306	946,331	948,355	950,380	952,404	954,428	956,453
WW2	Residential Outside City	32,822	32,926	33,031	33,135	33,240	33,344	33,448	33,553	33,657	33,762
WW3	Commercial City	539,704	543,893	548,081	552,269	556,458	560,646	564,834	569,023	573,211	577,400
WW4	Commercial Outside City	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
WW5	Industrial City	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845
WW6	Industrial Outside City	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622
WW7	Ind. Discounts City	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246
WW8	Public Authorities	180,367	181,485	182,603	183,721	184,839	185,957	187,075	188,193	189,311	190,429
	Total	2,998,991	3,006,426	3,013,861	3,021,296	3,028,731	3,036,167	3,043,602	3,051,037	3,058,472	3,065,907
Customer Class Units -- TSS Total Lbs.											
WW1	Residential City	938,233	940,258	942,282	944,306	946,331	948,355	950,380	952,404	954,428	956,453
WW2	Residential Outside City	32,822	32,926	33,031	33,135	33,240	33,344	33,448	33,553	33,657	33,762
WW3	Commercial City	539,704	543,893	548,081	552,269	556,458	560,646	564,834	569,023	573,211	577,400
WW4	Commercial Outside City	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
WW5	Industrial City	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845
WW6	Industrial Outside City	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622
WW7	Ind. Discounts City	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246
WW8	Public Authorities	180,367	181,485	182,603	183,721	184,839	185,957	187,075	188,193	189,311	190,429
	Total	2,998,991	3,006,426	3,013,861	3,021,296	3,028,731	3,036,167	3,043,602	3,051,037	3,058,472	3,065,907
Systemwide Strength Levels											
	BOD	250	250	250	250	250	250	250	250	250	250
	TSS	250	250	250	250	250	250	250	250	250	250
Systemwide Total mg											
	BOD	1,431,336,625,568	1,434,885,197,845	1,438,433,770,121	1,441,982,342,398	1,445,530,914,674	1,449,079,486,951	1,452,628,059,227	1,456,176,631,504	1,459,725,203,780	1,463,273,776,057
	TSS	1,431,336,625,568	1,434,885,197,845	1,438,433,770,121	1,441,982,342,398	1,445,530,914,674	1,449,079,486,951	1,452,628,059,227	1,456,176,631,504	1,459,725,203,780	1,463,273,776,057
Systemwide Total Lbs											
	BOD	3,148,941	3,156,747	3,164,554	3,172,361	3,180,168	3,187,975	3,195,782	3,203,589	3,211,395	3,219,202
	TSS	3,148,941	3,156,747	3,164,554	3,172,361	3,180,168	3,187,975	3,195,782	3,203,589	3,211,395	3,219,202
Systemwide Excess Strength Lbs											
	BOD	149,950	150,321	150,693	151,065	151,437	151,808	152,180	152,552	152,924	153,295
	TSS	149,950	150,321	150,693	151,065	151,437	151,808	152,180	152,552	152,924	153,295



Forecast 2015-2024	CITY CORPORATION - RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 7.0 -- Customer and Volume Totals
Scen: 2014 12 12 -- Scen 2 -- Conservation

WASTEWATER ACCOUNTS										
Customer Class Units -- Annual Bills										
WW1 Residential City	111,232	111,472	111,712	111,952	112,192	112,432	112,672	112,912	113,152	113,392
WW2 Residential Outside City	3,773	3,785	3,797	3,809	3,821	3,833	3,845	3,857	3,869	3,881
WW3 Commercial City	15,463	15,583	15,703	15,823	15,943	16,063	16,183	16,303	16,423	16,543
WW4 Commercial Outside City	48	48	48	48	48	48	48	48	48	48
WW5 Industrial City	629	629	629	629	629	629	629	629	629	629
WW6 Industrial Outside City	48	48	48	48	48	48	48	48	48	48
WW7 Ind. Discounts City	72	72	72	72	72	72	72	72	72	72
WW8 Public Authorities	1,935	1,948	1,960	1,972	1,984	1,996	2,008	2,020	2,032	2,044
Total System	133,201	133,585	133,969	134,353	134,737	135,121	135,505	135,889	136,273	136,657
Percent Increase		0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total Accounts	11,100	11,132	11,164	11,196	11,228	11,260	11,292	11,324	11,356	11,388
Percentage of Total										
WW1 Residential City	83.51%	83.45%	83.39%	83.33%	83.27%	83.21%	83.15%	83.09%	83.03%	82.98%
WW2 Residential Outside City	2.83%	2.83%	2.83%	2.84%	2.84%	2.84%	2.84%	2.84%	2.84%	2.84%
WW3 Commercial City	11.61%	11.67%	11.72%	11.78%	11.83%	11.89%	11.94%	12.00%	12.05%	12.11%
WW4 Commercial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW5 Industrial City	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.46%	0.46%	0.46%	0.46%
WW6 Industrial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW7 Ind. Discounts City	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
WW8 Public Authorities	1.45%	1.46%	1.46%	1.47%	1.47%	1.48%	1.48%	1.49%	1.49%	1.50%
Total System	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Gallons/Account Per Month										
WW1 Residential City	4,046	4,046	4,046	4,046	4,046	4,046	4,046	4,046	4,046	4,046
WW2 Residential Outside City	4,172	4,172	4,172	4,172	4,172	4,172	4,172	4,172	4,172	4,172
WW3 Commercial City	16,740	16,740	16,740	16,740	16,740	16,740	16,740	16,740	16,740	16,740
WW4 Commercial Outside City	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500
WW5 Industrial City	792,126	792,126	792,126	792,126	792,126	792,126	792,126	792,126	792,126	792,126
WW6 Industrial Outside City	196,063	196,063	196,063	196,063	196,063	196,063	196,063	196,063	196,063	196,063
WW7 Ind. Discounts City	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653	1,653,653
WW8 Public Authorities	44,683	44,683	44,683	44,683	44,683	44,683	44,683	44,683	44,683	44,683



10 Year Forecast 2015-2024	CITY CORPORATION -- RUSSELLVILLE WATER/WW COST OF SERVICE MODEL									
	Test Year 2015	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 8.0 -- WASTEWATER Cost of Service by Customer Class
 Scen: 2014 12 12 -- Scen 2 -- Conservation

Total Functionalized Cost																				
Volume	\$	1,875,451	\$	2,882,947	\$	2,949,485	\$	3,019,259	\$	3,790,616	\$	3,867,996	\$	4,227,230	\$	4,312,608	\$	4,402,183	\$	4,466,177
BOD		1,038,815		1,358,424		1,387,859		1,420,824		1,674,771		1,710,933		1,837,064		1,876,646		1,918,604		1,982,446
TSS		603,962		788,618		808,895		826,061		973,704		994,729		1,069,060		1,091,189		1,115,466		1,140,956
Ammonia		48,317		63,099		64,552		66,085		77,866		79,578		85,445		87,295		89,237		91,277
Customer		285,503		281,786		285,559		310,057		316,621		332,244		345,714		362,890		380,991		400,069
Total		3,852,048		5,372,864		5,504,350		5,642,286		6,833,608		6,985,480		7,563,513		7,730,628		7,906,484		8,090,923
Estimated Total Pounds Removed																				
BOD		2,998,991		3,006,426		3,013,861		3,021,296		3,028,731		3,036,167		3,043,602		3,051,037		3,058,472		3,065,907
TSS		2,998,991		3,006,426		3,013,861		3,021,296		3,028,731		3,036,167		3,043,602		3,051,037		3,058,472		3,065,907

Unit Cost Per Pound -- Total System

BOD	\$	0.35	\$	0.46	\$	0.46	\$	0.47	\$	0.55	\$	0.56	\$	0.60	\$	0.62	\$	0.63	\$	0.64
TSS	\$	0.20	\$	0.26	\$	0.27	\$	0.27	\$	0.32	\$	0.33	\$	0.35	\$	0.36	\$	0.36	\$	0.37

CITY CORPORATION -- RUSSELLVILLE										
WATER/WW COST OF SERVICE MODEL										
10 Year Forecast 2015-2024	Test Year 2015	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024

Forecast WW 9.0 - WASTEWATER Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

Percent of Total Volume										
WW1 Residential City	31.28%	31.27%	31.26%	31.26%	31.25%	31.24%	31.23%	31.22%	31.21%	31.20%
WW2 Residential Outside City	1.09%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
WW3 Commercial City	18.00%	18.09%	18.19%	18.28%	18.37%	18.47%	18.56%	18.65%	18.74%	18.83%
WW4 Commercial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW5 Industrial City	34.64%	34.55%	34.47%	34.38%	34.30%	34.22%	34.13%	34.05%	33.97%	33.88%
WW6 Industrial Outside City	0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	0.64%	0.64%	0.64%	0.64%
WW7 Ind. Discounts City	8.28%	8.26%	8.24%	8.22%	8.20%	8.18%	8.16%	8.14%	8.12%	8.10%
WW8 Public Authorities	5.01%	5.04%	5.06%	5.08%	5.10%	5.12%	5.15%	5.17%	5.19%	5.21%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Total BOD Lbs										
WW1 Residential City	936,233	940,258	942,282	944,306	946,331	948,355	950,380	952,404	954,428	956,453
WW2 Residential Outside City	32,822	32,926	33,031	33,135	33,240	33,344	33,448	33,553	33,657	33,762
WW3 Commercial City	539,704	543,893	548,081	552,269	556,458	560,646	564,834	569,023	573,211	577,400
WW4 Commercial Outside City	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
WW5 Industrial City	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845
WW6 Industrial Outside City	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622
WW7 Ind. Discounts City	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246
WW8 Public Authorities	180,367	181,485	182,603	183,721	184,839	185,957	187,075	188,193	189,311	190,429
Total	2,998,891	3,006,426	3,013,861	3,021,296	3,028,731	3,036,167	3,043,602	3,051,037	3,058,472	3,065,907

Total TSS Lbs.										
WW1 Residential City	936,233	940,258	942,282	944,306	946,331	948,355	950,380	952,404	954,428	956,453
WW2 Residential Outside City	32,822	32,926	33,031	33,135	33,240	33,344	33,448	33,553	33,657	33,762
WW3 Commercial City	539,704	543,893	548,081	552,269	556,458	560,646	564,834	569,023	573,211	577,400
WW4 Commercial Outside City	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151	1,151
WW5 Industrial City	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845	1,038,845
WW6 Industrial Outside City	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622	19,622
WW7 Ind. Discounts City	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246	248,246
WW8 Public Authorities	180,367	181,485	182,603	183,721	184,839	185,957	187,075	188,193	189,311	190,429
Total	2,998,891	3,006,426	3,013,861	3,021,296	3,028,731	3,036,167	3,043,602	3,051,037	3,058,472	3,065,907



**CITY CORPORATION – RUSSELLVILLE
WATER/WW COST OF SERVICE MODEL**

10 Year Forecast
2015-2024

	Test Year 2015	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024
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Forecast WW 9.0 – WASTEWATER Cost of Service by Customer Class

Scen: 2014 12 12 – Scen 2 -- Conservation

Percent of Total Customer Bills

WW1 Residential City	83.51%	83.45%	83.39%	83.33%	83.27%	83.21%	83.15%	83.09%	83.03%	82.98%
WW2 Residential Outside City	2.83%	2.83%	2.83%	2.84%	2.84%	2.84%	2.84%	2.84%	2.84%	2.84%
WW3 Commercial City	11.61%	11.67%	11.72%	11.78%	11.83%	11.89%	11.94%	12.00%	12.05%	12.11%
WW4 Commercial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW5 Industrial City	0.47%	0.47%	0.47%	0.47%	0.47%	0.47%	0.46%	0.46%	0.46%	0.46%
WW6 Industrial Outside City	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%
WW7 Ind. Discounts City	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
WW8 Public Authorities	1.48%	1.46%	1.46%	1.47%	1.47%	1.48%	1.48%	1.49%	1.49%	1.50%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Total Cost by Customer Class

Volume -- Total	\$ 1,875,451	\$ 2,982,947	\$ 2,949,485	\$ 3,019,259	\$ 3,790,616	\$ 3,867,996	\$ 4,227,230	\$ 4,312,608	\$ 4,402,183	\$ 4,496,177
BOD -- Per Lb.	\$ 0.35	\$ 0.45	\$ 0.46	\$ 0.47	\$ 0.55	\$ 0.56	\$ 0.60	\$ 0.62	\$ 0.63	\$ 0.64
TSS -- Per Lb.	\$ 0.20	\$ 0.26	\$ 0.27	\$ 0.27	\$ 0.32	\$ 0.33	\$ 0.35	\$ 0.36	\$ 0.36	\$ 0.37
Ammonia -- Total	48,317	63,089	64,552	66,085	77,895	79,576	85,445	87,295	89,237	91,277
Customer -- Total	285,503	281,796	295,559	310,057	316,621	332,244	345,714	362,690	380,991	400,069

WW1 Residential City										
Volume	\$ 586,734	\$ 901,640	\$ 922,155	\$ 943,670	\$ 1,184,383	\$ 1,208,179	\$ 1,319,973	\$ 1,346,213	\$ 1,373,748	\$ 1,402,646
BOD	324,993	424,221	433,913	444,079	523,284	534,415	573,632	585,871	598,721	612,212
TSS	188,949	246,640	252,275	258,185	304,235	310,706	335,507	340,523	348,093	355,937
Ammonia	15,116	19,731	20,182	20,655	24,339	24,857	26,681	27,250	27,847	28,475
Customer	238,415	235,140	246,456	258,380	263,642	276,455	287,480	301,531	316,350	331,660
Total	1,454,207	1,827,372	1,874,382	1,924,949	2,299,863	2,364,612	2,541,284	2,601,486	2,664,769	2,731,230

WW2 Residential Outside City										
Volume	\$ 20,526	\$ 31,574	\$ 32,325	\$ 33,113	\$ 41,601	\$ 42,479	\$ 46,456	\$ 47,427	\$ 48,444	\$ 49,512
BOD	11,369	14,856	15,210	15,583	18,380	18,790	20,189	20,640	21,113	21,610
TSS	6,610	8,637	8,843	9,060	10,686	10,924	11,736	12,000	12,275	12,564
Ammonia	529	691	707	725	855	874	939	960	982	1,005
Customer	8,097	7,984	8,377	8,790	8,979	9,425	9,810	10,300	10,817	11,362
Total	47,121	63,742	63,582	67,270	80,601	82,481	89,122	91,327	93,632	95,063

WW3 Commercial City										
Volume	\$ 337,510	\$ 521,654	\$ 536,374	\$ 551,897	\$ 696,438	\$ 714,248	\$ 784,493	\$ 804,308	\$ 825,046	\$ 846,781
BOD	186,947	245,391	252,387	258,716	307,699	315,934	340,924	350,034	359,580	369,586
TSS	108,690	142,669	146,737	150,997	178,895	183,683	198,212	203,508	209,050	214,875
Ammonia	8,699	11,414	11,739	12,089	14,312	14,695	15,667	16,281	16,725	17,190
Customer	33,143	32,871	34,644	36,516	37,465	39,497	41,288	43,537	45,915	48,430
Total	674,806	853,898	861,890	1,011,206	1,234,897	1,264,669	1,380,774	1,417,668	1,450,324	1,496,842

CITY CORPORATION - RUSSELLVILLE											
WATER/WW COST OF SERVICE MODEL											
10 Year Forecast 2015-2024	Test Year 2015	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast WW 9.0 - WASTEWATER Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

Customer Class	Volume	BOD	TSS	Ammonia	Customer	Total	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
WW4 Commercial/Outside City																
Volume	\$ 720	\$ 1,104	\$ 1,126	\$ 1,150	\$ 1,440	\$ 1,466	\$ 1,599	\$ 1,627	\$ 1,657	\$ 1,688						
BOD	399	519	530	541	636	649	695	709	722	737						
TSS	232	302	308	315	370	377	404	412	420	428						
Ammonia	19	24	25	25	30	30	32	33	34	34						
Customer	103	101	105	111	113	118	122	128	134	141						
Total	1,472	2,050	2,098	2,142	2,589	2,640	2,852	2,908	2,965	3,026						
WW5 Industrial City																
Volume	\$ 649,653	\$ 995,178	\$ 1,016,655	\$ 1,038,145	\$ 1,300,169	\$ 1,323,461	\$ 1,442,842	\$ 1,468,396	\$ 1,495,252	\$ 1,523,474						
BOD	359,844	468,701	478,380	488,537	574,441	585,407	627,028	639,046	651,675	664,950						
TSS	209,211	272,500	276,128	284,033	333,977	340,353	364,551	371,538	378,881	386,598						
Ammonia	16,737	21,800	22,250	22,723	28,718	27,228	29,184	29,723	30,311	30,920						
Customer	1,348	1,327	1,388	1,452	1,478	1,547	1,605	1,680	1,759	1,841						
Total	1,236,793	1,760,506	1,786,201	1,834,890	2,236,763	2,277,966	2,466,191	2,610,363	2,657,876	2,697,793						
WW6 Industrial/Outside City																
Volume	\$ 12,271	\$ 18,816	\$ 19,203	\$ 19,609	\$ 24,586	\$ 24,990	\$ 27,253	\$ 27,735	\$ 28,243	\$ 28,776						
BOD	5,797	8,853	9,036	9,228	10,850	11,057	11,843	12,070	12,309	12,560						
TSS	3,952	5,147	5,253	5,365	6,308	6,429	6,886	7,018	7,156	7,302						
Ammonia	316	412	420	429	505	514	551	561	573	584						
Customer	103	101	106	111	113	118	122	128	134	141						
Total	23,439	37,326	34,816	34,741	42,334	43,110	46,655	47,613	48,410	49,162						



CITY CORPORATION -- RUSSELLVILLE											
WATER/WW COST OF SERVICE MODEL											
10 Year Forecast 2015-2024	Last Year 2015	Forecast 2016	2017	2018	2019	2020	2021	2022	2023	2024	

Forecast WW 9.0 - WASTEWATER Cost of Service by Customer Class

Scen: 2014 12 12 -- Scen 2 -- Conservation

WW9	Ind. Discounts City																			
Volume	\$	155,243	\$	238,050	\$	242,944	\$	248,079	\$	310,603	\$	316,289	\$	344,787	\$	350,894	\$	357,311	\$	364,055
BOD		85,990		112,002		114,315		116,743		137,271		139,891		149,837		152,709		155,727		158,890
TSS		49,994		65,118		66,482		67,874		79,808		81,332		87,115		88,784		90,539		92,383
Ammonia		4,000		5,209		5,317		5,430		6,385		6,507		6,969		7,103		7,243		7,391
Customer		154		152		159		166		169		177		184		192		201		211
Total		285,361		429,632		429,186		438,292		534,326		544,166		608,882		599,882		611,021		622,438

WW8	Public Authorities																			
Volume	\$	112,794	\$	174,031	\$	178,703	\$	183,897	\$	231,336	\$	236,904	\$	259,827	\$	266,009	\$	272,483	\$	279,265
BOD		62,477		81,881		84,087		86,398		102,209		104,790		112,915		115,757		118,756		121,891
TSS		38,324		47,606		48,888		50,232		59,424		60,524		65,548		67,306		69,044		70,867
Ammonia		2,006		3,808		3,911		4,019		4,754		4,874		5,262		5,385		5,524		5,669
Customer		4,150		4,109		4,324		4,551		4,662		4,908		5,123		5,394		5,681		5,984
Total		218,881		311,438		319,913		328,797		402,384		412,401		440,765		439,681		471,488		481,676

Total Cash Basis Cost of Service

Volume	\$	1,875,451	\$	2,882,947	\$	2,949,485	\$	3,019,269	\$	3,790,616	\$	3,887,989	\$	4,227,220	\$	4,312,609	\$	4,402,183	\$	4,496,177
BOD		1,038,815		1,356,424		1,387,859		1,420,824		1,674,771		1,710,833		1,837,064		1,876,846		1,918,604		1,962,445
TSS		603,952		788,618		806,895		826,061		973,704		994,729		1,068,060		1,091,189		1,115,468		1,140,956
Ammonia		48,317		63,089		64,552		65,085		77,896		79,576		85,445		87,295		89,237		91,277
Customer		285,503		281,796		295,559		310,057		316,621		332,244		345,714		362,890		380,991		400,069
Total		3,852,048		5,372,864		5,504,350		5,642,286		6,833,608		6,985,480		7,563,513		7,730,828		7,906,484		8,090,923

Check to WW8		3,852,048		5,372,864		5,504,350		5,642,286		6,833,608		6,985,480		7,563,513		7,730,828		7,906,484		8,090,923
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ORDINANCE NO.

AN ORDINANCE SETTING FORTH UNIFORM REQUIREMENTS FOR DIRECT AND INDIRECT CONTRIBUTORS INTO THE WASTEWATER COLLECTION AND TREATMENT SYSTEM FOR THE CITY OF RUSSELLVILLE AND ENABLING THE CITY TO COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS REQUIRED BY THE CLEAN WATER ACT OF 1977 AND THE GENERAL PRETREATMENT REGULATIONS (40 CFR PART 403).

SECTION 1 - GENERAL PROVISIONS

1.0 Short Title: This Ordinance shall also be known as the Pretreatment Ordinance.

1.1 Purpose and Policy:

a. This Ordinance sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the City of Russellville (the City) and enables the City to comply with all applicable State and Federal laws required by the Clean Water Act (33 United States Code [U.S.C.] section 1251 et seq) and the General Pretreatment Regulations (Title 40 of the *Code of federal Regulations* [CFR] Part 403.

b. The objectives of this Ordinance are:

(1) To prevent the introduction of pollutants into the Citys wastewater treatment and collection system which will interfere with the operation of the system or contaminate the resulting sludge;

(2) To prevent the introduction of pollutants into the Citys wastewater treatment and collection system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;

(3) To improve the opportunity to recycle and reclaim wastewater and sludge from the Citys wastewater treatment system;

(4) To enable the City to comply with its National Pollutant Discharge Elimination System permit conditions, sludge use and disposal requirements, and any other Federal or State laws to which the Public Owned Treatment Works is subject;

(5) To protect both Publicly Owned Treatment Works personnel who may be affected by wastewater and sludge in the course of the employment and the general public; and

(6) To provide for fees for the equitable distribution of the cost of operation, maintenance, and improvement of the Public Owned Treatment Works

c. This Ordinance provides for the regulation of direct and indirect contributors into the City's POTW through the issuance of permits to certain non-domestic Users, the enforcement of general requirements for the other Users, authorized monitoring and enforcement activities, required User reporting, and the assumption that existing customers capacity will not be preempted, and provides for the setting of fees for the equitable distribution of cost resulting from the program established herein.

d. The terms and provisions of this Ordinance shall apply to all connections of lateral or other sewer lines to the sewerage system of the POTW whether within or outside the City and to all persons within the City and outside the City who are, by contract or agreement with the City, Users of the City's POTW.

e. It is in the best interest of the City, to clarify and update the provisions of its existing wastewater Ordinance by the provisions of this Ordinance, so as to achieve compliance with the Clean Water Act and the regulations pursuant thereto, 40 CFR Part 403 as amended July 24, 1990. It is therefore intended that this Ordinance shall take precedence over any term or condition of agreements or contracts of the City or the Control Authority which are inconsistent with the provisions of this Ordinance, and over any and all inconsistent terms and conditions of any previous Ordinance.

f. Except as otherwise provided herein, the Control Authority is hereby authorized to administer, implement and enforce the provisions of this Ordinance. The National Pollution Discharge Elimination System (NPDES) permit shall be issued in the name of the Control Authority. The Control Authority as of the date of this Ordinance is City

Corporation, a non-profit corporation established by City Resolution in April 1985. The City shall be responsible for all legal action necessary to enforce the provisions of this Ordinance.

1.2 Definitions

a. Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Ordinance, shall have the meanings hereinafter designated:

(1) Act or the Act: The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, Title 33 U.S.C. 1251, et. seq.

(2) Approval Authority: The Director of the Arkansas Department of Environmental Quality.

(3) Authorized Representative of a User:

a. If the user is a Corporation:

1. The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function for the corporation; or
2. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. If the User is a partnership or sole proprietorship, a general partner or proprietor, respectively.

c. If the User is a Federal, State, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

d. The individuals described in paragraphs a through c, above, may designate a Duly Authorized Representative if the authorization is in

writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company, and the written authorization is submitted to the Control Authority.

(4) **Best Management Practices or BMPs** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in Section 2.1 a and b. BMPs include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

(5) **Biochemical Oxygen Demand (BODs)**: The quantity of oxygen utilized in the biochemical oxidation of organic matter under laboratory condition of five (5) days at 20 degrees centigrade and expressed in terms of mass loading or concentration.

(6) **Bypass**: The intentional diversion of wastewater from any portion of a user's pretreatment facility.

(7) **Categorical Pretreatment Standard or Categorical Standard**: Any regulation containing pollutant discharge limits promulgated by EPA in accordance with sections 307(b) and (c) of the Act (33 U.S.C . section 1317) that apply to a specific category of Users and that appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

(8) **Categorical Industrial User**: An Industrial User subject to a categorical Pretreatment Standard or categorical Standard.

(9) **City** : The City of Russellville, City Corporation or the City Council.

(10) **Chemical Oxygen Demand (COD)**: A measure of the total oxygen consuming capacity of inorganic and organic matter present in the water or wastewater expressed in mass loading or concentration.

(11) **Composite Sample**: A sampling procedure defined in 40 CFR 403, Appendix E - Sampling Procedures, I. Composite Method.

(12) **Control Authority**: Under the provisions of 40 CFR 403.3(f) the Control Authority is charged with the

administration, operation and maintenance of the POTW and enforcement of the provisions of this Ordinance. As of the date of this Ordinance, Control Authority is City Corporation, a City owned utility.

(13) Control Mechanism: Control through permits, orders or other means the contribution of each Significant Industrial user to the POTW to ensure compliance with applicable pretreatment standards and regulations.

(14) Direct Discharge: The discharge of treated or untreated wastewater directly to the waters of the State of Arkansas.

(15) Daily Discharge: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

Mass Calculations: For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of pollutant discharged over the sampling day.

Concentration Calculations: For pollutants with limitations expressed in other units of measurement, determination of concentration made using a composite sample shall be the concentration of the composite sample.

When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that sampling day by using the following formula: where c = daily concentration, F = daily flow and n = number of daily samples:

$$C_1F_1 + C_2F_2 + \dots + C_nF_n / F_1 + F_2 + \dots + F_n$$

(16) Daily Maximum Limit (Daily Maximum): The highest allowable daily discharge during a calendar month .

(17) Environmental protection Agency (EPA): The U.S. Environmental Protection Agency, or where appropriate The Regional Water Management Division Director, the regional Administrator, or other duly authorized official of said agency.

(18) Existing Source: Any source of discharge that is not a "New Source."

(19) **Grab Sample:** A sampling procedure defined in 40 CFR 403, Appendix E - Sampling Procedures, II. Grab Method.

(20) **Holding Tank Waste:** Any waste from holding tanks - such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum pump trucks.

(21) **Indirect Discharge or Contribution:** The discharge or contribution of non-domestic pollutants from any source, including holding tank wastes to the POTW.

(22) **Industrial User (or User):** A source of indirect discharge.

(23) **Instantaneous Limit:** The maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

(24) **Interference:** The inhibition or disruption of the POTW treatment processes or operations which contribute to a violation of any requirement of the City's NPDES permit or causes harm to the POTW. The term includes the prevention of sewage sludge use or disposal by the POTW in accordance with Section 405 of the Act, Title 33 U.S.C. 1345, or any criteria, guidelines, or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, or more stringent state criteria (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the POTW.

(25) **Local Limit:** Specific discharge limits developed and enforced by the Control Authority upon industrial or commercial facilities to implement the general and specific discharge prohibitions listed in 40 CFR 403.5 (a)(1) and (b).

(26) **Medical Waste:** Isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

(27) **Monthly Average:** The sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

(28) Monthly Average Limit: The highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

(30) New Source: Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that Section , provided that:

- (a) The building, structure, facility, or installation is constructed at a site at which no other source is located; or
- (b) The building, structure, facility, or installation totally replaces the process or production equipment that causes the discharge of pollutants at an Existing Source; or
- (c) The production or wastewater generating processes of the building, structure, facility, or installation are substantially independent of an Existing Source at the same time. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the extent to which the new facility is engaged in the same general type of activity as the Existing Source, should be considered.
 - 1. Construction on a site at which an Existing Source is located results in a modification rather than a New Source if the construction does not create a new building, structure, facility, or installation meeting the criteria of Section (29)(b) or (c) above but otherwise alters, replaces, or adds to the existing process or production equipment.
 - 2. Construction of a New Source as defined under this paragraph has commenced if the owner or operator has:
 - a. Begun, or caused to begin, as part of a continuous onsite construction program (1) any placement, assembly, or installation of facilities or equipment; or (2) significant site preparation work

- including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the replacement, assembly, or installation of new source facilities or equipment: or
- b. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be use in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

(31) National Pollution Discharge Elimination System Permit or (NPDES): A permit issued pursuant to Section 402 of the Clean Water Act, Title 33 U.S.C. 1342, which establishes limits on the quality and quantity of discharges to the waters of the State.

(32) Noncontact Cooling Water: Water used for cooling that does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

(33) Pass Through: A discharge which exits the POTW into the waters of the State in quantities or concentration levels which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the Control Authority's NPDES permit or increases the magnitude or duration of a violation.

(34) Person: Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

(35) pH: A measure of the acidity of a liquid and expressed as the negative logarithm (base 10) of the

hydrogen ion concentration, and stated in standard units (Sus).

(36) Pollution: The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(37) Pollutant: Any dredge spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

(38) Pretreatment or Treatment: The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state, prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes by other means, except by diluting the concentration of the pollutant unless allowed by an applicable Pretreatment Standard.

(39) Pretreatment Requirements: Any substantive or procedural requirements related to pretreatment, including those imposed on a Users, other than a Pretreatment Standards.

(40) Pretreatment Standards or Standards: Prohibited discharge standards, categorical Pretreatment Standards, and Local Limits.

(41) Prohibited Discharge Standards or Prohibited Discharges: Absolute prohibitions against the discharge of certain substances; these prohibitions appear in Section 2.1 of this Ordinance.

(42) Publicly Owned Treatment Works (POTW): The treatment works, as defined by Section 212 of the Act, Title 33 U.S.C. 1292, which is owned by the City. This definition includes the treatment plant and any sewers that convey wastewater to the POTW treatment plant, but does not include pipe, sewers or other conveyances

not connected to a facility providing treatment. For the purposes of this Ordinance, the POTW shall also include any sewers that convey wastewaters to the POTW from persons outside the City of Russellville who are, by contract or agreement with the City, users of the City's POTW.

(43) POTW Treatment Plant: That portion of the POTW designed to provide treatment to wastewater.

(44) Septic Tank Waste: Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.

(45) Sewage: Human excrement and gray water (household showers, dishwashing operations, ect.).

(46) Shall is mandatory; May is permissive.

(47) Significant Industrial User (SIU): Any User of the POTW subject to Categorical Pretreatment Standards; or any other user that discharges an average flow of 25,000 gallons per work day or more of process wastewater to the POTW (excluding sanitary, non-contact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated a Significant Industrial User by The Control Authority, on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

A. The Control Authority may determine that an Industrial User subject to categorical Pretreatment Standards is a Non-Significant Categorical Industrial User rather than a Significant Industrial User on a finding that the Industrial User never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:

1. The Industrial User, prior to the Control Authority's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;
2. The Industrial User annually submits the certification statement required in 40 CFR 403.12(q), together with any additional information necessary to support the certification statement; and
3. The Industrial User never discharges any untreated concentrated wastewater.

B. Upon a finding that a User meeting the criteria for Industrial User has no reasonable potential for adversely affecting the POTW's operation or for violation any Pretreatment Standard or Requirement, the Control Authority may at any time, on its own initiative or in response to a petition received from an Industrial User, and in accordance with procedures in 40 CFR 403.8(f)(6), determine that such User should not be considered a Significant Industrial User.

(48) Significant Noncompliance (SNC): See, Section 4.8.a of this Ordinance.

(49) Slug Discharge: Any discharge at a flow rate or concentration, which could cause a violation of the prohibited discharge standards in Section 2.1 of this Ordinance. A slug discharge is any discharge of a non-routine, episodic nature, including, but not limited to, an accidental spill or non-customary batch discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, Local Limits or Permit conditions.

(50) State: State of Arkansas.

(51) Standard Industrial Classification (SIC): A classification pursuant to the Standard Industrial Classification Manual issued by the Executive office of the President, office of Management and Budget, 1972.

(52) Storm Water: Any flow occurring during or following any form of natural precipitation and resulting therefrom.

(53) Superintendent: The individual designated by the Control Authority to supervise the operation of the POTW, and who is charged with certain duties and responsibilities by this ordinance. The term also means a Duly Authorized Representative of the Superintendent.

(54) Total Suspended Solids (TSS): The total concentration of matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by laboratory filtering.

(55) Total Toxic Organics (TTO): The sum of the masses or concentration of specific toxic organic compounds found in Users process discharge at a concentration greater than 0.01 mg/l.

(56) Toxic Pollutant: Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the Section of 307(a) of the Act or other Acts.

(57) User (or Industrial Usser): A source of indirect discharge.

(58) Wastewater: The liquid and water-carried Industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

(59) Waters of the State: All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

1.3 Abbreviations

The following abbreviations shall have the designated meanings:

ADEQ - Arkansas Department of Environmental Quality

BOD - Biochemical Oxygen Demand

CFR - Code of Federal Regulations

CIU - Categorical Industrial User

COD - Chemical Oxygen Demand

EPA - Environmental Protection Agency

l - Liter

mg - Milligrams

mg/l - Milligrams per liter
NPDES - National Pollutant Discharge Elimination System
POTW - Publicly Owned Treatment Works
SIC - Standard Industrial Classification
SIU - Significant Industrial User
SND - Significant Noncompliance
SWDA - Solid Waste Disposal Act, 42 U.S.C. 6901, et. seq.
USC - United States Code
TSS - Total Suspended Solids

SECTION 2 - REGULATIONS

2.1 Discharge Prohibitions

a. General Prohibitions. It shall be unlawful for any User to contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the POTW, causes a pass-through, which is defined in Section 1.2.a(33) of this Ordinance, or which violates any statute, rule, regulation or ordinance of any public agency. This general prohibition applies to all such users of the POTW whether or not the User is subject to National Categorical Pretreatment Standards or any other National, State, or local pretreatment standards or requirements.

b. Specific Prohibitions. A user may not contribute the following substances to the POTW:

(1) Any liquid, solid or gas which creates singly or by interaction with other substances a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 50 degrees Centigrade using the test methods specified in 40 CFR 261.21.

(2) Any wastewater having a pH lower than 5.0 S.U. or greater than 12.0 S.U. or having any other corrosive property capable of causing corrosive structural damage or a hazard to the structures, equipment and personnel of the POTW. In no case shall waters or wastes be discharged at such a flow rate and/or pH which will cause the influent at the POTW to be lower than 6.0 or greater than 9.0.

(3) Any solid or viscous substance in amounts which will cause obstruction to the flow in the POTW or will result in Interference to the POTW.

(4) Any substance or substances, including oxygen demanding pollutants, directly or indirectly discharged at a flow rate or concentration level which will cause Interference, upset, or loss of efficiency at the POTW.

(5) Any wastewater having a temperature which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees C (104 degrees F). Any liquid or vapor having a temperature higher than 54.4 degree C (130 degree F).

(6) Any wastewater containing concentration levels or flow rates of petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through.

(7) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

(8) Any trucked or hauled pollutants, except at discharge points designated by the Control Authority.

(9) Any wastewater containing toxic substances in sufficient quantity, either singly or by interaction with other substances, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters or exceed the limitations set forth in a Categorical Pretreatment Standard. A toxic substance shall include but not be limited to those identified under Section 307(a) of the Act.

(10) Any substance which may cause the POTW's effluent or any other product of the POTW such as residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case, shall a substance discharged to

the POTW cause the POTW to be in noncompliance with sludge use or State or Federal disposal criteria.

(11) Any substance containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Control Authority in compliance with applicable State and Federal regulations.

(12) Any substance which will cause the POTW to violate its NPDES permit or the receiving waters water quality standards.

(13) Any wastewater which may cause a hazard to human health or create a public nuisance.

(14) Storm water, surface water, ground water, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, de-ionized water, Noncontact Cooling Water, and unpolluted wastewater, unless specifically authorized by the Control Authority.

(15) Medical Wastes, no discharge of any pharmaceutical medications, prescription or 'over the counter', unused or expired.

Pollutants, substances, or wastewater prohibited by this section shall not be processed or stored in such a manner that they could be discharged to the POTW.

c. When the Control Authority determines that a User is contributing to the POTW, any of the above enumerated substances in such amounts as to Interfere with the operation of the POTW, or to cause the Control Authority to be in violation of any applicable statute, regulation or permit, the Control Authority shall:

- 1) Advise the User of the impact of the contribution on the POTW;
- 2) Develop effluent limitation for such User to correct the violation or Interference with the POTW and
- 3) Take any enforcement measures, necessary and appropriate under the circumstances.

2.2 National Categorical Pretreatment Standards:

Users must comply with the categorical Pretreatment Standards found at 40 CFR Chapter I, Subchapter N, Parts 405 – 471.

- A. When wastewater subject to a categorical Pretreatment Standard is mixed with wastewater not regulated by the same Standard. The Control Authority shall impose an alternate limit in accordance with 40 CFR 403.6(e).
- B. Where a categorical pretreatment standard is expressed only in terms of either the mass or the concentration of a pollutant in wastewater, the Control Authority may impose equivalent concentration or mass limits in accordance with 40 CFR 403.6(c).
- C. When the limits in a categorical Pretreatment Standard are expressed only in terms of mass of pollutant per unit of production, the Control Authority may convert the limits to equivalent limitations expressed either as mass of pollutant discharged per day or effluent concentration for purposes of calculation effluent limitations applicable to individual industrial Users in accordance with 40 CFR 403.6 (c)(2).
- D. When a categorical Pretreatment Standard is expressed only in terms of pollutant concentrations, an Industrial User may request that the City convert the limits to equivalent mass limits. The determination to convert concentration limits to mass limits is within the discretion of the Superintendent. The City may establish equivalent mass limits only if the Industrial User meets all the conditions as set forth in 40 DFR 403.6 (c) (5).

2.3 State Pretreatment Standards:[Reserved]

2.4 Local Limitations

- a. The Control Authority is authorized to establish Local Limits pursuant to 40 CFR 403.5(c).
- b. No person shall discharge any waters or wastes at a concentration that would exceed the concentration of pollutants, including but not limited to, those identified in the most recent "Technically Based Local Limits Development Document" in accordance with the requirements in NPDES Permit AR0021768, and adopted by the Control Authority and approved by the Arkansas

Department of Environmental Quality and the City of Russellville Council.

c. The Control Authority may develop Best Management Practices (BMPs), by Ordinance or in individual wastewater discharge permits or general permits, to implement Local Limits and the requirements of Section 2.1.

d. In addition, the Control Authority may develop specific discharge limitations, or Best Management Practice (BMPs), when deemed appropriate by the Control Authority, for any other toxic or inhibiting pollutant which may be determined to be of sufficient quantity to cause POTW interference, POTW Pass Through, endanger the health and safety of the POTW personnel or general public, produce environmental harm, cause a POTW permit violation or render the POTWs sludges unacceptable for economical reclamation, disposal, or use.

e. Section a. through d. are in addition to other restrictions on discharges which shall apply in any casewhere they are more stringent than Federal requirements and limitations or those in this Ordinance.

2.5 [Reserved]

2.6 The City's Right of Revision:[Reserved]

2.7 Dilution

No User shall ever increase the use of process water, or in any way attempt to dilute a discharge, as partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation unless expressly authorized by an applicable Pretreatment Standard or Requirement. The Control Authority may impose mass limitations on Users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases where the imposition of mass limitations is appropriate.

2.8 Slug Discharges:

A. Accidental Discharge/Slug Discharge Control Plans:

The Control Authority shall evaluate whether each SIU needs an accidental discharge/Slug discharge control plan or other action to control Slug Discharges. The Control Authority may require any User to develop, submit for approval, and implement such a plan or take such other action that may be necessary to control Slug Discharges. Alternatively, the Control Authority may develop such a plan for any User. An Accidental discharge/Slug discharge control plan shall address, at a minimum, the following:

1. Description of discharge practices, including nonroutine batch discharges;
2. Description of stored chemicals;
3. Procedures for immediately notifying the Control Authority of any accidental or Slug Discharges, as required by Section 6.7 of this ordinance; and
4. Procedures to prevent adverse impact from any accidental or Slug Discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants, including solvents, and/or measures and equipment for emergency response.

B. Notification Requirements:

Significant Industrial Users are required to notify the Superintendent immediately of any changes at its facility affecting the potential for a Slug Discharge.

2.9 Prohibition of Bypasses:

a. The Users pretreatment facility or device must be in operation at all times to the extent necessary to meet the applicable federal, state and local requirements and regulations and any intentional diversion, except as noted in Section 2.9.b below, of wastewater from any portion of the Users pretreatment facility or device is prohibited.

b. A bypass may be excused, however, if the bypass is necessary and there is no feasible alternative to prevent loss of life, personal injury or severe property damage. The no feasible alternative criterion is not satisfied if, in the exercise of reasonable engineering judgement, adequate back-up equipment

should have been installed to prevent a bypass which occurs during a period of maintenance or in a period of equipment downtime.

c. Knowledge of a pending bypass must be reported immediately to the Control Authority. If the bypass is unanticipated the User must give oral notice of the Bypass within 24 hours of becoming aware of the bypass.

d. For both anticipated and unanticipated bypasses, the user must submit to the Control Authority a written report within 5 working days describing the following:

- (1) The nature of the Bypass;
- (2) the cause;
- (3) the duration and
- (4) solutions to avoid future bypasses.

2.10 Hauled Wastewater:

- A. Septic tank waste originating from domestic sources may be introduced into the POTW only at locations designated by the Control Authority, and at such times as are established by the Control Authority. Such waste shall not violate Section 2 of this ordinance or any other requirements established by City Corporation. The Control Authority may require septic tank waste haulers to obtain individual wastewater discharge permits.
- B. The Control Authority may require haulers of industrial waste to obtain individual wastewater discharge permits. The Control Authority may require generators of hauled industrial waste to obtain individual wastewater discharge permits. The Control Authority also may prohibit the disposal of hauled industrial waste. The discharge of hauled industrial waste is subject to all other requirements of this ordinance.
- C. Industrial waste haulers may discharge loads only at location designated by the Control Authority. No load may be discharged without prior consent of the Control Authority. The Control Authority may collect samples of each hauled load to ensure compliance with applicable Standards. The Control Authority may require the industrial waste hauler to provide a waste analysis of any load prior to discharge.
- D. Industrial waste haulers must provide a waste-tracking form for every load. This form shall include, at a minimum, the name and address of the industrial waste hauler, permit number, truck identification, names and addresses of sources of waste, and volume and characteristics of waste. The form shall

identify the type of industry, know or suspected waste constituents, and whether any wastes are RCRA hazardous wastes.

- E. Waste Haulers of waste materials removed from grease interceptors, solids traps or other such devices shall not, at any time, discharge any material retained by such devices back into the sanitary sewer collection system.

SECTION 3 - FEES AND SURCHARGES

3.1 Purpose

It is the purpose of this chapter to provide for the recovery of costs from Users of the POTW for the implementation of the program established herein. The applicable fees and surcharges are set forth in the City's Schedule of Charges and Fees.

3.2 Fees:

- a. The City may adopt charges and fees which may include:
 - (1) Fees for reimbursement of costs of setting up and operating the Control Authority's Pretreatment Program;
 - (2) Fees for monitoring, inspections and surveillance procedures;
 - (3) Fees for reviewing Accidental Discharge procedures and construction;
 - (4) Fees for permit applications;
 - (5) Fees for filing appeals;
 - (6) Fees for consistent removal by the Control Authority of pollutants otherwise subject to Federal Pretreatment Standards; or
 - (7) Other fees as the City may deem necessary to carry out the requirements contained herein.
- b. These fees related solely to the matters covered by this Ordinance and are separate from all other fees chargeable by the City.

3.3 Surcharges:

- a. The discharge of pollutants in concentrations above that found in normal domestic wastewater may be accepted by the POTW from Users provided that:
 - (1) The concentration levels of the constituent are

not above that established by the Control Authority for the acceptance of such wastewater.

(2) The wastewater has none of the characteristics described in Section 2.1 of the Ordinance;

(3) The User pays to the Control Authority a Surcharge for the acceptance of such wastes in addition to its normal fee.

b. The permissible concentration ranges for the constituents eligible for acceptance, and a schedule of the surcharge costs together with certain restriction and limitations will be established by the Control Authority and incorporated into the Wastewater Contribution Permit of the Industrial User.

SECTION 4 - ADMINISTRATION

4.1 Wastewater Discharge:

a. It shall be unlawful for a Significant Industrial User to discharge wastewater to the POTW without a current Wastewater Contribution Permit issued by The Control Authority in accordance with the provisions of this Ordinance.

b. All Users, currently not permitted by The Control Authority, who may discharge anything other than normal domestic sanitary wastewater must, if they have not previously done so, provide sufficient information or make an application for a Wastewater Contribution Permit so that the Control Authority can determine whether the applicant is a Significant Industrial User who must obtain a permit.

4.2 Wastewater Contribution Permits:

4.2.1 Individual Wastewater Discharge Permit Requirement.

a. All Significant Industrial Users proposing to connect to or to contribute to the POTW shall obtain a Wastewater Contribution Permit before connecting to or contributing to the POTW.

4.2.2 Permit Application

a. All Users required to apply for or obtain a Wastewater Contribution Permit shall complete and file with the Control Authority an application in the form prescribed by the Control Authority and accompanied by a fee outlined in The City's schedule of charges and fees. Existing users shall apply for permit reissuance no later-than 180 days prior to the expiration of the User's existing permit. Proposed new Significant Industrial Users shall apply at least 90 days prior to connecting to or contributing to the POTW. At the discretion of the Control Authority, applications received within 90 days of the desired date of connection to or contribution to the POTW will be processed as expediently as possible. In support of the application, Users shall submit, in units and terms appropriate for evaluation, the following information, unless deemed inapplicable by the Control Authority.

- (1) Name, address, and location, (if different from the address);
- (2) SIC number according to the Standard Industrial Classification manual, Bureau of the Budget, 1972, as amended;
- (3) Wastewater constituents and characteristic including but not limited to those mentioned in Section 2 of this Ordinance as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(h) of the Act and contained in 40 CFR, part 136, as amended;
- (4) Time and duration of contribution;
- (5) Average flow rates, including daily, monthly and seasonal variations if any;
- (6) Site plumbing plans and details to show all sewers, sewer connections, and appurtenances by the size, location and elevation;
- (7) Description of activities, facilities and plant

processes on the premises including all materials which are or could be discharges;

(

8. Environmental Permits. A list of any environmental control permits held by or for the facility.

9. Measurement of Pollutants.

- a. The categorical Pretreatment Standards applicable to each regulated process and any new categorically regulated processes for Existing Sources.
- b. The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the Standard or by the Control Authority, of regulated pollutants in the discharge from each regulated process.
- c. Instantaneous, Daily Maximum, and long-term average concentrations, or mass, where required, shall be reported.
- d. The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 4.6 of this Ordinance. Where the Standard requires compliance with a BMP or pollution prevention alternative, the User shall submit documentation as required by the Control Authority or the applicable Standards to determine compliance with the Standard.
- e. Sampling must be performed in accordance with procedures set out in Section 4.6 of this ordinance.

b. The permit application may also contain any other information as may be necessary by the Control Authority to evaluate the permit application, including but not limited to the following:

(1) Each product produced by type, amount, process or processes and rate of production;

(2) Type and amount of raw materials processed (average and maximum per day); and

(3) Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of the users pretreatment facility.

c. The Control Authority will evaluate the data furnished by the User and may require additional information. After evaluation and acceptance of the data furnished, the Control Authority may issue a Wastewater Contribution Permit subject to terms and conditions provided herein.

D. Application Signatories and Certification: All Wastewater Contribution Permit applications and Users reports must be signed by an authorized representative (*defined in Section 1.2 a(3)*) of the User and contain the following certification statement:

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

If the designation of an Authorized Representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or overall responsibility for environmental matters for the company, a new written authorization satisfying the requirements of this Section must be submitted to the Control Authority prior to or together with any reports to be signed by an Authorized Representative.

4.2.3 Permit Modification

The Superintendent may modify an individual wastewater discharge permit for good cause, including, but not limited to, the following reasons:

- (1) To incorporate any new or revised Federal, State, or local Pretreatment Standards of Requirements.
- (2) To Address significant alterations to the User's operation, process, or wastewater volume or character since the time of the individual wastewater discharge permit issuance;
- (3) A change in the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- (4) Information indicating that the permitted discharge poses athreat to the City's POTW, City personnel, or the receiving waters;
- (5) Violation of any terms of conditions of the individual wastewater discharge permit;
- (6) Misrepresentations or failure to fully disclose all relevant facts in the wastewater discharge permit application or in any required reporting; or
- (7) To correct typographical or other errors in the individual wastewater discharge permit.

The terms and conditions of the permit may be subject to modification by the Control Authority during the term of the permit if the limitations or requirements as identified in Section 2 of this Ordinance are modified or for other just cause. The User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

4.2.4 Permit Conditions:

a. Wastewater Contribution Permits shall be expressly subject to all provisions of this Ordinance and all other applicable regulations, Significant Industrial user chages and fees established by the City. Permits shall contain the following:

- (1) Statement of permit duration;

(2) Statement of non-transferability without, at a minimum, prior notification to the Control Authority;

(3) Applicable effluent limits, including Best Management Practices or Categorical Pretreatment Standards, if applicable;

(4) Applicable self-monitoring, sampling, reporting, and record keeping requirement, including sampling location, sampling frequency, sample type, and standards for tests and reporting schedule.

(5) Notification requirements for Slug Discharges and Bypasses as contained in Sections 2.8. and 2.9. of this Ordinance.

(6) Statement of applicable civil and criminal penalties for violation of the pretreatment standards and requirements, and applicable compliance schedule(s).

b. Permits may contain one or more of the following:

(1) The unit charge or schedule of the Significant Industrial Users charges and fees for the wastewater to be discharged;

(2) Limits on the average and maximum wastewater constituents and characteristics;

(3) Limits on average and maximum rate and time of discharge or requirements for flow regulations and equalization;

(4) Requirements for installation and maintenance of inspection and sampling facilities;

(5) Requirements for submission of technical reports or discharge reports.

(6) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the Control Authority, and affording the Control Authority access thereto;

(7) Requirements for notification of the Control

Authority of any discharge, including a slug discharge, that could cause problems to the POTW; of any violation within 24 hours of becoming aware of the violation; and of any new introduction of wastewater constituents or any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the Significant Industrial User has submitted initial notification under 40 CFR 403.12(p);

(8) Compliance schedules; or

(9) Other conditions as deemed appropriate by The Control Authority to insure compliance with this Ordinance.

4.2.5 Permits Duration:

Wastewater Contribution Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date.

4.2.6 Permit Transfer:

Wastewater Contribution Permits are issued to a specific User for a specific operation. A wastewater discharge permit shall not be reassigned or transferred to a new owner, new User, without, as a minimum, providing the Control Authority:

- 1) 30 days advance notice of an intent to transfer or assign;
- 2) a certified statement by the assignee or transferee that upon the permits assignment or transfer, there will be not change in the operation of the facility so as to, in any way, affect the quantity and quality of the wastewater discharged to the POTW and
- 3) a copy of the existing individual control mechanism is provided to the transferee or assignee. All other transfers, assignments, change in premises or change in operations will require the prior approval of the Control Authority before the Wastewater Contribution Permit will become effective. Any succeeding owner or Significant Industrial User shall also comply with the terms and conditions of the existing permit.

Failure to provide advance notice of a transfer renders the individual wastewater discharge permit void of the date of facility transfer.

4.2.7 Regulation of Waste Received from Other Jurisdictions

- A. All discharges to the City of Russellville POTW, which are outside the jurisdiction and are not part of another incorporated city, shall be required to agree by written contract to abide by the conditions set forth in this Ordinance, subsequent revisions and amendments to this Ordinance, and any rules and/or regulations promulgated by the City.
- B. All incorporated cities which discharge to the City of Russellville POTW shall agree by written contract to adopt an Ordinance which meets the requirements of 40 CFR 403, General Pretreatment Regulations, and will be at least as stringent as the conditions set forth in this Ordinance. This agreement must also contain a provision that allows for the adoption of any and all rules and/or regulations promulgated by the Control Authority and shall delegate to the City of Russellville the powers to enforce the provisions of all laws, rules, and/or regulations adopted in accordance with this Section.

4.3 Reporting Requirements for Permittee

Reports (Baseline Monitoring, Compliance Date and Periodic Compliance) in this section shall include the certification statement as set forth in Section 4.2.2.d in this ordinance and shall be signed by an authorized Representative of the User as set forth in Section 1.2.3 in this ordinance.

4.3.1 Baseline Monitoring Reports

Within 180 days after the effective date of a Categorical Pretreatment Standard, or 180 days after a final administrative decision made upon the application of an appropriate Categorical Pretreatment Standard, whichever is later, an existing user subject to such categorical Pretreatment Standards and currently discharging to or scheduled to discharge to the POTW shall be required to submit to the Control Authority a Baseline Monitoring Report. This Baseline Monitoring Report shall contain all of the information required in 40 CFR 403.12(b)(1)-7. At least 90 days prior to the commencement of discharge, New Sources, and sources that become Users subsequent to the promulgation of an applicable Categorical Standard, shall submit to the Control Authority a Baseline Monitoring Report which contains all the information listed in

paragraphs 40 CFR 403.12(b)(1)-(5). New Sources shall also be required to include in their Report information on their method of pretreatment intended to be used in meeting their applicable pretreatment standards. Requirements for compliance schedules for meeting categorical Pretreatment Standards are set forth in 40 CFR 403.12 (c).

4.3.2 Compliance Date Report

Within 90 days following the date for final compliance with applicable pretreatment standards or, in the case of a New Source, following commencement of the introduction of wastewater into the POTW, any User subject to pretreatment standards and requirements shall submit to the Control Authority a report indicating the nature and concentration of all pollutants in its discharge which are limited by pretreatment standards and requirements and their average and maximum daily flow. The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis and, if not, what additional O&M and/or pretreatment is necessary to bring the Significant Industrial User into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the User. Any data presented as part of the report shall be prepared and certified by a certified laboratory and should any pretreatment be proposed or required, a registered engineer shall prepare and certify his/her involvement in the proposed pretreatment facility.

4.3.3 Periodic Compliance Reports

a. Any User subject to a pretreatment standards, after the compliance date of such pretreatment standards, or, in the case of a New Source, after commencement of the discharge into the POTW, and any noncategorical Significant Industrial User shall submit to the Control Authority during the months of June and December, unless required more frequently by the Control Authority, a report indicating the nature, concentration and flow of pollutants in the effluent which are limited by such pretreatment standards. (the Control Authority will specify reporting parameters for noncategorical SIUs) At the discretion of the Control Authority and in consideration of such factors as local high or low flow rates, holidays, budget

cycles, etc., the Control Authority may agree to alter the months for report submittal.

b. The Control Authority may impose equivalent mass limitations of Significant Industrial Users where the imposition of mass limitations is appropriate. In such cases, the report required by 4.3.3.a of this paragraph shall indicate the mass of pollutants regulated by pretreatment standards in the effluent of the Significant Industrial user. These reports shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where requested by the Control Authority, of pollutants contained therein which are limited by the applicable pretreatment standards. The frequency of monitoring shall be the same as above.

4.3.4 Notification of Potential Problems

All categorical and non-categorical Industrial Users shall notify the POTW immediately of all discharges that could cause problems to the POTW, including any slug loading by the Industrial User.

4.4 Monitoring Factors

a. The Control Authority may require, to be provided and operated at the users own expense, monitoring facilities to allow inspection, sampling, and flow measurement of the building sewer and/or internal drainage systems. The monitoring facility should normally be situated on the Users premises, but The Control Authority may, when such a location would be impractical or cause undue hardship on the User, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

b. There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the User.

- c. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Control Authority's requirements and all applicable local construction standards and specifications. Construction shall be completed within 90 days following written notification by the Control Authority.
- d. If a User subject to the reporting requirement in this section 4.3 monitors any regulated pollutant at the appropriate sampling location more frequently than required by the Control Authority, using the procedures prescribed in Section 4.6 of this ordinance, the results of this monitoring shall be included in the report.

4.5 Inspection and Sampling:

The Control Authority shall inspect the facilities of any user to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the Control Authority, and other approval authorities, or their representatives, ready access at all reasonable times to all parts of the premises for the observation of any User personnel in the performance of any of their duties. All records of the facility pertaining in any way to the provisions of this Ordinance may be photocopied by the Control Authority and the copies removed from the facility's premises. EPA, ADEQ or The City shall have the right to set up on the Users property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the City, the Control Authority, ADEQ or EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

4.6 Sampling and Analytical Procedures:

All pollutant analyses, including sampling techniques, to be submitted as part of a wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 CFR Part 136 does

not contain sampling or analytical techniques for the pollutant in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the Control Authority or other parties approved by EPA. All samples shall be collected at the secure sample point, sample/inspection manhole, or process sampling point as designated by the Control Authority.

All independent laboratories performing analyses for Industrial Users, including, but not limited to self monitoring reports, Periodic Reports on Continuing Compliance, Baseline Monitoring Reports and/or split sample verification, shall be certified by the Arkansas Department of Environmental Quality Laboratory Certification Program for the specific analysis being performed. The Control Authority reserves the right to reject any analysis performed by an independent laboratory that is not duly certified for a particular analysis.

Samples collected to satisfy reporting requirements must be based on data obtained through appropriate sampling and analysis performed during the period covered by the report, based on data that is representative of conditions occurring during the reporting period.

- A. Except as indicated in Section B and C below, the User must collect wastewater samples using 24-hour flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the Control Authority. Where time-proportional composite sampling or grab sampling is authorized by the Control Authority, the samples must be representative of the discharge. Using protocols (including appropriate preservation) specified in 40 CFR Part 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: for cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil and grease, the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the Control Authority, as appropriate. In addition, grab samples may be required to show compliance with Instantaneous Limits.
- B. Samples for oil and grease, temperature, pH, cyanide, total phenols, sulfides, and volatile organic compounds must be obtained using grab collection techniques.
- C. For sampling required in support of baseline monitoring and 90-day compliance reports required in Section 6.1 and 6.3 [40 CFR 403.12(b) and (d)], a minimum of four (4) grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide and volatile organic compounds for facilities for which historical sampling data do not exist; for facilities for which historical sampling data are available, the Control Authority may authorize a lower minimum. For the reports required by paragraphs Section 6.4 (40 CFR

403.12(e) and 403.12(h)), the Industrial User is required to collect the numbers of grab samples necessary to assess and assure compliance by with applicable Pretreatment Standards and Requirements.

- D. Sampling and testing shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. The sampling methods performed shall include at a minimum procedures for sample chain of custody, preservation techniques, and holding times.

- F. If sampling performed by an Industrial User indicates a violation, the User shall notify the Control Authority within 24 hours of becoming aware of the violation. The User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority within 30 days after becoming aware of the violation. Where the Control Authority has performed the sampling and analysis in lieu of the Industrial User, the Control Authority must perform the repeat sampling and analysis unless it notifies the User of the violation and requires the User to perform the repeat analysis. Resampling is not required if:
 - (1) The Control Authority performs sampling at the Industrial User at a frequency of at least once per month; or
 - (2) The Control Authority performs sampling at the User between the time when the initial sampling was conducted and the time when the User or the Control Authority receives the results of this sampling.

4.7 Pretreatment:

- A. Users shall provide any and all pretreatment as necessary to comply with this Ordinance, their Wastewater Contribution Permit, all applicable State and Federal requirements and if applicable, Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Pretreatment Regulations. Any facility required to pretreat wastewater to a level acceptable to the Control Authority shall provide, operate, and maintain a pretreatment facility at the User's expense. Detailed plans showing the pretreatment facility and operating procedures shall

be submitted to the Control Authority for review, and shall be acceptable to the Control Authority before construction of the facility. The review of such plans and operating procedures will in no way relieve the User from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Control Authority under the provisions of this Ordinance. Any subsequent changes in the pretreatment facility or method of operation shall be reported to and be acceptable to the Control Authority prior to the Users initiation of the changes.

- B. Grease, oil, and sand interceptors shall be provided when, in the opinion of the Superintendent, they are necessary for the proper handling of wastewater containing excessive amount of grease and oil, or sand; except that such interceptors shall not be required for residential users. All interception units shall be of a type and capacity approved by the Superintendent, shall be so located to be easily accessible for cleaning and inspection. Such interceptors shall be inspected, cleaned and repaired by the User at their expense.

4.8 Significant Noncompliance (SNC) :

The Control Authority shall publish annually, in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the POTW, a list of the Users which, at any time during the previous twelve (12) months, were in Significant Noncompliance with applicable Pretreatment Standards and Requirements. The term Significant Noncompliance shall be applicable to all Significant Industrial Users (or any other Industrial User that violates paragraphs (C), (D) or (H) of this Section) and shall mean:

- A. Chronic violations of wastewater discharge limits, defined here as those in which sixty-six percent (66%) or more of all the measurements taken for the same pollutant parameter taken during a six- (6) month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement, including Instantaneous Limits as defined in Section 2;
- B. Technical Review Criteria (TRC) violations, defined here as those in which thirty-three percent (33%) or more of wastewater measurements taken for each pollutant parameter during a six- (6) month period equals or exceeds the product of the numeric Pretreatment Standard or Requirement including Instantaneous Limits, as defined by Section 2 multiplied by the applicable criteria (1.4 for BOD, TSS, fats, oils and grease, and 1.2 for all other pollutants except pH);

- C. Any other violation of a Pretreatment Standard or Requirement as defined by Section 2 (Daily Maximum, long-term average, Instantaneous Limit, or narrative standard) that the Control Authority determines has caused, alone or in combination with other discharges, Interference or Pass Through, including endangering the health of POTW personnel or the general public;
- D. Any discharge of a pollutant that has caused imminent endangerment to the public or to the environment, or has resulted in the Control Authority exercise of its emergency authority to halt or prevent such a discharge;
- E. Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in an individual wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;
- F. Failure to provide within forty-five (45) days after the due date, any required reports, including baseline monitoring reports, reports on compliance with categorical Pretreatment Standard deadlines, periodic self-monitoring reports, and reports on compliance with compliance schedules;
- G. Failure to accurately report noncompliance; or
- H. Any other violation(s), which may include a violation of Best Management Practices, which the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program.

4.9 Confidential Information:

- a. Information and data on a user obtained from reports questionnaires, permit applications, permit and monitoring programs and from inspections, shall be available to the public or other governmental agency without restriction unless the User specifically requests, and is able to demonstrate to the satisfaction of the Control Authority, that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the User.
- b. When requested by the User furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to the National Pollutant Discharge Elimination System (NPDES) Program or the Pretreatment Program; Provided, however, that such portions of a report shall be available for use by the

State or any state agency in judicial review or enforcement proceedings involving the User furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

c. Information accepted by the Control Authority as confidential, shall not be transmitted to any governmental agency or the general public by The Control Authority until and unless a ten-day notification is given to the User.

4.10 Notification Requirements

A. In accordance with 40 CFR 403.12(j) all Industrial Users shall promptly notify the Control Authority in advance of any substantial change in the volume or character of pollutants in their Discharge, including the listed or characteristic hazardous wastes for which the Industrial User has submitted initial notification under paragraph (b) of this section.

B. In accordance with 40 CFR 403.12 (p) the Industrial User shall notify the POTW, the EPA Regional Waste Management Division Director, and State hazardous waste authorities in writing of any discharge into the POTW of a substance, which if otherwise disposed of, would be a hazardous waste under 40 CFR part 261.

4.11 Recordkeeping

Users subject to the reporting requirements of this ordinance shall retain, and make available for inspection and copying, all records of information obtained pursuant to any monitoring activities required by this ordinance, any additional records of information obtained pursuant to monitoring activities undertaken by the User independent of such requirements, and documentation associated with Best Management Practices established under Section 2.4 c. Records shall include the date, exact place, method, and time of sampling, and the name of the person(s) taking the samples; the dates analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such

analyses. These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the User or the City, or where the User has been specifically notified of a longer retention period by the Superintendent.

SECTION 5 - ENFORCEMENT

5.1. Notification of Violation:

Whenever the Control Authority finds that any User has violated or is violating this Ordinance, Wastewater Contribution Permit, or any prohibition, limitation or requirements contained therein, the Control Authority may serve upon such person a written notice stating the nature of the violation. Within 30 days of the date of the notice, a plan for the satisfactory correction and prevention, to include specific required actions, shall be submitted to the Control Authority by the User. Submission of this plan in no way relieves the User of liability for any violation occurring before or after receipt of Notice of Violation.

5.2 Consent Agreement:

The Control Authority is hereby empowered to enter into Consent Agreement, assuring voluntary compliance, or other similar documents as an agreement with the user responsible for the noncompliance. Such agreements will include specific action to be taken by the User to correct the noncompliance within a time period also specified by the agreement.

5.3 Show Cause Hearing:

a. The Control Authority may order any User who causes or allows an unauthorized discharge to enter the POTW or who violates any of the conditions of this Ordinance, the permit, or applicable state or Federal laws or regulations to show cause before the Control Authority why the proposed enforcement action should not be taken. Notice shall be served on the User specifying the time and place of the show cause hearing, the reasons why the action is being taken,

the proposed enforcement action, and a request that the User show cause why this proposed enforcement action should not be taken. The notice of hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days before the hearing. Service may be made on any agent or officer of a corporation. If a duly notified User fails to appear as noticed, immediate enforcement action may be pursued.

b. The Control Authority may itself conduct the show cause hearing and take the evidence, or may designate any of its board members or any officer or employee of The Control Authority to:

(1) Issue in the name of the Control Authority notices of hearings requiring the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;

(2) Take the evidence; and

(3) Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the Superintendent or the Control Authority for action thereon.

c. At any hearing held pursuant to this Ordinance, testimony taken must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof (i.e. postage, printing expense, etc.)

d. Following the show cause hearing, the Control Authority shall within 15 days following the recommendation of the hearing officer issue and have served on all parties the action recommended. If warranted, the Control Authority shall recommend to the City Council, after setting forth the findings of fact, that the City Attorney pursue legal action; including civil action to recover the recommended penalties for the violation, injunctive relief and/or criminal prosecution. Alternatively, the Control Authority may issue to the User in violation, notice

that following a specified period of time, the sewer service will be discontinued unless its pretreatment facility shall have installed adequate devices or other related appurtenances and such devices or other related appurtenances are properly operated. Other orders and directives as are necessary and appropriate may be issued.

e. An order directing the cessation of sewer service shall not preclude a recommendation for legal action to the City.

5.4 Administrative Orders and Fines:

5.4.1 Compliance Orders:

When the Control Authority finds that a user has violated or continues to violate this Ordinance, its Wastewater Contribution Permit or orders issued thereunder, the Control Authority may issue an order to the User responsible for the violation that states that following a specified time period, sewer service shall be discontinued unless Users pretreatment facility has installed devices or other appurtenances and are properly operated. Compliance orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including, but not limited to, the installation of pretreatment technology, additional selfmonitoring and management practices.

5.4.2 Cease and Desist Orders:

When the Control Authority finds that a User has violated or continues to violate this Ordinance, its Wastewater Contribution Permit or order issued thereunder, the Control Authority may issue an order to cease and desist all such violations and direct the User in noncompliance to comply forthwith, if necessary the Control Authority may take such appropriate preventive or remedial action as may be needed to properly address a continuing or threatened

violation, including halting operations and terminating discharge.

5.4.3 Administrative Fines:

When the Superintendent finds that a User has violated, or continues to violate, any provision of this ordinance, an individual wastewater discharge permit, or order issued hereunder, or any other Pretreatment Standard or Requirement, the Superintendent may fine such User in an amount not to exceed \$1000. Such fines shall be assessed on a per-violation, per-day basis. In the case of monthly or other long-term average discharge limits, fines shall be assessed for each day during the period of violation.

5.5 Emergency Authority:

a. The Control Authority, following only oral notice to the User, may suspend the wastewater treatment service or the Wastewater Contribution Permit of any person when, in the opinion of the Supervisor of the Control Authority, such suspension is necessary to immediately and effectively halt or prevent any actual or threatened discharge which presents, or may present, an imminent or substantial endangerment to the health, safety or welfare of persons.

b. The Control Authority, following a notice with the opportunity to respond, may halt or prevent any discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere with the operation of the POTW.

c. Any User notified of a suspension of its wastewater treatment service and/or its Wastewater Contribution Permit shall immediately stop or eliminate the harmful discharge. In the event of a failure of the User to comply voluntarily with the demand for cessation, The Control Authority shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent the endangering discharge. The Control Authority may reinstate the Wastewater Contribution Permit and/or the wastewater treatment service upon proof of the elimination of the endangering discharge, together with an acceptable detailed written statement submitted by the User

describing the cause of the harmful discharge and the measures taken to prevent any future occurrence. The proof and required statements must be submitted to The Control Authority within 15 days of the date of endangering discharges occurrence.

5.6 Revocation of Permits:

a. Any Significant Industrial User who violates any of the following conditions or requirements of this Ordinance, or applicable state and federal laws or regulations or any provisions of its Wastewater Contribution Permit is subject to having his permit revoked:

(1) Violation of Wastewater Contribution Permit conditions.

(2) Failure to accurately report the wastewater constituents and characteristics of its discharge.

(3) Failure to report significant changes in operations or wastewater constituents and characteristics.

(4) Refusal of reasonable access to the Significant Industrial Users premises for the purpose of inspection, monitoring or sampling.

b. A noncompliant Significant Industrial User will be notified of the proposed termination of its Wastewater Contribution Permit and offered an opportunity to show cause pursuant to Section 5.3 of this Ordinance why the proposed action should not be taken.

5.7 Judicial Remedies:

If any User discharges sewage, industrial wastes or other wastes into the POTW contrary to the provisions of this Ordinance, any other applicable ordinances, federal or state Pretreatment Requirements, or any order of the City or the Control Authority, or otherwise violates provisions of this Ordinance, the Wastewater Contribution Permit, or applicable laws and regulations, the Control Authority may recommend to the City Council that the City Attorney commence action for appropriate legal and/or equitable relief in a court of competent jurisdiction.

5.7.1 Injunctive Relief:

Whenever a User has violated or continues to violate the provisions of this Ordinance or its Wastewater Contribution Permit or orders issued thereunder, the Control Authority may request that the City Attorney immediately petition the Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate to restrain or compel the activities of the User.

5.7.2 Civil Penalties:

a. Any User who is found to have violated or continues to violate an order of the City and/or the Control Authority or who negligently failed to comply with any provisions of this Ordinance or the orders, rules, regulations and permits issued thereunder, may be fined not more than One Thousand Dollars (\$1,000.00) for each offense. Jurisdiction to determine such penalties shall be in the City Municipal Court or other court of appropriate jurisdiction. Each day on which a violation shall occur or continue shall be a separate and distinct offense.

b. In addition to the civil penalties provided for herein, the City may recover, from the user in violation, any damages suffered, reasonable attorneys fees, court costs, court reporters fees and other expenses of litigation in any action in law or equity against any person or other entity.

c. The City Attorney shall petition the Court to impose, assess and recover all civil penalties, legal fees, and costs together with damages if appropriate. In determining the amount of the penalty, the Control Authority in its recommendation for civil penalties, the City Council and the Court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained by the user in allowing the violation, the timing and nature of any corrective actions taken

by the User, the compliance history of the User and any other factors as justice requires.

5.8 Criminal Prosecution:

a. The Control Authority may recommend to the City Council that the City Attorney criminally prosecute any User who knowingly or willfully violates any provision of this ordinance, its Wastewater Contribution Permit or any orders issued thereunder. If so prosecuted the User shall, upon conviction, be guilty of a misdemeanor, and punished by a fine not to exceed \$1,000.00 per violation per day or imprisonment for not more than six 96) months, or both.

b. Any person who knowingly or willfully makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Ordinance or its Wastewater Contribution Permit, or who falsifies, tampers with, or knowingly or willingly renders inaccurate any monitoring or sampling device, wastewater sample or other methods required under this Ordinance, shall be guilty of a misdemeanor, and shall, upon conviction, be punished by a fine of not more than \$1,000.00 or by imprisonment for not more than six (6)months or both.

5.9 Supplemental Enforcement Remedies:

5.9.1 Annual Publication of Users is Significant Noncompliance:

The Control Authority shall publish, at least annually in the largest daily newspaper circulated in the area, a description of those Users which are found to be in Significant Noncompliance as defined in section 4.8) with any provisions of this Ordinance or any permit or order issued thereunder during the period since the previous publication.

5.9.2 Performance Bonds:

The Control Authority may decline to reissue a Wastewater

Contribution Permit to any Significant Industrial user which has failed to comply with the provisions of this Ordinance or any order or previous permit issued thereunder unless such Significant Industrial User files with the Control Authority a satisfactory bond payable to the City in a sum not to exceed an amount determined by the Control Authority to be necessary to achieve consistent compliance.

5.9.3 Remedies Nonexclusive

The remedies provided for in this ordinance are not exclusive. The Control Authority may take any, all, or any combination of these actions against a noncompliant User. Enforcement of the pretreatment violations will generally be in accordance with the City's enforcement response plan. However, the Control Authority may take other action against any User when the circumstances warrant. Further, the Control Authority is empowered to take more than one enforcement action against any noncompliant User.

SECTION 6 - SEVERABILITY

If any provision, paragraph, word, section, chapter, or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, chapters, and articles shall not be affected and shall continue in full force and effect.

SECTION 7 - AMENDED

As of the effective date of this Ordinance, all other Ordinances or parts of Ordinances in conflict with this Ordinance are amended.

SECTION 8 - EFFECTIVE DATE

This Ordinance being necessary for the health, safety and welfare of the citizens of Russellville, an emergency is declared to exist, and this Ordinance shall take effect and be enforced from and after its passage, approval and publication, as provided by law.

PASSED AND APPROVED this .

CITY OF RUSSELLVILLE ORDINANCE
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Section 8. Effective Date

Name	Address	Inspection Date	Pumping Due	Frequency	Pumper
Zaxby's Chicken Fingers	2605 E Main Street	11/29/2016	1/15/2017		
Sumo Inc	2300 E Parkway Dr	12/5/2016	7/14/2017	6	Dar Pro
Kob Jai	313 W B Street	12/6/2016	Shared with fat Daddy's		
The Old Bank Sports Bar & Grill	220 W Main Street	12/7/2016	3/1/2017		
Madam Mu's	914 S Arkansas Ave	12/8/2016	3/15/2017	2	Dar Pro
Brick Oven Pizza	401 S Arkansas Ave	12/13/2016	5/9/2017	6	Murdock
Arby's	915 E Main Street	12/30/2016	6/1/2017	12	Reed's
Arby's 7004	2323 N Arkansas Ave	1/3/2017	2/3/2017	12	Denali
Arkansas Tech University	1302 N El Paso Ave	1/6/2017	8/19/2011	12	Dar pro
Arkansas Tech University	1302 N El Paso Ave	1/6/2017	8/19/2011	12	Dar pro
Arkansas Tech University	1019 N Arkansas Ave	1/6/2017	2/10/2013	12	Dar pro
Arkansas Tech University	306 W O St Techionary	1/6/2017	7/29/2013	12	Dar pro
Arkansas Tech University	1204 N El Paso Ave	1/6/2017	3/25/2014	12	Dar pro
Arkansas Tech University	204 W O Street	1/6/2017	8/16/2014	12	Dar pro
Arkansas Tech University	1700 W C ST	1/6/2017	12/12/2015	0	inactive
Arkansas Tech University	1605 coliseum Dr	1/6/2017	4/28/2016	12	Dar pro
Arkansas Tech University	204 W O Street	1/6/2017	7/16/2016	12	Dar pro
Brangus Feed Lot	1509 E Main Street	1/10/2017	4/6/2017	4	Murdock
Brinker Arkansas - Chili's	107 N Elmira Ave	1/12/2017	10/25/2016	6	Lyles
Brown Catfish House	1804 E Main Street	1/13/2017	3/23/2017	12	Murdock
Buffalo Wild Wings	2212 E Parkway Dr	1/19/2017	2/28/2017	6	Dar Pro
Burger King	1420 E Main Street	1/20/2017	7/14/2017	6	Dar Pro
Burger King 3064	2306 N Arkansas Ave	1/24/2017	7/14/2017	6	Dar Pro
Chick Fil A	3089 E Main Street	1/26/2017	3/1/2017	6	Dar Pro
CICI's Pizza	3063 E Main Street	1/31/2017		3	Lyles
C-J 's Butcher Boy Burgers	2803 N Arkansas Ave	2/2/2017	3/28/2017	2	Reed's
Clarion Inn & Suites	2407 N Arkansas Ave	2/7/2017	1/5/2017	6	Dar Pro
Cracker Barrell	211 E Harrell DR	2/9/2017	1/5/2017	6	TRS
Dairy Queen	2007 E Main Street	2/14/2017	1/28/2017	6	Williams
Hardee	1201 W Main ST	2/16/2017	3/13/2017	6	Roto- Rooter
Dixie Café	105 E Harrell Dr	2/16/2017	5/23/2017	6	Dar pro
Don Iolo Taqueria	713 E 4th Street	2/21/2017	1/15/2017		
Donuts Donuts Inc	2410 E Parkway Dr STE 5	2/23/2017	9/25/2017		
Fat Daddy's BBQ	104 N Denver Ave	2/28/2017	4/30/2017	6	Dar pro
FireHouse Subs	2005 N Arkansas Ave	3/2/2017	12/15/2016	12	Dar pro
Flying J Truck Plaza	43 Bradley Cove Rd	3/7/2017	1/3/2017	6	Parr
Freddos Frozen Treats	407 N Arkansas Ave Ste 5B	3/9/2017	3/31/2017		
Hand Cut Steaks Of RSVL	2320 N Arkansas Ave	3/14/2017	6/1/2017	6	Brooks
Hardee's	3095 E Main ST	3/21/2017	9/1/2017	6	Roto- Rooter
Harps Food Store	100 S Knoxville Ave	3/23/2017	3/13/2017	6	Brooks
Holiday Inn Express	300 E Harrell Dr	3/28/2017			
Oumami	304 N Elmira Ave	3/30/2017	01/07/201	12	Murdock
Iglesia la Luz Mundo	1412 S Arkansas Ave	3/31/2017	9/16/2017	12	Murdock
Ihop	401 E Harrell Dr	4/4/2017	12/14/2016	6	Value Stream
Johnny's Ice Cream	2405 E Parkway	4/6/2017	3/20/2017	6	Dar pro
Kentucky Fried Chicken	720 N Arkansas Ave	4/11/2017	7/11/2017	6	Lyles
Kroger Store Y-624	1111 W Main St	4/13/2017	1/10/2017	3	Lyles
La Huerta Mexican Restaurants	1500 E Main Street	4/18/2017	9/1/2017	3	Roto- Rooter
La Huerta Mexican Restaurants	2005 N Arkansas Ave	4/20/2017	1/10/2017	3	Roto- Rooter
La Villa Italian Restaurant	1312 N Arkansas Ave	4/21/2017	5/9/2017	6	Dar pro
La chiquita Meat MKT & Deli	1509 E Main ST STE 3	4/25/2017	12/10/2016	6	Lyles
Laquinta Inn & Suites	111 E Harrell Dr	4/27/2017			
Las Palmas	615 N Arkansas Ave	4/28/2017	5/15/2017	6	Dar Pro
Latinos Market	517 S Arkansas Ave	5/2/2017	5/23/2017	12	Reed's
Legacy Heights Nursing And Reh	900 W 12Th ST	5/4/2017	3/30/2017	6	Murdock
Linh's Vietnamese Cuisine	624 S Knoxville Ave	5/9/2017	11/28/2016	6	Brooks
Little Caesars Pizza	407 N Arkansas Ave Ste 14	5/11/2017	5/11/2017	6	Lyles
Long John Silvers	916 N Arkansas Ave	5/16/2017	6/1/2017	6	Brooks
Main Street Donuts	3415 W Main Street	5/18/2017	12/30/2016	6	Dar Pro
Main Street Mission	1110 E 2nd Street	5/23/2017	12/18/2016	12	Roto- Rooter
McDonald's	1122 N Arkansas Ave	5/25/2017	6/15/2017	6	Roto- Rooter
McAlister's Deli	319 Weir Rd Ste 3	5/26/2017	1/11/2017	4	Lyles
McDonald's	81 SR 331 N	5/30/2017	6/15/2016	6	Roto- Rooter
Central Pres church	400 W Main Street	6/2/2017	4/22/2017	12	Murdock
ABC Children Academy	2005 E Fairway BLVD	6/5/2017	6/1/2017		

inactive
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inactive

Name	Address	Inspection Date	Pumping Due	Frequency	Pumper
Fairfield Inn and Suites	120 E Harrell Dr	6/6/2017			
Cumberland Pres Church	1200 N Arkansas Ave	6/7/2017	4/27/2017	12	Murdock
First Assembly of God	124 E G Street	6/8/2017	2/16/2017	12	Dar Pro
First Baptist Church	200 S Denver Ave	6/9/2017	1/29/2017	6	Roto- Rooter
Freedom House	400 Lake Front Dr	6/12/2017	3/6/2017	6	Murdock
Friendship Community Care	1301 Russell Rd	6/13/2017	1/29/2017	6	Murdock
Friendship Community Care Apts	1010 E Main St	6/14/2017	9/30/2017	12	Roto- Rooter
Goode Foods LLC	3301 W Main Place	6/15/2017	3/21/2017		
Hampton Inn	2304 N Arkansas Ave	6/16/2017			
Mulans	2790 E Parkway Dr	6/19/2017	3/15/2017	3	Dar Pro
New China	2005 N Arkansas Ave	6/20/2017	10/15/2017	3	Dar pro
New Prospect Baptist	321 S Houston Ave	6/21/2017	4/13/2017	12	Dar pro
Old Post BBQ	407 S Arkansas Ave	6/22/2017			
Old South Restaurant	1330 E Main Street	6/23/2017	1/28/2017	4	Murdock
Ozark Mountain Smokehouse	1000 W Main Street	6/26/2017			
Ozark Pizza Company (Papa Johns Pizza)	700 W Main Street	6/27/2017	3/13/2017	6	Brooks
Papa Arkansas LLC	420 N Arkansas	6/28/2017	4/2/2017	12	Dar pro
Pasta Grill	319 W Main Street	6/29/2017	5/24/2017	6	TRS
PDQ	2403 N Arkansas Ave	6/30/2017	5/18/2017	12	Dar pro
Pilot Travel Center LLC	215 SR 331 N	8/1/2017	5/10/2017	6	3-D Plumbing
Pizza Hut	502 N Arkansas Ave	8/2/2017	2/18/2017	6	Roto- Rooter
Pizza Pro	218 E parkway DR	8/3/2017	2/11/2016	6	Roto- Rooter
Pope County Detention Center	3 County complex LN	8/4/2017	1/15/2017	6	Roto- Rooter
Pope county Senior Activity Cent.	1010 N Rochester Ave	8/7/2017	1/29/2017		
Popeyes Chicken (Pollo LLC)	2411 E Parkway Dr	8/8/2017	11/23/2016	3	Value Stream
Pupuseria La Salvadorena	416 S Knoxville Ave	8/9/2017	1/12/2017	12	Roto- Rooter
Quiznos	407 N Arkansas Ave Ste 3	8/10/2017	11/6/2017	12	Roto- Rooter
Ruby Tuesday's	115 E Harrell Dr	8/11/2017	6/12/2017	6	Lyles
Stella Manor NRSNG & REHA	400 N Vancouver Ave	8/14/2017	3/16/2017	6	Murdock
Russellville Schools	5399 SR 124	9/1/2017	1/26/2017	6	Dar pro
Russellville Schools	2000 W Parkway Dr	9/1/2017	1/26/2017	6	Dar pro
Russellville Schools	1201 & 1203 W 4th St	9/1/2017	2/9/2017	6	Dar pro
Russellville Schools	2201 S Knoxville Ave Track	9/1/2017	8/9/2017		
Russellville Schools	2209 S Knoxville Ave	9/1/2017	8/9/2017	6	Dar pro
Russellville Nursing Reh	215 S Portland Ave	9/4/2017	2/23/2017	3	Dar pro
Save The Children Head Start	507 N Elmira Ave	9/5/2017	10/27/2016	12	Murdock
ShIPLEY Baking Company	407 N Arkansas Ave STE 15	9/6/2017	1/20/2017	6	Murdock
Sonic Drive In	806 E 4th Street	9/7/2017	8/18/2017	12	Dar pro
Sonic Drive In	2505 W Main Street	9/8/2017	2/18/2017	12	Dar pro
Sonic Drive In Parkway	3003 E Parkway DR	9/11/2017	6/9/2017	12	Dar pro
St Mary's Hospital	1800 W Main Street	9/12/2017	6/28/2017	6	Roto- Rooter
Starbucks	2220 E ParkwayDr	9/13/2017	3/7/2017	3	Murdock
Steak and Shake	2006 E Parkway Dr	9/14/2017			
Stoby's	405 W Parkway Dr	10/2/2017			
Subway Parkway	2410 E Parkway Dr Ste 1	10/3/2017	9/25/2017	6	Murdock
Subway Sandwich	405 S Arkansas Ave	10/4/2017			
Subway Sandwich	101 Lake Front Dr	10/5/2017			
Taco Bell 345	1308 N Arkansas Ave	10/6/2017	5/2/2017	6	Drain Master
Taco bell 346	301 N Elmira Ave	10/9/2017	5/2/2017	6	Roto- Rooter
Taco Johns	1103 N Arkansas Ave	10/10/2017	7/12/2017	12	Murdock
Taco Johns	1819 E Main Street	10/11/2017	7/12/2017	12	Murdock
Taco Villa	420 E 4th	10/12/2017	1/18/2017	3	Dar pro
The Cake Place	411 W Parkway	10/13/2017	7/15/2016	12	Dar pro
The Garden (day care)	400 E C Street	10/16/2017	11/2/2017		
Totally Star In	1600 S Elmira Ave	10/17/2017	4/6/2017	12	Lyles
Tropical Smoothie Café	605 N Arkansas Ave	10/18/2017	1/1/2017	12	Roto-Rooter
Tyson Foods	5050 E Main St	10/19/2017	10/4/2017	6	Crystal Clean
United Entertainment Corp 17	3800 W Main Street	10/20/2017			
Venezias Pizza & Pasta	1321 E Main Street	10/23/2017	1/8/2017	6	Dar pro
Waffle House 1410	3085 E Parkway Dr	10/24/2017	9/13/2017	3	Value Stream
Waffle House 897	2408 N Arkansas Ave	10/25/2017	3/16/2017	3	Value Stream
Walmart Store 4128	201 S Vancouver ave	10/26/2017			
Walmart Store 58	2409 E main Street	10/27/2017	1/21/2017	3	Liquid Enviromental
Wendy's	721 N Arkansas Ave	11/1/2017	2/4/2017	6	3-D Plumbing
Western Sizzlin	1105 E Main Street	11/2/2017	11/2/2016	3	Dar pro

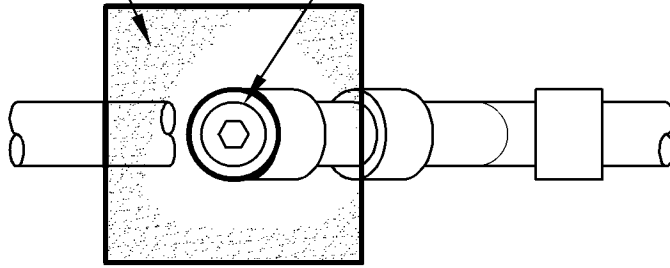
inactive

inactive

Name	Address	Inspection Date	Pumping Due	Frequency	Pumper	
Westside Church of Christ	2300 W C St	11/3/2017	12/14/2017	12	Murdock	
Westside Church of Christ	201 N Waco Ave	11/6/2017	12/30/2016	12	Murdock	
Whatta Burger	1410 N Arkansas Ave	11/7/2017				
Wildflower Retirement	240 S Inglewood ave	11/8/2017	12/30/2016	3	Dar pro	
Wind Taste	715 N Arkansas Ave	11/9/2017	3/7/2017	6	Murdock	
vacant	2211 N Arkansas		5/25/2011	0	Close	inactive
Inflatables	2410 E Main St		4/8/2012	0	inactive	inactive
vacant	311 S Arkansas Ave		11/15/2012	6	inactive	inactive
Tobacco Town	1710 E Main		12/12/2012	0	inactive	inactive
Exxon Tiger Mart	203 S Arkansas Ave		8/2/2013	12	TRS	inactive
Best Auto Sales	3015 S Arkansas Ave.		11/22/2013	0	inactive	inactive
AT&T Store	1107 N Arkansas		11/30/2013	0		inactive
Aspen Dental	331 Weir Rd		4/3/2014	6		inactive
7-40 Supper Club	2807 N Arkansas Ave		4/12/2014	6	Brooks	inactive
vacant	422 S Arkansas		5/30/2014	12	TRS	inactive
Tiger Mart 106 (Exxon)	2402 N Arkansas Ave		9/5/2014	0	inactive	inactive
The Oak Tree Bistro	2725 E Parkway Ave		2/6/2015	2	Brooks	inactive
Health Food Garden	2621 W Main		2/11/2015	12	Murdock	inactive
MKJ	4480 E Main St		4/28/2015	6	Roto- Rooter	inactive
Panes Restaurant	111 N El Paso Ave		7/10/2015	12	Murdock	inactive
The Carpet Shack	1512 S Arkansas Ave		12/12/2015	0	inactive	inactive
AVAP	801 N Arkansas		12/12/2015	0	inactive	inactive
Vacant	1601 S Knoxville		12/12/2015	0	inactive	inactive
Parker Place Apts	1401 Parker Rd		4/2/2016	12	Roto- Rooter	inactive
Outdoor Living Center Rv	10 Outdoor Ct		4/8/2016	12	Murdock	inactive
Cyclone Car Wash	1020 N Arkansas		12/8/2016	12	Reed's	
Denny's Restaurant	43 Bradley Cove Rd		1/3/2017	4	Lyles	
Superfast Lube & Oil	1301 E Main St		1/13/2017	12	Roto- Rooter	
Central Rentals	105 N Sidney		1/15/2017	12	Murdock	
Quick Truck Wash	43 Interstate Ave		2/10/2017	3	Reed's	
Waste Management	88 Joyce Ln		3/9/2017	6	Murdock	
RSVL Pediatric Plus	301 N Sidney Ave		3/16/2017	6	Murdock	
Arkansas State Highway Dept	370 E Aspen Ln		5/2/2017	12	Crystal Clean	
Sportsworld	3700 W Main		5/6/2017	12	Murdock	
Wendy's 45	215 SR 331 N		6/2/2017	6	Parr	
PDQ East/ Frank Griffin Oil	2215 E Main		7/26/2017	12	Dar pro	
Tyson (TVDC)	4820 E Main		7/27/2017	12	Roto- Rooter	
Cyclone Car Wash	2614 W Main		7/29/2017	12	Reed's	
Cogswell Collision Center	202 S Sidney Ave		8/11/2017	12	Murdock	
Cogswell River Valley Trucks	2911 S Arkansas		8/15/2017	12	Roto- Rooter	
Exxon S & F Fuel	1103 E 16th St		8/27/2017	12	Roto- Rooter	
Ahrens Fourt St. Laundry	320 E 4th St		9/20/2017	6	Brooks	
Wingfoot commercial Tire	185 Interstate Ave		9/28/2017	12	Parr	
Imperial Catering	1310 S Elmira		12/21/2017	12	Reed's	
Neighborhood Roofing	1122 Bradley Ln			0	inactive	
E-Z Mart (Shell)	3102 S Arkansas Ave			0		
Fletcher Oil (Shell)	20 Bradley Cove			6	TRS	

16" SQUARE X 4" THICK
CONCRETE COLLAR

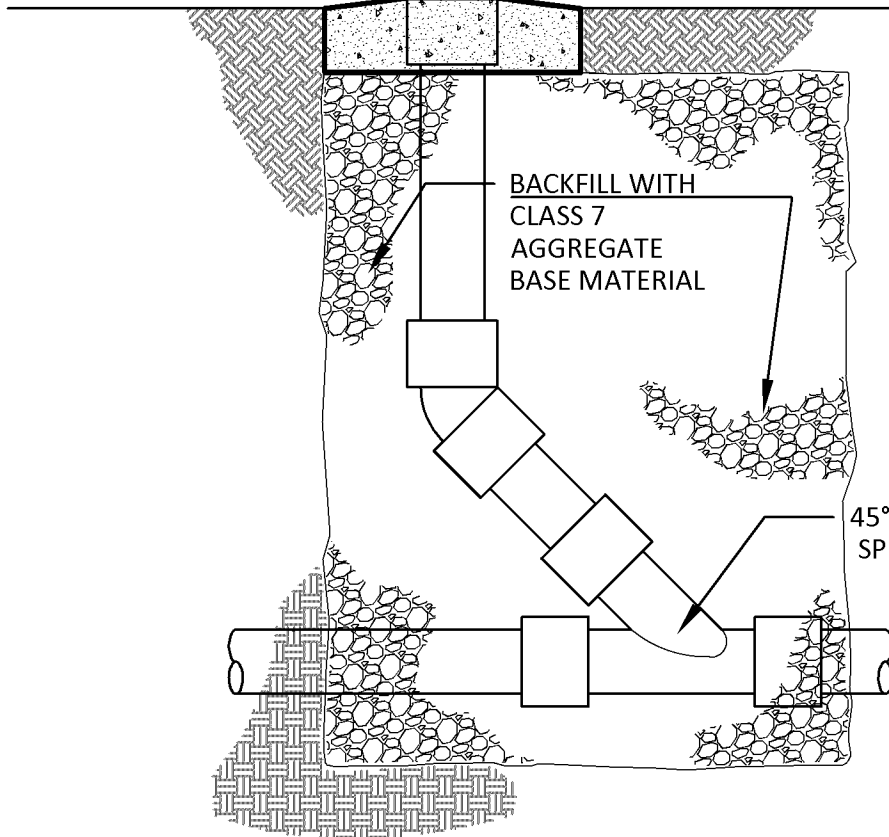
THREADED CAP



PLAN
NTS

THREADED CAP

16" SQUARE X 4" THICK
CONCRETE COLLAR



BACKFILL WITH
CLASS 7
AGGREGATE
BASE MATERIAL

45° WYE OR BEND TO SUIT
SPECIFIC APPLICATION

ELEVATION/SECTION
NTS

NOTE:

1. ALL 4" MATERIALS SHALL BE SCH. 40 PVC

ONE WAY CLEANOUT

DETAIL NO.:

S-10

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

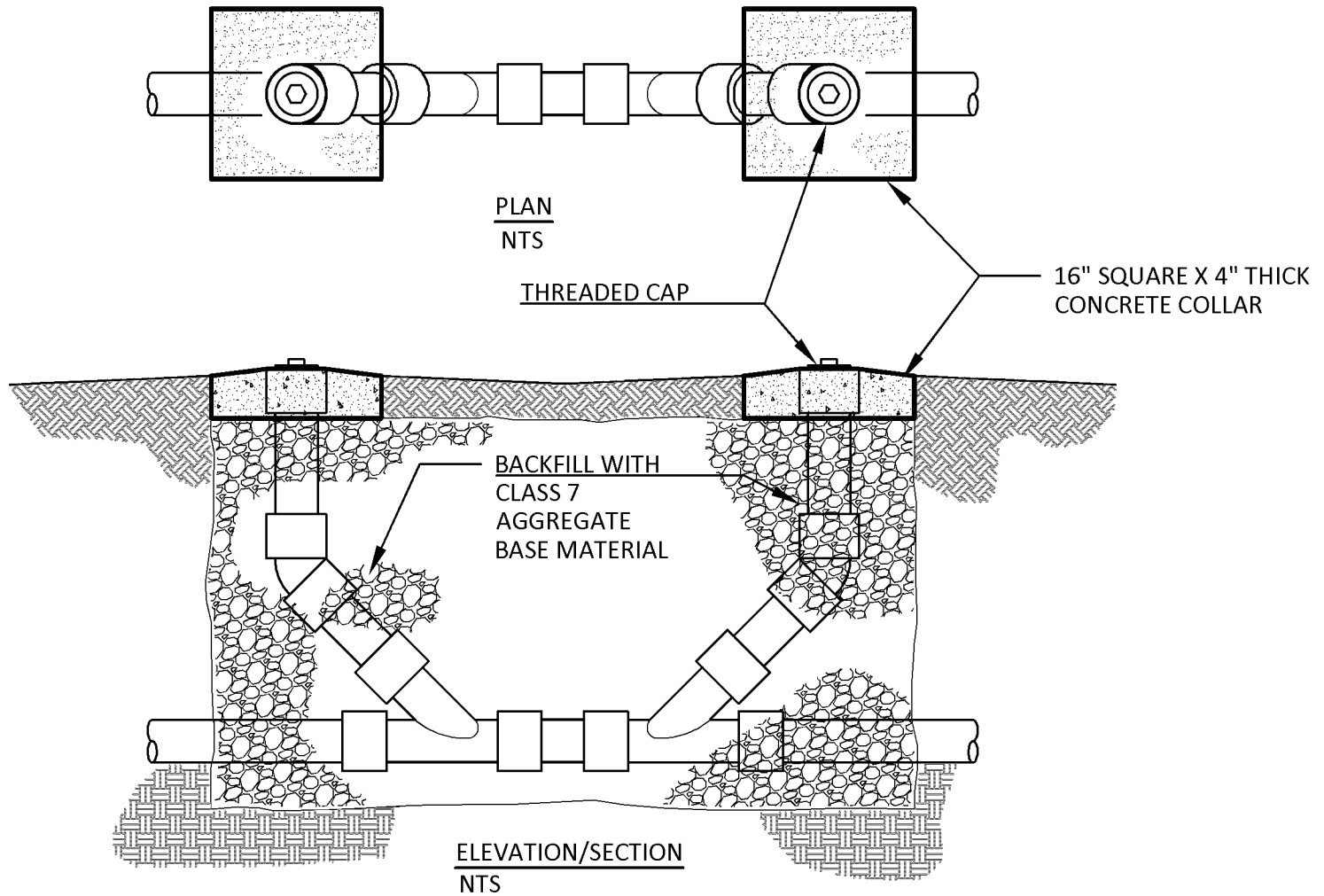
City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 12-29-15

APPROVED: UEM - L. Bartlett





NOTE:

1. ALL 4" MATERIALS SHALL BE SCH. 40 PVC

TWO WAY CLEANOUT

DETAIL NO.:

S-11B

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 12-29-15

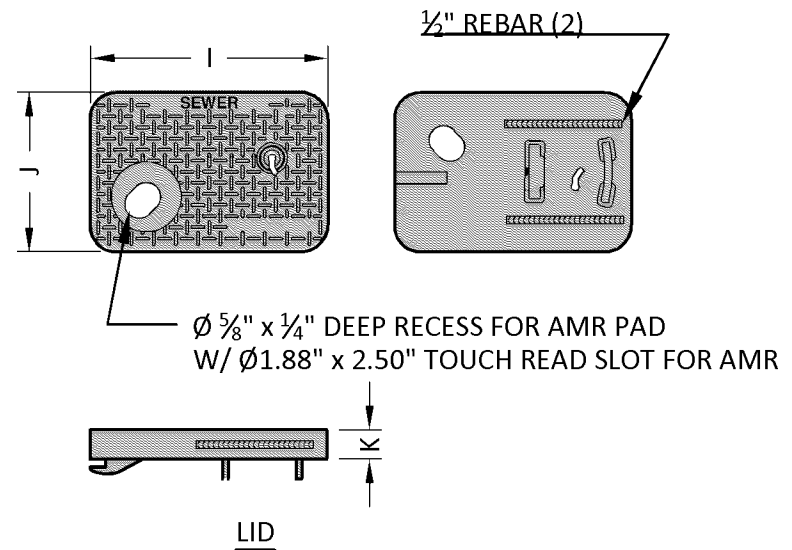
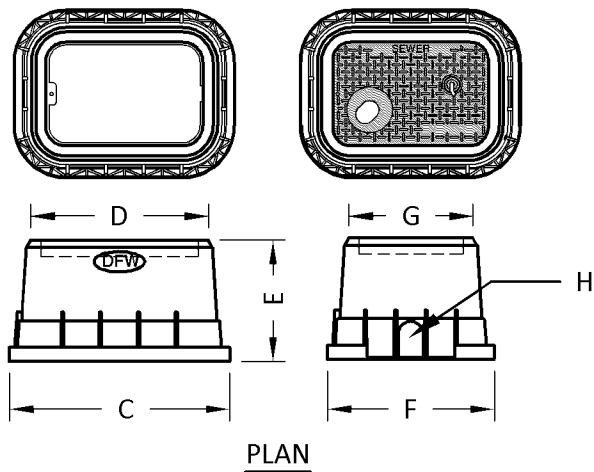
APPROVED: UEM - L. Bartlett



NOTES:

1. I.W.A. = INSIDE WORK AREA

UTILITY BOX	
DFW1200TT.12.BODY DFW36-2 SEWER LID	
A	N/A
B	N/A
C	21 ¹³ / ₁₆ "
D	17 ⁹ / ₁₆ "
E	12"
F	16 ⁹ / ₁₆ "
G	12 ⁵ / ₁₆ "
H	2 1/2" x 3 1/2"
I	15 1/8"
J	10 1/8"
K	1 3/4"



UTILITY BOX DETAIL

DETAIL NO.:

S-12

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205 W. 3rd Place
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RW Russellville
Water &
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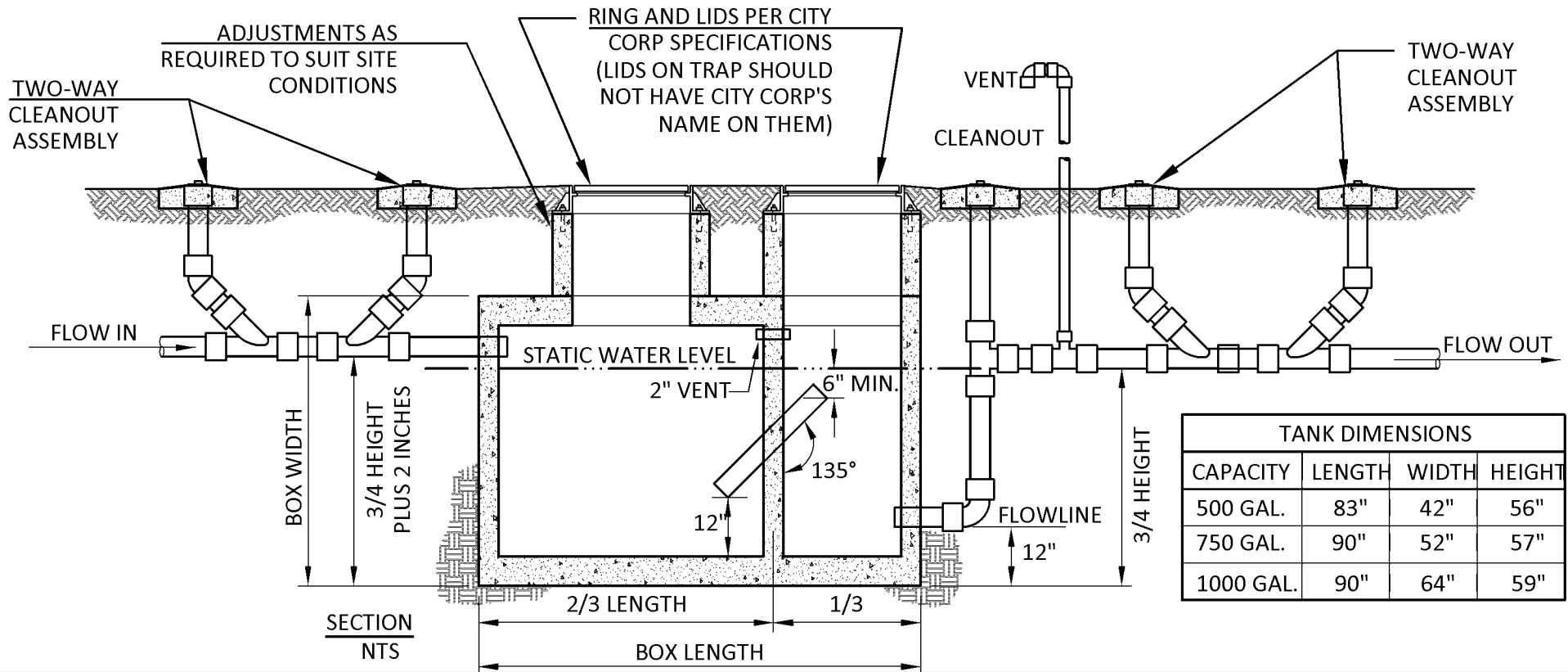
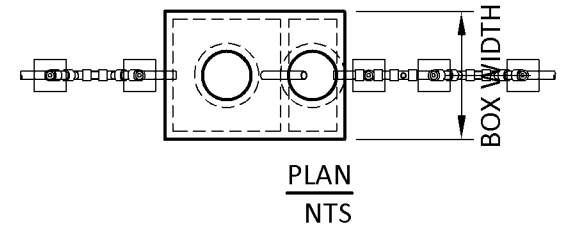
SCALE: NONE DATE: 12-28-15

APPROVED: UEM - L. Bartlett



NOTES:

1. THE GREASE TRAP/INTERCEPTOR DIMENSIONS AND CONFIGURATIONS SHOWN ARE FOR REFERENCE ONLY. THERE ARE MANY TYPES OF PRE-CAST CONCRETE AND PRE-FAB INTERCEPTORS AVAILABLE. SUBMIT SPECIFIC PROJECT PROPOSALS AND SHOP DRAWINGS TO CITY CORP FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. MINIMUM TANK CAPACITY SHALL BE 500 GALLONS WITH A 12-MINUTE DETENTION.
3. TANKS AND LIDS SHALL BE TRAFFIC-RATED IN PAVED AREAS.
4. ALL PIPING PER CITY CORP STANDARD SPEC:
 4" MATERIALS SHALL BE SCH. 40 PVC
 6" & ABOVE MATERIALS SHALL BE SDR 26



TANK DIMENSIONS			
CAPACITY	LENGTH	WIDTH	HEIGHT
500 GAL.	83"	42"	56"
750 GAL.	90"	52"	57"
1000 GAL.	90"	64"	59"

GREASE TRAP

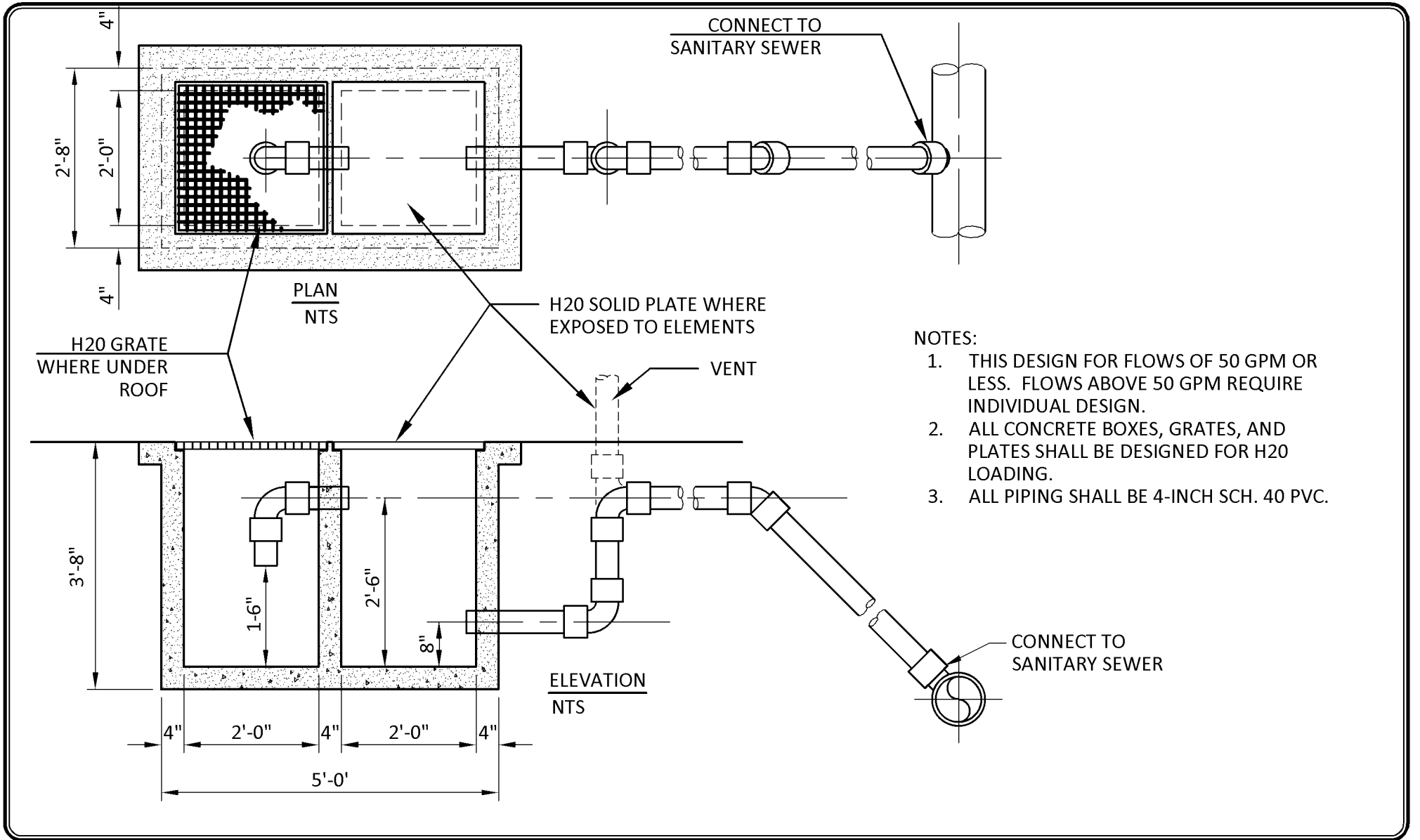
DETAIL NO.:

S-13

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville Water & Sewer System

SCALE: NONE DATE: 12-29-15
 APPROVED: UEM - L. Bartlett



- NOTES:
1. THIS DESIGN FOR FLOWS OF 50 GPM OR LESS. FLOWS ABOVE 50 GPM REQUIRE INDIVIDUAL DESIGN.
 2. ALL CONCRETE BOXES, GRATES, AND PLATES SHALL BE DESIGNED FOR H2O LOADING.
 3. ALL PIPING SHALL BE 4-INCH SCH. 40 PVC.

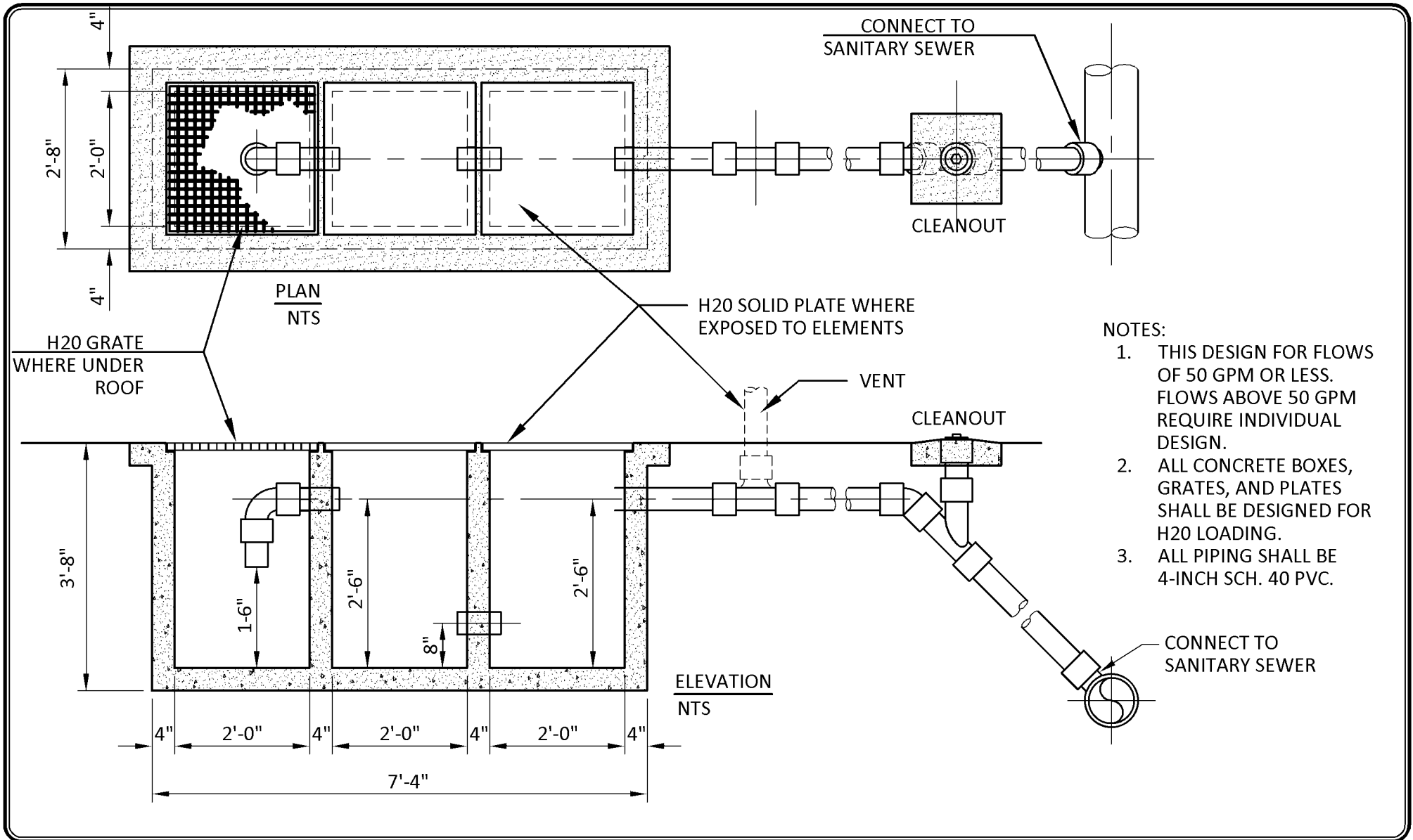
TWO CHAMBER SAND TRAP

DETAIL NO.:
S-14A

P.O. Box 3186
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Russellville, AR 72801
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Russellville
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SCALE: NONE DATE: 12-29-15
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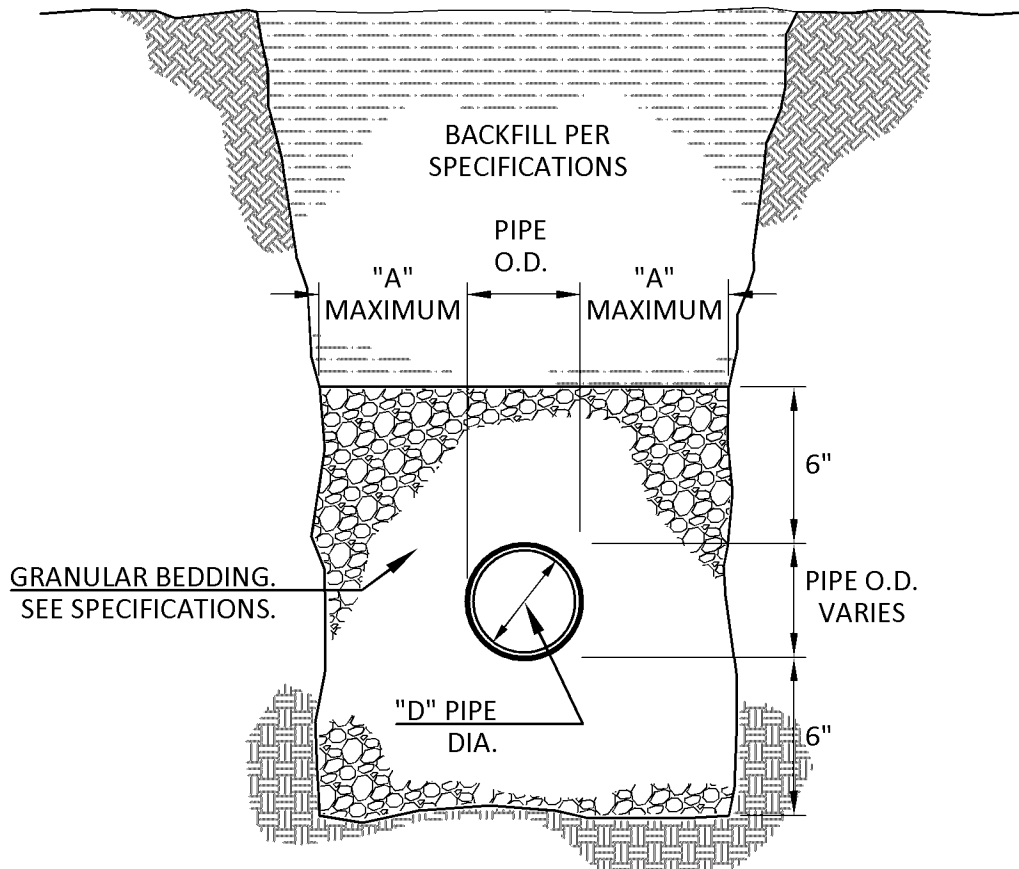
THREE CHAMBER SAND TRAP

DETAIL NO.:
S-14B

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
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City Corporation
Russellville
Water &
Sewer System

SCALE: NONE DATE: 12-29-15
APPROVED: UEM - L. Bartlett



ELEVATION/SECTION
NTS

PIPE DIAMETER "D"	MAXIMUM "A" DIMENSION
4" TO 15"	8"
18" TO 21"	10"
24" TO 27"	12"

GRAVITY SEWER PIPE TRENCH & EMBEDMENT

DETAIL NO.:

S-15

P.O. Box 3186
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ph: 479.968.2105
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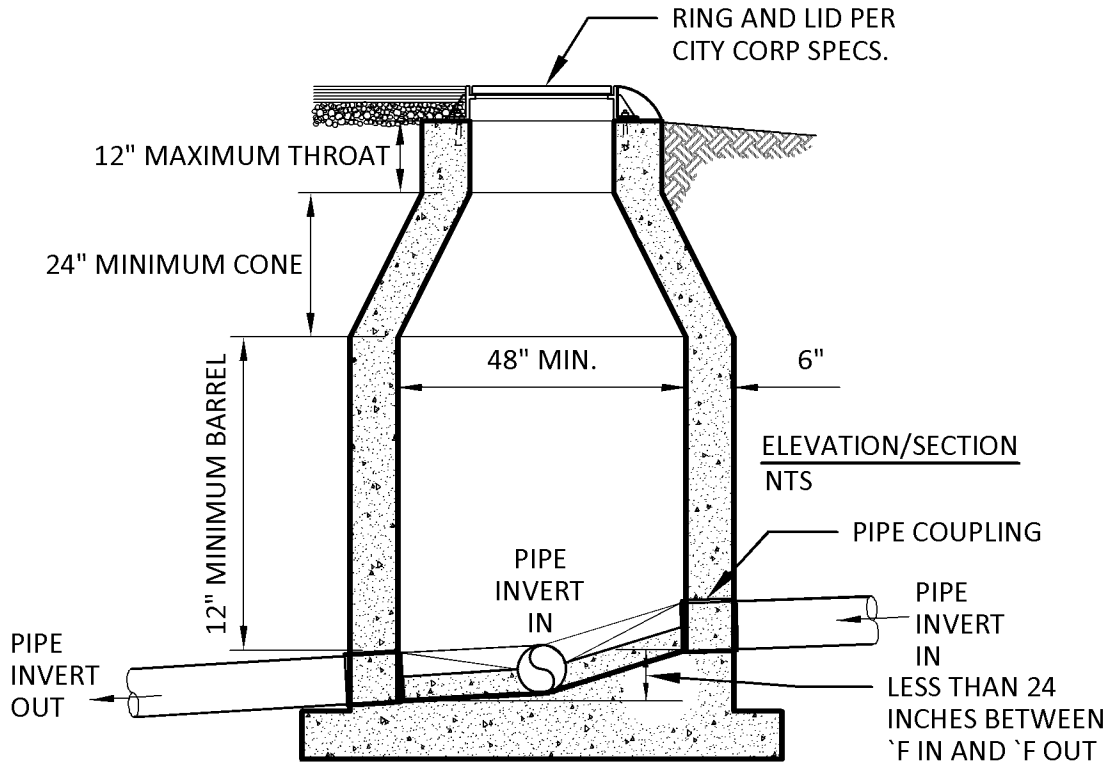
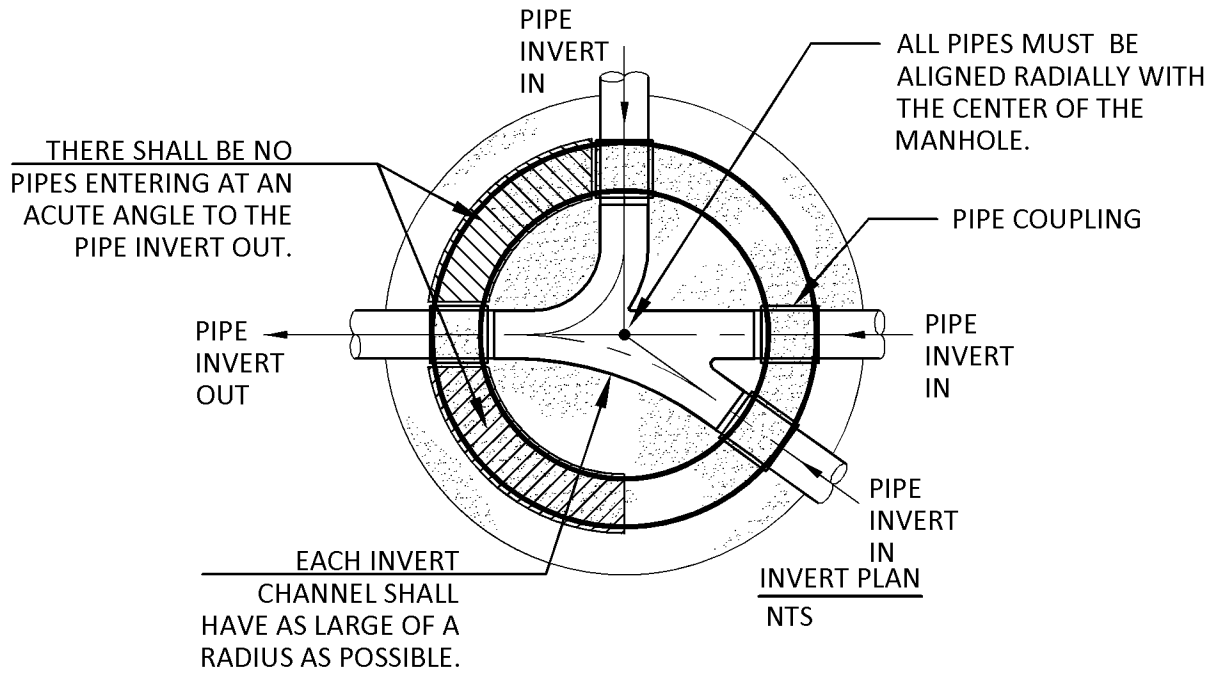
City Corporation

RW Russellville
Water & Sewer System

SCALE: NONE DATE: 12-29-15

APPROVED: UEM - L. Bartlett

& S S



NOTES:

1. PVC MANHOLE CONNECTIONS REQUIRED WHERE PVC PIPE IS CAST OR GROUTED IN MANHOLE WALL.
2. INVERTS AND MANHOLE BOTTOM SHALL BE CAST INTEGRALLY WITH WALL SECTION.
3. ALL MANHOLE TOPS IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND HAVE TRAFFIC-RATED RING AND LIDS.
4. CONCRETE TO BE 3000 P.S.I.

STANDARD MANHOLE

DETAIL NO.:

S-1A

P.O. Box 3186
205 W. 3rd Place
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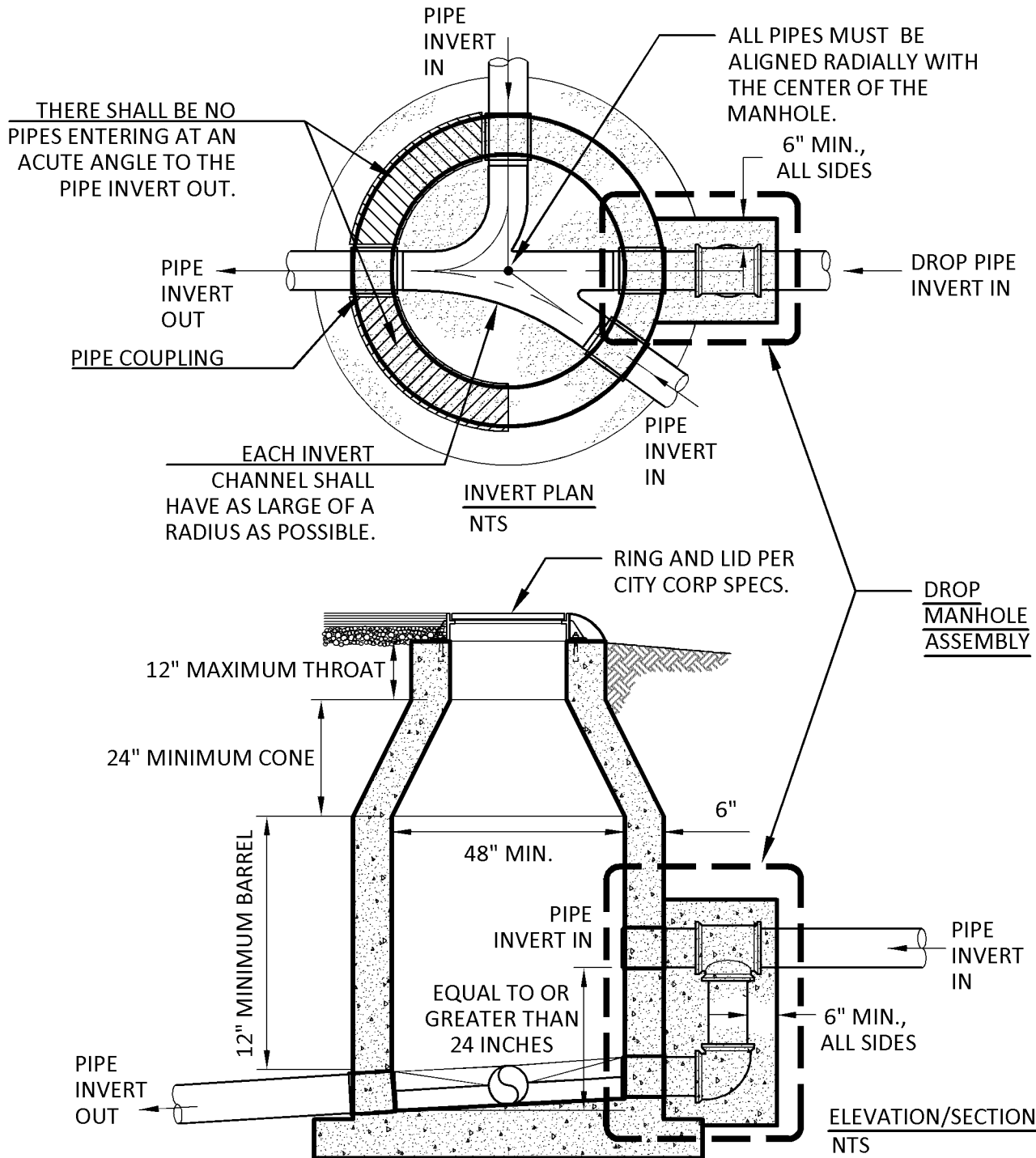
City Corporation

RW Russellville Water & Sewer System

SCALE: NONE DATE: 12-29-15

APPROVED: UEM - L. Bartlett





NOTES:

1. PVC MANHOLE CONNECTIONS REQUIRED WHERE PVC PIPE IS CAST OR GROUTED IN MANHOLE WALL.
2. INVERTS AND MANHOLE BOTTOM SHALL BE CAST INTEGRALLY WITH WALL SECTION.
3. ALL MANHOLE TOPS IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND HAVE TRAFFIC-RATED RING AND LIDS.
4. CONCRETE TO BE 3000 P.S.I.

DROP MANHOLE

DETAIL NO.:

S-1B

P.O. Box 3186
205 W. 3rd Place
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ph: 479.968.2105
www.citycorporation.com

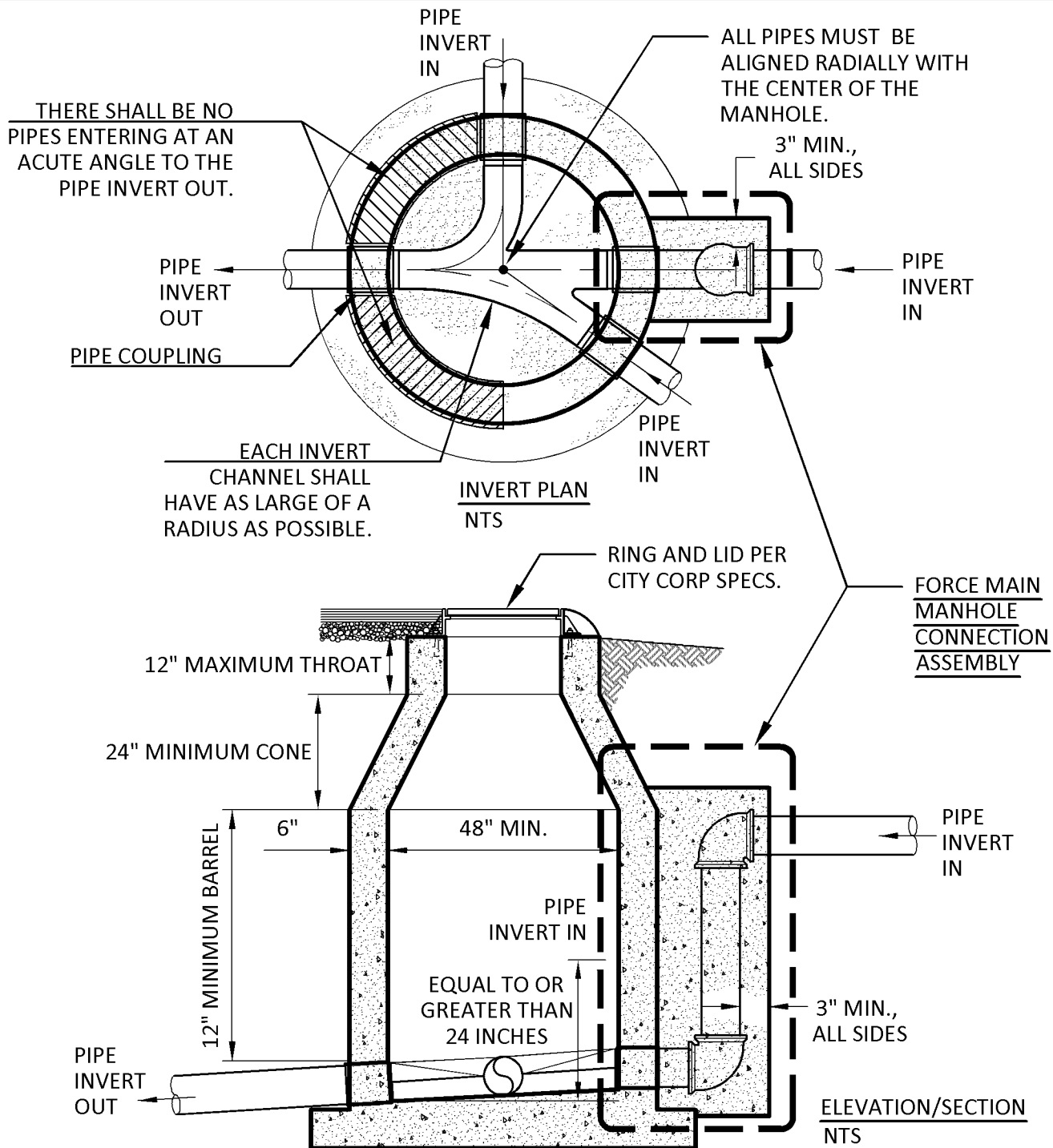
City Corporation

RW Russellville Water & Sewer System

SCALE: NONE DATE: 12-29-15

APPROVED: UEM - L. Bartlett

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NOTES:

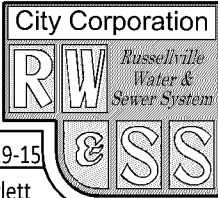
1. PVC MANHOLE CONNECTIONS REQUIRED WHERE PVC PIPE IS CAST OR GROUTED IN MANHOLE WALL.
2. INVERTS AND MANHOLE BOTTOM SHALL BE CAST INTEGRALLY WITH WALL SECTION.
3. ALL MANHOLE TOPS IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND HAVE TRAFFIC-RATED RING AND LIDS.
4. CONCRETE TO BE 3000 P.S.I.

FORCE MAIN TO MANHOLE CONNECTION

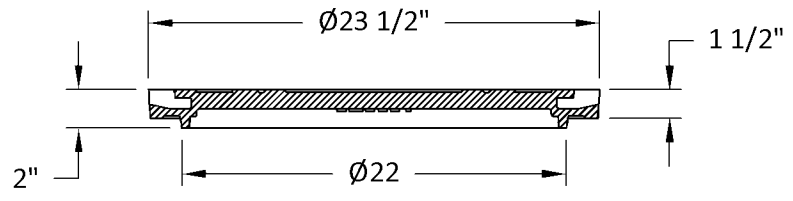
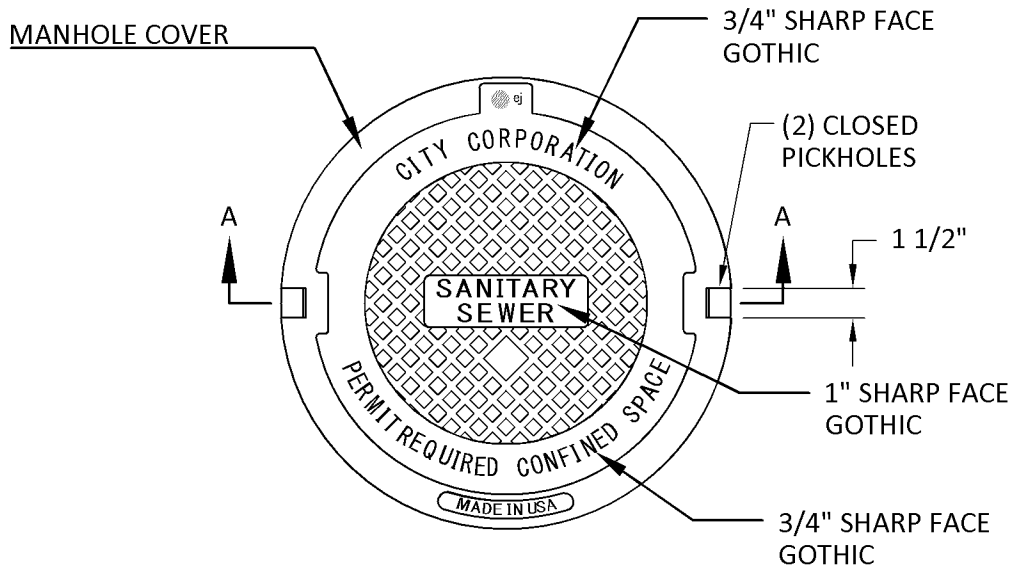
DETAIL NO.:

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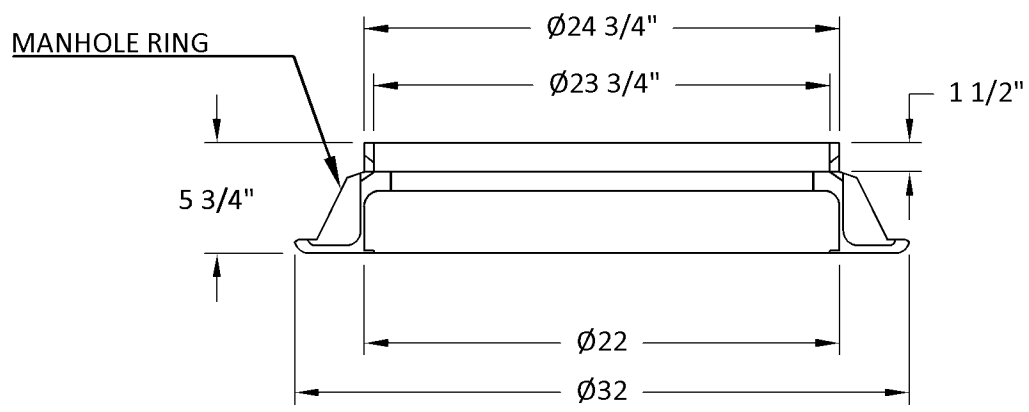
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SCALE: NONE DATE: 12-29-15
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SECTION A-A



NOTES:
 MANHOLE RING SHALL BE EAST JORDAN IRON WORKS NO. 1348Z1 FRAME OR EQUAL
 MANHOLE COVER SHALL BE EAST JORDAN IRON WORKS NO. 1348A2 COVER OR EQUAL

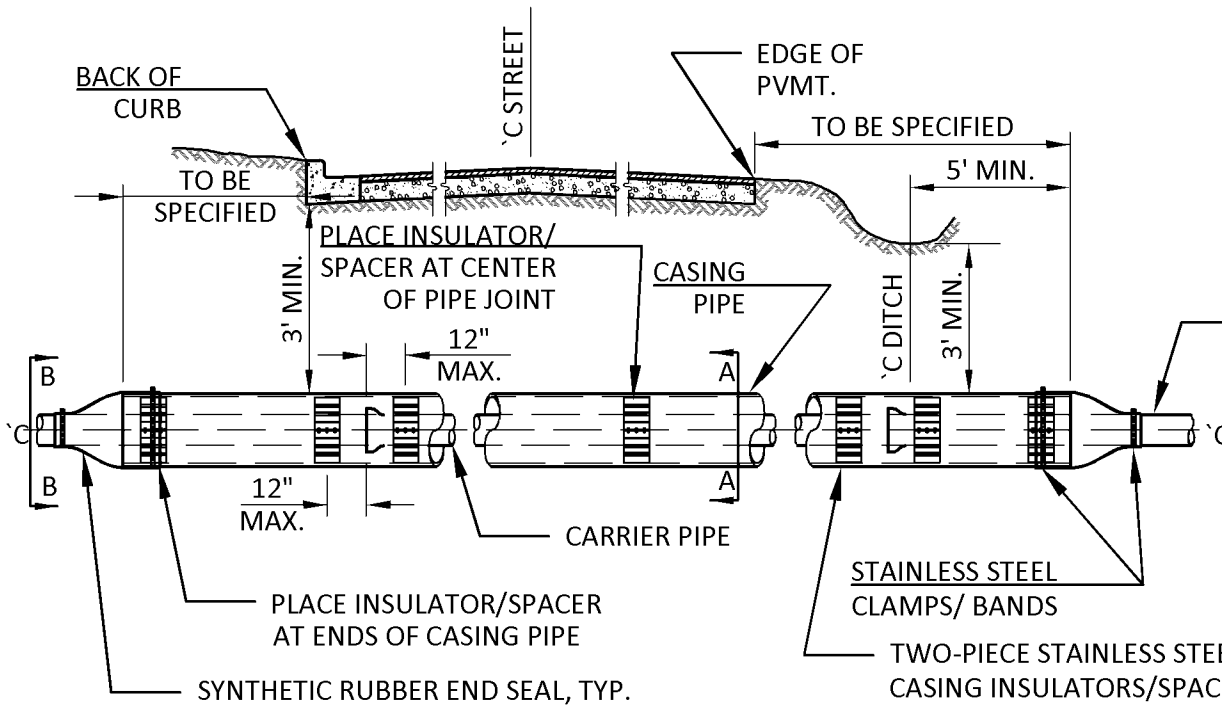
MANHOLE RING & COVER DETAIL

DETAIL NO.:
S-2

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

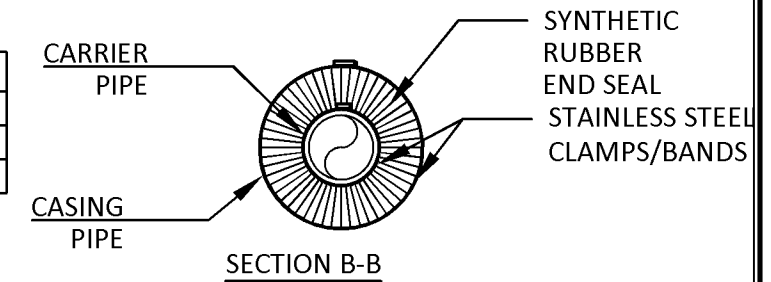
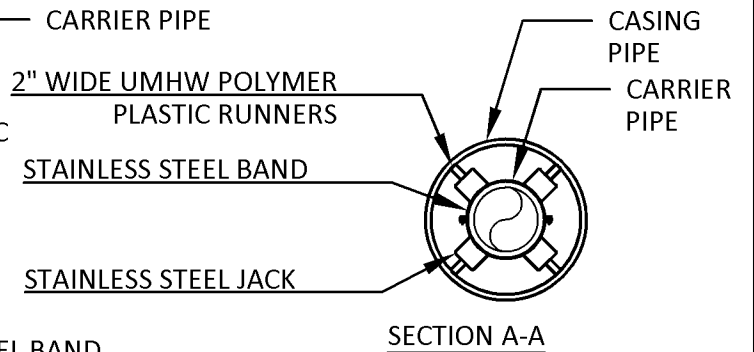
City Corporation
 Russellville
 Water &
 Sewer System

SCALE: NONE DATE: 12-29-15
 APPROVED: UEM - L. Bartlett



NOTES:

1. A MINIMUM OF THREE SPACERS ARE REQUIRED PER PIPE JOINT; SPIGOT END, MIDDLE, BELL END. MAXIMUM OF TWO FEET SEPARATION OF SPACERS AT JOINT. MAXIMUM ALLOWABLE CLEARANCE BETWEEN I.D. OF CARRIER PIPE AND TOP RUNNER OF SPACER IS ONE INCH.
2. ALL D.I. PIPE JOINTS WITHIN CASING SHALL HAVE "FIELD LOK" GASKET BY U.S. PIPE OR APPROVED EQUAL. EACH RESTRAINED JOINT SHALL BE IDENTIFIED MARKED ON BELL.



CARRIER & CASING SIZES (INCHES)											
CARRIER PIPE DIA.	4"	6"	8"	10"	12"	12"	16"	18"	20"	24"	24"
STEEL CASING PIPE DIA.	16"	16"	16"	18"	20"	24"	30"	30"	36"	36"	48"
CASING/WALL THICKNESS	.219	.219	.219	.250	.375	.438	.500	.500	.500	.500	.625

JACK & BORE OR OPEN-CUT CASING UNDER ROADWAY

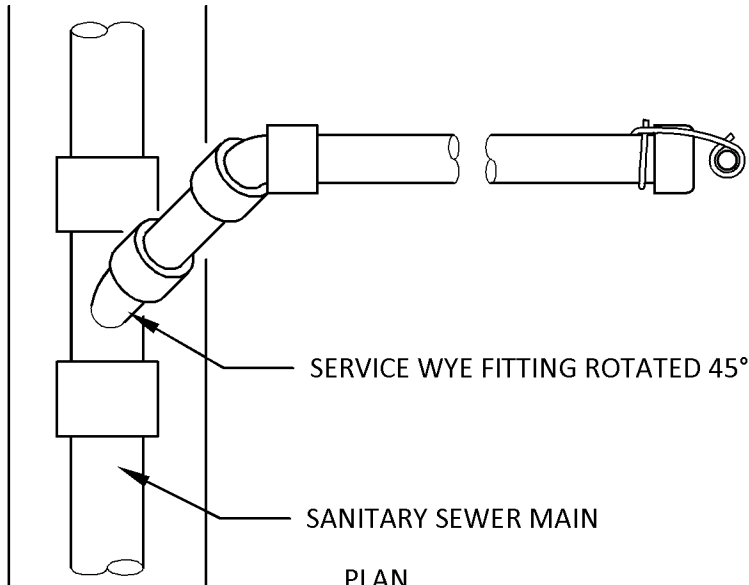
DETAIL NO.:

S-4

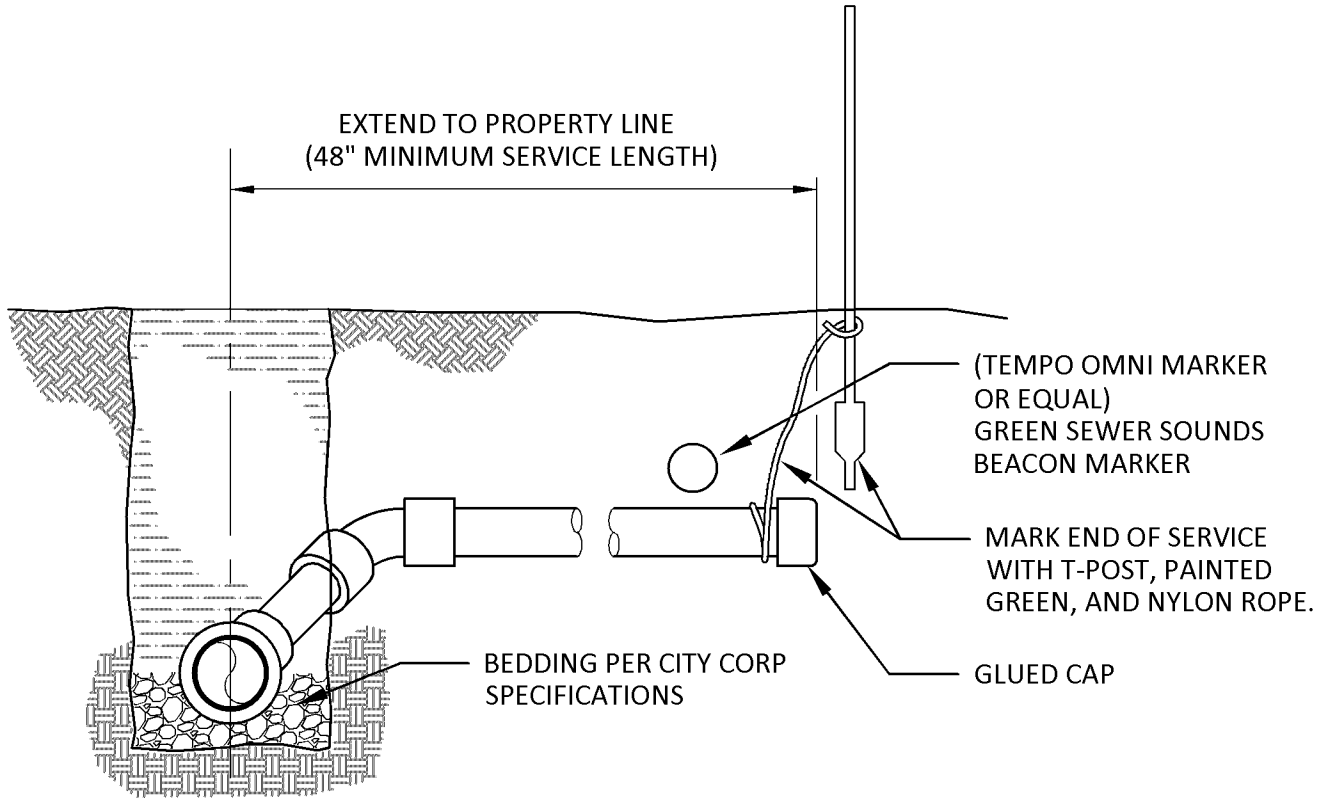
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City Corporation
Russellville
Water & Sewer System

SCALE: NONE DATE: 12-29-15
APPROVED: UEM - L. Bartlett



PLAN
NTS



ELEVATION/SECTION
NTS

NOTE:

1. ALL 4" MATERIALS SHALL BE SCH. 40 PVC

TYPICAL SEWER SERVICE LINE

DETAIL NO.:

S-6

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City Corporation

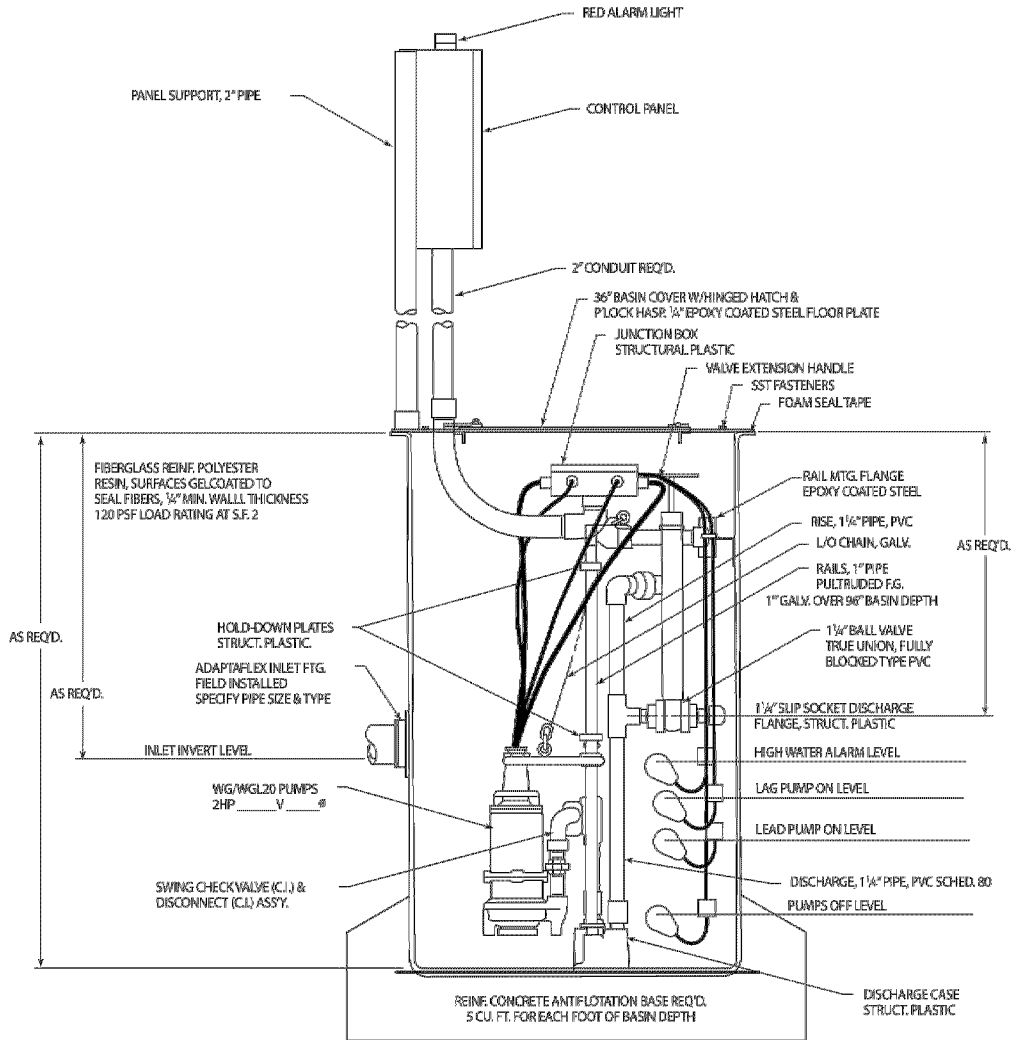
RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 12-29-15

APPROVED: UEM - L. Bartlett

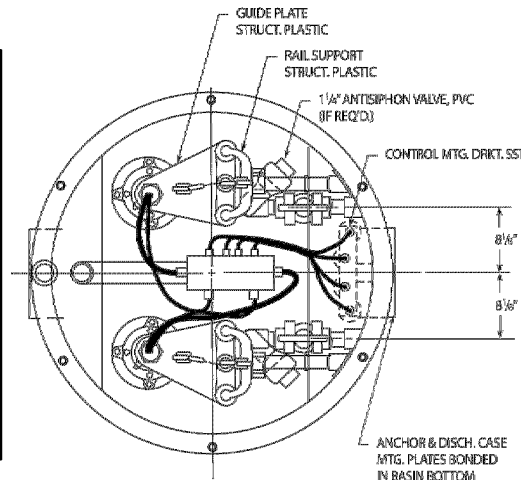
& S S

MYERS DUPLEX LIFT-OUT RAIL SYSTEM IN 36" OR 48" FIBERGLASS BASIN



NOTE:

1. SIMPLEX GRINDER PUMP STATION FOR SINGLE FAMILY INSTALLATION IS SIMILAR WITH 30" FIBERGLASS BASIN, 230V, SINGLE PHASE.
2. DUPLEX GRINDER PUMPS SHALL BE 5 HP, 460 V, 3 PHASE.
3. SEE CITY CORPORATION SPECIFICATIONS FOR FURTHER REQUIREMENTS.



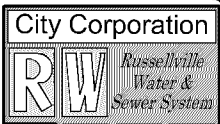
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DUPLEX GRINDER PUMP STATION

DETAIL NO.:

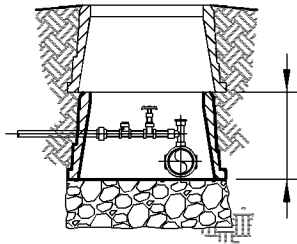
S-8

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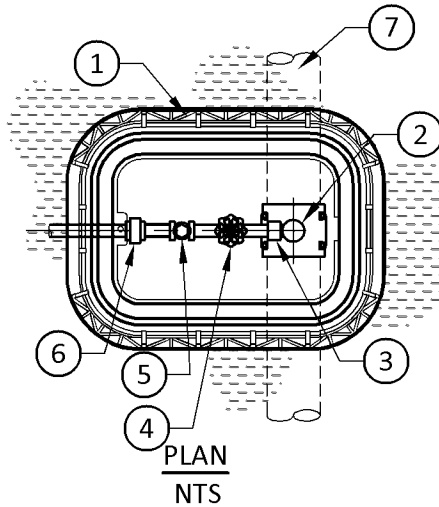
SCALE: NONE DATE: 12-29-15
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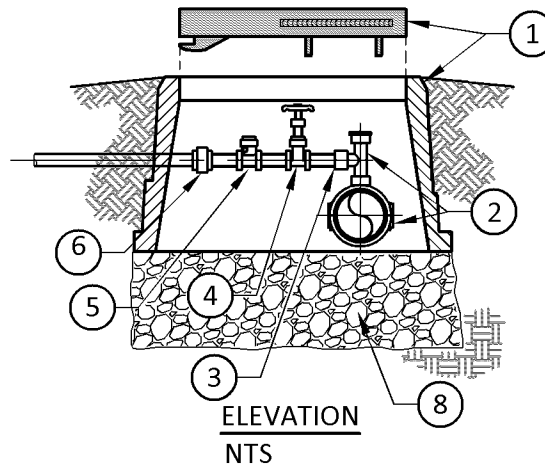
ADDITION UTILITY BOX
SECTIONS AS REQUIRED

BOX EXTENSION OPTION
NTS

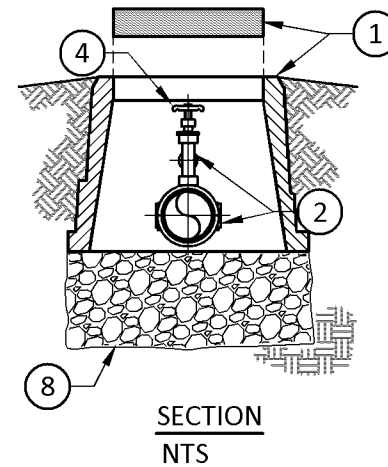


PLAN
NTS

- ① DFW1200TT.12 BODY UTILITY BOX WITH DFW36-2 SEWER LID BY DFW PLASTIS, INC. OR APPROVED EQUAL.
- ② WEBB USCO HOT TAP SADDLE OR SPEARS PVC HOT TAP SADDLE.
- ③ THREADED BUSHING
- ④ BRONZE-BODIED GATE VALVE
- ⑤ BRASS SWING CHECK VALVE
- ⑥ UNION
- ⑦ PRESSURE SEWER
- ⑧ 12" GRANULAR DRAINAGE BED



ELEVATION
NTS



SECTION
NTS

PRESSURE SEWER SERVICE LINE

DETAIL NO.:

S-9

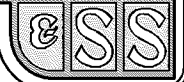
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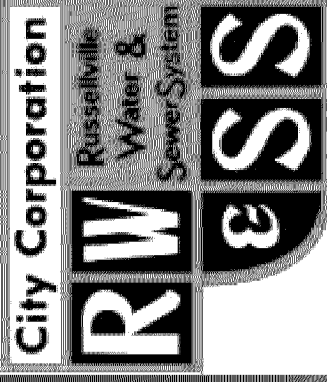
City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 12-28-15

APPROVED: UEM - L. Bartlett





WATER AND WASTEWATER SYSTEM UPDATE

City Corporation Board/City Council
Joint Meeting
January 20, 2015



INTRODUCTIONS

Steve Mallett, PE
General Manager, City Corporation



OBJECTIVES

- Present a summary of the overall status of the Russellville water and wastewater systems
- Identify specific needs within both systems
 - Cost estimate
 - Priority
 - Schedule
 - Potential consequences of delaying/foregoing
- Discuss current financial status
- Identify and discuss funding options
- Discuss impact on rates



SYSTEM ASSESSMENT

- First order of business – perform assessment of the water and wastewater systems
 - Evaluate current condition of system components
 - Identify critical components that can affect safety and quality of products and/or services
 - Identify challenges related to growth and/or regulatory compliance
 - Develop specific plan to address those areas of concern
 - Develop and implement a 25 year planning cycle for those projects



WATER SYSTEM ASSESSMENT

- In 2014, City Corporation decided to update the Water Master Plan as the previous version was eleven years old
- In efforts to reduce the amount of “Unaccounted For Water”, City Corporation elected to perform a system-wide leak detection survey and evaluate the accuracy of water metering infrastructure and consider improvements as needed



WATER SYSTEM ASSESSMENT

- Garver Engineers performed the task of updating the Water Master Plan which included evaluation of the raw water sources, treatment facilities, pump stations, storage tanks and distribution piping
 - Identified immediate areas/items of concern and made recommendations to resolve those issues
 - Projected system growth and identified items that could negatively impact that growth; and made recommendations to address those issues



WATER SYSTEM ASSESSMENT

WATER SOURCES



WATER SYSTEM ASSESSMENT

- CURRENT WATER SOURCES
 - Primary – Huckleberry Creek Reservoir
 - Secondary – Illinois Bayou at Water Treatment Plant
 - Third – Lake Dardanelle at Water Treatment Plant
 - Fourth – Atkins Emergency Pump Station
- None of the backup sources are capable of delivering volume of water to meet summer demand

WATER SYSTEM ASSESSMENT

- Primary Source – Huckleberry Creek Reservoir
 - Huckleberry Creek Reservoir (HCR) was placed in service in 1996 and originally projected to serve the needs of the water system until 2035
 - HCR is constructed as a “side-stream storage” facility which means it’s watershed is not sufficient to keep the reservoir full, therefore, water can be pumped from the Illinois Bayou as needed and as conditions allow
 - We typically only fill the lake in late winter/early spring if needed in order to begin the summer season with a full lake
 - Raw water flows by gravity through approximately 4 miles of 48” welded steel pipe

WATER SYSTEM ASSESSMENT

- CURRENT WATER SOURCES
 - Primary – Huckleberry Creek Reservoir



WATER SYSTEM ASSESSMENT

- Primary Source – Huckleberry Creek Reservoir
 - The reservoir was designed to provide 25 million gallons per day (MGD) of average day capacity and 42 MGD for 120 consecutive days of maximum day capacity
 - Assumes that the reservoir is full at beginning of year
 - Assumes that the Illinois Bayou is as low as the three worst drought years on record
 - Assumes that the reservoir is recharged by pumping from the Bayou when possible

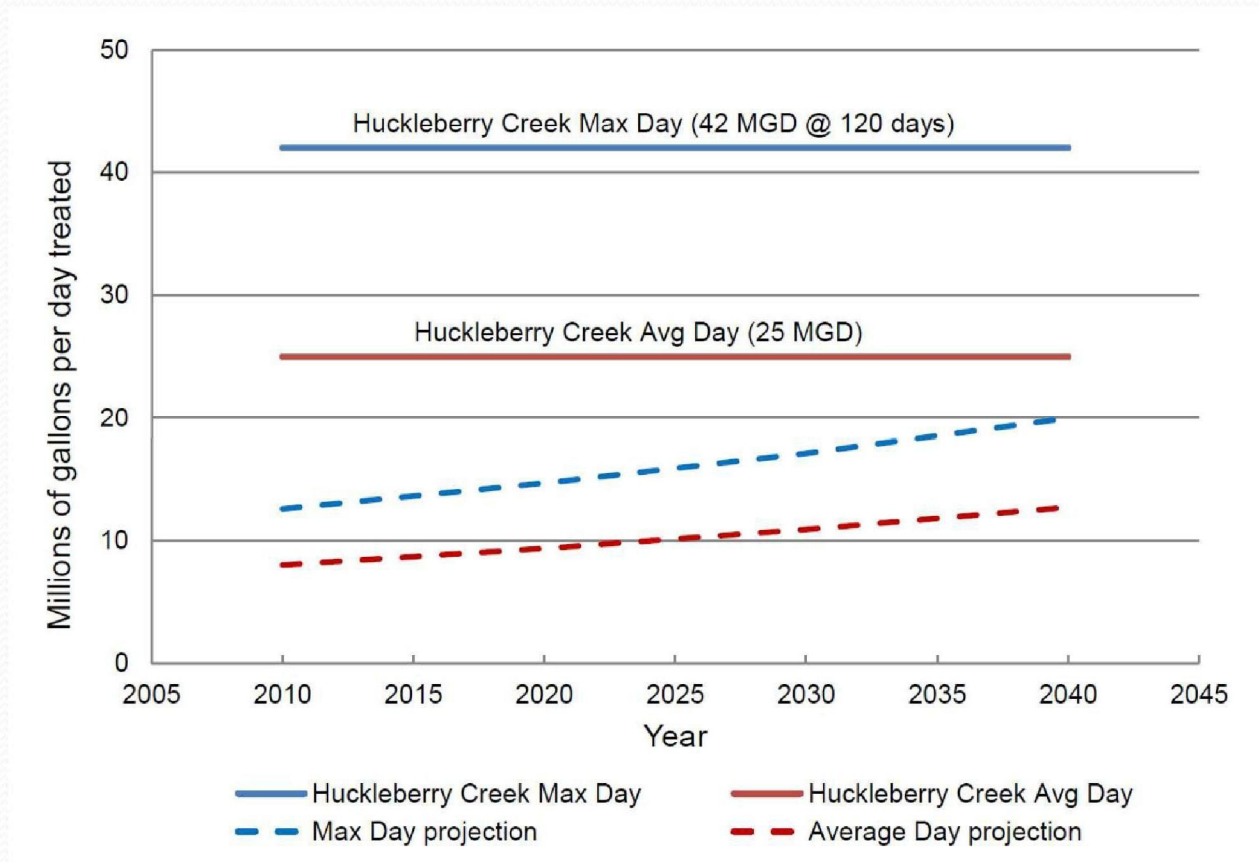


WATER SYSTEM ASSESSMENT

- Based on historical and projected growth, the *Water Master Plan 2014* projects that the reservoir will now provide adequate capacity to 2040 and beyond

RESERVOIR CAPACITY/PROJECTION

Graph from *Water Master Plan 2014*




WATER SYSTEM ASSESSMENT

- CURRENT WATER SOURCES
 - Summary of Recommendations:
 - Continue to utilize Huckleberry Creek Reservoir as primary source
 - Decommission Lake Dardanelle intake due to structural and raw water quality concerns and upgrade Illinois Bayou and Atkins Pump Station as necessary to keep in service
 - Begin identifying and evaluating future water sources
 - Funding needed:
 - Nominal short term capital expenditures
 - Significant long term capital expenditures for additional water source estimated to begin around 2040

WATER SYSTEM ASSESSMENT

- CURRENT WATER SOURCES

- Risks of foregoing/delaying recommended actions:
 - While we are not projected to need an additional source for at least 25 years, thoughts to consider:
 - Regulatory environment is more complex than when the Huckleberry Creek Reservoir was constructed and it took 20 years from concept to reality
 - The cost of acquiring land will likely be substantially greater in 20 years
 - Other water systems may be developing new water sources which could offer opportunities for partnerships



WATER SYSTEM ASSESSMENT WATER TREATMENT



WATER SYSTEM ASSESSMENT

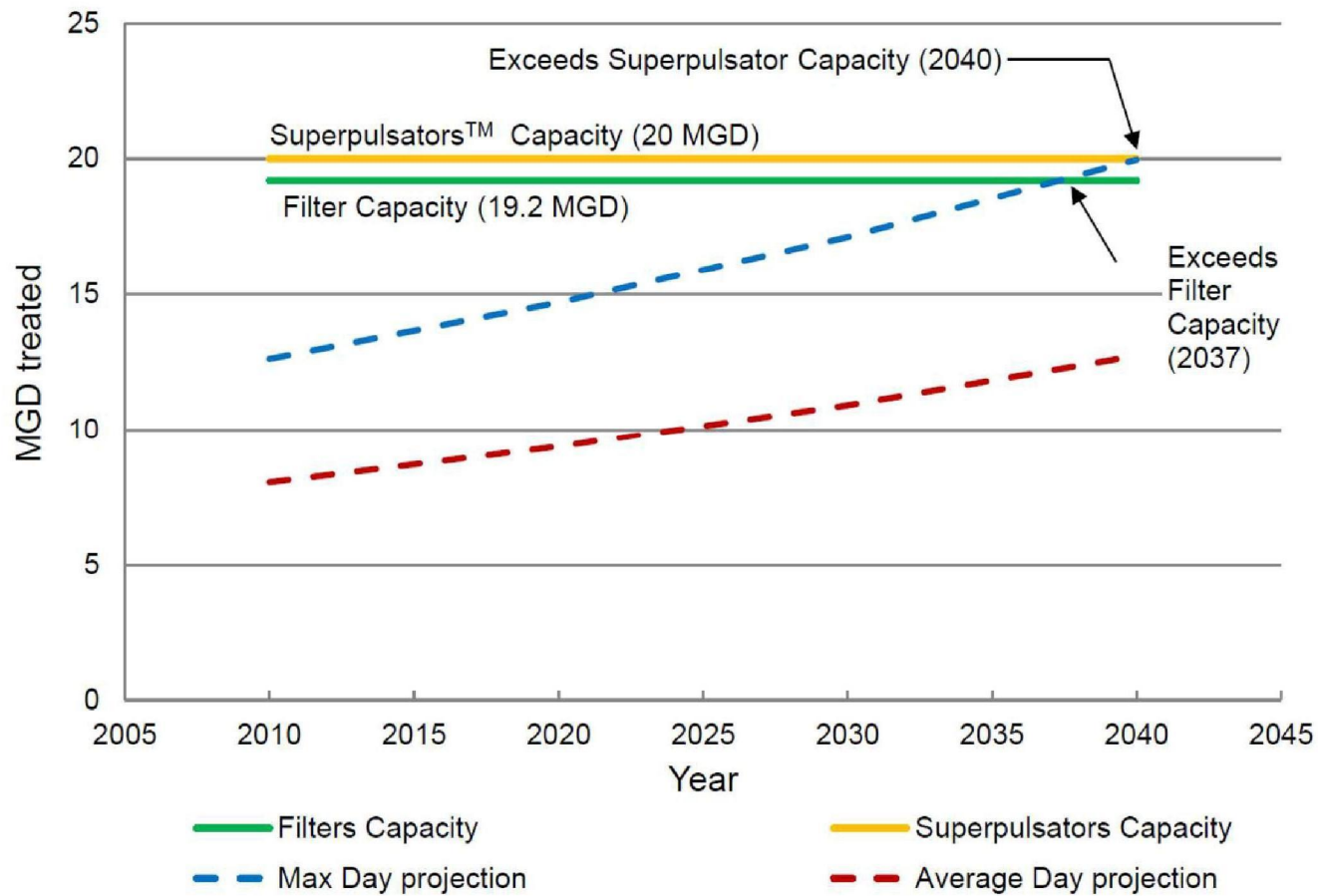
- WATER TREATMENT PLANT
 - Plant Rated Capacity – 19.2 MGD
 - Historical Peak Demand – 13.43 MGD (6/29/12)
 - Peak Production in 2014 – 11.04 MGD (7/09/14)
 - Design capacity of full build-out at current site – 42 MGD
 - Matches maximum yield of Huckleberry Reservoir

WATER SYSTEM ASSESSMENT

- Concerns Identified in *Water Master Plan 2014*
 - Filter capacity reached in 2040
 - Settling basins (Superpulsators™) reached in 2037
 - Single clearwell prevents taking out of service for maintenance/repair
 - Existing clearwell and high service pumps need rehabilitation/replacement
 - Structural concerns regarding banks and bottoms of sludge ponds

WATER SYSTEM ASSESSMENT

Graph from *Water Master Plan 2014*



WATER SYSTEM ASSESSMENT

- WATER TREATMENT PLANT

- Summary of Recommendations:

- Begin process of re-rating filters and settling basins to increase capacity and/or for operational benefits
 - Consider construction of 4th filter (\$2.9 million)
 - Consider Superpulsator One Improvements (\$835K)
 - Sludge Pond Improvements (\$600K)
 - Construction of second clearwell and high service pump station (\$6.525 million)
 - Rehabilitation of existing clearwell (\$1.004 million)
 - Replacement of existing high service pumps and addition of variable frequency drives (\$1.35 million)

- Total funding required: **\$13.21 million**

WATER SYSTEM ASSESSMENT

- WATER TREATMENT PLANT
 - Risks of foregoing/delaying recommended actions:
 - The existing facility, while currently below maximum capacity, lacks redundancy of certain treatment equipment and therefore, cannot be shut down for emergency and/or planned maintenance and repair
 - Delaying rehabilitation of certain equipment could compromise the exceptional finished water quality and/or our ability to reliably deliver it to our customers
 - The existing sludge ponds are constructed immediately adjacent to Lake Dardanelle and the banks need to be stabilized to prevent collapsing into the lake and creating a contamination issue

WATER SYSTEM ASSESSMENT

WATER DISTRIBUTION



WATER SYSTEM ASSESSMENT

- Storage Tanks
 - Industry standard recommends having storage sufficient to supply 24 hrs average day demand, which is estimated at 7.3 MGD
 - Nine existing storage tanks
 - Seven ground storage and two elevated tanks
 - Ranging from 100,000 gallons (Ray Lee) to 2 MG (Weir Road)
 - Total storage 7.76 MG, meets recommended standard
 - Inspected three tanks in 2012
 - Performed necessary repairs/maintenance
 - Inspecting remaining six in 2014/15
 - Will schedule repairs/maintenance in 2015/16 budget

WATER SYSTEM ASSESSMENT

- Storage Tanks
 - Recommendation in *Water Master Plan 2014*:
 - Projected to need additional storage of approximately 1.6 MG by 2020 based on projected demand
 - Recommend constructing a second 1.0 MG tank in the I-40 pressure zone (\$2.86 million)
 - Recommend constructing a 2.0 MG tank on old Bayou Ridge tank site at the water treatment plant to increase capacity and provide gravity service to town (\$3.16 million)
 - Total funding required: **\$5.16 million**

WATER SYSTEM ASSESSMENT

- Water Pump Stations
 - Ten existing pump stations
 - Largest pump station – Industrial pump station that feeds I-40 Tanks
 - Smallest pump station – Richland Hills pump station which provides service to a closed system with no storage tank
 - Main concerns noted in *Water Master Plan 2014*:
 - Lack of emergency power at critical pump stations
 - Lack of operational flexibility and energy inefficiencies
 - Two stations at or nearing capacity

WATER SYSTEM ASSESSMENT

- Water Pump Stations
 - Recommendation in *Water Master Plan 2014*:
 - Equip two pump stations with variable frequency drives for improved operational flexibility and efficiency (\$369K)
 - Western Hills Pump Station Replacement (\$751K)
 - 14th and Houston Pump Station Improvements (\$830K)
 - Install permanent generators at six existing pump stations (\$1 million)
 - Total funding required: **\$2.95 million**

WATER SYSTEM ASSESSMENT

- Distribution Piping
 - 259 miles of piping from 1" to 36" of the following materials:
 - Cast Iron
 - Ductile Iron
 - PVC
 - Galvanized
 - Asbestos/Cement (AC)

UNACCOUNTED FOR WATER

- Currently estimated at 15%
- “Real Losses” – Leaks
 - Leak detection survey
 - Prioritize and repair leaks
- “Apparent Losses” – Non-metered use, under-registering meters
 - Existing meters largely past recommended life and not as accurate as newer technology

WATER SYSTEM ASSESSMENT

- Distribution Piping
 - Currently conducting a system-wide leak detection survey to locate, estimate and prioritize leaks
 - Main concerns noted in *Water Master Plan 2014*:
 - 41,550 ft of small diameter galvanized steel pipe estimated at **over 40 years old** that is past it's useful and responsible for a large number of leaks
 - 165,250 ft of varying sizes of cast iron pipe estimated at **over 60 years old** that is past it's useful life and responsible for a number of leaks that can cause major damage to property and buildings
 - 381,250 ft of varying size of asbestos cement pipe that is estimated **at over 50 years old** and presents safety concerns for staff during repairs as well as being responsible for an increasing number of leaks, some of which can damage property and buildings
 - Construction of new water line across Interstate 40
 - High velocities in certain areas of the system

WATER SYSTEM ASSESSMENT

- Distribution Piping
 - Recommendation in *Water Master Plan 2014*:
 - Immediately begin replacing all 41,550 ft of small diameter galvanized steel pipe (\$2.84 million)
 - Immediately begin replacing all 165,250 ft of varying sizes of cast iron pipe (\$23.51 million)
 - Upon replacing galvanized and cast iron pipe, begin replacing 381,250 ft of varying size of asbestos cement pipe (\$57.07 million)
 - I-40 Water Line Construction (\$2.0 million)
 - Various system improvements (\$600K)
 - Total funding required: **\$86.0 million**

WATER SYSTEM ASSESSMENT

- WATER DISTRIBUTION

- Risks of foregoing/delaying recommended actions:

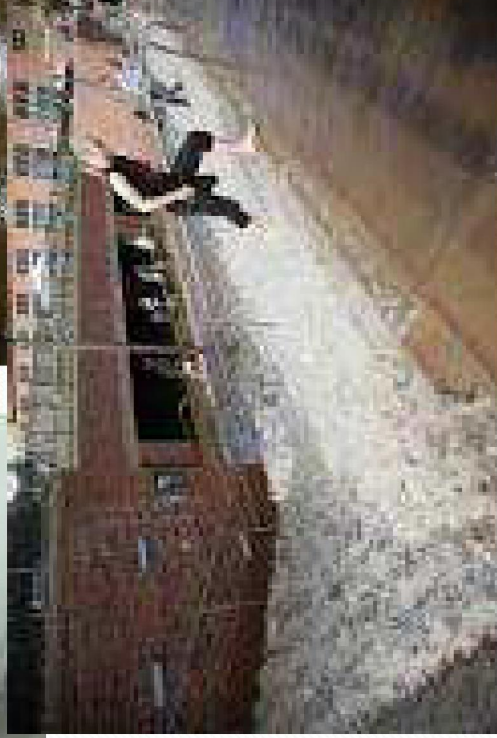
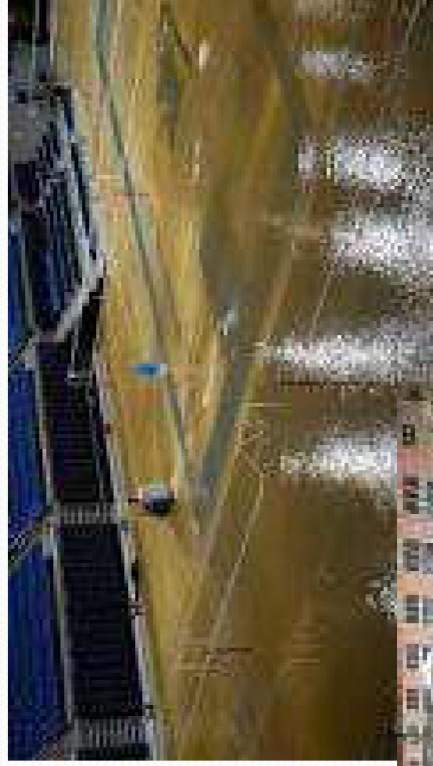
- Delaying storage/pumping improvements would allow us to drop below the recommended storage volume and compromise our ability to meet the demand of certain portions of our service area, most notably the east industrial area
 - Delaying piping replacement will expose us to the risk of disruption of service to our customers, some of which rely on a consistent flow to maintain plant operations
 - We are currently replacing a portion of 12" piping along Industrial Avenue that routinely ruptured putting several large industries out of service for extended periods of time
 - Our existing 16" cast iron main is over 60 years old and previously served as the primary feed to Russellville. It crosses under the interstate and travels through the heart of ATU campus. Rupture of this line in either of the areas noted could cause major property damage and/or disruption of service to a large area of Russellville.
 - Providing consistent and reliable water service is critical to attracting and retaining commercial and industrial customers
 - Delaying the inevitable, cost of materials and labor are only going to go up

WATER SYSTEM ASSESSMENT

- WATER DISTRIBUTION

- Recently, a single 12” pipe break totally drained a 1 million gallon tank on the south side of Russellville before it could be contained, causing a boil water order for much of the area
- Central Arkansas Water system has identified the need to spend \$10 million annually on replacing water pipes; they currently spend \$1.4 million per year
- A recent EPA report notes that water systems will need to spend \$334.8 billion in the next 20 years to keep pace
- On July 30, 2014, a 93 year old water main burst beneath Sunset Boulevard in Los Angeles, sending up to 10 million gallons of drinking water into the streets flooding numerous buildings including several on the UCLA campus

SUNSET BLVD LEAK IN 2014



WATER SYSTEM ASSESSMENT

- WATER METERING

- In efforts to reduce the amount of “Unaccounted For Water”, City Corporation elected to evaluate the accuracy of water metering infrastructure and consider alternatives
- Existing low lead rule does not allow for us to replace our existing meters once removed from the box
- Many of our meters are past the guaranteed accuracy period of ten years
- Meter Study
 - Test approximately 200 existing meters
 - Pilot remote read meters at various residences
 - Evaluate options based on projected revenue increases and desired meter functionality



WATER SYSTEM ASSESSMENT

- Meter Study
 - Based on testing of selected meters, study projected a payback of 5.7 years, with an estimated annual financial benefit of \$690,000 thereafter
 - New meters are guaranteed at a higher accuracy for 20 years
 - New meters read remotely, eliminating the need to manually read them
 - New meters provide the ability for the customer to monitor usage through the internet and set alarms based on desired parameters
 - New meters meet current low lead regulations
 - New meters allow customer service to troubleshoot meter issues from the office
- Recommendation is to move forward with full implementation of cellular based remote read meters (\$3.97 million)

WATER SYSTEM ASSESSMENT

- PROPOSED WATER METERING SYSTEM



Leaks

Today, Oct 16, 2014
6.0 gallons per hour

[Set Leak Alert](#)

Your Meter

Your meter measures the quantity of water used in your household. Flow is measured electronically at hourly intervals, and updated every 24 hours for billing and leak detection.

Read Frequency
Hourly

Transmit Frequency
Daily

Meter Read
5:59 PM on Oct 15
5.5 KGAL

At a Glance

1,651 Last 7 Days
gallons

813 Previous 7 Days
gallons

284 30 Day Average
gallons per day

103% increase

Total 321 Gallons

Minute Hour Day Month Year Today

Gallons Overlays

Tuesday October 14, 2014

Hour (CDT)	Consumption (Gallons)
AM	8
1	8
2	8
3	8
4	10
5	31
6	36
7	37
8	8
9	8
10	8
11	8
PM 1	8
2	8
3	15
4	8
5	8
6	22
7	20
8	12
9	7
10	7
11	6



WATER SYSTEM SUMMARY

- NEEDS IDENTIFIED DURING ASSESSMENT
 - WATER SOURCES – Substantial future funding needed (2040)
 - WATER TREATMENT - \$13.21 million identified
 - WATER DISTRIBUTION - \$86.0 million identified
 - WATER METERING - \$3.97 million identified
- TOTAL WATER SYSTEM NEEDS IDENTIFIED:
 - SHORT TERM (next 25 yrs): **\$103.2 million**
 - LONG TERM (25 yrs +): **est. \$20 – \$80 million** depending on type of water source selected

WASTEWATER SYSTEM ASSESSMENT

WASTEWATER TREATMENT





WASTEWATER SYSTEM ASSESSMENT

- ADEQ ADMINISTRATIVE ORDER
 - Placed under Consent Administrative Order (CAO) in November, 2009
 - Consent Administrative Order is an official enforcement action taken by ADEQ/EPA to ensure compliance with treatment permit and state/federal regulations
 - Cited permit violations at Wastewater Treatment Plant
 - Cited chronic wastewater overflows during wet and dry weather periods
 - Imposed an initial civil penalty of \$2,400 and imposed an additional penalty of \$20,000 through an Amendment in May, 2014.
 - Required that the city provide “Capital Action Plan” to achieve compliance with both issues listed above
 - CAO has changed the historical focus from the water system to the wastewater system and dictates the majority of our wastewater capital improvements

WASTEWATER SYSTEM ASSESSMENT

- CONSENT ADMINISTRATIVE ORDER
 - Many cities in Arkansas and across the United States are currently under CAO facing very similar circumstances
 - City Corporation desires to “break the cycle” of dealing with repeated issues through good, sound planning and execution of that plan
 - Previous solution to treatment issues – pipeline to the Arkansas River
 - ADEQ no longer accepted a proposed pipeline to the Arkansas River as a response to address the permit limit issues due to the challenges facing that project
 - Required plant expansion to address violations
 - Previous solution to collection system issues – build facilities to handle increased flows during wet weather
 - Increased from 2 million gallons of on site stormwater storage to 20 million gallons
 - Increased pump station and pipeline sizes to move more stormwater to the plant
 - Treating the symptoms rather than addressing the source – leaks in system
 - Current plan addresses structural defects in the collection system to reduce the amount of rainwater entering our system, which leads to reduced flows and associated pumping and treatment costs
 - More expensive short term, but cost effective long term and addresses future compliance issues



WASTEWATER SYSTEM ASSESSMENT

- CAO - TREATMENT PLANT ISSUES
 - Deadline for achieving compliance regarding treatment violations is January 10 of 2016
 - Capacity of plant is 7.3 million gallons per day (MGD)
 - Maximum wet weather design flow is 15.0 MGD
 - Currently see wet weather flows exceeding 23 MGD
 - Current expansion is projected to increase wet weather design flow to 22.0 MGD



WASTEWATER SYSTEM ASSESSMENT

- CAO - TREATMENT PLANT ISSUES
 - Currently completing a \$13 million plant expansion to address treatment violations cited in CAO
 - Expected completion in late spring of 2015
 - New plant produces substantially more sludge requiring the need to improve sludge handling capabilities (\$5 million)

WASTEWATER SYSTEM ASSESSMENT

Wastewater Plant Expansion - \$13 million



New Clarifier #3

New Aeration Basin #3





WASTEWATER SYSTEM ASSESSMENT

- Wastewater Treatment Plant
 - Recommendations from staff:
 - Immediately pursue selection, design and construction of improved sludge handling facilities
 - Total funding required: **\$5 million**

WASTEWATER SYSTEM ASSESSMENT

WASTEWATER COLLECTION



WASTEWATER SYSTEM ASSESSMENT

- CAO – COLLECTION SYSTEM ISSUES
 - Deadline for achieving compliance regarding wastewater overflows is January, 2022





WASTEWATER SYSTEM ASSESSMENT

- WASTEWATER COLLECTION

- Contains 17 wastewater lift stations
- Contains 200 miles of gravity and pressure wastewater piping ranging from 2" to 48" consisting of the following materials:
 - Clay
 - PVC
 - Cement lined ductile
 - Cast Iron
 - HDPE
 - Reinforced concrete
- 63 Grinder pumps



WASTEWATER SYSTEM ASSESSMENT

- Pump Stations

- Recently eliminated one structurally deficient pump station
- Currently rebuilding/replacing two pump stations
- Planning to begin surveying remaining 15 pump stations with regard to mechanical, electrical and site issues
- Repair/rehabilitation of remaining stations will be included in future budgets



WASTEWATER SYSTEM ASSESSMENT

- Collection piping and manholes
 - Began complete survey of collection system in 2009
 - RJN and Associates was hired to:
 - Conduct flow monitoring to determine areas of high wet weather flow
 - Build wastewater computer model to assist with pipe and pump station sizing
 - Visual inspection of manholes
 - Smoke/dye testing of main and service piping
 - Televised inspection of piping as needed
 - Develop list of prioritized deficiencies
 - Projected to be complete in 2017
 - CWB Engineers was hired to manage the repair effort and reporting to ADEQ

WASTEWATER SYSTEM ASSESSMENT

- Collection piping and manholes
 - Completed to date one (1) capacity related and one (1) piping repair/replacement projects at a cost of \$2.9 million
 - Survey projected to yield eight (8) additional piping repair/replacement projects covering 26 different collection basins (\$18.2 million)
 - Survey projected to yield four (4) additional capacity improvement projects to increase pipe size to accommodate increased flows (\$9.9 million)
 - Survey projected to yield two (2) pressure main projects to improve pump station capacity at two large stations (\$3.8 million)
 - Survey projected to yield three (3) manhole rehab projects to address deficient manholes (\$2.55 million)
 - All of these projects are likely required to achieve compliance by January, 2022
- Total Funding Required: **\$34.45 million**

WASTEWATER SYSTEM ASSESSMENT

- **WASTEWATER TREATMENT**

- Risks of foregoing/delaying recommended actions:
 - Failure to process sludge as needed causes sludge to build up in the various treatment basins, which eventually interferes with the treatment process and results in plant permit violations. Deadline to achieve permit compliance is January 10, 2016

- **WASTEWATER COLLECTION**

- Risks of foregoing/delaying recommended actions:
 - Failure to repair collection system facilities allows the continual entry of rainwater into our system, thus overwhelming the capacity of our piping and treatment facilities, creating overflows of raw sewage into the environment. Deadline to eliminate wastewater overflows is January, 2022
- Failure to meet either of these deadlines is a violation of our current Consent Administrative Order and is punishable by substantial fines and additional orders from ADEQ/EPA

WASTEWATER SYSTEM ASSESSMENT

- City of Pine Bluff
 - Currently facing challenges with aging wastewater infrastructure, some of which is more than 120 years old
 - Implementing a 23% rate increase over the next 3 years

WASTEWATER SYSTEM ASSESSMENT

- City of Bauxite
 - Currently facing the challenge of addressing necessary wastewater plant and pump station improvements
 - Wastewater budget has been subsidized by water revenues and other city departments for years
 - Considering un-incorporating their town as an alternative to drastically raising rates

WASTEWATER SYSTEM ASSESSMENT

- City of Fort Smith
 - Perhaps the most notable example of what can happen when EPA is not satisfied with a system's progress to address a CAO
 - System contains 500 miles of sewer piping plus 23 pump stations
 - Placed under administrative order in 1993 for similar to those cited in City Corporation order in 2009
 - Fort Smith has spent \$201.2 million since that time to address the order
 - EPA and the US Department of Justice superceded ADEQ's primacy and filed actions for continued violation of Clean Water Act as they were not satisfied with progress
 - Order filed on January 2, 2015 imposes civil penalty of \$300,000 as well as requiring \$400,000 spent towards assisting low income areas with private sewers
 - Ordered to spend an estimated \$225 million in capital over next 12 years plus substantial O&M costs to implement program to keep pipelines free from debris, grease and roots
 - Subject to additional fines of up to \$12,000 per day for failure to comply with provisions of the order



WASTEWATER SYSTEM SUMMARY

- NEEDS IDENTIFIED DURING ASSESSMENT
 - WASTEWATER TREATMENT – \$5.0 million
 - WASTEWATER COLLECTION - \$34.45 million
- TOTAL WASTEWATER SYSTEM NEEDS:
 - SHORT TERM (next 7 yrs): **\$39.45 million**



TOTAL SYSTEM SUMMARY

- TOTAL WASTEWATER SYSTEM NEEDS:
 - SHORT TERM (next 7 yrs): **\$39.45 million**
 - LONG TERM: NOT IDENTIFIED AT THIS TIME
- TOTAL WATER SYSTEM NEEDS IDENTIFIED:
 - SHORT TERM (next 25 yrs): **\$103.2 million**
 - LONG TERM (25 yrs +): **est. \$20 – \$80 million** depending on type of water source selected
- SHORT TERM COMBINED CAPITAL NEEDS:
 - **\$142.6 million** currently identified over next 25 years with approximately **\$70 million** needed prior to 2022
- With 460 miles of water/wastewater piping in the ground and assuming a 50 year life cycle, we should be replacing 9.2 miles annually. Estimating \$100 per foot yields \$9.2 million per year, excluding pump stations, manholes, treatment plants, etc.



BUDGET UPDATE

- **CURRENT FUNDS AVAILABLE - \$10.8 Million**
- **MINIMUM RESERVE SET BY BOARD - \$6.4 Million**
 - Reserve set at amount of annual operations and maintenance expense budget excluding capital and debt service
- **NEEDED TO MEET CURRENT CAPITAL BUDGET OBLIGATIONS - \$4.4 Million**
- **CURRENT NON-RESERVE FUNDS REMAINING - \$0**

FUNDING OPTIONS

- Increase Revenues/Decrease Expenses
 - Replacement of meters is projected to provide an annual financial benefit of up to \$690K
 - 2012-13 Expense Budget vs. Actual
 - \$6,867,454 budget
 - \$6,226,739 actual
 - \$640,715 (9.3%) decrease
 - 2013-14 Expense Budget vs. Actual
 - \$6,688,890 budget
 - \$5,696,704 actual
 - \$992,186 (14.8%) decrease



FUNDING OPTIONS

- Modify Water and/or Wastewater fees
 - Most have not been modified since the 1980's
 - Fee should offset the cost of providing service to individual customer
 - Currently, all customers are subsidizing the cost to provide these specific services such as new connections, shut-offs, reconnects, etc.
 - Recommend revising pretreatment surcharges to cover the cost of the pretreatment program
 - Recommend revising customer fees to cover cost of services rendered
 - Will present to Council for approval

FUNDING OPTIONS

- Modify Water and/or Wastewater fees
 - Estimated to generate approximately \$300K per year

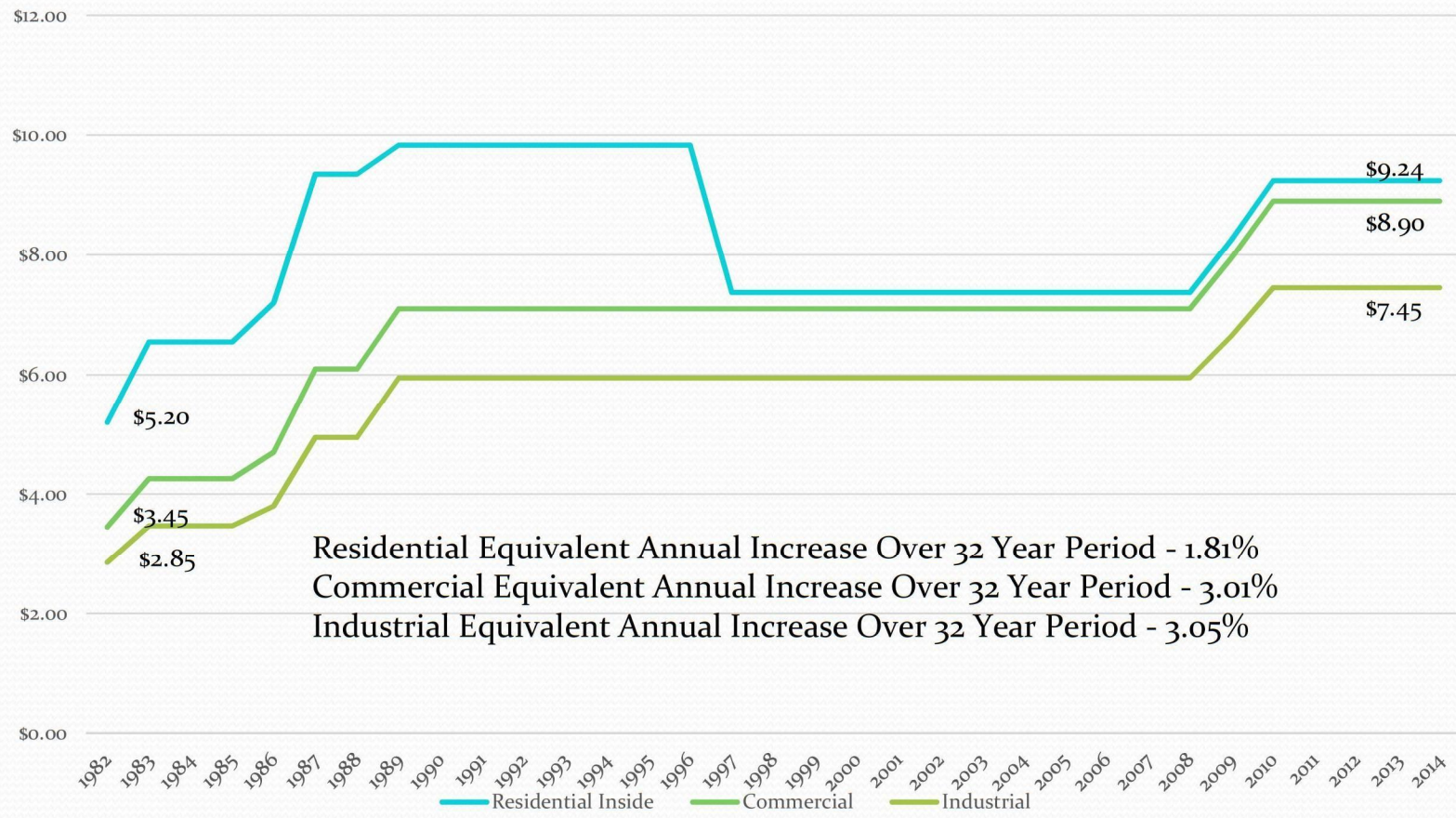
Fee Description	Old Fee	Recommendation	Comparison Utility Fees
Connection Fee	\$ 7.50	\$ 25.00	HSW-\$10.00, CCRWDD-\$25.00, TCRWDD-\$25.00, NEYCWA-\$10.00
Returned Check Fee	\$25.00	\$25.00 + banking fee	HSW- max fee allowed, CCRWDD-\$25.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Tampering Fee	\$ -	\$ 100.00	HSW-\$100.00, CCRWDD-equal to damage, TCRWDD-\$100.00, NEYCWA-???
		Plus Time & Material and/or Related Expenses	
Late Fee	\$10.00	\$ 10.00	HSW-10%, CCRWDD-10%, TCRWDD-???, NEYCWA-10%
After Hours Service Call	\$ -	\$ 75.00	
Inspection Fee	\$ -	1st Trip Included	HSW-???, CCRWDD-\$25.00, TCRWDD-\$75.00, NEYCWA-???
		In Permit Cost	
Repeat Trip / Service Call	\$ 7.50	\$ 25.00	HSW-???, CCRWDD-\$25.00, TCRWDD-\$25.00, NEYCWA-???
Shut-Off Processing Fee	\$10.00	\$ 25.00	HSW-\$10-\$20, CCRWDD-\$35-\$60, TCRWDD-\$25-\$50, NEYCWA-\$30-\$35
Pressure / Volume check	\$ 7.50	\$ 25.00	HSW-\$15.00, CCRWDD-\$35.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Meter Re-read	\$ 7.50	\$ 25.00	HSW-\$15.00, CCRWDD-\$35.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Check Leak	\$ 7.50	\$ 25.00	HSW-\$15.00, CCRWDD-\$35.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Turn Service On / Off	\$ 7.50	\$ 25.00	HSW-\$15.00, CCRWDD-\$35.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Water Quality Reports	\$ -	\$ 25.00	HSW-\$15.00, CCRWDD-\$35.00, TCRWDD-\$25.00, NEYCWA-\$30.00
Sewer Cap Replacement	\$50.00	\$ 50.00	
Set Fire Hydrant Meter	\$ 7.50	\$ 50.00	



FUNDING OPTIONS

- Bond Issues
 - Current debt - \$9 million Bond Issue from 2009
 - Propose \$40 million issuance in 2015, dedicating half to water and half to wastewater per projected capital schedule
 - Propose \$25 million issuance in 2018, dedicating \$10 million to water and \$15 million to wastewater
 - Propose \$6 million issuance in 2020 to complete wastewater capital projects
 - Total of \$71 million over next 6 years to address water and wastewater needs. This amount will not fully address water line replacements identified in the Master Plan nor address a future water source and/or water treatment plant
- Sales Tax
 - Possible extension of current sales tax in 6 yrs

FUNDING OPTIONS





FUNDING OPTIONS

- Rate Proposal
 - Conservation rate plan which charges more as usage increases
 - Variable annual increases over next five years, then 3.0% annual inflationary increase beyond 2019
 - Includes increases in operations and maintenance based on inflation rates
 - Includes \$71 million in debt issuance through 2020
 - Includes increase in revenue from proposed fee increases
 - Includes current sales tax revenue
 - Includes cost and revenue increase from meter replacement project



**2014 Water Rate Study
2014 Wastewater Rate Study**

Board of Directors Presentation

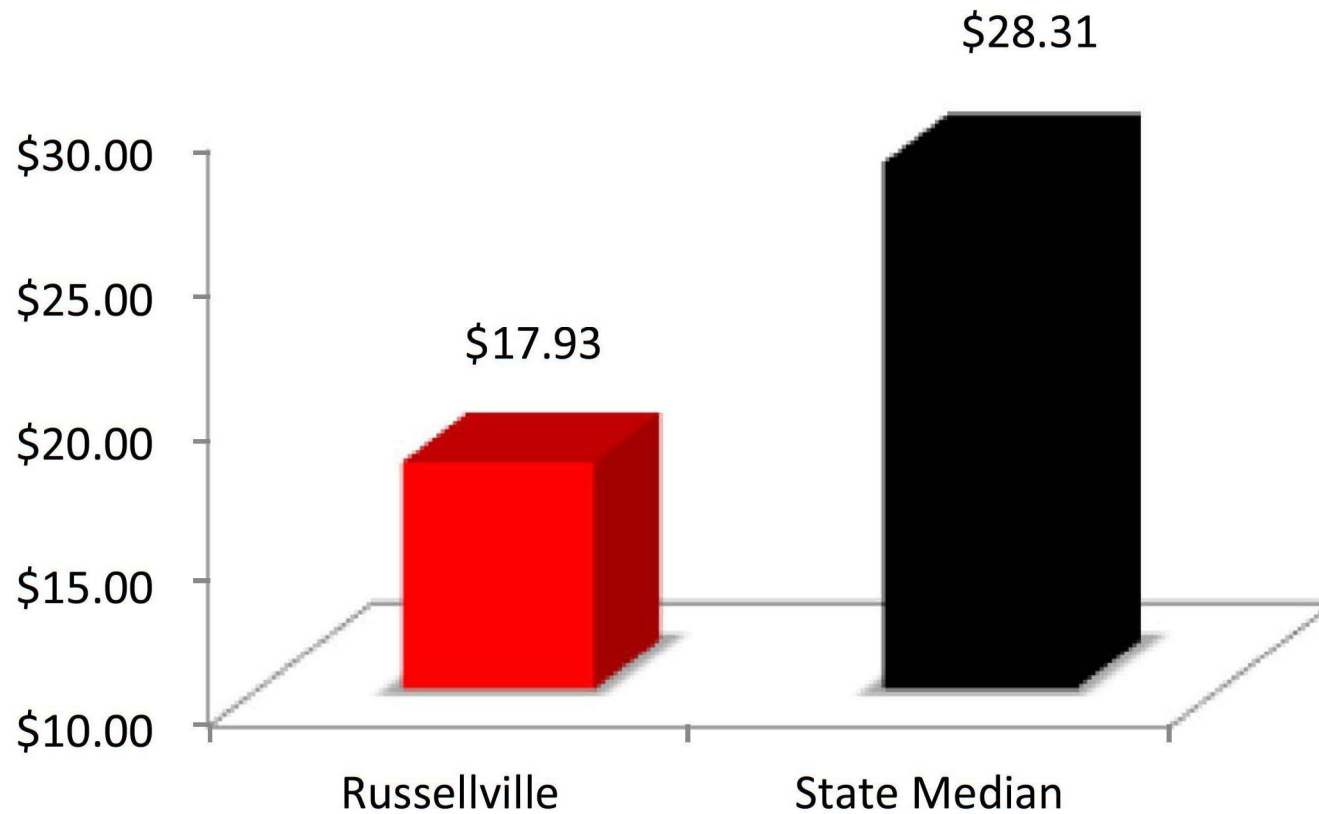
City Council Presentation

economists.com

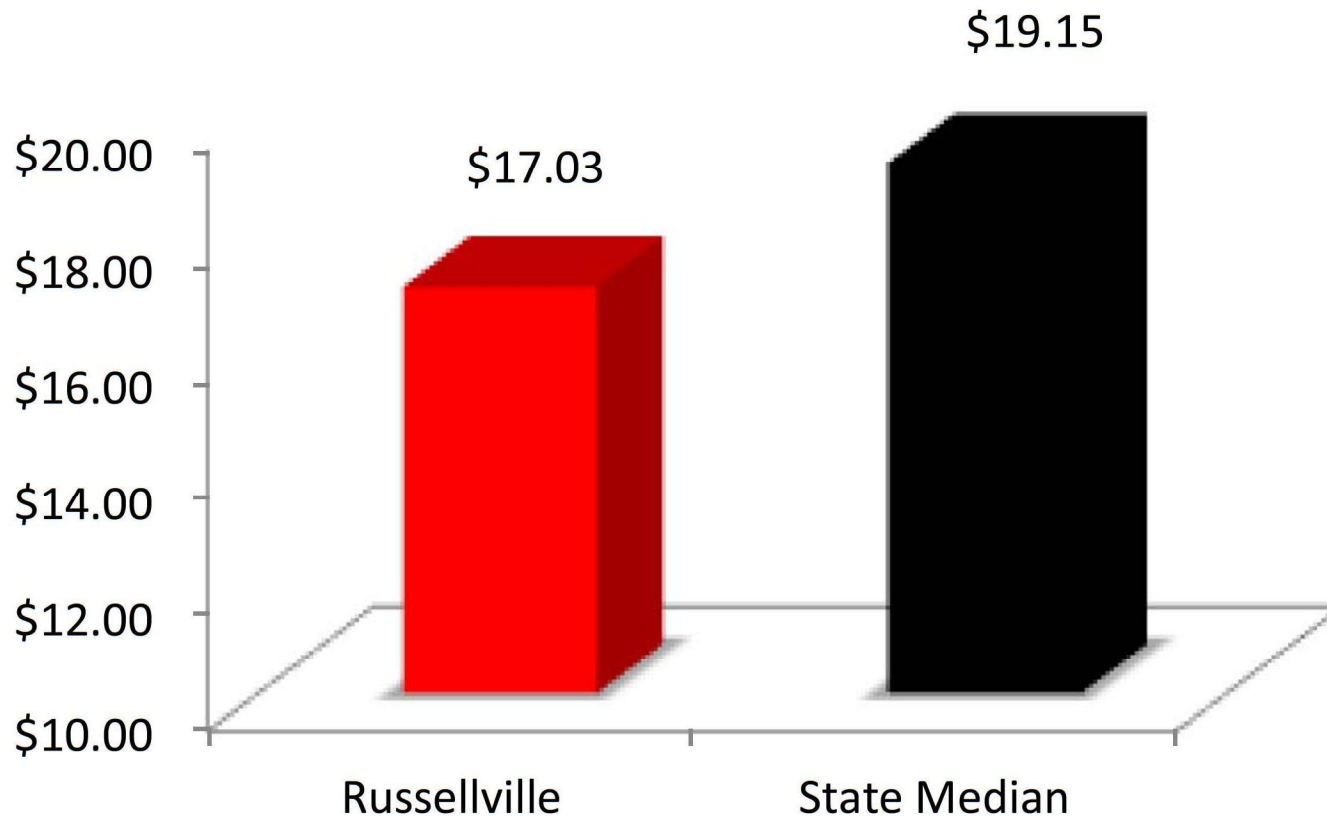


January 2015

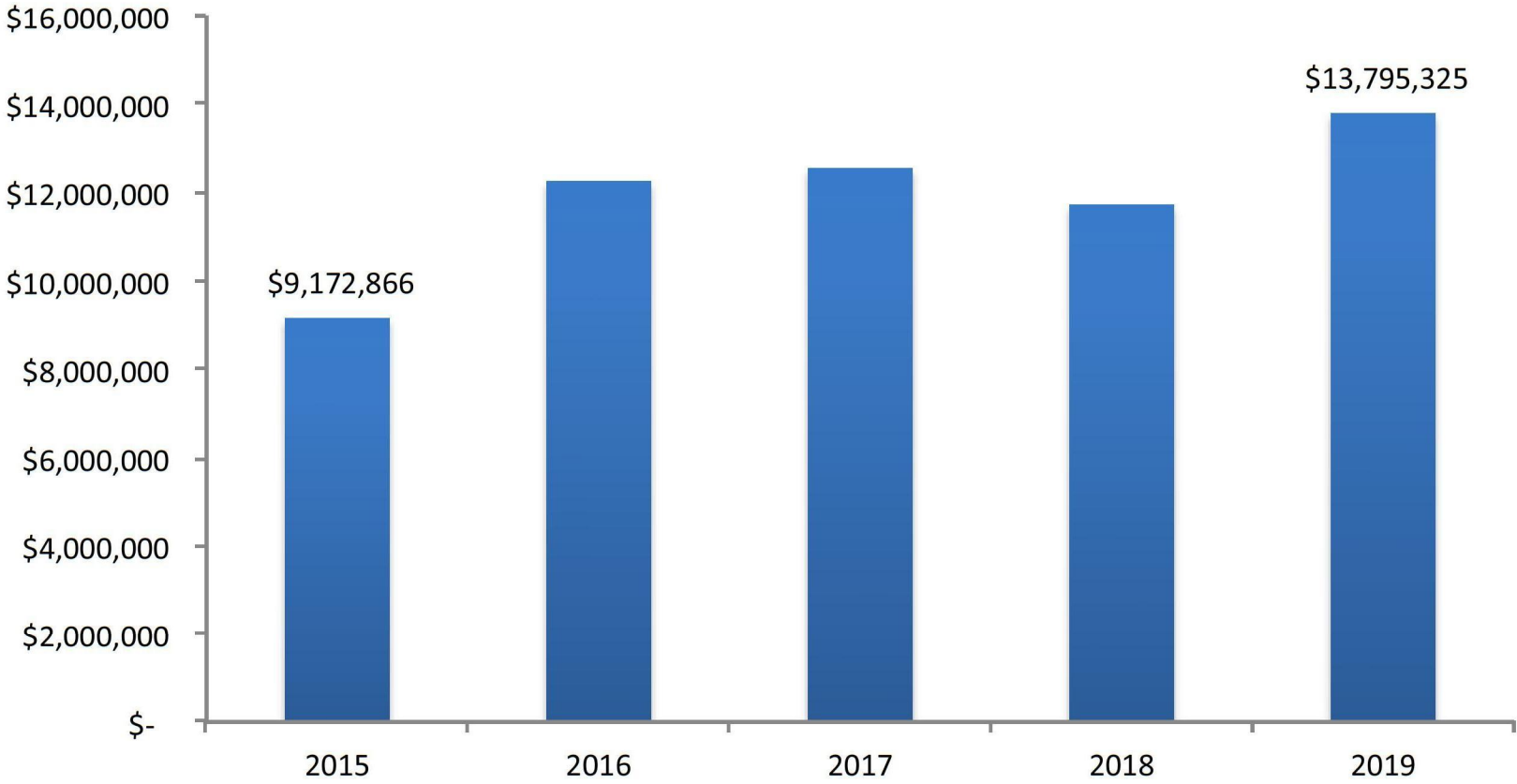
Average Monthly Water Charges Total Gallons = 5,000



Average Monthly Wastewater Charges Total Gallons = 5,000



Forecast Cost of Service Water and Wastewater Utility



Water Utility Proposed Rate Plan



	Current	Effective Jan-15	Effective Jan-16	Effective Jan-17	Effective Jan-18	Effective Jan-19	
Monthly Charge							
5/8" -- 3/4"	\$ 8.69	\$ 9.30	\$ 10.14	\$ 10.44	\$ 11.28	\$ 11.62	
1"	12.03	12.87	14.03	14.45	15.61	16.08	
1 1/2"	22.86	24.46	26.66	27.46	29.66	30.55	
2"	29.99	32.09	34.98	36.03	38.91	40.08	
Vol Chg -- Per 1,000 Gal							
Residential	City						
-	2,000	1.71	1.71	1.86	1.92	2.07	2.13
2,001	5,000	1.94	2.05	2.23	2.30	2.48	2.55
5,001	Above	1.94	2.25	2.45	2.52	2.72	2.80
Commercial		1.78	1.90	2.07	2.13	2.30	2.37
Industrial		1.49	1.59	1.73	1.78	1.92	1.98
Public Authorities		1.99	2.13	2.32	2.39	2.58	2.66
Municipal		1.53	1.64	1.79	1.84	1.99	2.05
Fire Protection		1.35	1.44	1.57	1.62	1.75	1.80

Water Utility Proposed Rate Plan

Residential Outside Rates



	Current	Effective Jan-15	Effective Jan-16	Effective Jan-17	Effective Jan-18	Effective Jan-19
Monthly Charge						
5/8" -- 3/4"	\$ 13.04	\$ 13.95	\$ 15.21	\$ 15.66	\$ 16.92	\$ 17.43
1"	18.05	19.31	21.05	21.68	23.42	24.12
1 1/2"	34.29	36.69	39.99	41.19	44.49	45.83
2"	44.99	48.14	52.47	54.05	58.37	60.12

Vol Chg -- Per 1,000 Gal

Residential	Outside City						
-	2,000	3.52	2.57	2.79	2.88	3.11	3.20
2,001	5,000	3.90	3.08	3.35	3.45	3.72	3.83
5,001	Above	3.90	3.38	3.68	3.78	4.08	4.20

Wastewater Utility Proposed Rate Plan



		Current	Effective Jan-15	Effective Jan-16	Effective Jan-17	Effective Jan-18	Effective Jan-19
Monthly Rates							
Monthly Charge		\$ 6.67	\$ 8.17	\$ 10.01	\$ 11.86	\$ 12.75	\$ 13.71
Volume Rate							
	1,001 20,000	2.59	3.17	3.88	4.60	4.95	5.32
	20,001 Above	2.20	2.70	3.31	3.92	4.21	4.53

Proposed Rate Plan

Impact on Monthly Residential Charges – Inside City



	Current	Effective Jan-15
Residential -- 5,000 Gallons		
Water	\$ 17.93	\$ 18.87
Increase		0.94
Wastewater	17.03	20.85
Increase		3.82
Total	34.96	39.72
Increase		4.76
<hr/>		
Residential -- 10,000 Gallons		
Water	27.63	29.12
Increase		1.49
Wastewater	29.98	36.70
Increase		6.72
Total	57.61	65.82
Increase		8.21

Proposed Rate Plan

Impact on Monthly Residential Charges – Inside City



	Current	Effective Jan-15	Effective Jan-16	Effective Jan-17	Effective Jan-18	Effective Jan-19
Residential -- 5,000 Gallons						
Water	\$ 17.93	\$ 18.87	\$ 20.55	\$ 21.18	\$ 22.86	\$ 23.53
Increase		0.94	1.68	0.63	1.68	0.67
Wastewater	17.03	20.85	25.53	30.26	32.55	34.99
Increase		3.82	4.68	4.73	2.29	2.44
Total	34.96	39.72	46.08	51.44	55.41	58.52
Increase		4.76	6.36	5.36	3.97	3.11
<hr/>						
Residential -- 10,000 Gallons						
Water	27.63	29.12	31.70	32.68	35.26	36.28
Increase		1.49	2.58	0.98	2.58	1.02
Wastewater	29.98	36.70	44.93	53.26	57.30	61.59
Increase		6.72	8.23	8.33	4.04	4.29
Total	57.61	65.82	76.63	85.94	92.56	97.87
Increase		8.21	10.81	9.31	6.62	5.31

Rate Comparison



- ◆ City Corporation Water Rate – 5,000 gallons
 - ❖ \$34.96 current, increase of \$23.96 over 5 years
 - ◆ Increase 67% over next 5 yrs, 3% annually after
- ◆ Hot Springs – 5,000 gallons
 - ❖ \$53.53 current, min. increase of \$4.72 over 5 years
 - ❖ Already substantially increased rates to address capital items
 - ❖ Increase 13% over next 5 yrs, 3% annually thereafter
 - ❖ Also has impact fee of min. \$500 to max. of \$14,500 per connection
 - ❖ Over 50% of customers are outside city limits which pay 1.5x
 - ❖ Facing \$80 to \$100 million cost in next 3-10 years for water supply
- ◆ Fort Smith
 - ❖ \$40.00 average current bill
 - ❖ Expected to increase to \$120 over next 12 years to fund \$480 million of wastewater needs only
 - ❖ Required to add 82 new employees to the 92 existing

Rate Comparison



- ◆ City Corporation Water Rate – 5,000 gallons
 - ❖ \$34.96 current, increase of \$23.96 over 5 years
 - ◆ Increase 67% over next 5 yrs, 3% annually after
- ◆ Pine Bluff
 - ❖ Current wastewater only bill average of \$16.21
 - ❖ Proposing a 23% increase over next two years to begin addressing wastewater improvements
- ◆ Bauxite
 - ❖ \$40.66 current bill
 - ❖ Proposing immediate increase of \$18.55 (46%) to begin addressing wastewater issues
 - ❖ Considering alternative of un-incorporating
- ◆ Compton water association
 - ❖ Increased average bill in 2010 from \$32 to \$73 to address issues related to poor planning

Presentation Summary



- ◆ Rate adjustments are necessary to fund new debt for capital improvements and increases in operating expenses
- ◆ Residential outside rates are readjusted to conform with 1.5x inside rates policy; results in volume rate reduction for Residential Outside in 2015
- ◆ Greater conservation is encouraged through establishment of a third tier conservation rate



MOVING FORWARD

- Timeline for Ordinance consideration
- Public Education opportunities
 - Civic Clubs, radio/newspaper, City/City Corp website, town hall meeting
- Questions?

STANDARD SPECIFICATIONS AND DETAILS

Introduction:

These material and construction specifications and standard details of construction are intended to describe the minimum quality of materials and construction acceptable for the extension of the water distribution system or the sewage collection system operated by City Corporation, the Russellville, Arkansas, Water and Sewer System.

The approval of proposed plans for water distribution main extensions or sewage collection main extensions shall be with the explicit understanding that the extensions are designed and constructed in accordance with these Standard Specifications and Details, unless City Corporation has given specific written approval for a departure from these standards for the extension to be constructed.

Summary:

The following summary is intended as a brief condensation of the City Corporation STANDARD SPECIFICATION AND DETAILS for the convenience of those individuals planning to construct extensions to the water distribution main system and the sewage collection main system of Russellville, Arkansas. It is not intended to substitute or replace the full text of the 1995 STANDARD SPECIFICATIONS AND DETAILS which follows this summary.

Water Main Extensions – Materials

2" HDPE Waterline	HDPE SDR 9 – CTS (copper tube size) meeting the requirements of ASTM-D2737 and AWWA C901, material resin shall be virgin PE4710, pressure rating 250 psi, service tube with pack joint fittings with insert stiffeners at every joint (lead free - NSF 61 & NSF 372 compliant). Material shall be blue in color to comply with American Public Works Association (APWA) color code standard for buried utilities. Waterline shall be supplied in rolls (e.g. 100', 300', 500').
3" PVC Waterline	ASTM-2241 SDR 17, pressure rating 250 psi, gasketed joints, maximum working pressure of 215 psi.
6" and 8" PVC Waterline	AWWA C900 DR 18, pressure class 235 psi, gasketed joints, maximum working pressure of 200 psi.
12", 16", 24", 36" & Larger Ductile-iron Waterline	Ductile-iron pipe shall conform to AWWA C150 and AWWA C151, ductile-iron pressure class used shall be consistent with the hydrostatic pressure test requirements within except with a 200 psi minimum test pressure.
¾" HDPE Service Line	NOT ALLOWED

1", 1-1/2", & 2" HDPE Service Line	HDPE SDR9 – CTS (copper tube size) meeting the requirements of ASTM-D2737 and AWWA C901, material resin shall be virgin PE4710, pressure rating 250 psi, service tube with pack joint fittings with insert stiffeners at every joint (lead free - NSF 61 & NSF 372 compliant). Material shall be blue in color to comply with American Public Works Association (APWA) color code standard for buried utilities. Waterline shall be supplied in rolls (e.g. 100', 300', 500').
2" Service Line Valves	Brass body (lead free - NSF 61 & NSF 372 compliant), NPT-FIP screw threaded, tee head operator, open left (counter-clockwise), working pressure of 200 psi.
2" Gate Valves	Epoxy coated cast or ductile-iron, NPT-FIP screw threaded, 2" square operating nut, open left (counter-clockwise), working pressure of 250 psi.
3" – 12" Gate Valves	Epoxy coated ductile-iron gate valve shall conform to AWWA C509, mechanical joint ends, 2" square operating nut, open left (counter-clockwise), working pressure of 250 psi.
16" Larger Butterfly Valves	Butterfly valves shall conform to AWWA C504, mechanical joint ends, 2" square operating nut, open left (counter-clockwise)
6" Fire Hydrant Assembly	Clow Medallion, factor coated safety yellow, 4-1/2" barrel, 3-way hydrant with 6" mechanical joint shoe, open left (counter-clockwise), installed with 6" anchor tee and 6" gate valve for isolation.
Tracer Wire	Tracer wire shall be #12 AWG (0.0808 diameter), blue in color, solid copper clad steel conductor insulated with 30mm high density, high molecular weight, polyethylene (HDPE) closed insulation and rated for direct burial use at 30V. Color code must meet American Public Works Association (APWA) color code standard for buried utilities.
Mechanical Joint Restraint	Mechanical joint restraints for ductile-iron fittings shall be as manufacture by EBAA Iron, Inc. (or equal), MEGALUG, series as required by pipe material, split retainer glands where necessary, pressure rated for at least 200 psi.
Detectable Tape	Identification tape shall be Terra Tape (or equal) Underground Marking tape, it shall be detectable, 3" wide for water main applications. Color code must meet American Public Works Association (APWA) color code standard for buried utilities.

Water Main Extensions – Procedures

All waterline shall be installed in a Type 3 trench minimum (AWWA C605, AWWA C900, AWWA M23). Type 4 and Type 5 used as applicable.

Mechanical joint restraint or locked retainer glands shall be installed on mechanical joint fittings.

36" minimum cover over all water distribution mains.

All buried valves must have valve boxes.

All fire hydrants shall be installed as an assembly with an anchor tee and isolation valve.

All waterline must be installed with copper tracer wire directly above the pipe.

All water main installations shall be pressure tested at 200 psi minimum.

All water mains shall be installed with detectable tape approximately 12" above the pipe.

Contractors are permitted to make connections to existing waterlines in the presence of City Corporation personnel.

Only City Corporation personnel may operate valves.

Completed and sterilized mains shall be flushed and sampled by City Corporation personnel. No service connections permitted or meters set until water samples are certified bacteriologically pure by the Arkansas State Department of Health.

Sewer Main Extensions – Materials

4" PVC Service Line	ASTM-D1785 Schedule 40 Polyvinyl Chloride (PVC), solvent welded joints.
4" PVC Service Line Fittings	Injection molded meeting requirements of ASTM-D3034, F1336 or F679, with elastomeric rubber gaskets.
8" and Larger PVC Sewer Main	ASTM -2241 SDR 26, pressure rating 160 psi, gasketed joints.
Manholes	Cast in place, monolithically poured concrete.
Manhole Covers	Cast Gray Iron ASTM A-48 (Class 35B), H-20 highway rated, frames shall weigh no less than 135 lb., cover shall weigh no less than 120 lb., pick holes shall be non-penetrating type.
2" HDPE Force Main	HDPE SDR 11 – IPS (iron pipe size) meeting the requirements of ASTM-D3035 and AWWA C901, material resin shall be virgin PE4710, pressure rating 200 psi, service tube with pack joint fittings with insert stiffeners at every joint (lead free - NSF 61 & NSF 372 compliant). Material shall be green in color to comply with American Public Works Association (APWA) color code

	standard for buried utilities. Sewer force main shall be supplied in rolls (e.g. 100', 300', 500').
3" PVC Force Main	ASTM-2241 SDR 17, pressure rating 250 psi, gasketed joints, maximum working pressure of 215 psi.
4" – 10" PVC Force Main	AWWA C900 DR 18, pressure class 235 psi, gasketed joints, maximum working pressure of 200 psi.
12" & Larger Ductile-Iron Force Main	Ductile-iron pipe shall conform to AWWA C150 and AWWA C151, ductile-iron pressure class used shall be consistent with the hydrostatic pressure test requirements within except with a 200 psi minimum test pressure.
Detectable Tape	Identification tape shall be Terra Tape (or equal) Underground Marking tape, it shall be detectable, 3" wide for sewer force main applications. Color code must meet American Public Works Association (APWA) color code standard for buried utilities.
Visual Tape	Identification tape shall be Terra Tape (or equal) Underground Marking tape, 3" wide for sewer gravity main applications. Color code must meet American Public Works Association (APWA) color code standard for buried utilities.

Sewer Main Extensions – Procedures

Typical bury depth for sewer mains shall be greater than 6'-0" to accommodate 18" of vertical clearance at water main crossings (water main over sewer main).

36" minimum cover over all sewer collection mains without written variance.

All sewer main shall be installed in a Type 5 trench minimum (AWWA C605, AWWA C900, AWWA M23).

All sewer main pipe shall be laid with construction laser, on constant grade and straight alignment.

All sewer main pipe shall be low pressure air tested and deflection tested with a mandrel (5% maximum) prior to acceptance.

All sewer manhole shall be vacuum test prior to acceptance.

Exfiltration testing of manholes shall be used when approved by City Corporation.

All sewer gravity mains shall be installed with visual tape approximately 12" above the pipe.

All sewer force mains shall be installed with detectable tape approximately 12" above the pipe.

All sewer force mains must be installed with copper tracer wire directly above the pipe.



Texas Electronics, Inc.

The Gold Standard in Weather Instrumentation Since 1957

Rain Gauge Tipping Bucket

TR-525USW Rainfall Sensor



Description

The Texas Electronics, Inc. TR-525USW Rainfall Sensor is a remote tipping bucket style rain gauge that measures the amount of liquid precipitation.

The Rain Gauge is a freestanding receptacle for measuring precipitation. It contains an open top, which allows rainfall to fall into the upper portion, which is called the collector. Collected water is funneled to a mechanical device (tipping bucket), which incrementally measures the rainfall accumulation and causes a momentary closure of a switch. As water is collected, the tipping bucket fills to the point where it tips over. This action empties the bucket in preparation for additional measurement. Water discharged by the tipping bucket passes out of the rain gauge with no need for emptying.

The TR-525USW was specifically designed to meet the National Weather Service's requirements for rainfall measurement.

Features & Benefits

- Meets government requirements for an 8" collector
- Interfaces to virtually all data acquisition systems
- Knife-edge collector optimizes rainfall catch
- Exceptional splash-out protection reduces wind errors
- Easy installation and maintenance
- Over 30 years in production
- Lightweight spun Aluminum Exterior
- Anodized aluminum collector for weather resistance
- Integral Bubble Level

Specifications

Resolution:	0.01" English
Accuracy:	1.0% up to 2"/hr (50 mm/hr)
Collector diameter:	8.00" (203 mm) with knife-edge
Funnel depth:	6.4" (163 mm)
Splash out protection:	>2" (50 mm)
Operating Temp:	32 to 125° F (0 to 50° C)
Storage Temp:	-40 to 160° F (-40 to 70° C)
Humidity Limits:	0 to 100%
Weight:	2.5 lbs. (1.2 kg) 6 lbs. (2.7 kg) shipping
Height:	11" (280 mm)
Cable:	25', 22 gauge 2 conductor
Switch:	Momentary potted reed switch
Switch rating:	30 VDC @ 2 A, 115 VAC @ 1 A
Switch Closure Time:	135 ms
Bounce Settling Time:	0.75 ms
Pivot:	Hardened SS Jewel & Pivot
Bucket:	Black ABS injection molded
Level:	Integral Bubble Level
Warranty:	3 years

Installation & Maintenance

Installation consists of attaching the three sensor support legs to a firm platform (such as our MB-525 Mounting Base). Pole mounting on the mast of a weather station is available by securing to the included side bracket.

Maintenance consists of routine cleaning of debris from the filter screen, and occasional calibration verification with our FC-525 Field Calibration Kit.

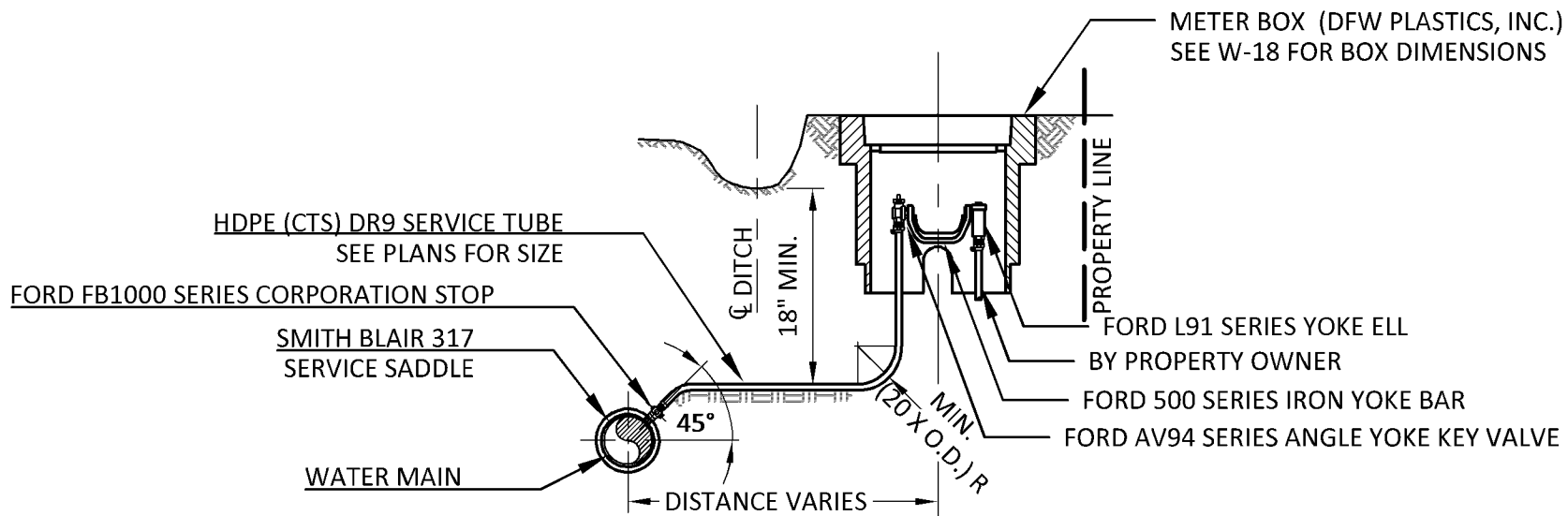
Ordering Information

Model #	Description
TR-525USW	Rain Gauge, 8.00" collector, English

Optional Parts / Accessories

HOBO	Event Datalogger and Software
MB-525	Pole Mounting Base
FC-525	Field Calibration Kit
BB-525	Bird Repellent
HT-525	Heater, 120 VAC
Cable	Additional Cable

Texas Electronics, Inc.
5529 Redfield Street • Dallas, TX 75235
Tel.214.631.2490 • Fax.214.631.4218 • 800.424.5651
www.texaselectronics.com • email: info@texaselectronics.com







NOTES:

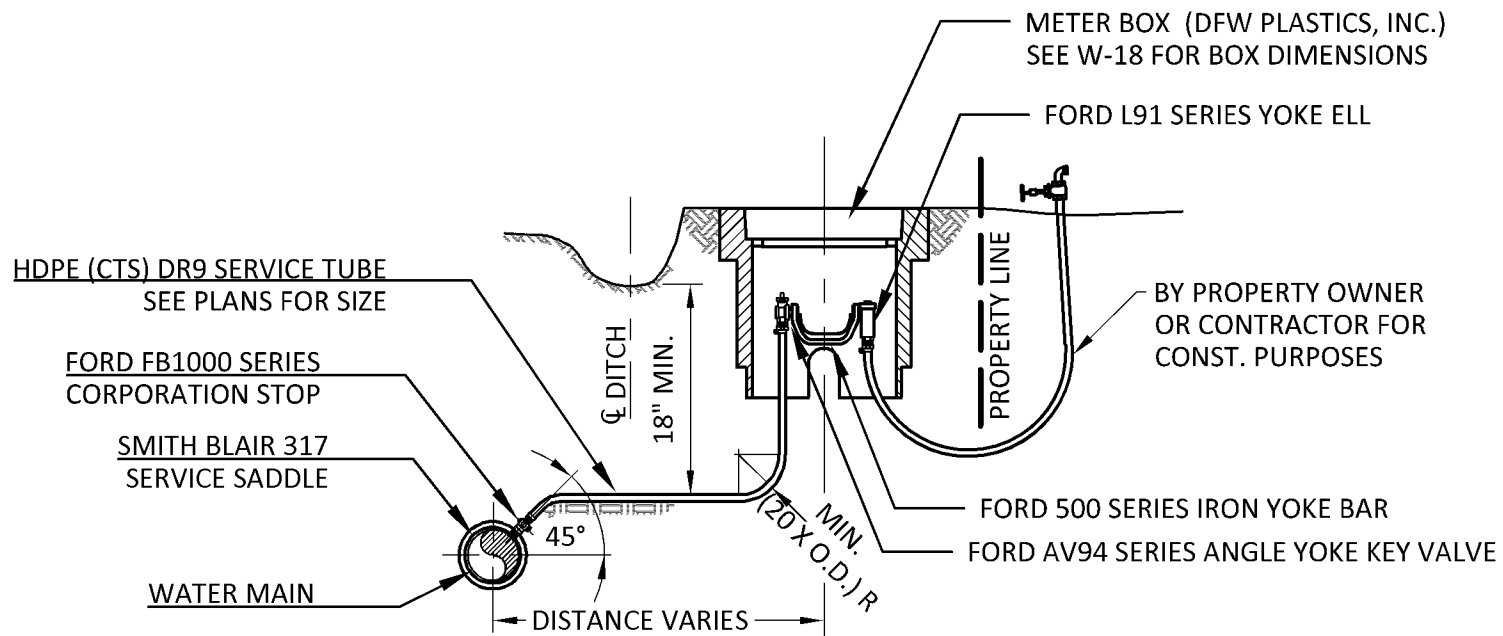
1. METER BOX INSTALLATION SHALL BE ON UNDISTURBED EARTH OR GRAVEL BASE.
2. METER SUPPLIED BY CITY CORPORATION.
3. ALL BRASS FITTING SHALL BE NSF/ANSI 61 (LEAD FREE) COMPLAINT.

5/8 IN & 1 IN SHORT SIDE WATER SERVICE DETAIL

DETAIL NO.:

W-1

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		  
SCALE: NONE	DATE: 11-17-15	
APPROVED: UEM - L. Bartlett		






NOTES:

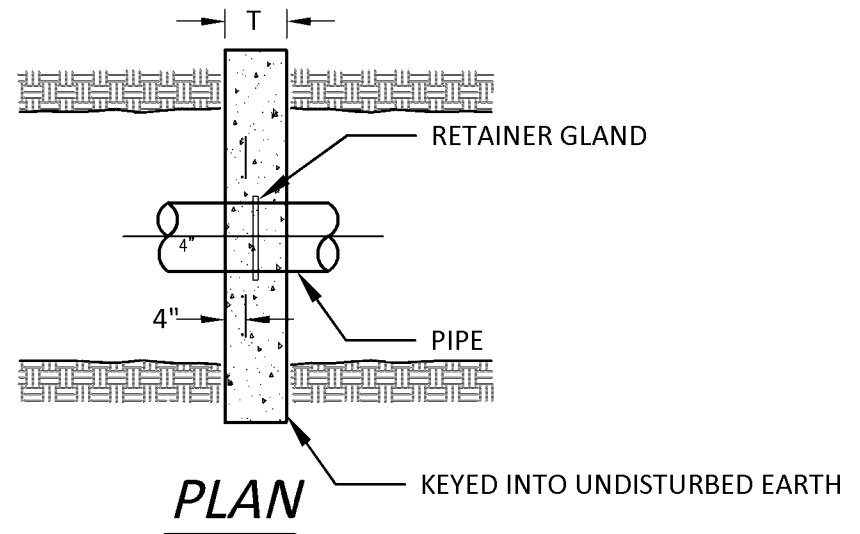
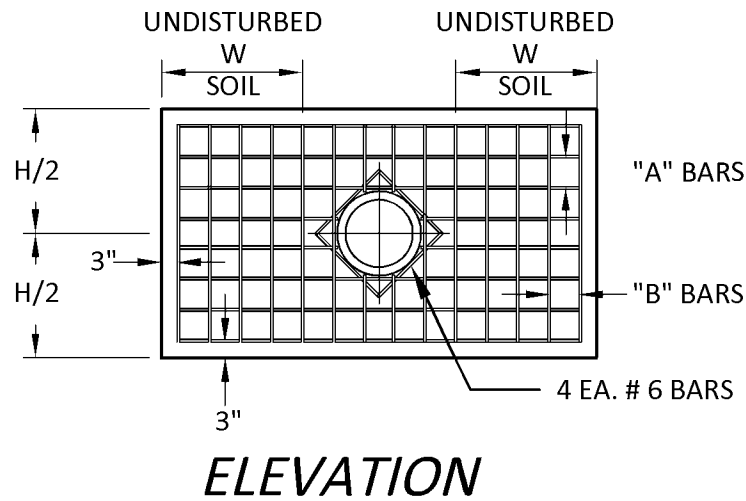
1. **IMPORTANT!**: DO NOT CONNECT TO METER THROUGH TOP OF BOX.
2. METER BOX INSTALLATION SHALL BE ON UNDISTURBED EARTH OR GRAVEL BASE.
3. METER SUPPLIED BY CITY CORPORATION.
4. ALL BRASS FITTING SHALL BE NSF/ANSI 61 (LEAD FREE) COMPLAINT.

5/8 IN & 1 IN TEMPORARY CONSTRUCTION METER

DETAIL NO.:

W-1(T)

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		 
SCALE: NONE	DATE: 11-17-15	
APPROVED: UEM - L. Bartlett		



NOTE:

1. PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIALS BEFORE CONCRETE COLLAR IS POURED.
2. USE SPLIT GLAND ON EXISTING PIPE.

<i>ANCHOR COLLAR SCHEDULE</i>						
PIPE SIZE	DIMENSIONS				REINFORCING BARS	
	W	H	T	M	"A" BARS	"B" BARS
4"	1.5'	2.0'	1.0'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
6"	1.5'	2.0'	1.0'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
8"	1.5'	2.5'	1.0'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
12"	2.0'	4.0'	1.5'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
16"	3.0'	4.5'	1.5'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
20"	3.0'	5.0'	2.0'	RETAINER GLAND	#6 @ 6"	#6 @ 6"
24"	3.5'	5.5'	2.0'	RETAINER GLAND	#7 @ 6"	#6 @ 10"
30"	6.5'	6.0'	2.5'	RETAINER GLAND	#8 @ 6"	#7 @ 10"
36"	7.0'	7.0'	2.5'	RETAINER GLAND	#8 @ 6"	#7 @ 10"

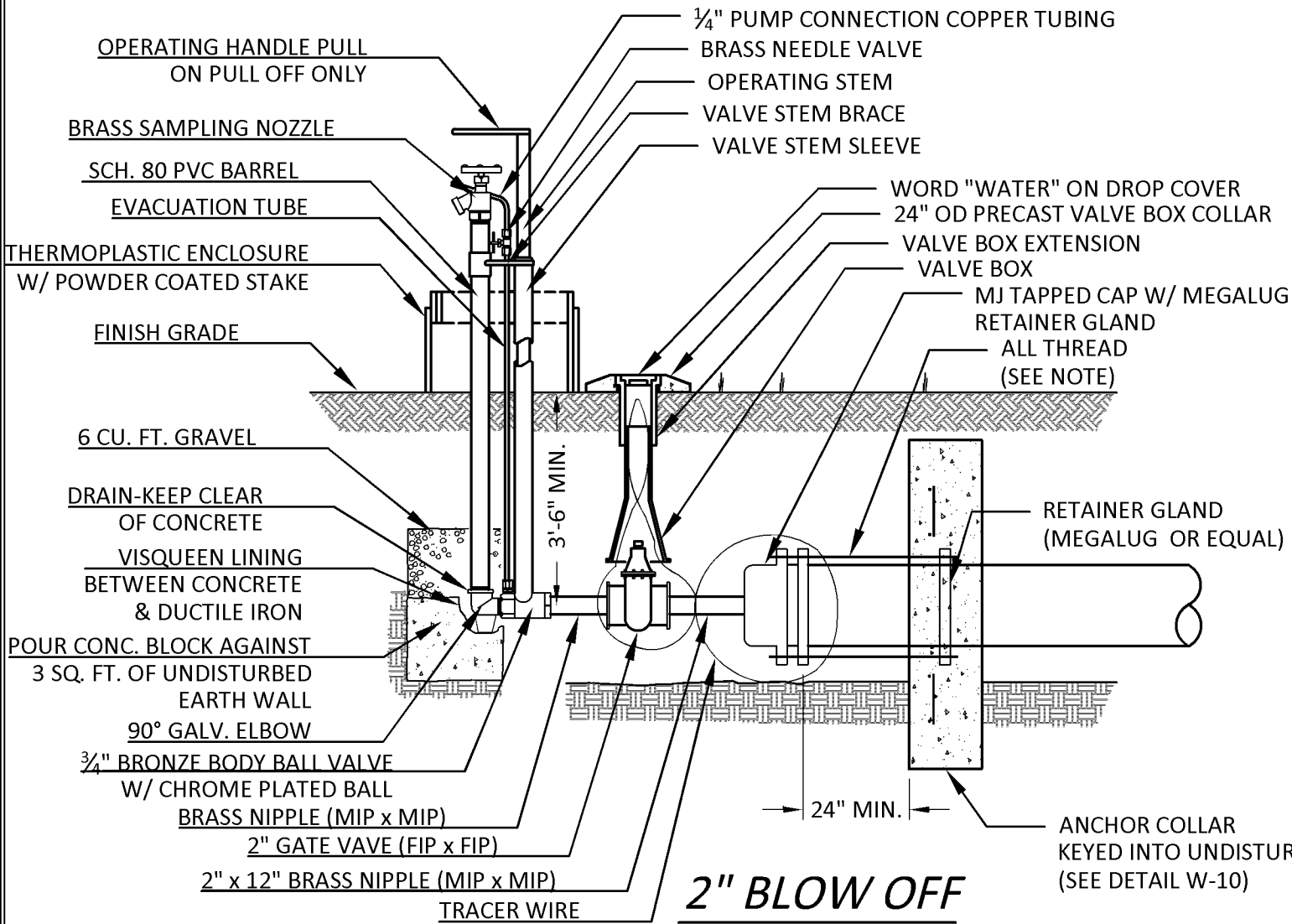
ANCHOR COLLAR

DETAIL NO.:

W-10

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		City Corporation <i>Russellville</i> <i>Water &</i> <i>Sewer System</i>
SCALE: NONE	DATE: 01-12-16	
APPROVED: UEM - L. Bartlett		

FOR NEW CONSTRUCTION ONLY - LOCATE WHERE SHOWN ON PLANS



NOTE:

1. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
2. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
3. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN. ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.
4. MEGALUG RETAINER GLANDS SHALL BE EBBA IRON SERIES 2000 FOR C900 PVC PIPE AND SERIES 1100 FOR DUCTILE IRON PIPE.
5. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.
6. DO NOT LOCATE 1" CURB STOP OVER "HOLE"
7. KEEP "HOLE" AS DRY AS POSSIBLE
8. DIP FITTINGS IN CHLORINE SOLUTION
9. USE TEFLON TAPE ON ALL THREADED JOINTS

BACTERIOLOGICAL SAMPLING STATION DETAIL

DETAIL NO.:

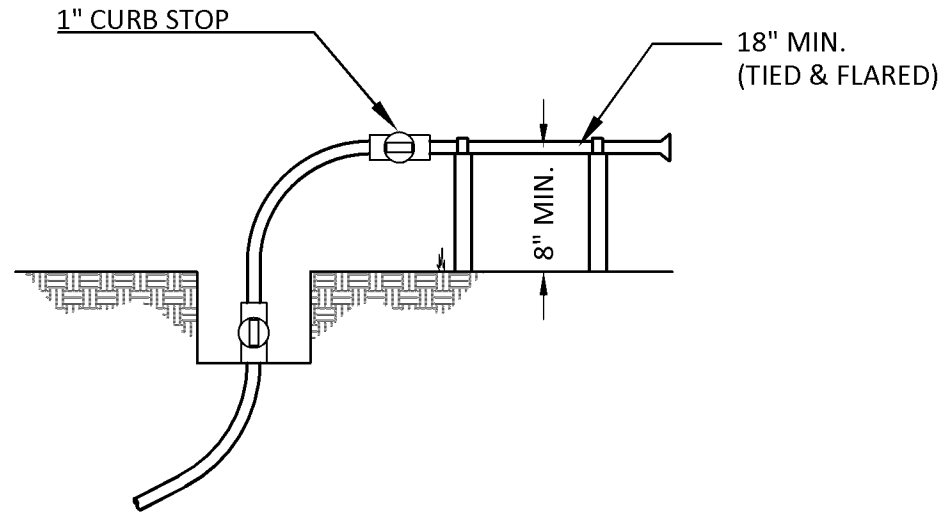
W-11

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville
 Water &
 Sewer System

SCALE: NONE DATE: 10-16-15
 APPROVED: UEM - L. Bartlett

FOR NEW CONSTRUCTION ONLY - LOCATE WHERE SHOWN ON PLANS



1" BLOW OFF

NOTES:

1. DO NOT LOCATE 1" CURB STOP OVER "HOLE"
2. KEEP "HOLE" AS DRY AS POSSIBLE
3. DIP FITTINGS IN CHLORINE SOLUTION
4. USE TEFLON TAPE ON ALL THREADED JOINTS

BACTERIOLOGICAL SAMPLING STATION DETAIL

DETAIL NO.:

W-11A

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205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
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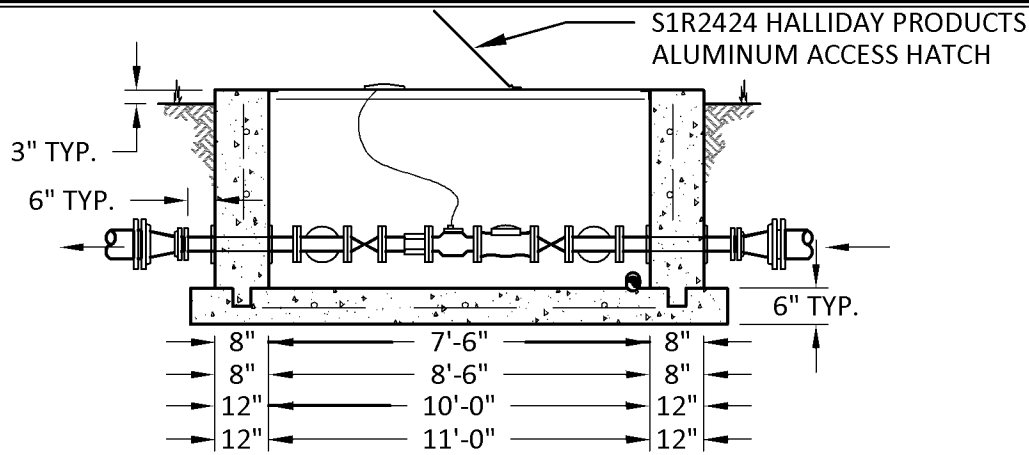
City Corporation

RW Russellville
Water &
Sewer System

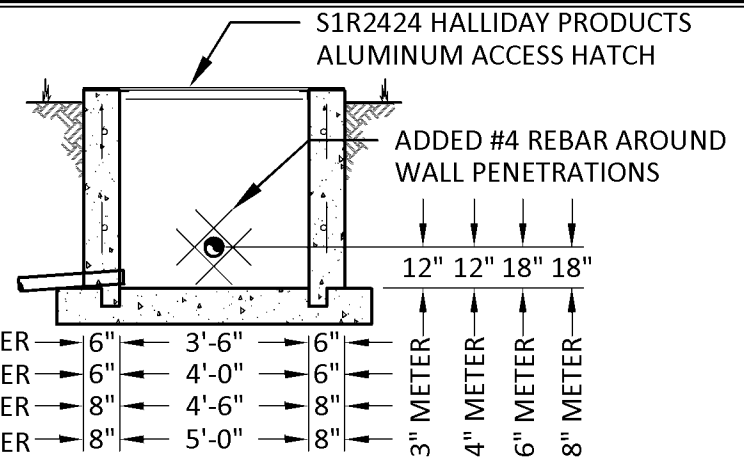
SCALE: NONE DATE: 10-16-15

APPROVED: UEM - L. Bartlett

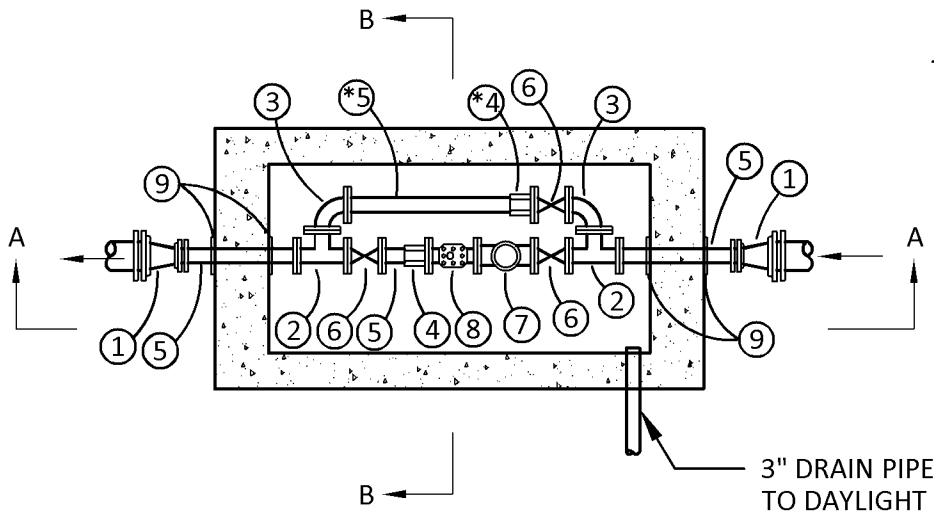
& S S



SECTION A-A



SECTION B-B



ALL FITTINGS DUCTILE IRON
ALL FITTING SIZES TO MATCH METER FLANGE

1. REDUCER OR SOLID SLEEVE AS REQ'D, M.J. x M.J.
2. TEE, FLANGED
3. 90° ELBOW, FLANGED
4. STUDDED FLANGE ADAPTER (SMITH BLAIR 912 OR EQUAL)
5. D.I.P., FLANGED TO PLAIN END
6. GATE VALVE, FLANGED, HAND WHEEL OPERATED
7. STRAINER, FLANGED (SEE SPECS.)
8. PRO-READ TURBO METER, FLANGED (SEE SPECS.)
9. MEGALUG M.J. RETAINER GLAND (FOR RESTRAINT)

NOTES:

1. ALL DIMENSIONS SHOWN ARE MINIMUMS.
2. * A FLANGED X FLANGE SPOOL MAY BE USED IN PLACE OF THE FLANGE X PLAN END & FLANGED COUPLING ADAPTER SPECIFIED AT THIS LOCATION
3. ALL CONCRETE 4500 PSI @ 28 DAYS REINFORCED @ 8" OCEW W/ #4'S.
4. USE STANDARD PRECAST VALVE VAULT AS MANUFACTURED BY PETERSON CONCRETE TANK CO. OR APPROVED EQUAL

METER STATION 3IN, 4IN, 6IN, & 8IN METERS

DETAIL NO.:

W-12

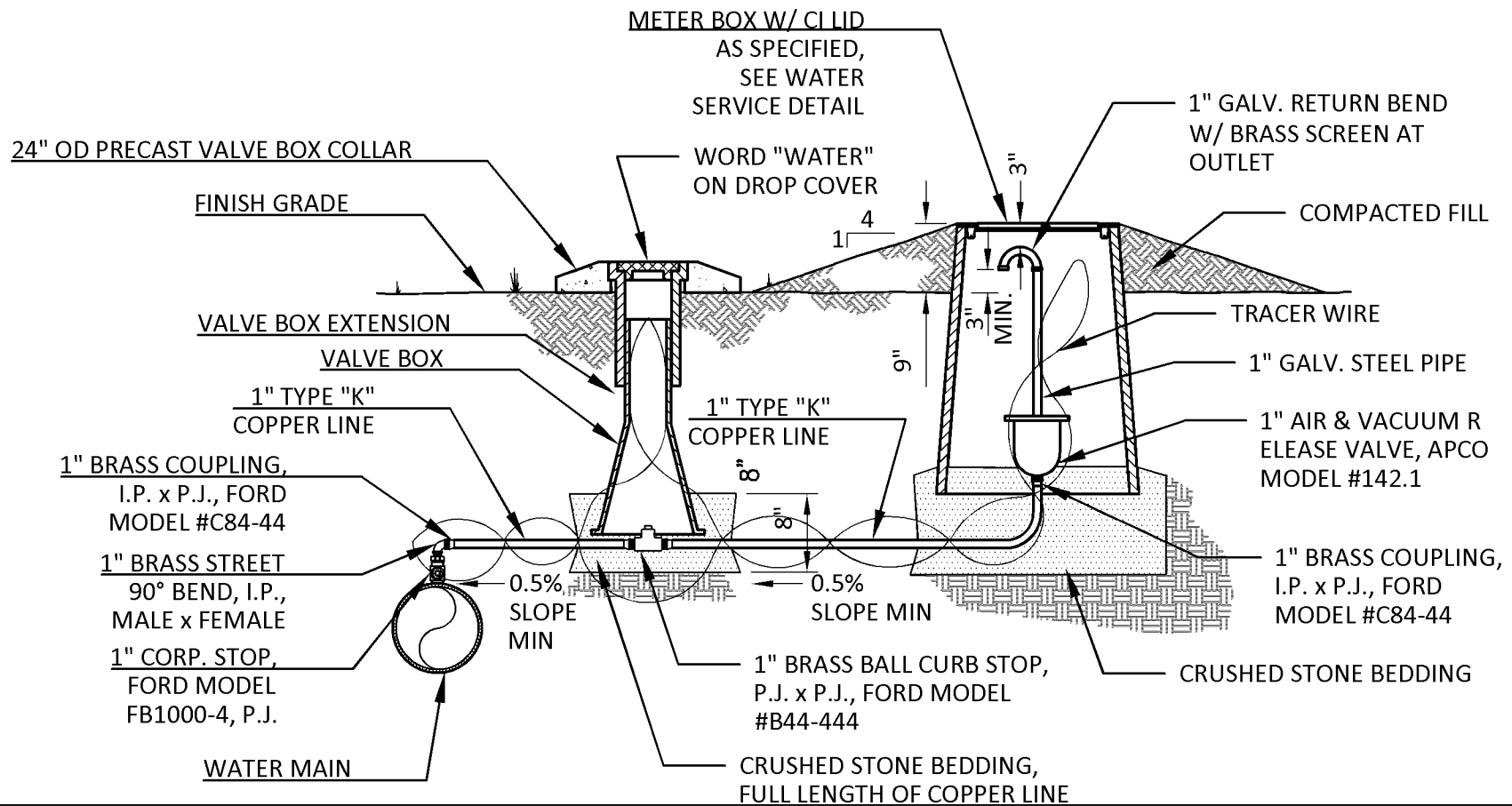
P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation
Russellville
Water &
Sewer System

SCALE: NONE DATE: 10-20-15
APPROVED: UEM - L. Bartlett

NOTES:

1. COPPER LINE SHALL BE CONTINUOUS UPHILL GRADE FROM WATER MAIN TO AIR & VAC. RELEASE VALVE.
2. AIR & VAC. RELEASE VALVE ASSEMBLY MAY BE INSTALLED ABOVE AND PARALLEL TO WATER MAIN (COMMON TRENCH) IF NOTED ON PLANS AND NOT SUBJECT TO VEHICLE TRAFFIC.
3. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.



MANUAL AIR RELEASE VALVE

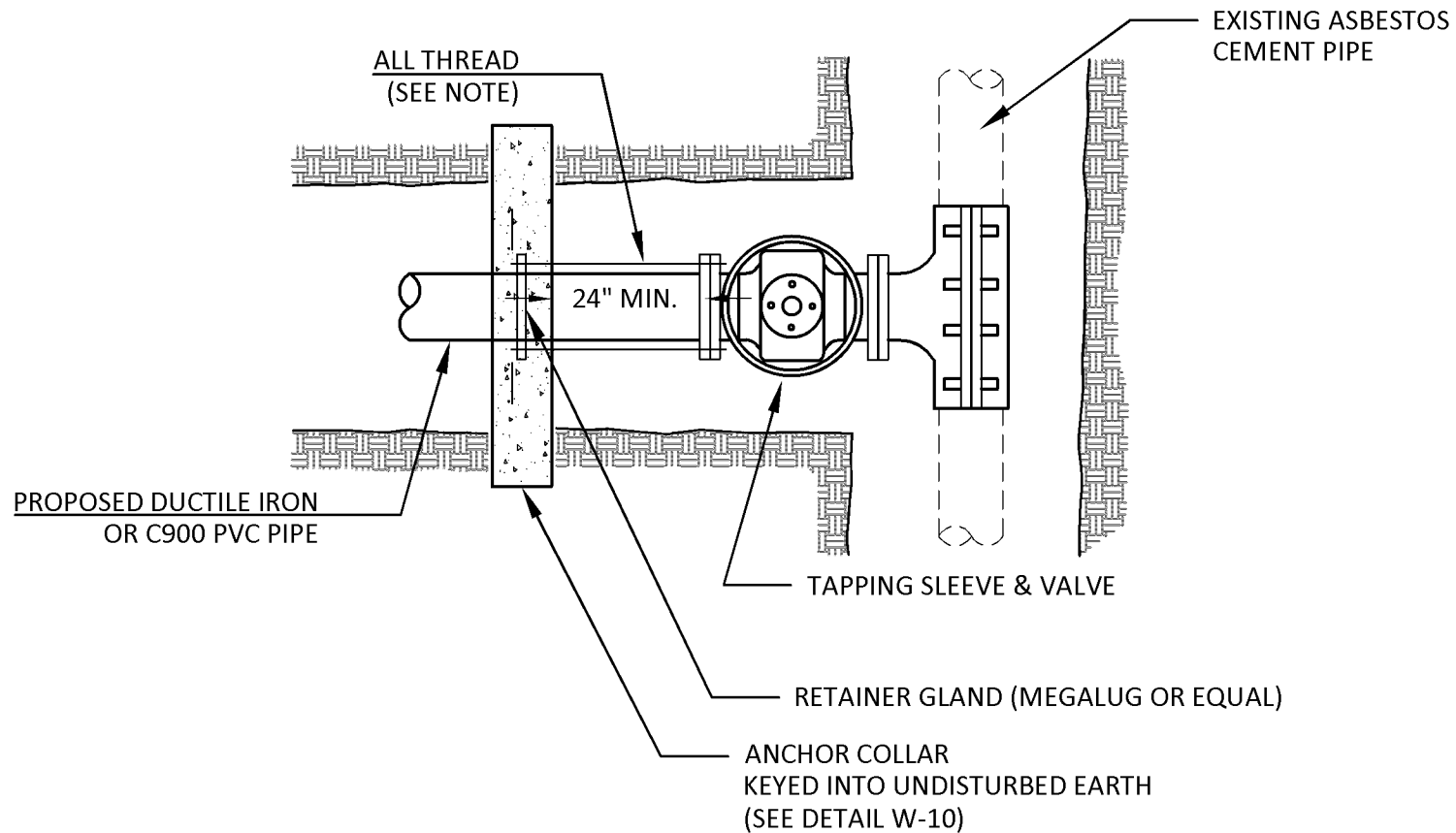
DETAIL NO.:

W-13

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation
Russellville
Water & Sewer System

SCALE: NONE DATE: 10-16-15
APPROVED: UEM - L. Bartlett






NOTE:

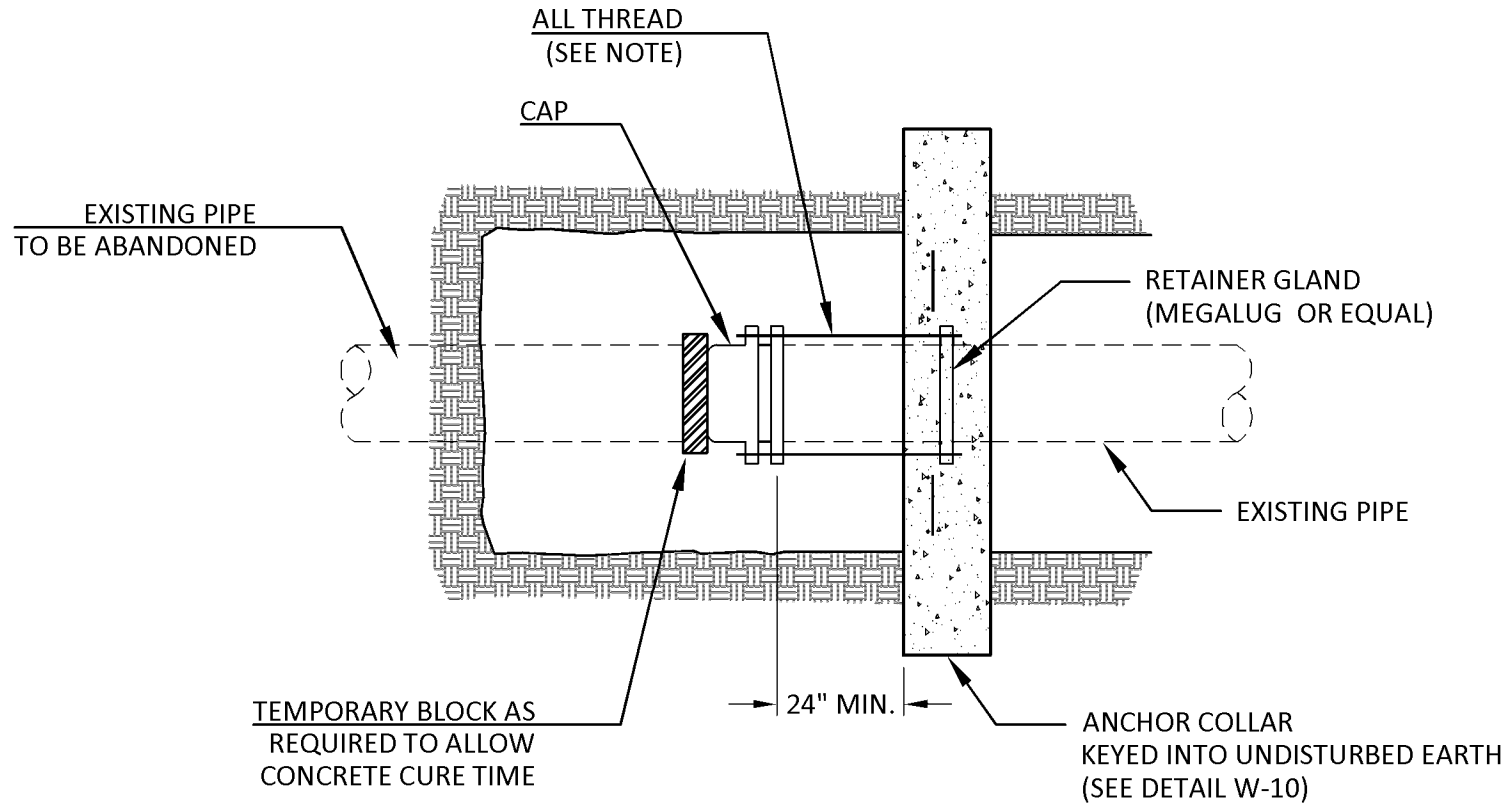
1. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
2. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
3. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN.
ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.

TAPPING SLEEVE & VALVE ON ASBESTOS CEMENT PIPE

DETAIL NO.:

W-14

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		 
SCALE: NONE	DATE: 10-16-15	
APPROVED: UEM - L. Bartlett		



NOTE:

1. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
2. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
3. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN.
ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.

CUT & CAP

DETAIL NO.:

W-15

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

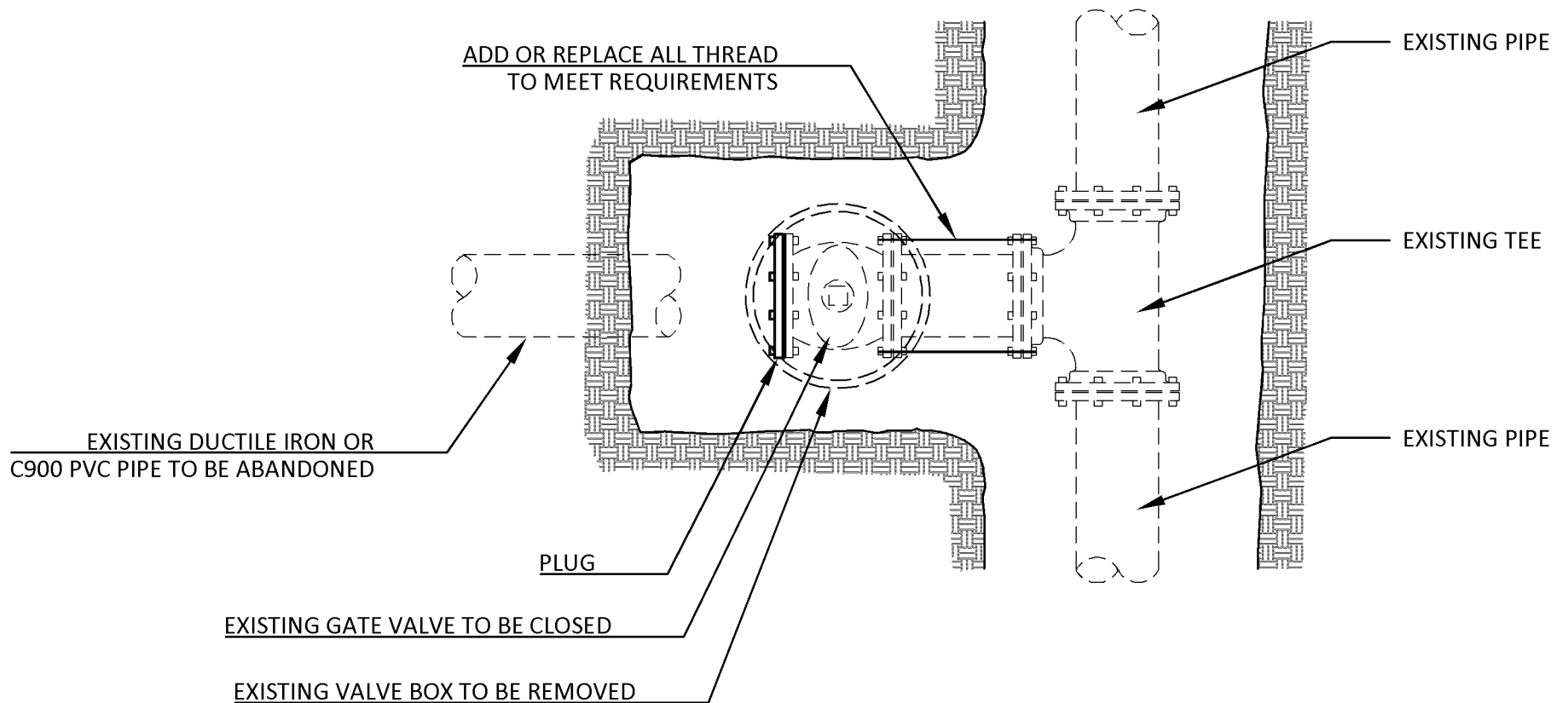
City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 10-16-15

APPROVED: UEM - L. Bartlett





NOTE:

1. PAVEMENT REPAIRS TO BE MADE IN ACCORDANCE WITH STANDARD DETAILS IF REQUIRED
2. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
3. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
4. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN.
ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.

GATE VALVE ABANDONMENT NEAR TEE

DETAIL NO.:

W-16

P.O. Box 3186
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ph: 479.968.2105
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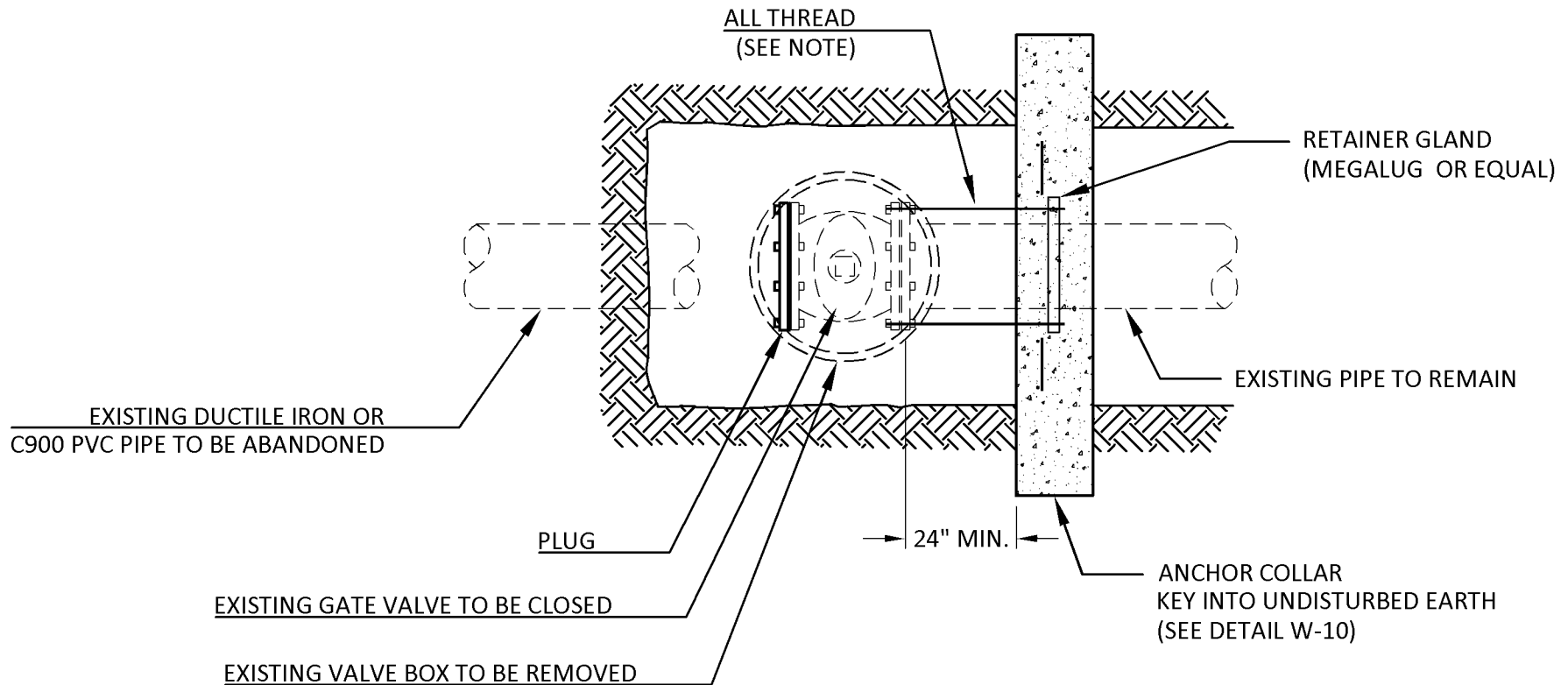
City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 10-16-15

APPROVED: UEM - L. Bartlett







NOTE:

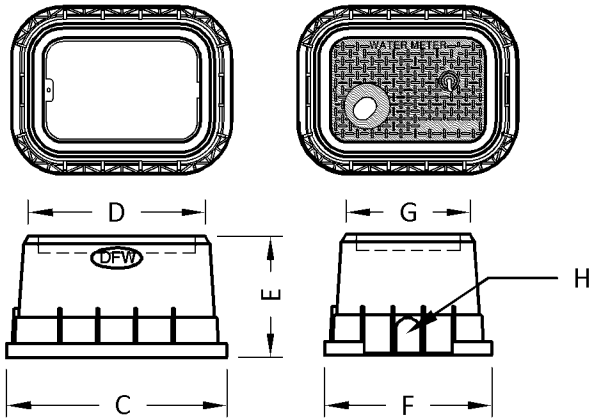
1. PAVEMENT REPAIRS TO BE MADE IN ACCORDANCE WITH STANDARD DETAILS IF REQUIRED
2. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
3. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
4. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN. ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.

GATE VALVE ABANDONMENT

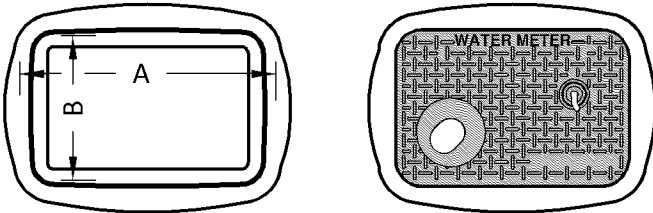
DETAIL NO.:

W-17

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		  <i>Russellville</i> <i>Water &</i> <i>Sewer System</i>
SCALE: NONE	DATE: 10-16-15	
APPROVED: UEM - L. Bartlett		



5/8" STANDARD DUTY PLAN

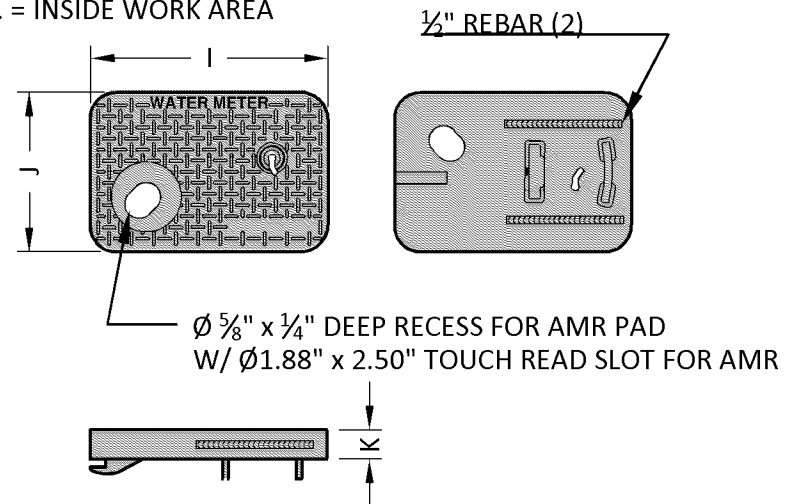


5/8" TRAFFIC DUTY, 1" SERVICE & 2" SERVICE PLAN

	5/8" STANDARD DUTY	5/8" TRAFFIC DUTY	1" SERVICE	2" SERVICE
	DFW1200TT.12.BODY DFW36C-AF3EQT-LID	DFW36C-12-AF3EQT DFW36C-12-BODY DFW36C-AF3EQT-LID	DFW37C-12-AF3EQT DFW37C-12-BODY DFW37C-AF3EQT-LID	DFW65C-14-AF3EQT DFW65C-14-BODY DFW65C-AF3EQT-LID
A	N/A	16 3/4" I.W.A.	19 7/8" I.W.A.	28 3/8" I.W.A.
B	N/A	9 1/2" I.W.A.	10 7/16" I.W.A.	14 1/2" I.W.A.
C	21 13/16"	18 7/8"	21"	30 3/8"
D	17 9/16"	15 5/8"	17 7/8"	N/A
E	12"	12 1/2"	12 1/2"	14"
F	16 9/16"	13 3/4"	14 3/4"	18 3/4"
G	12 5/16"	10 1/2"	11 3/16"	N/A
H	2 1/2" x 3 1/2"	3" x 4"	2" x 3"	2 1/2" x 3 1/2"
I	15 5/8"	15 1/8"	17 3/4"	26 7/8"
J	10 3/8"	10 1/8"	11"	15 1/4"
K	1 3/4"	1 3/4"	1 3/4"	1 7/8"
				SIDES ARE BOWED OUT 1/2" BOTTOM FLG IS 2 1/4" WIDE

NOTES:

1. I.W.A. = INSIDE WORK AREA



5/8" STANDARD DUTY, 5/8" TRAFFIC DUTY, 1" SERVICE & 2" SERVICE LID

5/8 IN - 2 IN METER BOX DETAIL

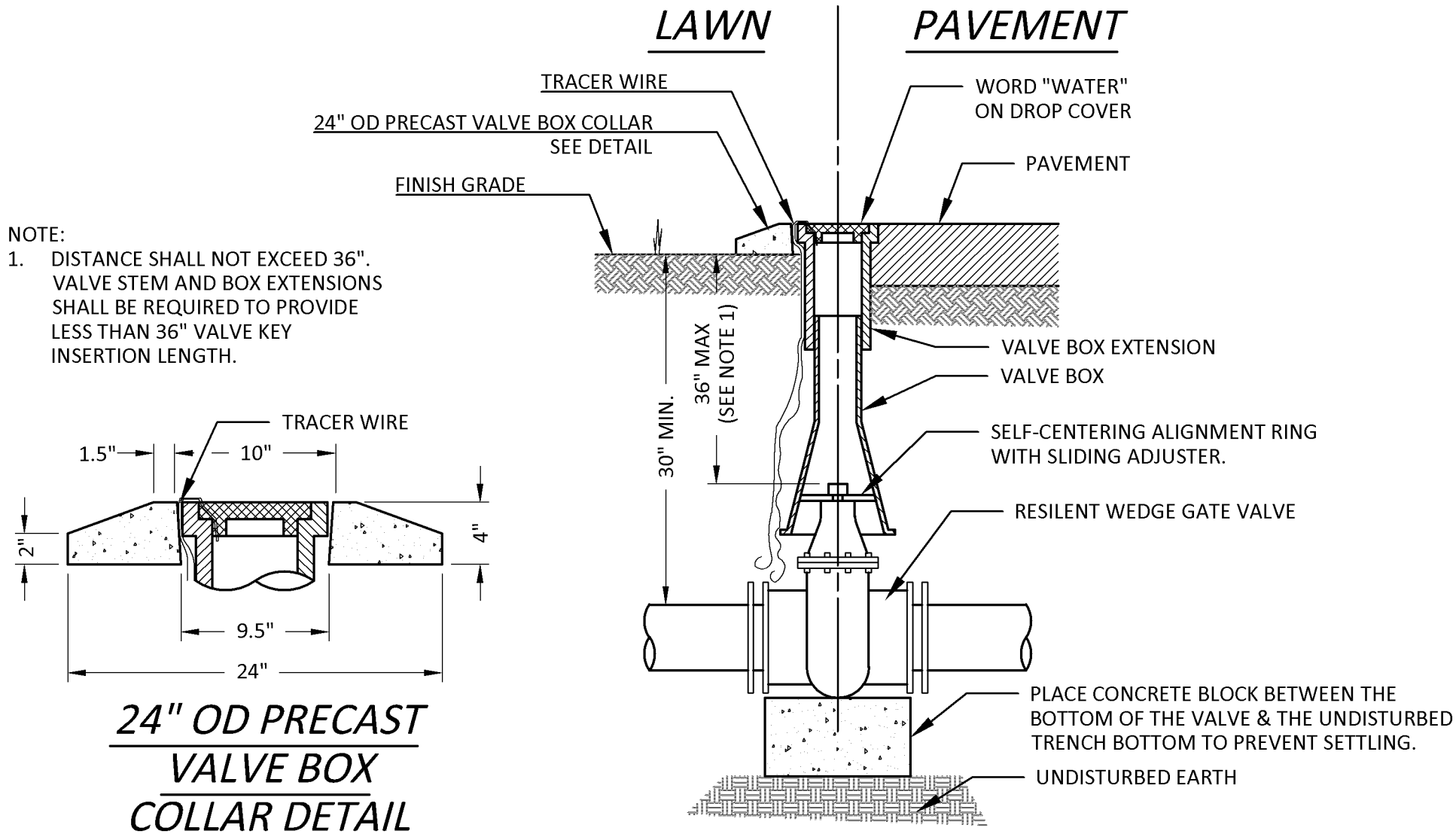
DETAIL NO.:

W-18

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation
Russellville
Water &
Sewer System

SCALE: NONE DATE: 01-11-16
APPROVED: UEM - L. Bartlett



GATE VALVE & VALVE BOX DETAIL

DETAIL NO.:

W-19

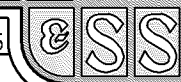
P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

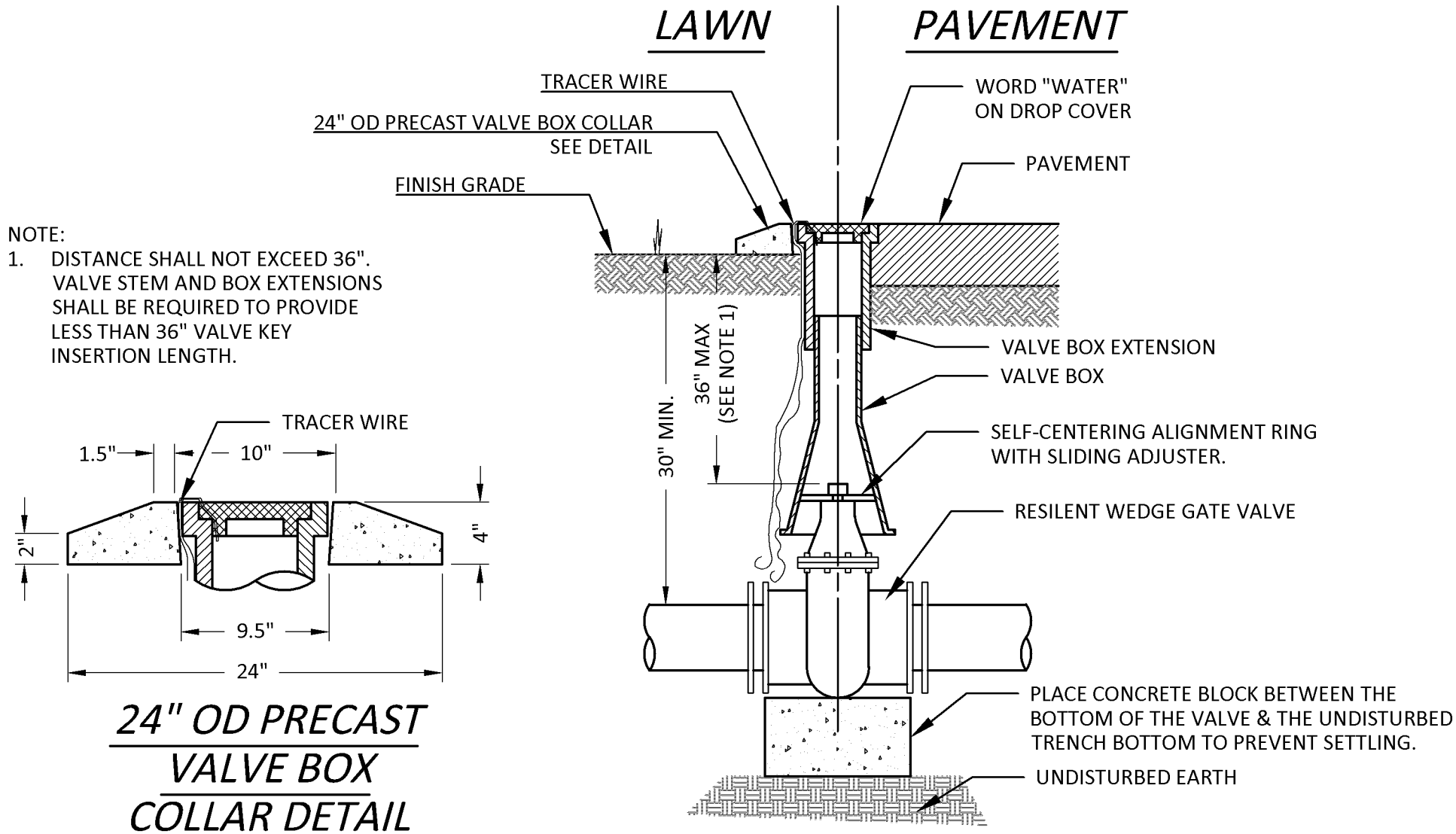
City Corporation

RW Russellville Water & Sewer System

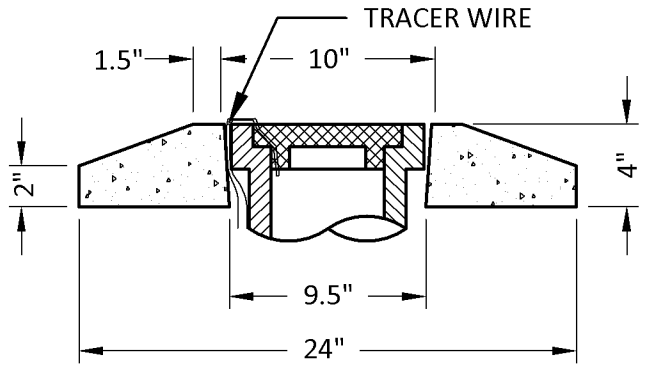
SCALE: NONE DATE: 11-17-15

APPROVED: UEM - L. Bartlett





NOTE:
 1. DISTANCE SHALL NOT EXCEED 36". VALVE STEM AND BOX EXTENSIONS SHALL BE REQUIRED TO PROVIDE LESS THAN 36" VALVE KEY INSERTION LENGTH.



***24" OD PRECAST
 VALVE BOX
 COLLAR DETAIL***

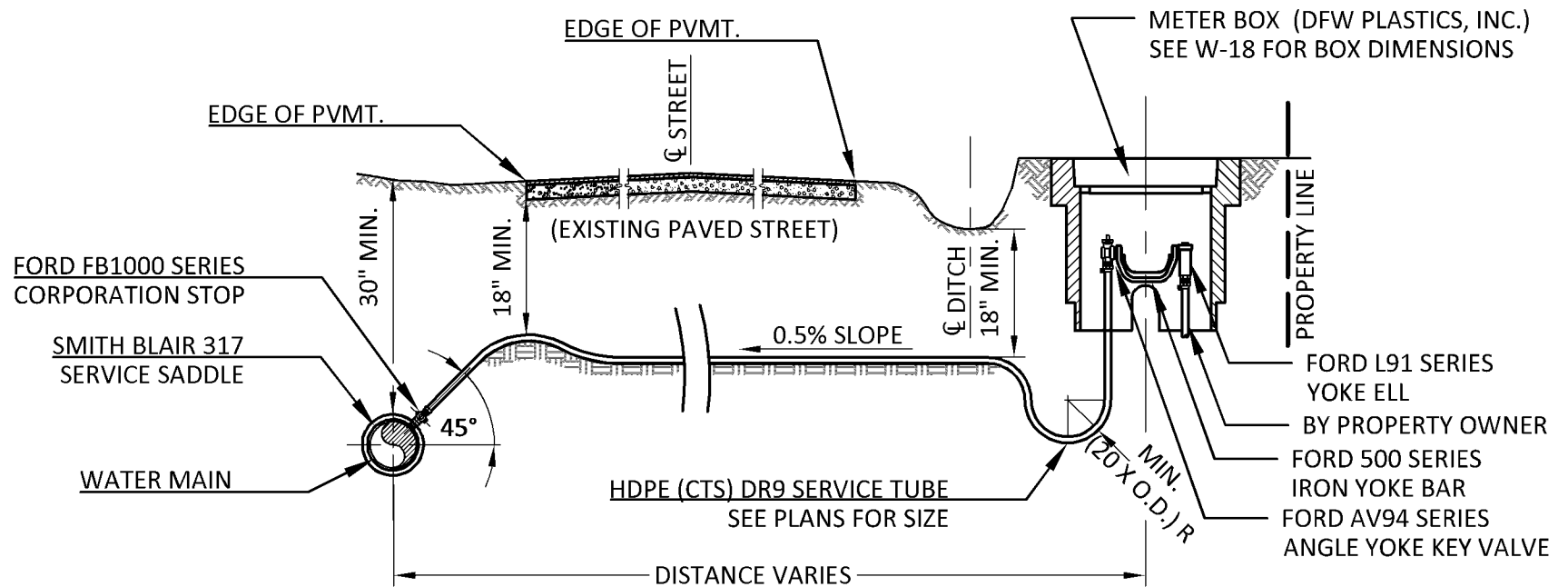
GATE VALVE & VALVE BOX DETAIL

DETAIL NO.:
W-19

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville
 Water &
 Sewer System

SCALE: NONE DATE: 11-17-15
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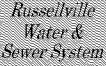

NOTES:

1. METER BOX INSTALLATION SHALL BE ON UNDISTURBED EARTH OR GRAVEL BASE.
2. METER SUPPLIED BY CITY CORPORATION.
3. ALL BRASS FITTING SHALL BE NSF/ANSI 61 (LEAD FREE) COMPLAINT.
4. MINIMUM COVER THROUGH OPEN DITCH 24".

5/8 IN & 1 IN LONG SIDE WATER SERVICE DETAIL

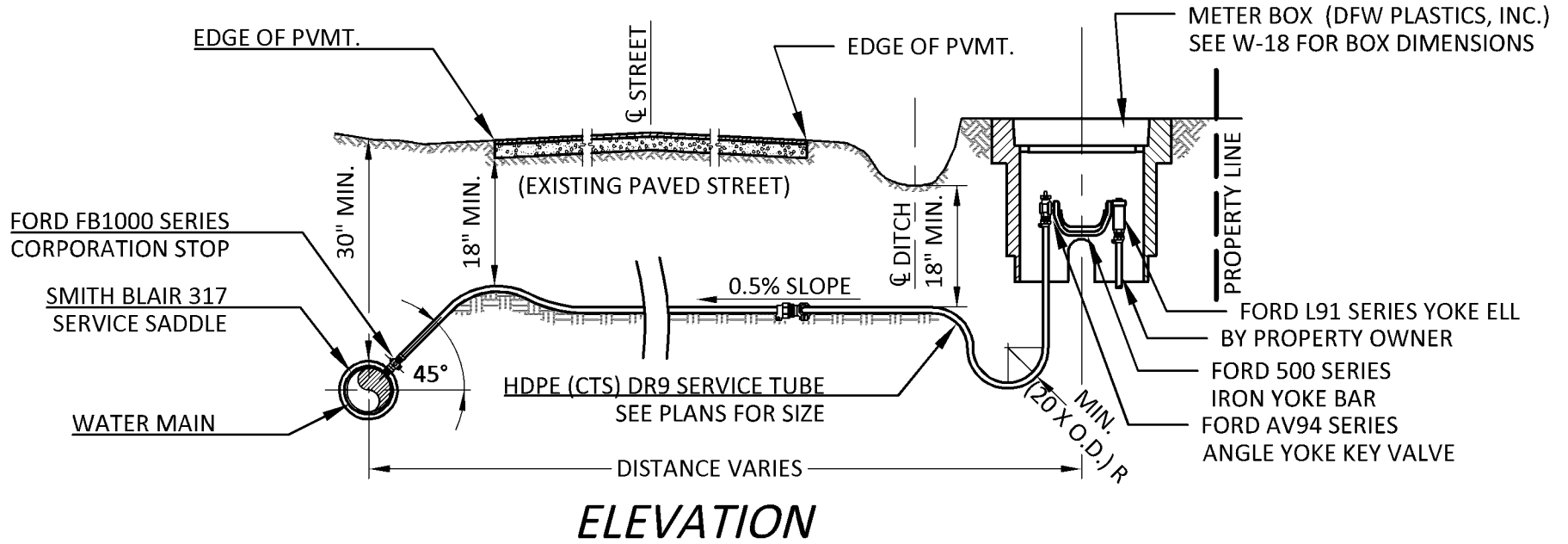
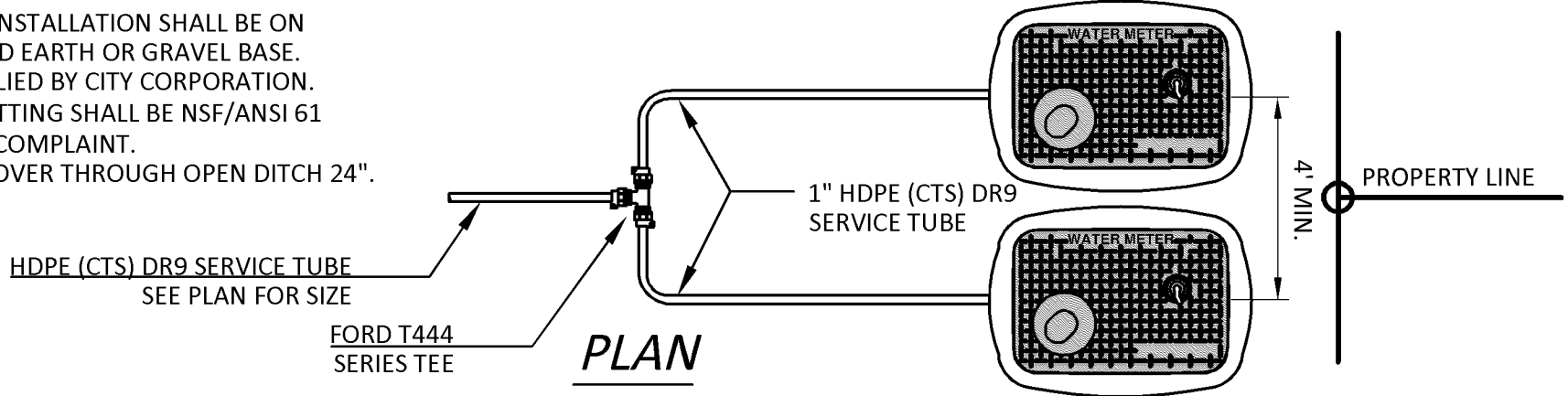
DETAIL NO.:

W-2

P.O. Box 3186		
205 W. 3rd Place		
Russellville, AR 72801		
ph: 479.968.2105		
www.citycorporation.com		
SCALE: NONE	DATE: 11-17-15	
APPROVED: UEM - L. Bartlett		

NOTES:

1. METER BOX INSTALLATION SHALL BE ON UNDISTURBED EARTH OR GRAVEL BASE.
2. METER SUPPLIED BY CITY CORPORATION.
3. ALL BRASS FITTING SHALL BE NSF/ANSI 61 (LEAD FREE) COMPLAINT.
4. MINIMUM COVER THROUGH OPEN DITCH 24".



**5/8 IN & 1 IN LONG SIDE WATER SERVICE DETAIL
TWO SERVICES BULL HEADED**

DETAIL NO.:

W-3

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation

RW Russellville
Water &
Sewer System

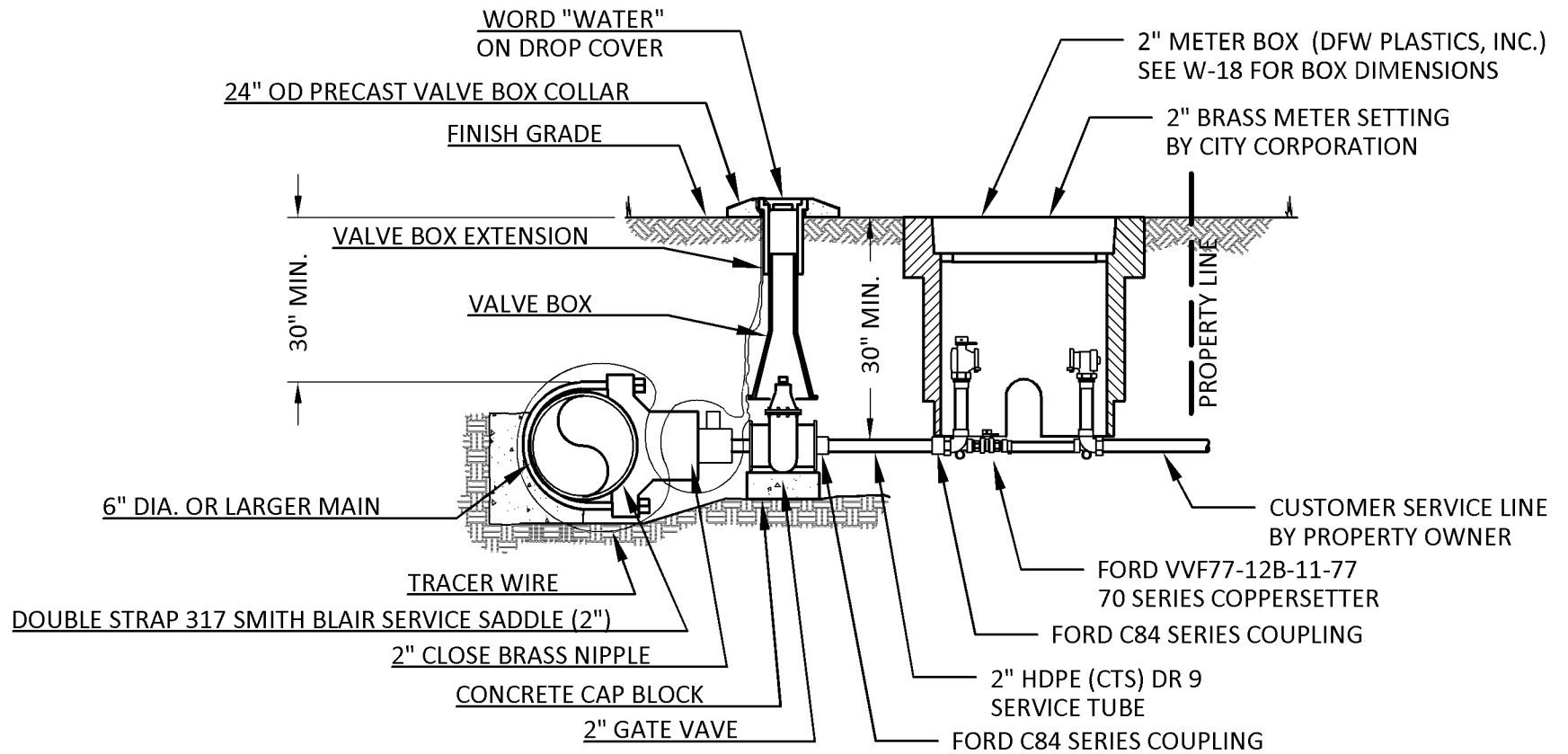
SCALE: NONE DATE: 11-25-15

APPROVED: UEM - L. Bartlett



NOTES:

1. LEADER LENGTHS OVER 24" BETWEEN TEE AND VALVE OR VALVE AND METER, USE D.I. PIPE W/ RETAINER GLANDS
2. EXTENSION BARREL AND STEM FOR EXTRA BURY DEPTH IF NECESSARY.
3. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.
4. METER BOX INSTALLATION SHALL BE ON UNDISTURBED EARTH OR GRAVEL BASE.
5. METER SUPPLIED BY CITY CORPORATION.
6. ALL BRASS FITTING SHALL BE NSF/ANSI 61 (LEAD FREE) COMPLAINT.



2 IN METER SERVICE DETAIL

DETAIL NO.:

W-3A

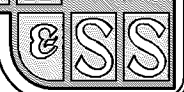
P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation

RW Russellville
Water &
Sewer System

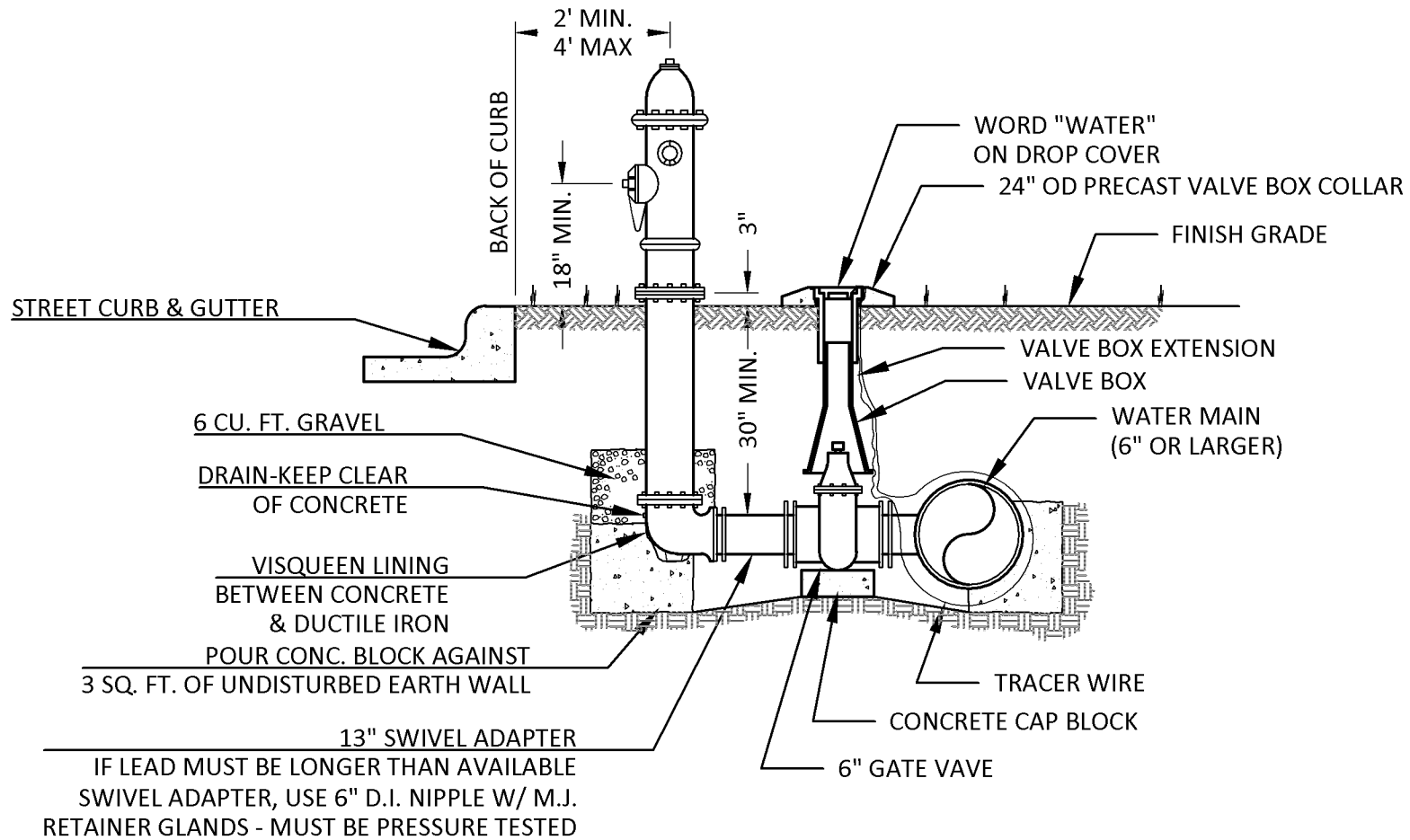
SCALE: NONE DATE: 11-25-15

APPROVED: UEM - L. Bartlett



NOTES:




1. ALL HYDRANTS TO BE SET PLUMB W/ NOZZLE FACING STREET.
2. LEADER LENGTHS OVER 24" BETWEEN TEE AND VALVE OR VALVE AND HYDRANT, USE D.I. PIPE W/ RETAINER GLANDS
3. EXTENSION BARREL AND STEM FOR EXTRA BURY DEPTH IF NECESSARY.
4. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.

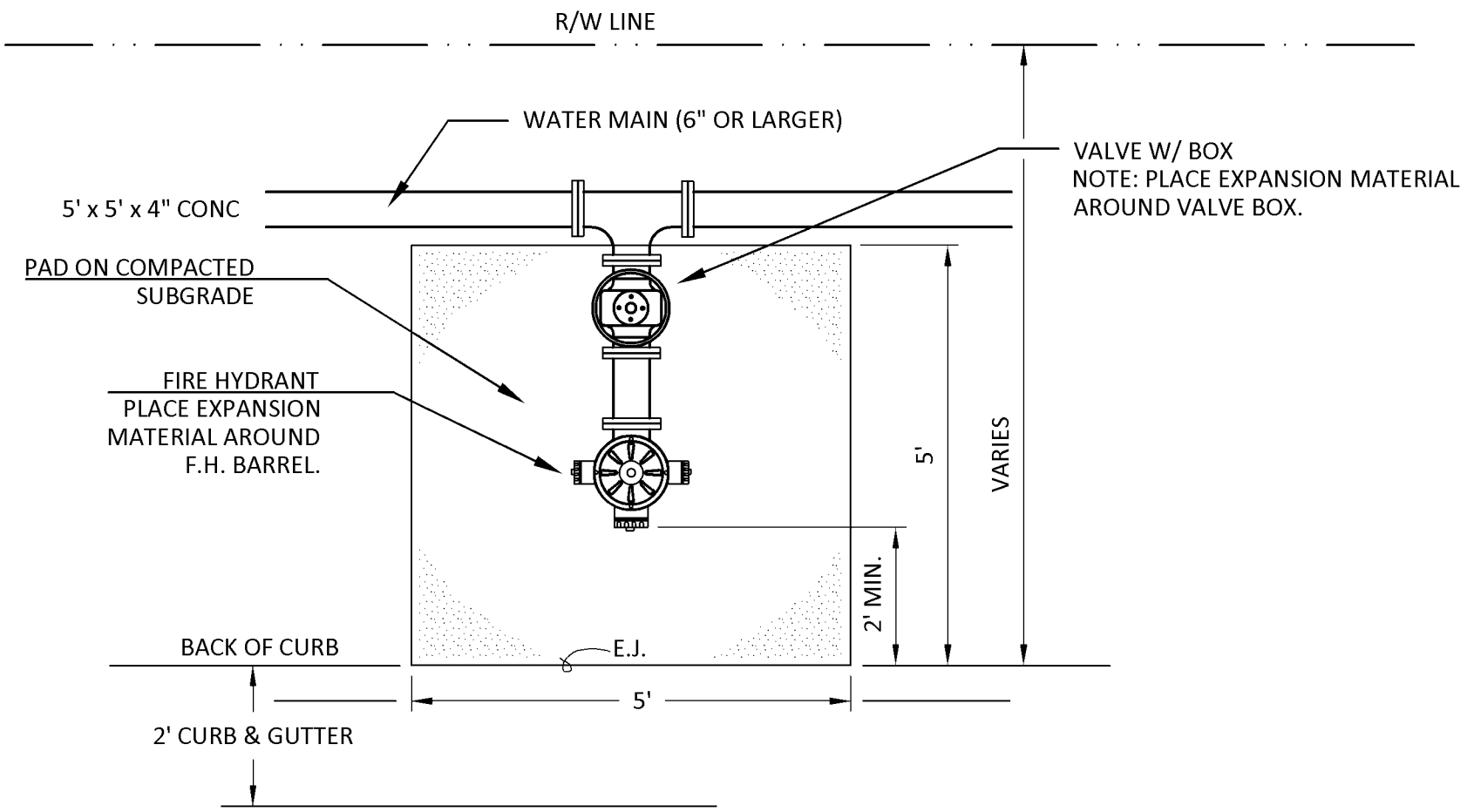


FIRE HYDRANT ASSEMBLY & GATE DETAIL

DETAIL NO.:

W-4

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		  
SCALE: NONE	DATE: 11-17-15	
APPROVED: UEM - L. Bartlett		



(CITY OF RUSSELLVILLE REQUIREMENT FOR ALL)
 FIRE HYDRANT INSTALLATIONS.

NOTE:
 FIRE HYDRANT SETTINGS ON SITE NOT ADJACENT TO
 CURB & GUTTER STREET REQUIRE INDIVIDUAL DESIGN.

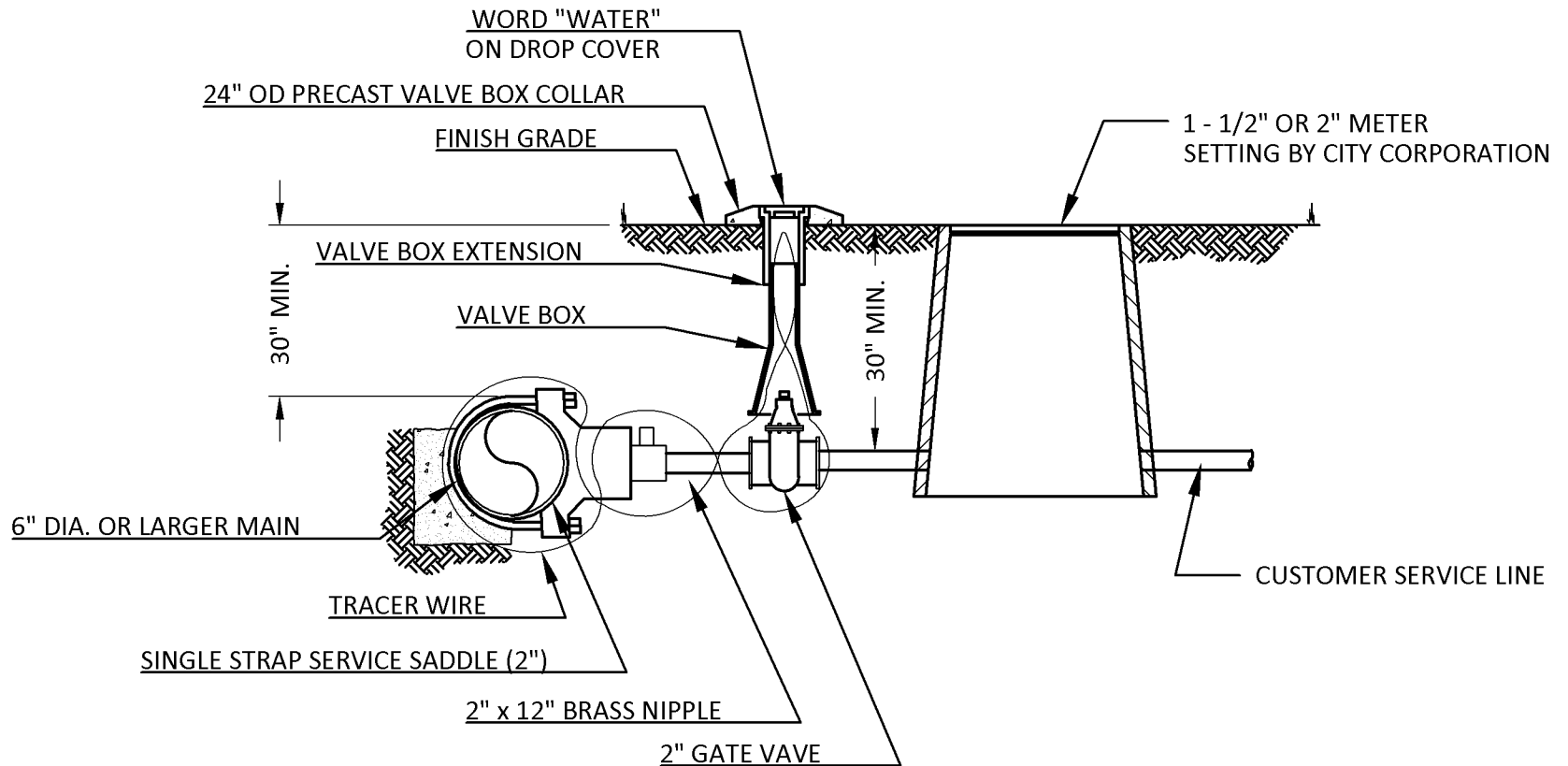
FIRE HYDRANT CONCRETE PAD DETAIL

DETAIL NO.:
W-5

P.O. Box 3186		
205 W. 3rd Place		
Russellville, AR 72801		
ph: 479.968.2105		
www.citycorporation.com		
SCALE: NONE	DATE: 10-07-15	
APPROVED: UEM - L. Bartlett		

NOTES:

1. ALL HYDRANTS TO BE SET PLUMB W/ NOZZLE FACING STREET.
2. LEADER LENGTHS OVER 24" BETWEEN TEE AND VALVE OR VALVE AND HYDRANT, USE D.I. PIPE W/ RETAINER GLANDS
3. EXTENSION BARREL AND STEM FOR EXTRA BURY DEPTH IF NECESSARY.
4. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.



1.5IN OR 2IN METER OUTLET ON 6IN OR LARGER MAIN

DETAIL NO.:

W-6B

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

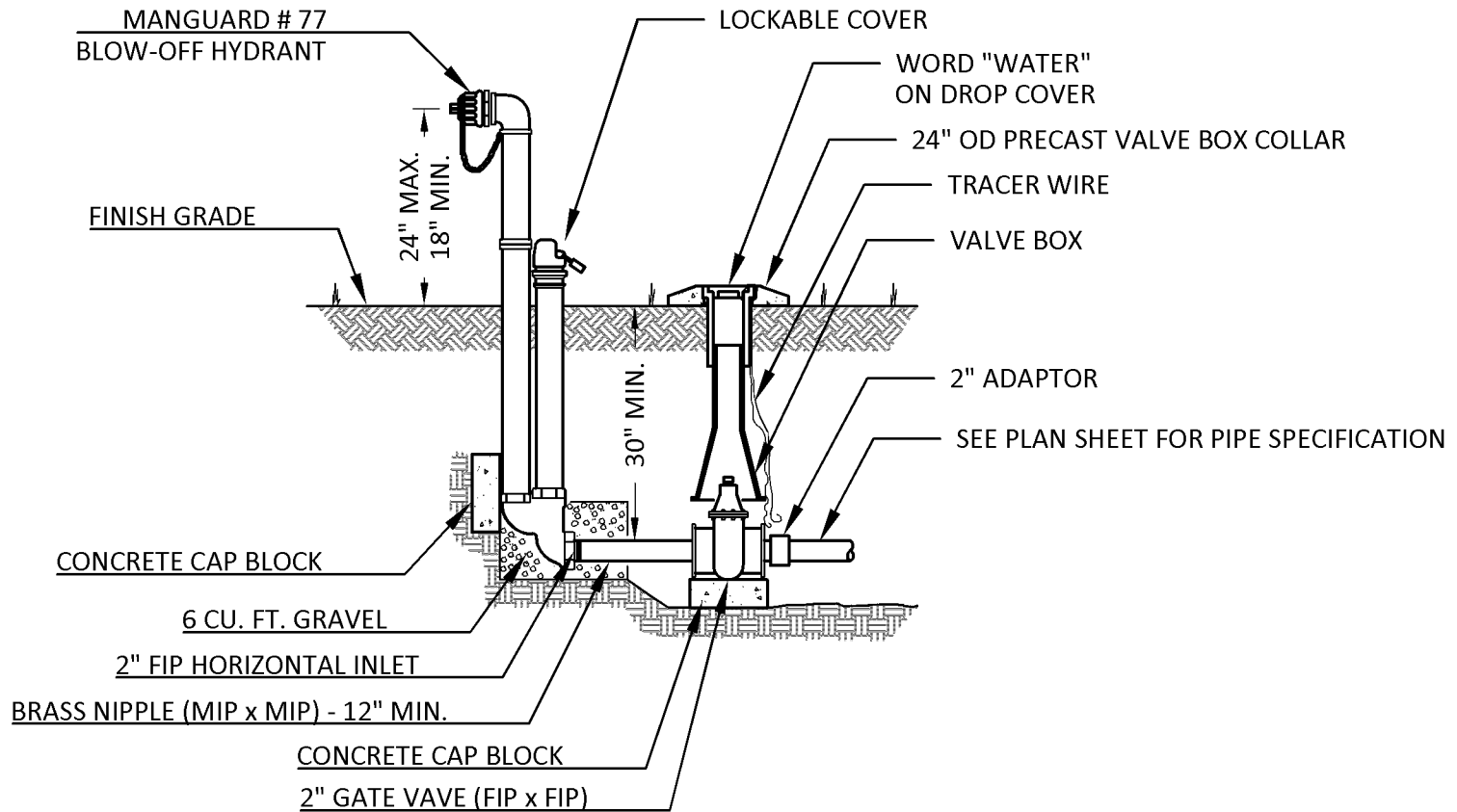
City Corporation

RW Russellville
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 Sewer System

SCALE: NONE DATE: 10-07-15

APPROVED: UEM - L. Bartlett

E S S







NOTE:

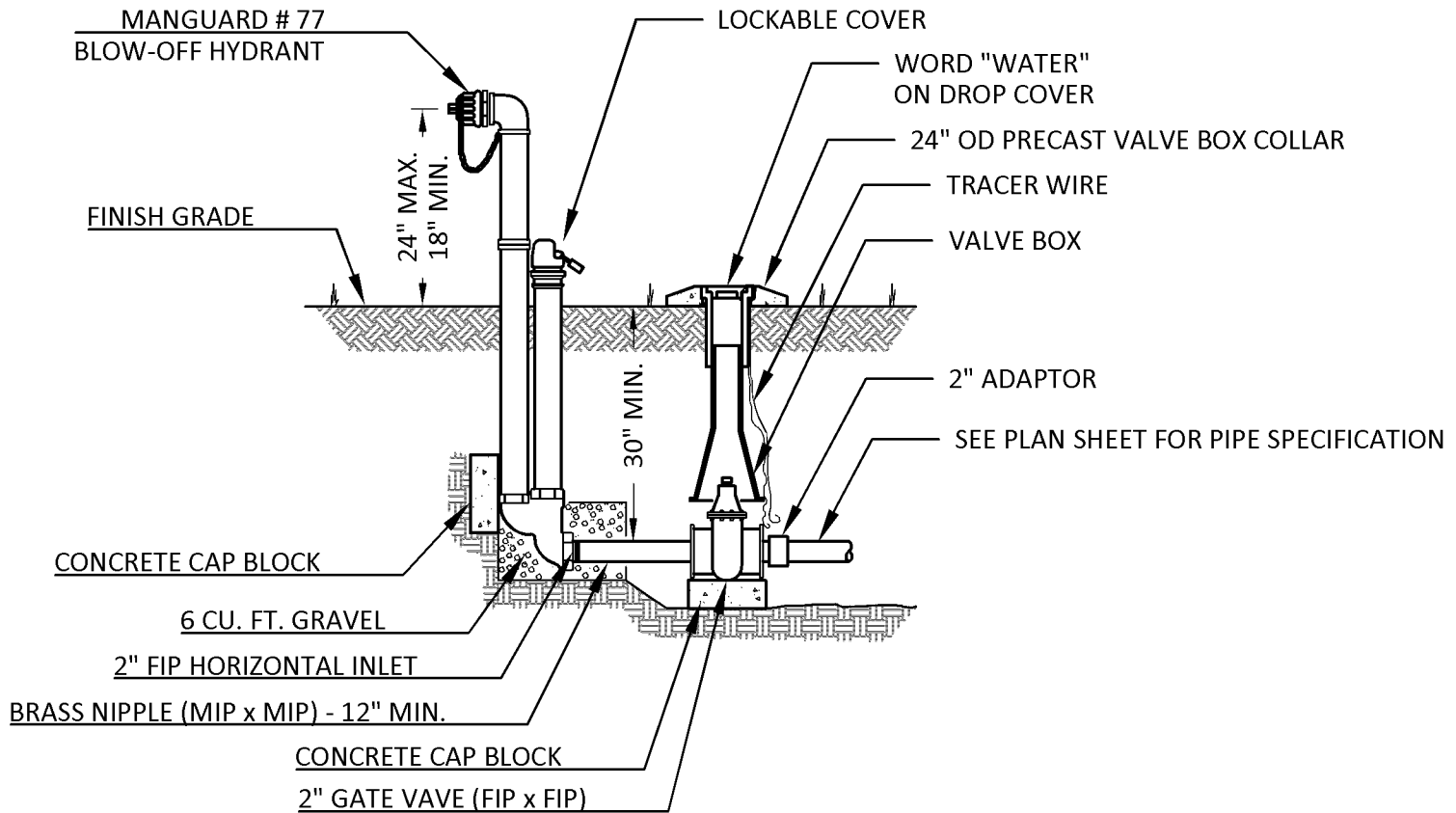
1. POST HYDRANT SHALL BE NON-FREEZING, SELF DRAINING TYPE WITH A 30" MIN. BURY DEPTH.
2. HYDRANT SHALL BE FURNISHED WITH 2" FIP, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE LEFT.
3. ALL WORKING PARTS SHALL BE BRONZE TO BRONZE DESIGN AND BE SERVICEABLE FROM ABOVE GRADE - NO DIGGING.
4. THE OUTLET SHALL ALSO BE 2-1/2" NST.
5. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE.

END OUTLET 2 IN BLOW OFF HYDRANT DETAIL

DETAIL NO.:

W-6B

P.O. Box 3186		  
205 W. 3rd Place		
Russellville, AR 72801		
ph: 479.968.2105		
www.citycorporation.com		
SCALE: NONE	DATE: 11-18-15	
APPROVED: UEM - L. Bartlett		




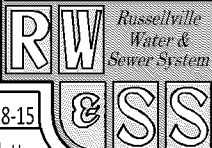
NOTE:

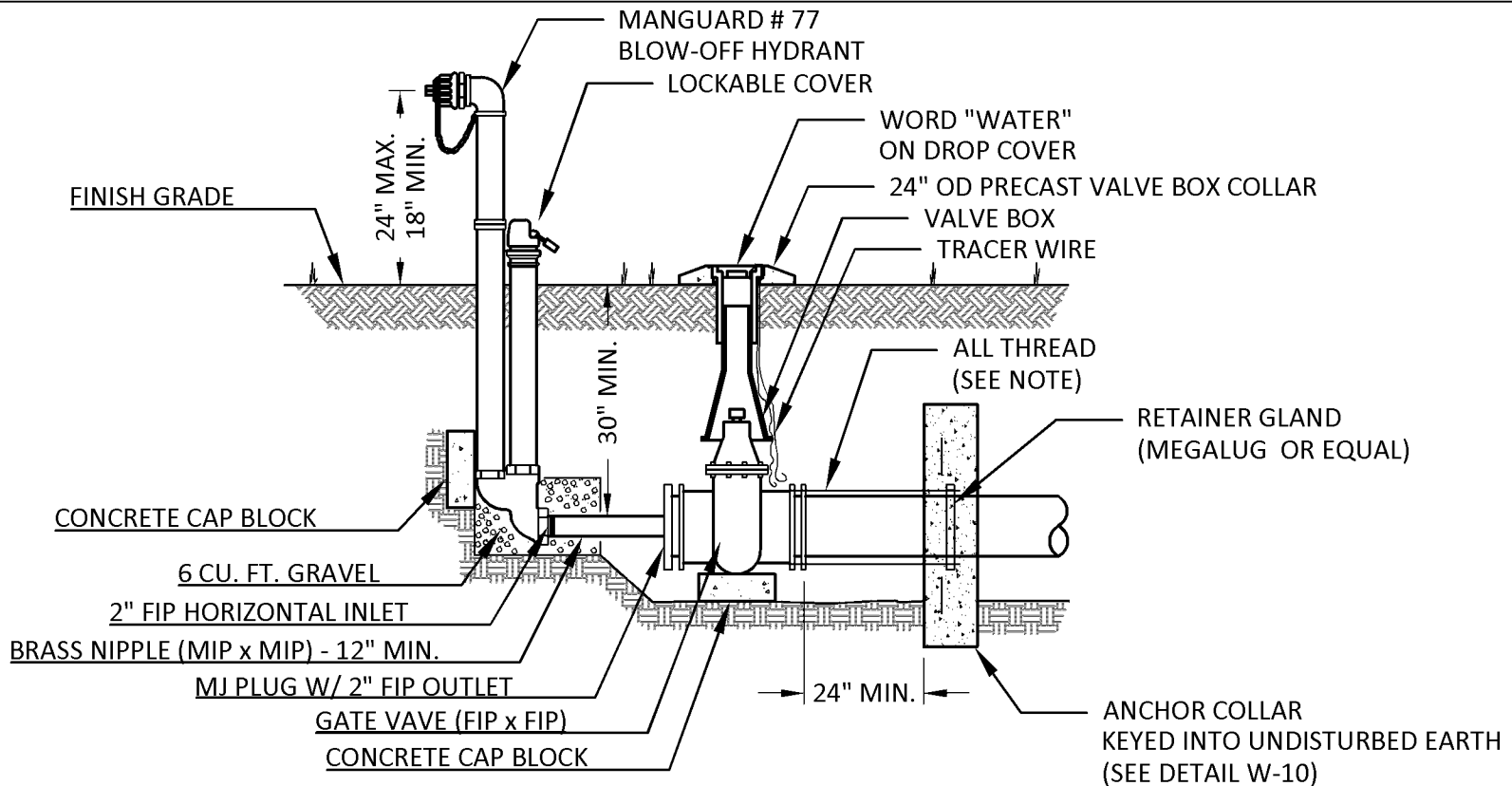
1. POST HYDRANT SHALL BE NON-FREEZING, SELF DRAINING TYPE WITH A 30" MIN. BURY DEPTH.
2. HYDRANT SHALL BE FURNISHED WITH 2" FIP, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE LEFT.
3. ALL WORKING PARTS SHALL BE BRONZE TO BRONZE DESIGN AND BE SERVICEABLE FROM ABOVE GRADE - NO DIGGING.
4. THE OUTLET SHALL ALSO BE 2-1/2" NST.
5. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE.

2 IN BLOW OFF HYDRANT ASSEMBLY

DETAIL NO.:

W-6C

P.O. Box 3186		 
205 W. 3rd Place		
Russellville, AR 72801		
ph: 479.968.2105		
www.citycorporation.com		
SCALE: NONE	DATE: 11-18-15	
APPROVED: UEM - L. Bartlett		



NOTE:

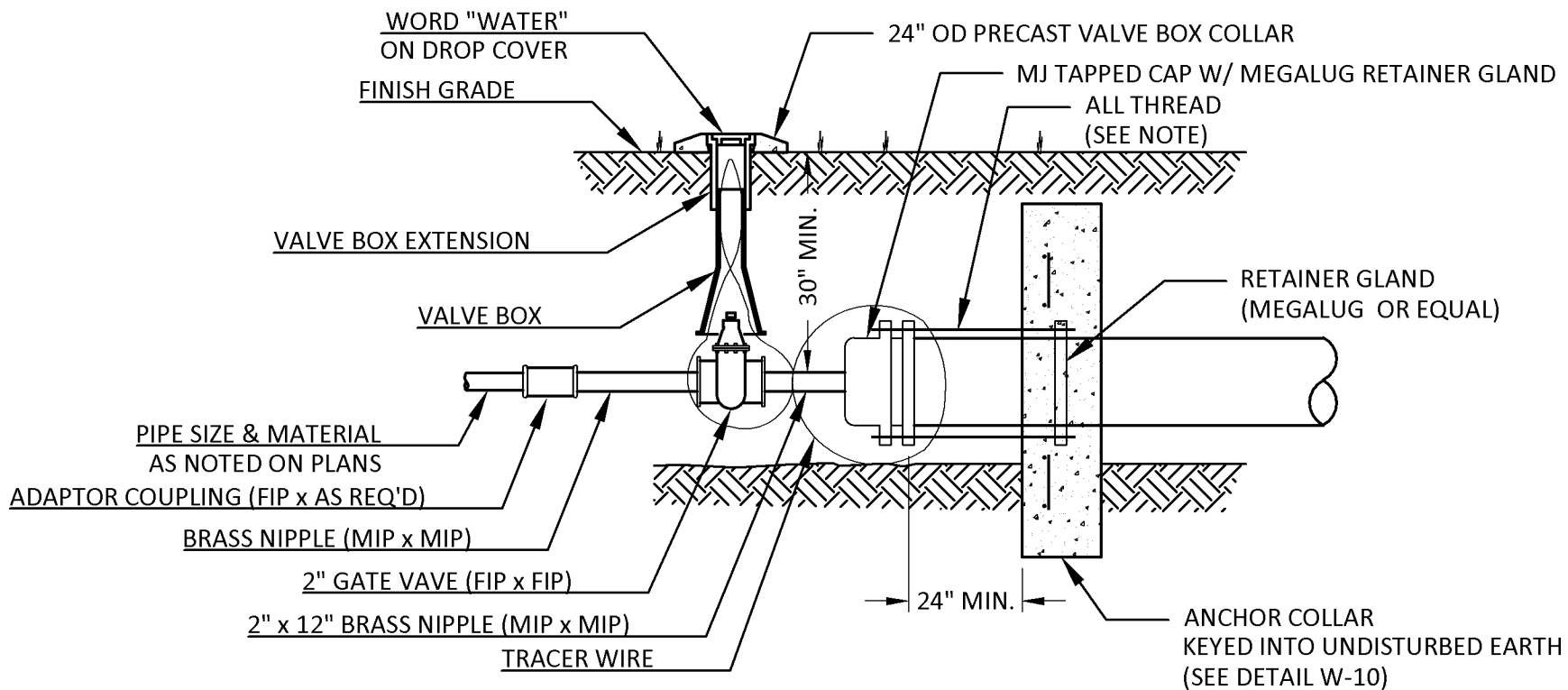
1. POST HYDRANT SHALL BE NON-FREEZING, SELF DRAINING TYPE WITH A 30" MIN. BURY DEPTH.
2. HYDRANT SHALL BE FURNISHED WITH 2" FIP, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE LEFT.
3. ALL WORKING PARTS SHALL BE BRONZE TO BRONZE DESIGN AND BE SERVICEABLE FROM ABOVE GRADE - NO DIGGING.
4. THE OUTLET SHALL ALSO BE 2-1/2" NST.
5. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE.
6. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
7. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
8. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN. ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.
9. MEGALUG RETAINER GLANDS SHALL BE EBBA IRON SERIES 2000 FOR C900 PVC PIPE AND SERIES 1100 FOR DUCTILE IRON PIPE.
10. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.

TEMPORARY TERMINATION FOR FUTURE LINE EXTENSION DETAIL

DETAIL NO.:

W-7

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		
SCALE: NONE	DATE: 11-18-15	
APPROVED: UEM - L. Bartlett		



NOTE:

1. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
2. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
3. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN. ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.
4. MEGALUG RETAINER GLANDS SHALL BE EBBA IRON SERIES 2000 FOR C900 PVC PIPE AND SERIES 1100 FOR DUCTILE IRON PIPE.
5. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.

END OUTLET 2 IN. CONNECTION TO A MAIN

DETAIL NO.:

W-8

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

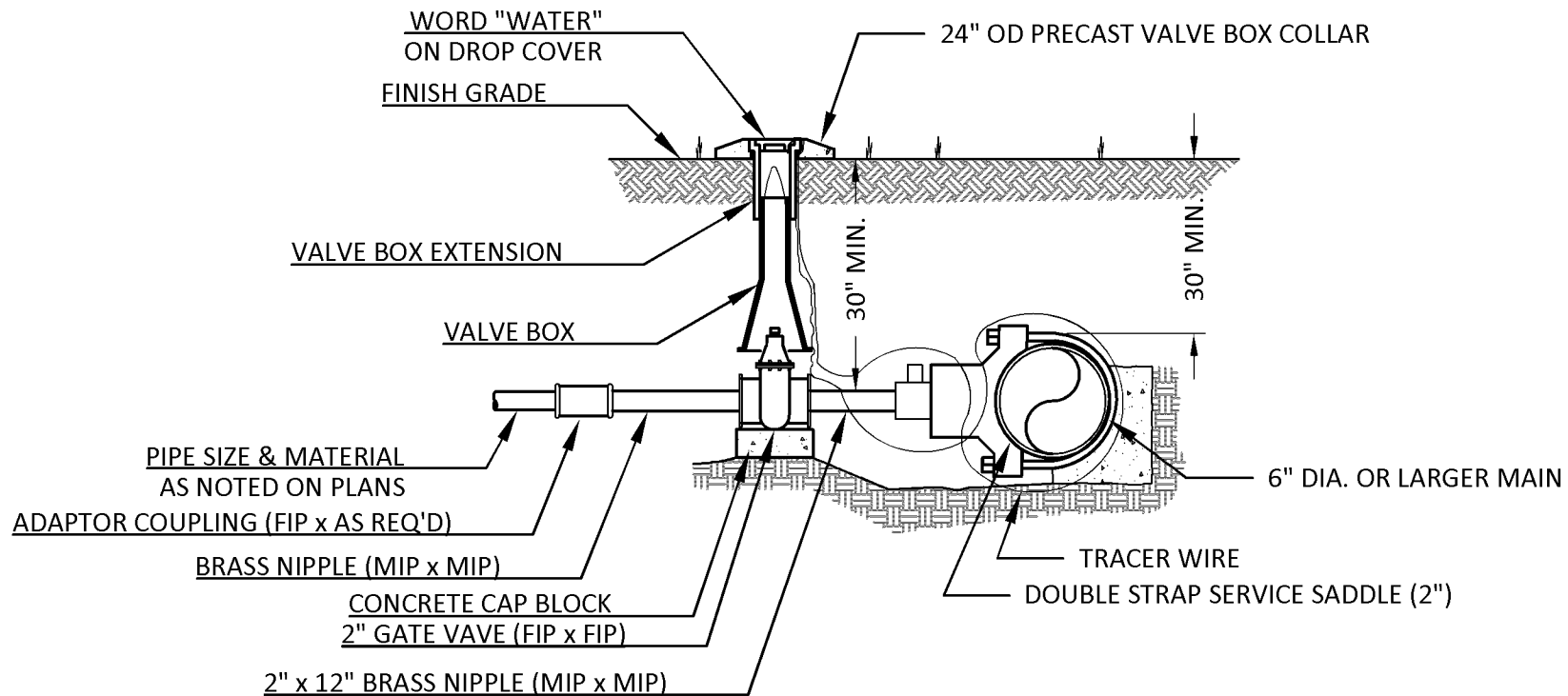
City Corporation

RW Russellville
Water &
Sewer System

SCALE: NONE DATE: 10-07-15

APPROVED: UEM - L. Bartlett








NOTE:

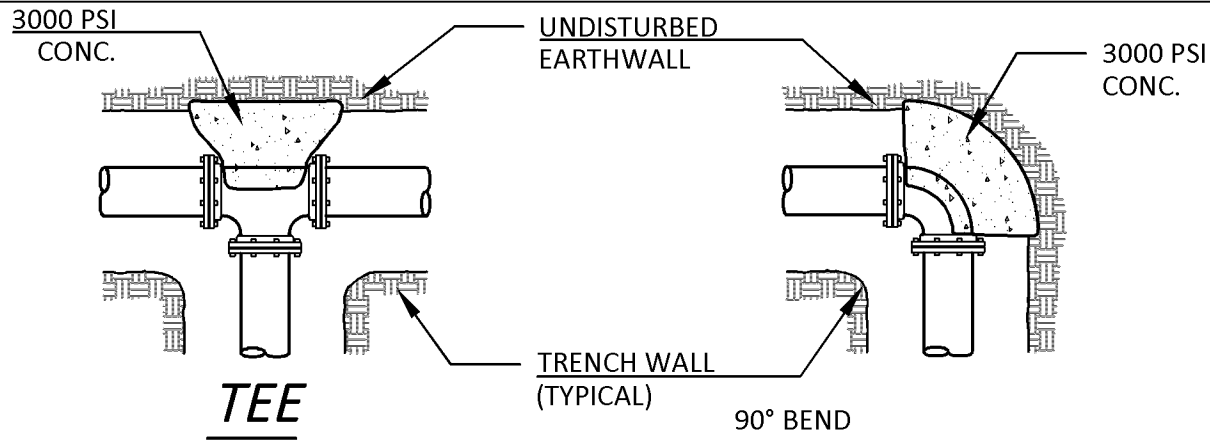
1. ALL THREAD AND HARDWARE SHALL BE STAINLESS STEEL.
2. ALL THREAD DIAMETER SHALL MATCH STANDARD BOLT FOR VALVE/FITTING.
3. ALL THREAD RODS REQUIRED IN NO LESS THAN 50% OF STANDARD BOLT PATTERN. ALL THREAD RODS SHALL BE EQUALLY SPACED AROUND PATTERN.
4. MEGALUG RETAINER GLANDS SHALL BE EBBA IRON SERIES 2000 FOR C900 PVC PIPE AND SERIES 1100 FOR DUCTILE IRON PIPE.
5. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.

SIDE OUTLET 2 IN. CONNECTION TO A MAIN

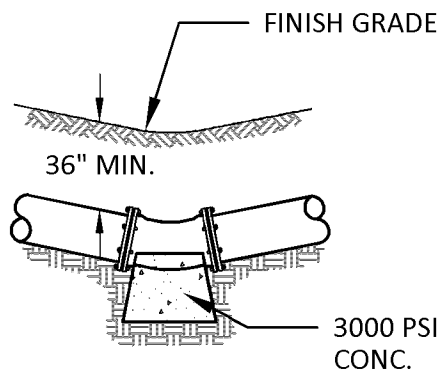
DETAIL NO.:

W-8A

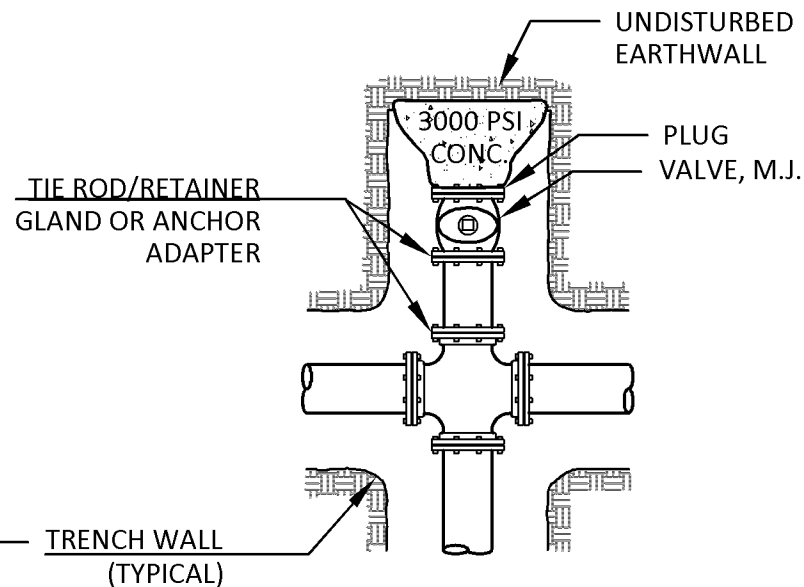
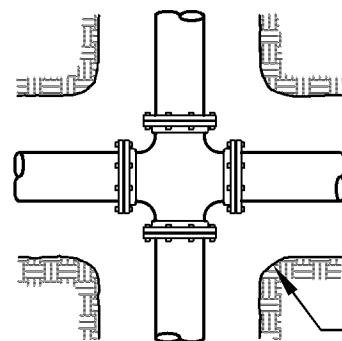
P.O. Box 3186		
205 W. 3rd Place		
Russellville, AR 72801		
ph: 479.968.2105		
www.citycorporation.com		
SCALE: NONE	DATE: 11-17-15	
APPROVED: UEM - L. Bartlett		



90° BEND
 45° BEND (SIMILAR)
 22 1/2° BEND (SIMILAR)
 11 1/4° BEND (SIMILAR)



45° BEND
 22 1/2° BEND (SIMILAR)
 11 1/4° BEND (SIMILAR)



THRUST BLOCK DETAILS

DETAIL NO.:

W-9

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville Water & Sewer System

SCALE: NONE DATE: 10-16-15
 APPROVED: UEM - L. Bartlett

NOTES:

1. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS.
2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
3. WRAP ALL FITTINGS WITH VISQUEEN.
4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL AND VERTICAL, SHALL BE ANCHORED BY THRUST BLOCKING.
6. REACTION BACKING TABLE IS BASED ON 200 P.S.I. + WATER HAMMER (50% MINIMUM) AND SOIL BEARING PRESSURE OF 2,000 LB. /SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY ENGINEER.
7. DOUBLE VERTICAL PIPE FITTING SUPPORT BLOCKING REQUIRES INDIVIDUAL ENGINEERING DESIGN.
8. TYPICAL ALL BLOCKING: SHOULD NOT EXTEND PAST HUB OF FITTING.

REACTION BACKING TABLE

REQUIRED SQ. FT. OF UNDISTURBED EARTH WALL FOR REACTION BACKING					
SIZE	TYPE OF FITTINGS				
	TEE OR PLUG/CAP	90°	45°	22 1/2°	11 1/4°
2"	1	1	1	1	1
3"	1	1	1	1	1
4"	2	2	1	1	1
6"	3	3	2	1	1
8"	4	4	3	2	2
12"	10	10	5	3	2
20"	26	25	14	7	4
24"	38	38	20	10	7
30"	59	59	32	16	10

THRUST BLOCK NOTES

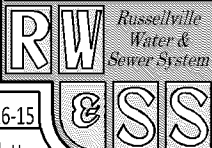
DETAIL NO.:

W-9A

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville
 Water &
 Sewer System

SCALE: NONE DATE: 10-16-15
 APPROVED: UEM - L. Bartlett



Update 2015 Sample Wastewater Operations Manager Job Description

Exempt: No
Department: Wastewater
Reports To: Operations Manager
Location: 404 Jimmy Lyle Road - Pollution Control Works
Date Prepared: August 06, 2015
Date Revised: September 29, 2015

GENERAL DESCRIPTION OF POSITION

This position is responsible for the direct supervision of wastewater treatment plant and laboratory staff. This position is also responsible for the day to day operations and decisions that affect the wastewater treatment system in order to ensure compliance with applicable permit limits. This position is also responsible for providing oversight and direction for the pretreatment program including development, maintaining and updating the pretreatment ordinance, developing and assessing surcharge fees based on the ordinance, routine inspection of the significant users and any enforcement actions required as a result of these duties. This position is also responsible for all reporting and permitting of the wastewater facilities and is responsible to ensure that any corrective action pertaining to such permits is completed.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Responsible for the direct supervision of wastewater treatment plant and laboratory staff. This duty is performed daily.
2. Responsible for the day to day operations and decisions that affect the wastewater treatment system in order to ensure compliance with applicable permit limits. This duty is performed daily.
3. Responsible for providing oversight and direction for the pretreatment program including development, maintaining and updating the pretreatment ordinance, developing and assessing surcharge fees based on the ordinance, routine inspection of the significant users and any enforcement actions required as a result of these duties. This duty is performed daily.
4. Responsible for all reporting and permitting of the wastewater facilities and is responsible to ensure that any corrective action pertaining to such permits is completed. This duty is performed as needed.
5. Assist with the development of the annual budgets for the areas of responsibility. This duty is performed annually.
6. Other job duties as assigned. This duty is performed as needed.
7. Perform any other related duties as required or assigned.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty mentioned satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

EDUCATION AND EXPERIENCE

Knowledge of a specialized field (however acquired), such as basic accounting, computer, etc. Equivalent of four years in high school, plus night, trade extension, or correspondence school specialized training, equal to two years of college, plus 5 years related experience and/or training, and 2 years related management experience, or equivalent combination of education and experience.

COMMUNICATION SKILLS

Ability to write speeches and articles for publication that conform to prescribed style and format; Ability to effectively present information to top management, public groups, and/or boards of directors.

MATHEMATICAL SKILLS

Ability to work with mathematical concepts such as probability and statistical inference, and fundamentals of plane, algebra, solid geometry and trigonometry.

CRITICAL THINKING SKILLS

Ability to define problems, collect data, establish facts, and draw valid conclusions. Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

REQUIRED CERTIFICATES, LICENSES, REGISTRATIONS

Grade 4 Transmission and Distribution License; Grade 4 Wastewater License; Grade 4 Advanced Industrial License

PREFERRED CERTIFICATES, LICENSES, REGISTRATIONS

Not indicated.

SOFTWARE SKILLS REQUIRED

Advanced: Spreadsheet, Word Processing/Typing

Intermediate: Database

Basic: 10-Key, Accounting, Alphanumeric Data Entry, Payroll Systems, Presentation/PowerPoint

INITIATIVE AND INGENUITY

SUPERVISION RECEIVED

Under direction where a definite objective is set up and the employee plans and arranges own work, referring only unusual cases to supervisor.

PLANNING

Considerable responsibility with regard to general assignments in planning time, method, manner, and/or sequence of performance of own work, in addition, the organization and delegation of work operations for a division of employees engaged in widely diversified activities.

DECISION MAKING

Performs work operations which permit frequent opportunity for decision-making of minor importance and also frequent opportunity for decision-making of major importance, either of which would affect the work operations of large organizational component and the organization's clientele.

MENTAL DEMAND

Very close mental demand. Operations requiring very close and continuous attention for control of operations which require a high degree of coordination or immediate

response. Operations requiring intermittent direct thinking to determine or select the most applicable way of handling situations regarding the organization's administration and operations; also to determine or select material and equipment where highly variable sequences are involved.

ANALYTICAL ABILITY / PROBLEM SOLVING

Oversight. Activities covered by expansive policies and objectives, and oversight as to execution and review. High order of analytical, interpretative, and constructive thinking in varied situations covering multiple areas of the organization.

RESPONSIBILITY FOR WORK OF OTHERS

Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws. Responsibilities may include but not limited to interviewing, hiring and training employees; planning, assigning and directing work; appraising performance, rewarding and disciplining employees; addressing complaints and resolving problems.

Supervises a moderate size group (8-15) of employees engaged in important, complex operations, consisting of employees in different classifications who perform a wide variety of duties.

Supervises the following departments: Wastewater Plant, Laboratory, Pretreatment

RESPONSIBILITY FOR FUNDS, PROPERTY and EQUIPMENT

Regularly responsible for funds, building premises, inventory, or other property owned, controlled, or leased by the organization and, in addition, may have temporary custody and responsibility of patron property, which through carelessness, error, loss, theft, misappropriation, or similar action would result in very important monetary losses to the organization. The total value for the above would range from \$1,000,000 to \$10,000,000.

ACCURACY

Probable errors would normally not be detected in succeeding operations and could possibly affect organization-patron relationship, involve re-work, or additional expenditures in order to properly resolve the error. The possibility of such errors would occur quite frequently in performance of the job. May also cause inaccuracies or incomplete information that would be used in other segments of the organization as a basis for making subsequent decisions, plans, or actions.

ACCOUNTABILITY

FREEDOM TO ACT

Moderately directed. Freedom to act is given by upper level management guided by general policies and objectives that are reviewed by top management.

ANNUAL MONETARY IMPACT

The amount of annual dollars generated based on the job's essential duties / responsibilities. Examples would include direct dollar generation, departmental budget, proper handling of organization funds, expense control, savings from new techniques or reduction in manpower.

Medium. Job creates a monetary impact for the organization from \$1mm to \$10mm.

IMPACT ON END RESULTS

Moderate impact. Job has a definite impact on the organization's end results.
Participates with others in taking action for a department and/or total organization.

PUBLIC CONTACT

Extensive contacts with various diversified sectors of the public environment; wherein, the contacts are of major importance and failure to exercise proper judgment can lead to substantial losses to the organization.

EMPLOYEE CONTACT

Contacts with other departments or offices and also frequently with individuals in middle level positions; consulting on problems which necessitate judgment and tact in presentation to obtain cooperation or approval of action to be taken. Also, important contacts with associates as required in advanced supervisory jobs, plus frequent contact with senior level internal officials.

USE OF MACHINES, EQUIPMENT AND/OR COMPUTERS

Regular use of highly complex machines and equipment; specialized or advanced software programs.

WORKING CONDITIONS

Somewhat disagreeable working conditions. Continuously exposed to one or two elements such as noise, intermittent standing, walking; and occasional pushing, carrying, or lifting.

ENVIRONMENTAL CONDITIONS

The following work environment characteristics described here are representative of those an employee encounters while performing essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the functions of this job, the employee is continuously exposed to toxic or caustic chemicals; occasionally exposed to work near moving mechanical parts, outdoor weather conditions, wet or humid conditions, extreme cold, extreme heat, risk of electrical shock. The noise level in the work environment is usually moderate.

PHYSICAL ACTIVITIES

The following physical activities described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions and expectations.

Moderate diversity, moderately physical. Work activities which allow for a moderate amount of diversity in the performance of tasks which requires somewhat diversified physical demands of the employee.

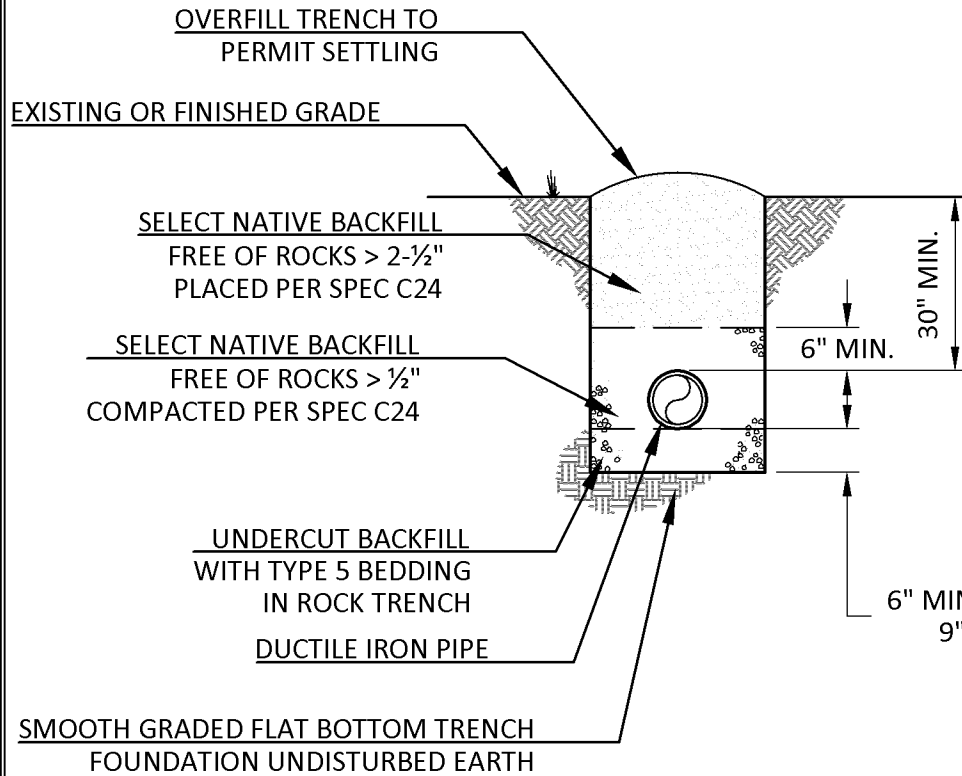
While performing the functions of this job, the employee is continuously required to talk or hear, taste or smell; regularly required to stand, walk, sit, use hands to finger, handle, or feel; and occasionally required to reach with hands and arms, climb or balance, stoop, kneel, crouch, or crawl. The employee must occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision; and distance vision.

ADDITIONAL INFORMATION

Not indicated.

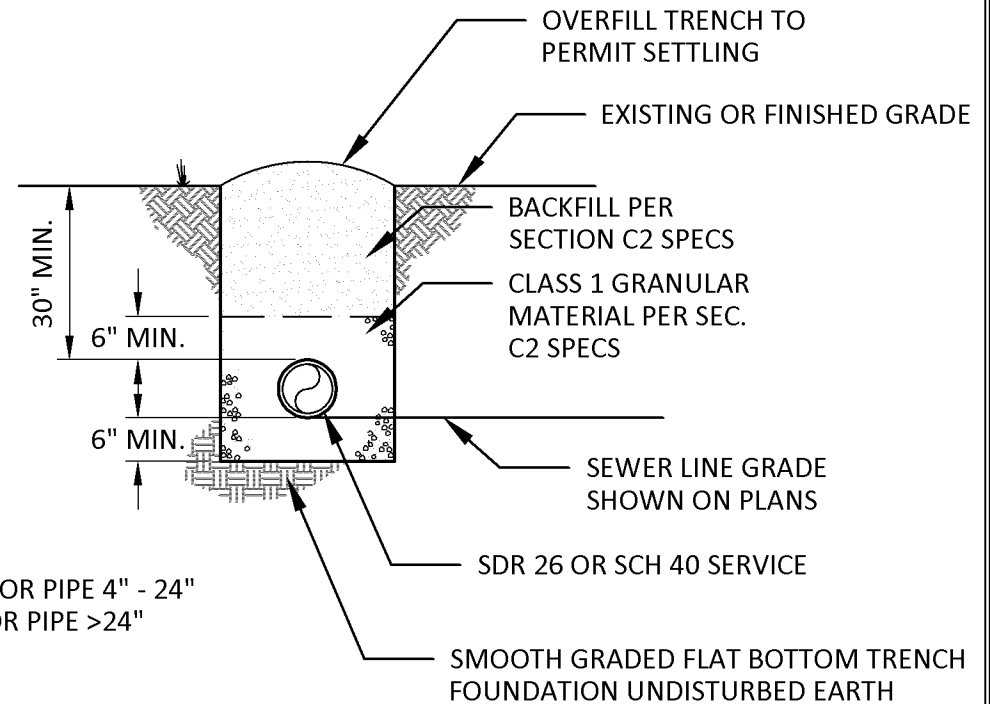
NOTE:

- ALL TRENCH BACKFILL IN STREET RIGHT-OF-WAYS SHALL BE COMPACTED IN 6" LAYERS TO 95% MODIFIED PROCTOR DENSITY.



TRENCH & BACKFILL DETAIL

DUCTILE IRON PIPE FOR WATER MAINS



TRENCH & BACKFILL DETAIL

6" & LARGER SDR 26 SEWER MAIN
4" SCHEDULE 40 SERVICE LINE

TYPICAL PIPE BEDDING AND BACKFILL

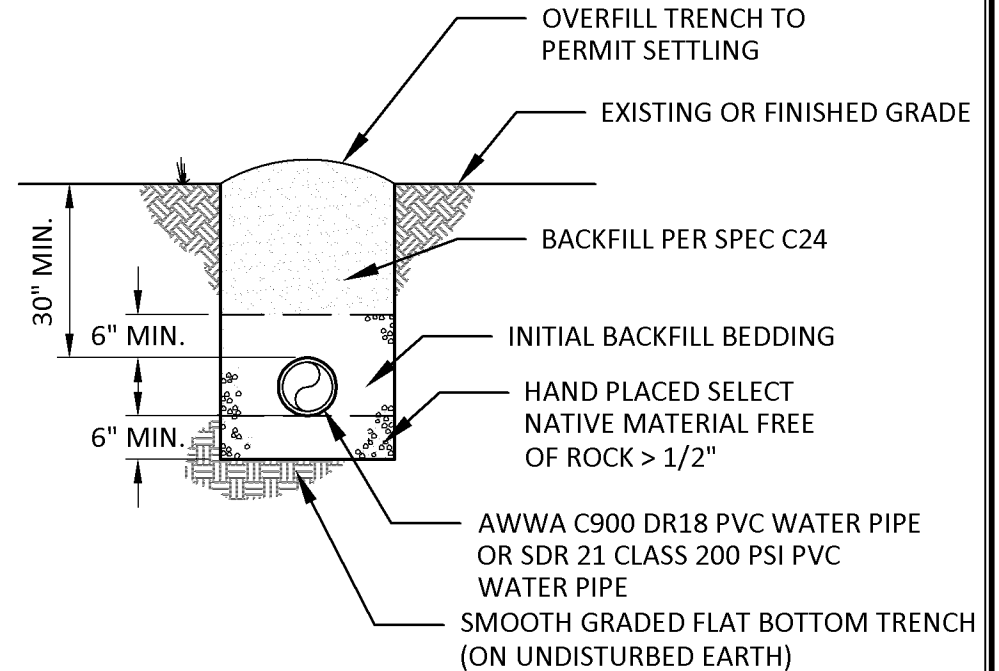
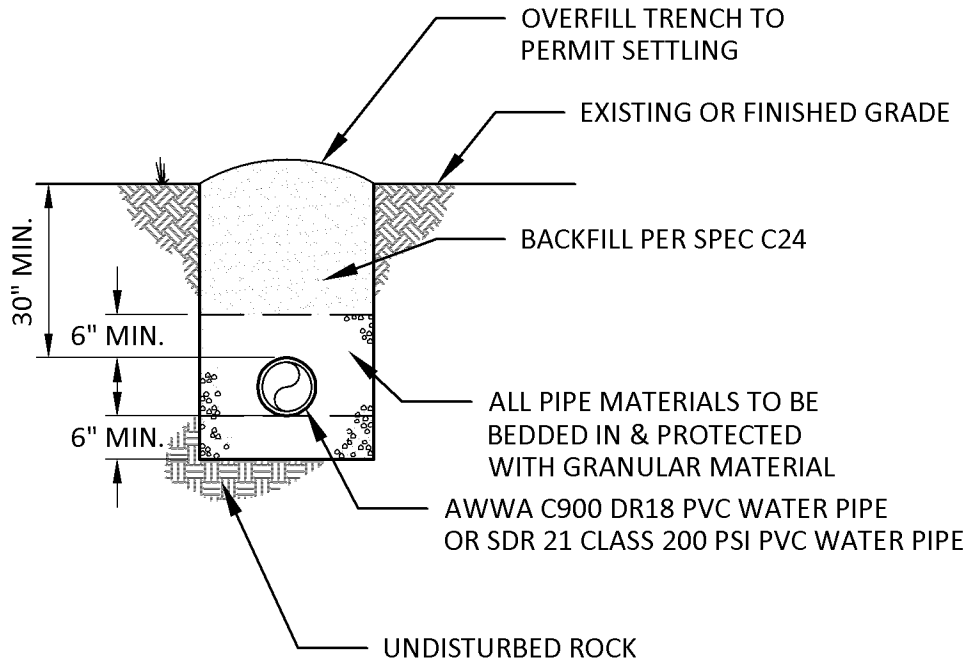
DETAIL NO.:

WS-1

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		City Corporation Russellville Water & Sewer System
SCALE: NONE	DATE: 1-23-17	
APPROVED: UEM - L. Bartlett		

NOTE:

1. ALL TRENCH BACKFILL IN STREET RIGHT-OF-WAYS SHALL BE COMPACTED IN 6" LAYERS TO 95% MODIFIED PROCTOR DENSITY.



TYPE 5 BEDDING

TRENCH & BACKFILL DETAIL

4" - 12" DIA. C900 DR-18 PVC WATER MAIN
2" - 3" DIA. SDR21 PVC WATER MAIN

(FOR INSTALLATION WHERE ROCK IS ENCOUNTERED IN TRENCH)

TRENCH & BACKFILL DETAIL

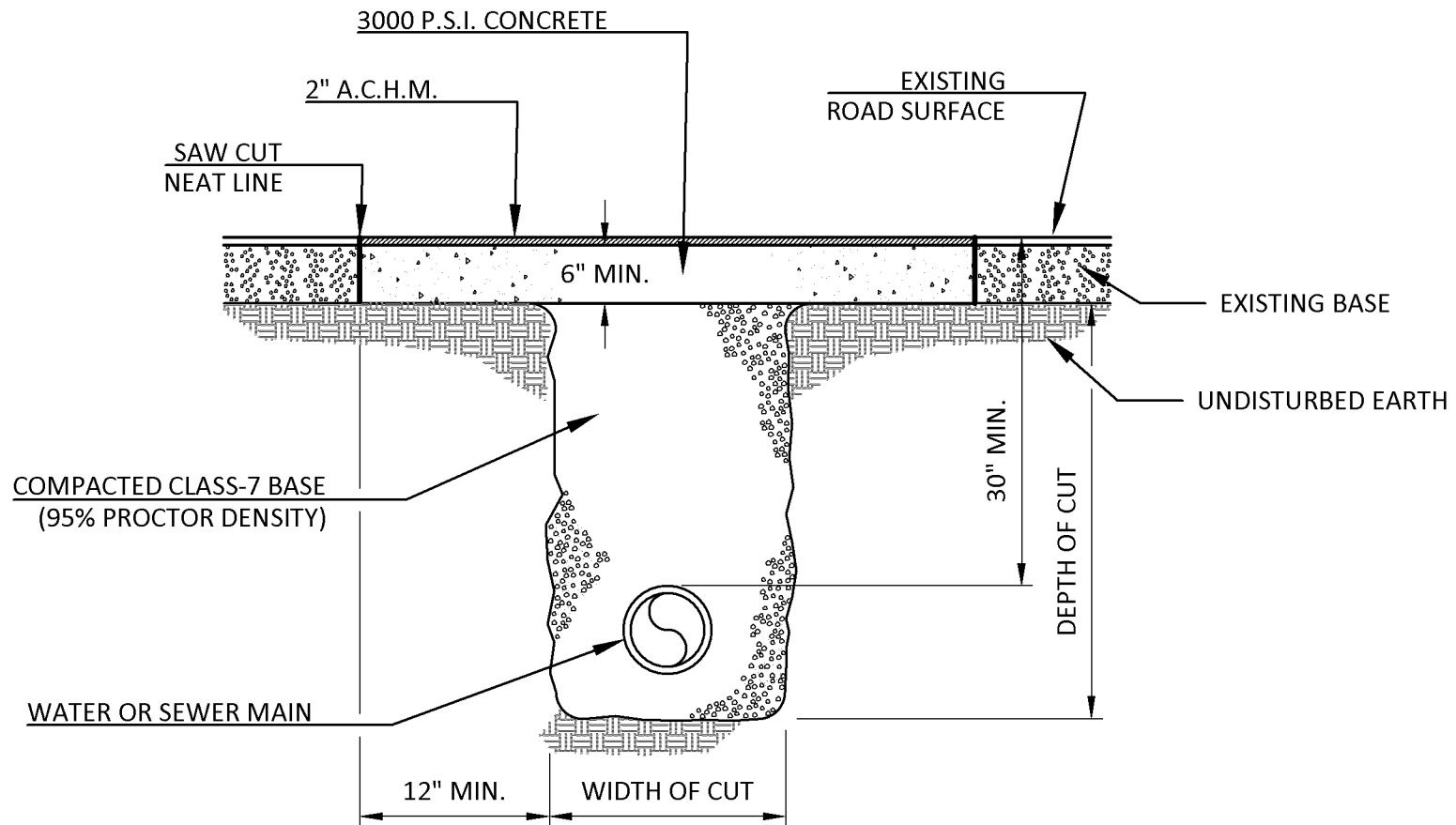
C900 DR-18 PVC WATER PIPE
SDR21 CLASS 200 PVC WATER MAIN

TYPICAL PIPE BEDDING AND BACKFILL

DETAIL NO.:

WS-1A

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		City Corporation RW Russellville Water & Sewer System & S S
SCALE: NONE	DATE: 8-29-16	
APPROVED: UEM - L. Bartlett		






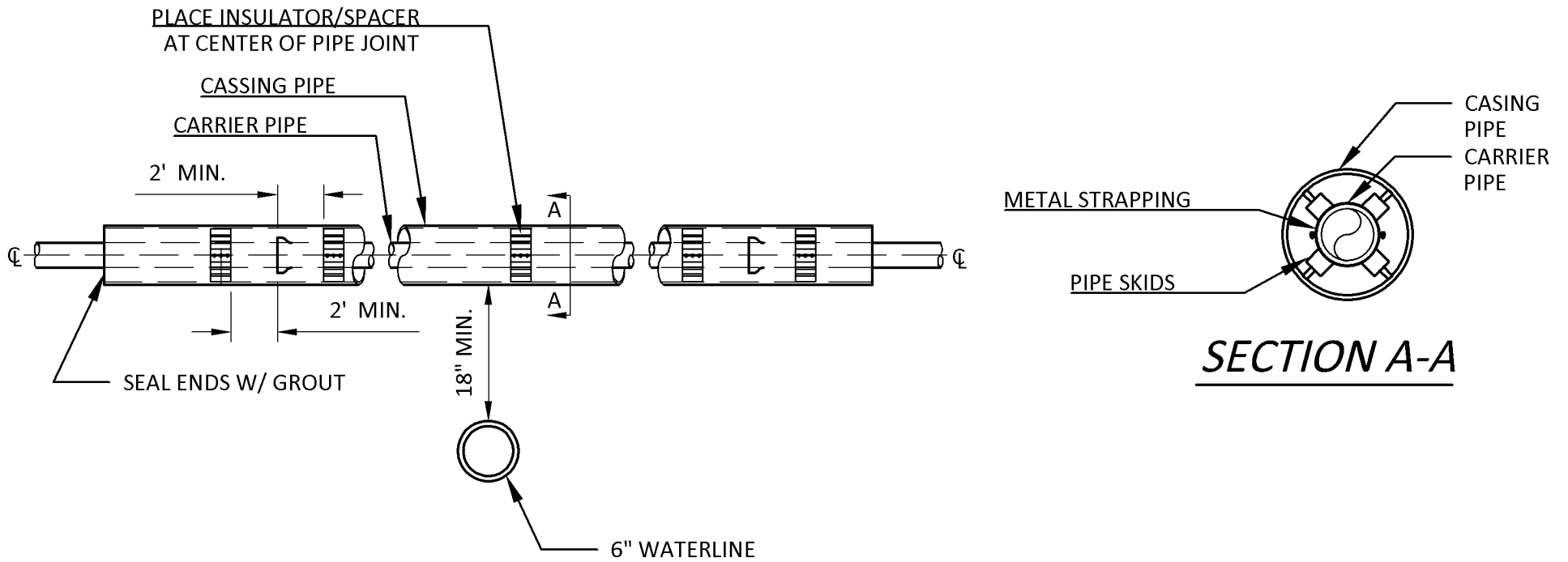
- NOTES:
1. CONCRETE SHALL BE 3000 PSI WITH FIBERMESH REINFORCEMENT (1.5 LBS/C.Y.)
 2. ALL STATE HIGHWAY ASPHALT REPAIRS SHALL MEET THE CURRENT AHTD STANDARD SPECIFICATIONS AND DETAILS.

CITY STREET ASPHALT REPAIR DETAIL

DETAIL NO.:

WS-2

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		  <i>Russellville</i> <i>Water &</i> <i>Sewer System</i>
SCALE: NONE	DATE: 8-16-16	
APPROVED: UEM - L. Bartlett		



NOTES:

1. A MIN. OF THREE SPACERS IS REQUIRED PER JOINT; SPIGOT, MIDDLE & BELL (MAX. OF 2 FT. SEPARATION OF SPACERS AT JOINT). MAX. ALLOWABLE CLEARANCE BETWEEN I.D. OF CARRIER PIPE & TOP RUNNER OF SPACER IS 1"
2. ALL D.I. PIPE JOINTS WITHIN CASING SHALL HAVE 'FIELD LOK' GASKET BY U.S. PIPE OR APPROVED EQUAL. EACH RESTRAINED JOINT SHALL BE IDENTIFIED MARKED ON BELL.

CARRIER & CASING SIZES									
CARRIER	4"	6"	8"	10"	12"	16"	18"	20"	24"
CASING	8"	12"	16"	20"	24"	30"	30"	36"	36"
NOMINAL WALL THICKNESS	.250	.250	.250	.250	.312	.375	.375	.500	.500
MINIMUM WALL THICKNESS	.219	.219	.219	.219	.273	.328	.328	.438	.438

PIPE ENCASEMENT DETAIL

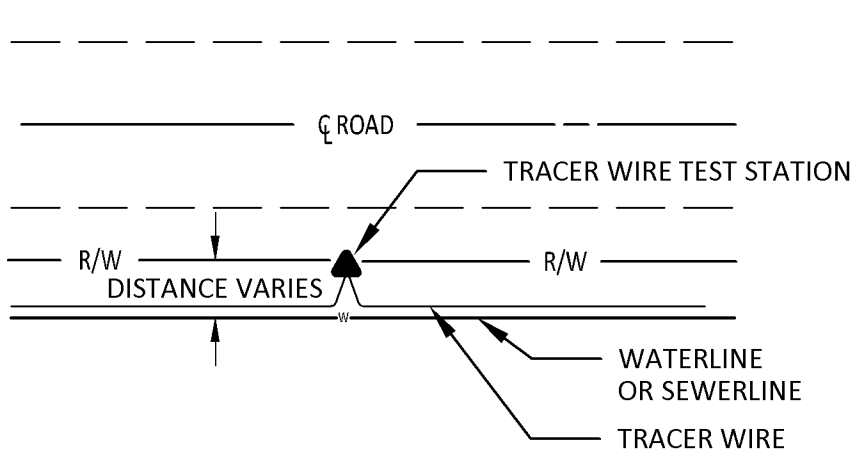
DETAIL NO.:

WS-3

P.O. Box 3186
 205 W. 3rd Place
 Russellville, AR 72801
 ph: 479.968.2105
 www.citycorporation.com

City Corporation
 Russellville
 Water &
 Sewer System

SCALE: NONE DATE: 06-29-16
 APPROVED: UEM - L. Bartlett



TRACER WIRE

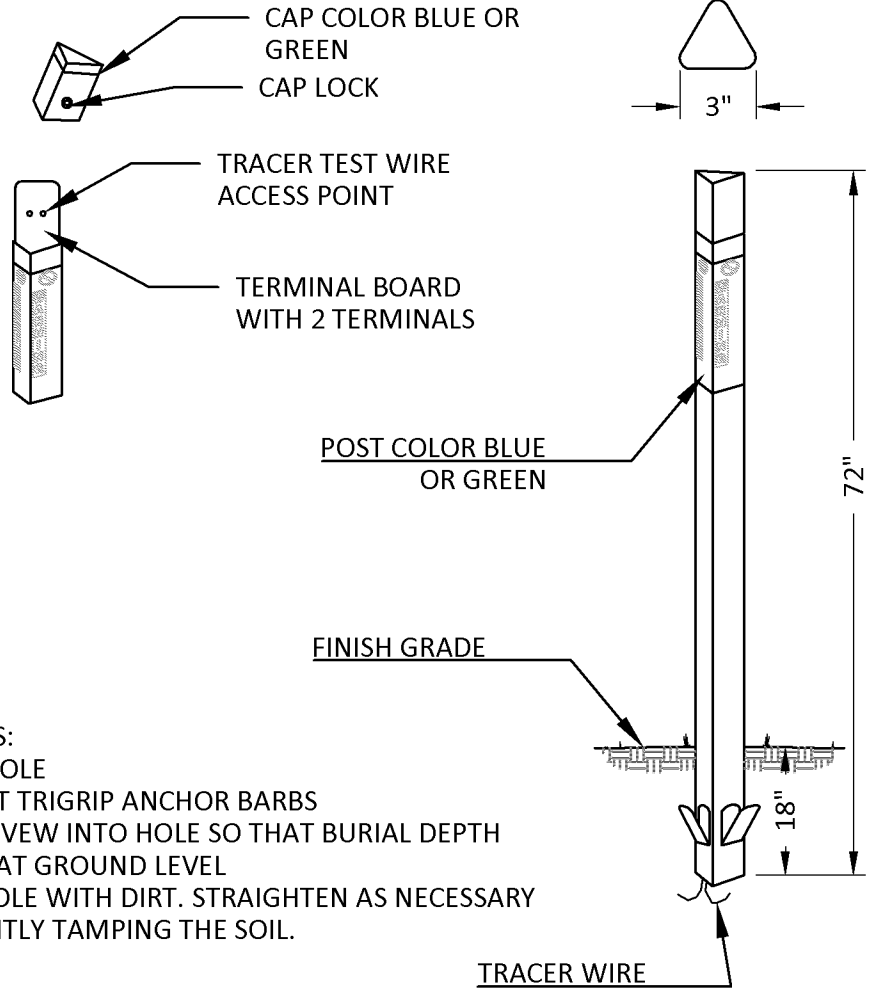
BRASS TERMINAL

NOTES:

1. TEST STATIONS TO BE LOCATED IN FENCE ROWS WHERE PERPENDICULAR TO WATERLINE OR SEWERLINE RIGHT OF WAY WHEN PARALLEL TO WATERLINE OR SEWERLINE.
2. TRACER WIRE TO BE SPLICED WITH TRACER WIRE SPLICE KIT.
3. ALL NEW TRACER WIRE TO BE CONNECTED TO EXISTING TRACER WIRE.
4. TRACER WIRE TEST STATIONS ARE TO BE USED TO TEST THE TRACER WIRE.

BURIAL NOTES:

1. DIG 18' HOLE
2. FOLD OUT TRIGRIP ANCHOR BARBS
3. INSET TRIVEW INTO HOLE SO THAT BURIAL DEPTH MARK IS AT GROUND LEVEL
4. FILL IN HOLE WITH DIRT. STRAIGHTEN AS NECESSARY FREQUENTLY TAMPING THE SOIL.



TRACER WIRE TEST STATION

DETAIL NO.:

WS-4

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation

RW Russellville
Water &
Sewer System

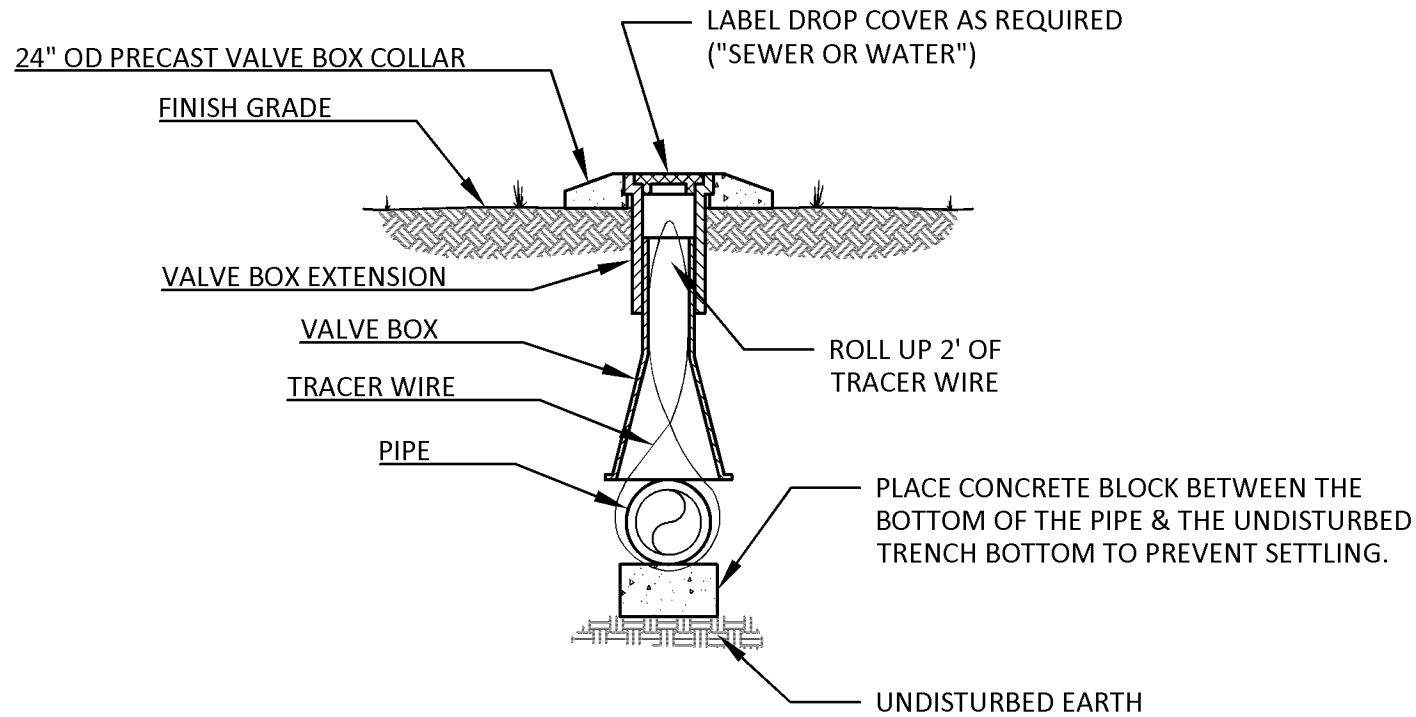
SCALE: NONE DATE: 10-16-15

APPROVED: UEM - L. Bartlett



NOTES:

1. VALVE BOX EXTENSION TO BE MOUNTED FLUSH WITH PAVEMENT IN ASPHALT OR CONCRETE PAVEMENT.

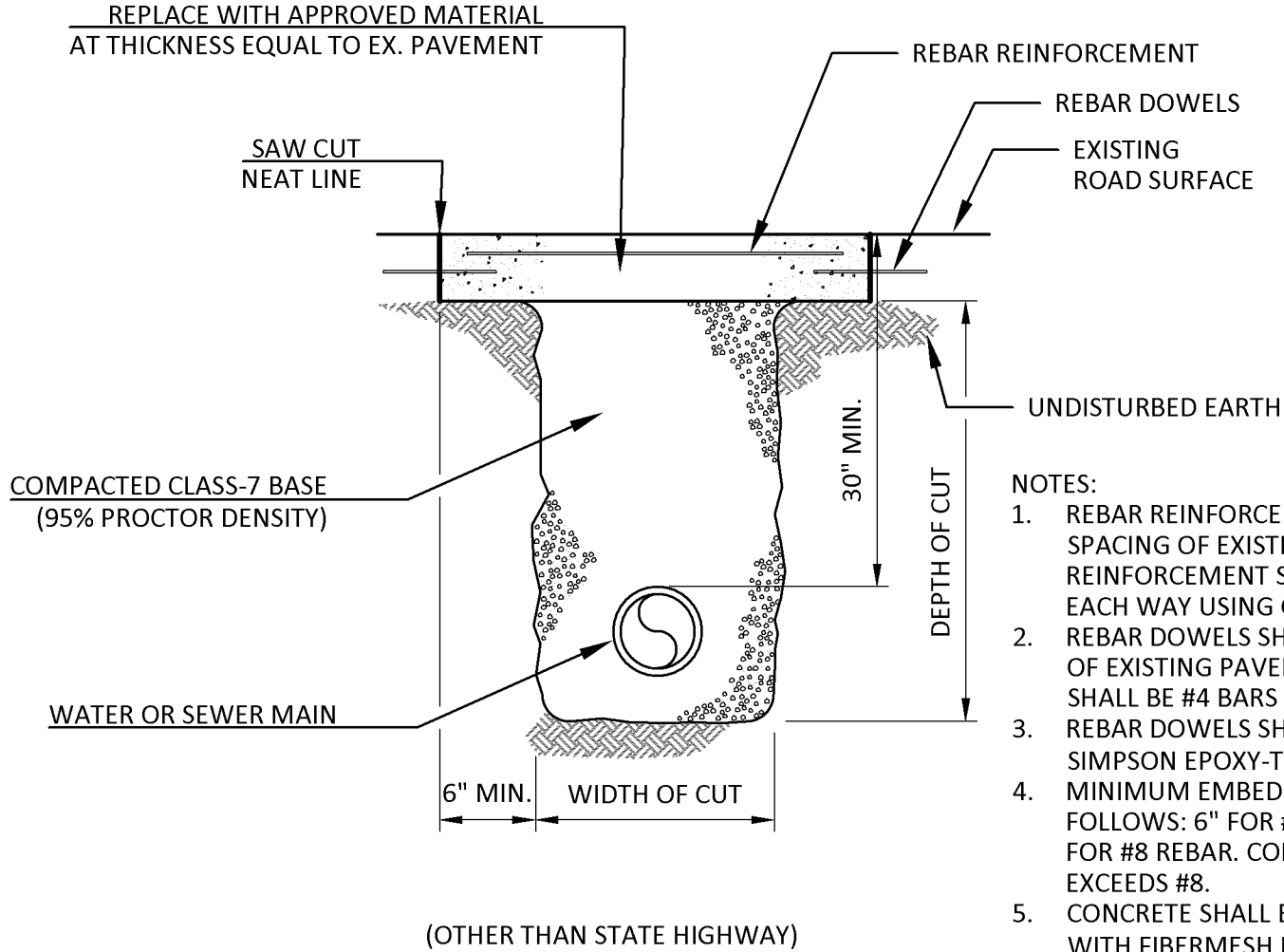


TRACER WIRE TEST STATION IN VALVE BOX

DETAIL NO.:

WS-4A

P.O. Box 3186 205 W. 3rd Place Russellville, AR 72801 ph: 479.968.2105 www.citycorporation.com		City Corporation RW Russellville Water & Sewer System U&SS
SCALE: NONE	DATE: 10-16-15	
APPROVED: UEM - L. Bartlett		



NOTES:

1. REBAR REINFORCEMENT TO MATCH SIZE AND SPACING OF EXISTING PAVEMENT. MINIMUM REINFORCEMENT SHALL BE #4 BAR @ 12" CENTERS EACH WAY USING GRADE 60 REBAR.
2. REBAR DOWELS SHALL MATCH SIZE AND SPACING OF EXISTING PAVEMENT. MINIMUM DOWEL BAR SHALL BE #4 BARS ON 12" CENTERS.
3. REBAR DOWELS SHALL BE INSTALLED USING SIMPSON EPOXY-TIE SET ADHESIVE (OR EQUAL).
4. MINIMUM EMBEDMENT DEPTH SHALL BE AS FOLLOWS: 6" FOR #4 REBAR, 8" FOR #6 REBAR, 12" FOR #8 REBAR. CONTACT ENGINEER IF REBAR EXCEEDS #8.
5. CONCRETE SHALL BE A MINIMUM OF 3000 PSI WITH FIBERMESH REINFORCEMENT (1.5 LBS/CY).

CITY STREET CONCRETE REPAIR DETAIL

DETAIL NO.:

WS-5

P.O. Box 3186
205 W. 3rd Place
Russellville, AR 72801
ph: 479.968.2105
www.citycorporation.com

City Corporation
Russellville
Water &
Sewer System

SCALE: NONE DATE: 8-16-16
APPROVED: UEM - L. Bartlett

Table 2-D

**DRY-WEATHER FLOW PEAKING FACTOR
DRY WEEK 04/16/2010 TO 04/22/2010**

Meter Number	Cumulative Average Daily Dry-Weather Flow (mgd)	Cumulative Peak Hourly Flow Rate (mgd)	Cumulative Average Daily Dry-Weather Peaking Factor
RV01	1.097	1.874	1.71
RV02	0.657	1.651	2.51
RV03	0.310	0.492	1.59
RV04A	0.000	<u>1/</u>	<u>1/</u>
RV05	0.138	0.202	1.46
RV06	0.019	0.029	1.53
RV07	2.754	3.986	1.45
RV08	0.054	0.084	1.56
RV09	0.186	0.276	1.48
RV10	0.172	0.232	1.35
RV09 and RV10	0.358	0.508	1.42
RV11	0.148	0.262	1.77
RV12	0.034	0.078	2.29
RV13	0.095	0.193	2.03
RV14	0.542	0.768	1.42
RV15	0.148	0.259	1.75
RV16	0.084	0.195	2.32
RV17	0.089	0.140	1.57
RV18	0.280	0.416	1.49
RV19	0.098	0.143	1.46
RV20	0.523	0.827	1.58
RV21	0.142	0.204	1.44
RV22	0.124	0.204	1.65
RV23	0.159	0.306	1.92
RV24	0.232	0.334	1.44
RV25	0.101	0.140	1.39
RV26	0.213	0.465	2.18
RV27	0.028	0.088	3.14
RV28	0.018	0.054	3.00
RV29	0.000	<u>1/</u>	<u>1/</u>
RV30	0.000	<u>1/</u>	<u>1/</u>
RV31	0.134	0.282	<u>2.10</u>
Total			1.79
			(Average)

1/ Overflow meter - no dry weather data.

Dry-Weather Flow Peaking Factor

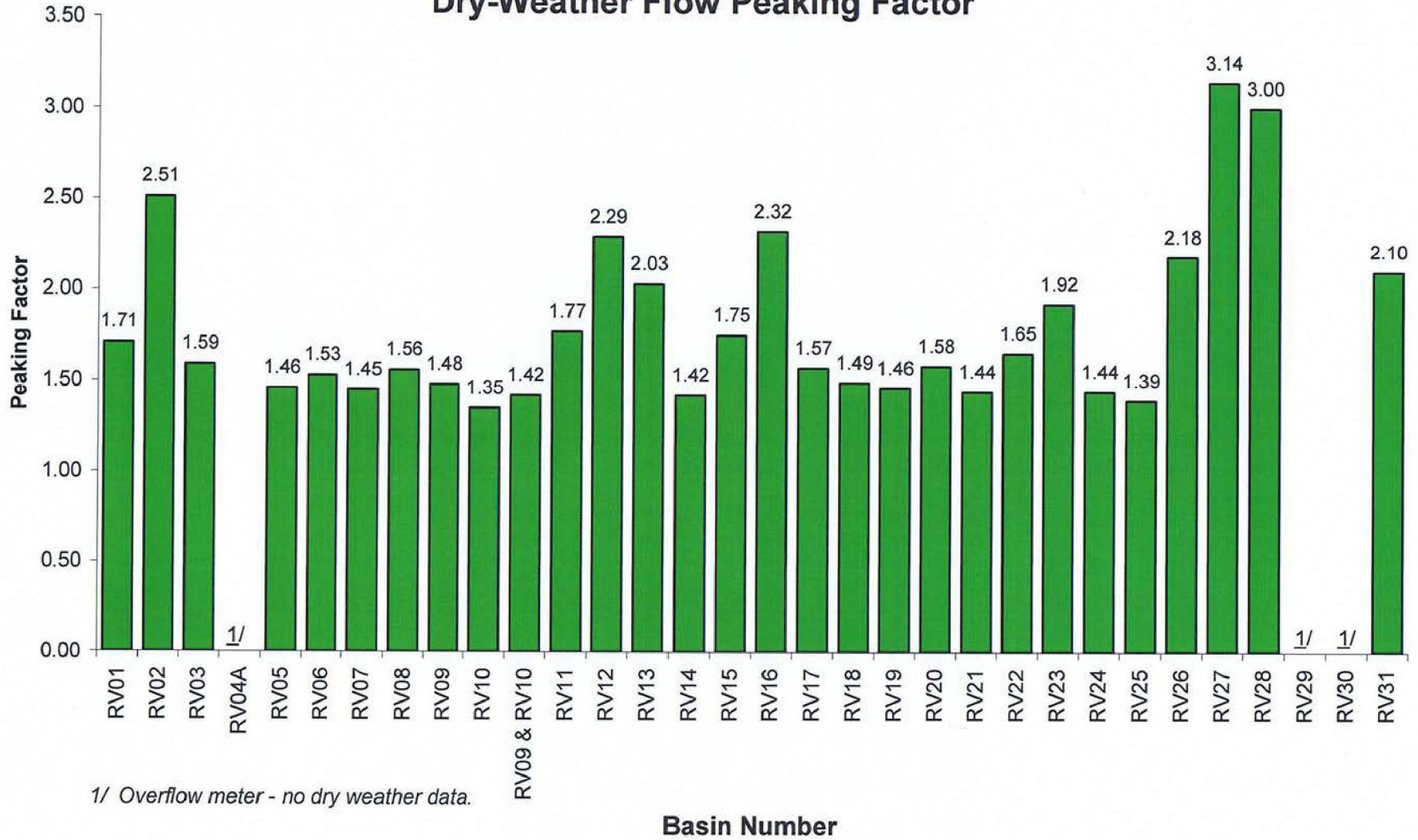


Table 2-E

SUMMARY OF INFILTRATION RATES

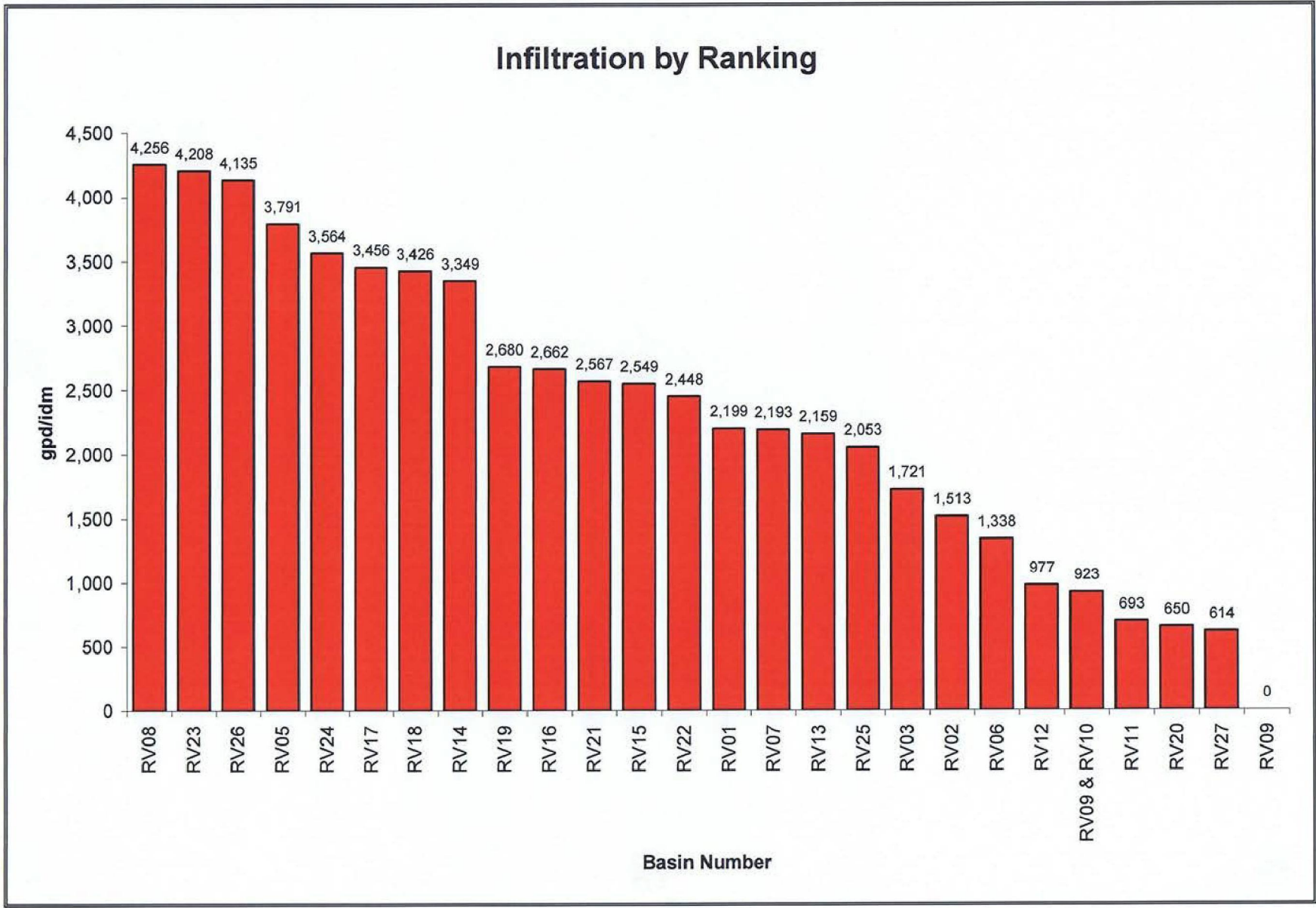
Meter Number	Inch-Diameter-Miles (idm)	Cumulative Peak Monitored infiltration (mgd)	Basin Peak Monitored infiltration (mgd)	Basin Peak Unit Infiltration (gpd/idm)	Basin Peak Unit Infiltration Ranking
RV01	50.03	0.216	0.110	2,199	14
RV02	70.30	0.106	0.106	1,513	19
RV03	68.58	0.296	0.118	1,721	18
RV04A	N/A	0.000	N/A	<u>1/</u>	N/A
RV05	42.61	0.162	0.162	3,791	4
RV06	12.33	0.017	0.017	1,338	20
RV07	150.39	2.595	0.330	2,193	15
RV08	23.11	0.098	0.098	4,256	1
RV09	67.53	0.098	N/A	0	N/A
RV10	N/A	0.066	N/A	<u>1/</u>	N/A
RV09 & RV10	67.53	0.164	0.062	923	22
RV11	54.57	0.070	0.038	693	23
RV12	32.42	0.032	0.032	977	21
RV13	41.99	0.091	0.091	2,159	16
RV14	91.11	0.684	0.305	3,349	8
RV15	76.45	0.195	0.195	2,549	12
RV16	69.06	0.184	0.184	2,662	10
RV17	23.68	0.082	0.082	3,456	6
RV18	81.63	0.412	0.280	3,426	7
RV19	49.32	0.132	0.132	2,680	9
RV20	60.72	0.298	0.039	650	24
RV21	30.71	0.079	0.079	2,567	11
RV22	73.46	0.180	0.180	2,448	13
RV23	26.78	0.113	0.113	4,208	2
RV24	63.69	0.301	0.227	3,564	5
RV25	34.59	0.071	0.071	2,053	17
RV26	43.73	0.196	0.181	4,135	3
RV27	24.42	0.015	0.015	614	25
RV28	37.04	0.000	0.000	0	26
RV29	N/A	0.000	N/A	<u>1/</u>	N/A
RV30	N/A	0.003	N/A	<u>1/</u>	N/A
RV31	N/A	0.023	0.023	<u>4/</u>	N/A
Total	1,467.77		3.268	2,227 (average)	

1/ Overflow meter.

2/ Not significant source of infiltration.

3/ Combined flow meter due to location.

4/ Monitored outside City.



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.

March 2017

**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

**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 the SSORP was **February 23, 2010**.

A. Objectives

The objectives of the SSORP are as follows:

- Protect public health and the environment
- Comply with regulatory agencies and waste discharge permit conditions
- Minimize risk of enforcement actions against Russellville City Corporation.
- Provide appropriate customer service
- Protect wastewater treatment plant and collection system personnel
- Protect the collection system, wastewater treatment facilities, and all appurtenances
- Protect private and public property beyond the collection and treatment facilities.

B. SSO Tracking

A spreadsheet listing assets which have overflowed due to wet or dry weather conditions is maintained and updated annually.

IV. 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.
- 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 annually.
- E. Monthly reports will be prepared from the database giving the number of wet-weather and dry-weather SSOs.
- F. Table 1 provides each potential capacity related SSO location 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 but less than 4.14 inches 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's that occur when a rain event is in excess of a two year 24-hour (4.14 inches) or more. Rainfall amounts will be monitored by City Corporation and respond when Storm Level A or B has been reached. Additional information will be gathered to properly categorize the manholes with their respective Storm Levels.

Table 1: Historical Recorded SSO's

Status	Manhole	Address
Active	1062	W B St & N Phoenix
Active	1106	213 S Phoenix Ave
Active	1108	W 2nd Place & S Phenoix
Active	1200	1105 Resimont
Active	1270	1509 S Muskogee
Active	1273	1401 S Muskogee
Active	1290	917 W 12th street
Active	1315	3rd & Vancouver
Active	1323	2220 W 2nd Pl
Active	1333	4th & Waco
Active	1334	W 4th & Arlington
Investigate	1341	1310 Ridgewood Dr
Active	1387	511 S Inglewood Ave
Active	1399	1103 Ridgewood Dr
Investigate	1465	ATU
Active	1466	1300 Glenwood-ATU
Active	1486	404 N El Paso Ave
Investigate	1567	200 N Arkansa Ave
Active	1628	407 N Arkansas, City Mall
Active	1724	E N ST & N Greenwich
Active	1725	E G & N Greenwich
Active	1750	901 N Detroit Ave
Investigate	1823	603 N Arkansas, City Mall
Investigate	1825	407 N Arkansas, City Mall
Active	1990	311 W B St
Active	2024	2807 N Arkansas
Active	2033	W Birch & I-40
Active	2035	Honda of Rsvl, Lakefront Dr
Active	2036	220 Lakefront Dr
Active	2043	ATU Softball Field
Active	2048	ATU Pasture
Active	2050	ATU Pasture
Active	2092	315 S Utah Ave
Active	2815	Arkansas Tech
Active	2816	Arkansas Tech
Active	2817	N Glenwood
Investigate	3027	2502 W 2nd St.
Active	3043	N Hunter Ridge Ln
Active	3046	W Main and Cumberland
Investigate	3075	3801 W Main
Investigate	3094	215 S. Portland
Active	3191	John Trusty Lane
Active	3193	John Trusty Lane
Active	3273	Hilltop & Marina Rd
Active	4009	2005 E Main St
Active	4019	1611 E. Main St.
Investigate	4020	E Main & N Sydney
Active	4021	1819 E Main St
Active	4078	1002 E I St

Active	4117	210 HWY 324
Pending	4127	515 S Ithaca
Pending	4213	88 Joyce Lane
Pending	4214	Flying J Truck Stop
Active	5024	107 w 14th st
Active	5032	E. 11th and Boston
Active	5121	10th and Glenwood
Active	5123	929 S El Paso
Active	6029	1105 S Oswego Ave
Active	6399	1519 S Knoxville Ave
Active	6478	404 Jimmy Lile Rd
Active	8048	404 Jimmy Lile Rd
Active	Old Post	Old Post Lift Station
Active	C	Lift Station C

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 the manhole has not overflowed in over 5 years, but will continue to be monitored until the area has been studied. “Pending” indicates a rehabilitation effort has been conducted with field conformation to follow to conclude positive mitigation.

- G. 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.

V. STANDARD OPERATING PROCEDURE

The standard operating procedure is for Russellville City Corporation Personnel to follow after an SSO is documented.

- A. Receipt of Information Regarding an SSO

An SSO may be reported by residents, employees, or anyone that has witnessed an SSO. All City Corporation employees receiving SSO notification shall report the SSO to the designated supervisor.

Generally, CSR 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 Construction Department records 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 crews to quickly locate, assess and analyze the SSO.

The Construction Coordinator then records the 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 Engineering Department. If an SSO has occurred, a completed overflow form shall be sent, via e-mail or interoffice mail, to the Engineering Department for documentation.
3. SSOs detected by any personnel in the course of their normal duties are reported immediately to the Construction Coordinator who records all relevant SSO information and dispatches a crew and additional response crews, as needed.
4. 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 reports this with a filed tablet the application creates the form below.

TABLE 2. SSO RESPONSE TRACKING PROTOCOL

<p>SSO RESPONSE TRACKING</p> <ol style="list-style-type: none">1. Rainfall event2. Construction Superintendent checks local precipitation data3. >1" in 24 hours triggers SSO response.4. Construction Superintendent sends crew to Historical Recorded SSO's (Table 1)5. Crew will fill form on tablet.6. The form is automatically generated by application and monitored by Construction Coordinator.7. Engineering will provide DMR Report to General Manager for signature and submit it to ADEQ.8. Engineering will provide DMR to CWB Engineers, Inc. for use in monitoring the Historical Recorded SSO's.
--

B. 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.

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.

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 an 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 (the below items may not apply to Sanitary Overflow Wet “SOW’s”):

- 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, 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

The crew shall initiate measures to contain and/or recover the overflowing sewage in order to minimize the impact to public health or the environment.

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. The Engineering Department shall initiate and administer the bypass pumping operations.

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. The site shall be treated with approved material after cleanup is completed.

C. Overflow Report

Response crew uses tablet to complete the application Form. All information is recorded on the tablet application form. The Response crew will notify the Construction Coordinator when the SSO has stopped overflowing.

D. Customer Satisfaction

When a SSO is reported by a citizen, the Construction Coordinator or Engineering Department will then contact the reporting citizen and discuss the actions taken and the resolution of the problem.

VI. 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 Construction Coordinator at which time all relevant information is collected, as outlined in Section IV-A. CONSTRUCTION COORDINATOR 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 CONSTRUCTION COORDINATOR.

Response Crew determines if SSO has occurred and attempts to resolve problem. Response Crew uses their tablets to complete the application electronically. They then take 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. The Construction Supervisor will verify cleanup is completed, take photographs and remove warning signs.

All private overflow calls are directed directly to the field crews. 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 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 uses tablet application and a report is generated electronically to the administrative staff.

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 field crews. 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 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.

Table 1). After crews have completed a check of the entire list, they will begin clean-up at each site.

VII. 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. The following is an example of a public notice.

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 Steve Reves – 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 Steve Reves – City Corporation
(479) 968-2080 ext 134**

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.

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. Currently, no MH's in public owned property meet this criteria.

C. Other Public Notification

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

IIX. REGULATORY AGENCY NOTIFICATION PLAN

The Regulatory Agency Notification Plan establishes procedures that Russellville City Corporation follows to provide formal notice to 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 Engineering Department 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 Engineering Department 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 Engineering Department will notify other federal, state, and local agencies, as well as other interested and possibly impacted parties as directed by the General Manager.

IX. MEDIA NOTIFICATION PROCEDURE

When an 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 Engineering Department.
- B. The Engineering Department informs the General Manager. The primary contact should be the General Manager. Table 3 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. Steve Mallett, CEO
 - 2. Lance Bartlett, Utility Engineering Manager

Table 3. Russellville City Corporation Media Contacts

Contact	Contact Name	Office	Mobile
Primary	Steve Mallett, CEO	(479) 968-2080 Ext 113	
Backup	Lance Bartlett, Utility Engineering Manager	(479) 968-2080 Ext 122	

X. 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 personnel involved in the I/I program.

B. Review and Update of SSORP

Review the SSORP annually and amend as appropriate

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.

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.

XI. 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. See Figure XI-1.

Figure XI-1



24-HOUR SANITARY SEWER OVERFLOW REPORT

After the overflow is detected, this form is sent to Water Enforcement electronically within 24 hours. Phone: 501-682-0639; Fax: 501-682-0910 or E-Mail:

WaterEnfSSO@adeq.state.ar.us

Facility Permit Number: _____

Facility Name: _____

Date Overflow Began: _____ **Time:** _____

Date Overflow Ended: _____ **Time:** _____

Description:

Comments

Cause of SSO

Additional Comments

(Give address, manhole number-if numbered. Include where the overflow went-yard, ditch, stream, storm sewer, building, other).

Manhole Overflow _____

I & I – Rainfall _____

Lift Station Overflow _____

Roots _____

Main Line Overflow _____

Grease _____

Service Line Overflow _____

Debris _____

Other: Describe _____

Equipment Failure _____

Construction _____

Vandalism _____

Power Failure _____

Line Failure/Break _____

Other – Describe _____

Volume: _____ *(Give an estimate in gallons)*

Action Taken – Check all that apply

(Short term and long-term action, including clean-up and any plans to remediate I & I)

Machine rodded

Disinfected and Deodorized

Jet-Vac

Hydro Cleaned

Hand rodded

Spread Lime on Affected Area

Used Generator To Power Pumps/Equipment

Public Notification

Other – Describe: _____

Environmental Damage:

OEHC – Observed or Evidence of Human Contact

NEAH – No Evidence of Adverse Health/Environmental Impact

OEEI – Observed or Evidence of Environmental Impact

EFK – Evidence of Fish Kill

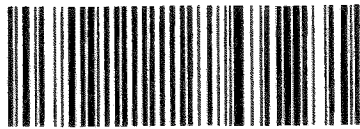
Reported By

Title

Telephone Number

CWB Engineers, Inc.
1915 Highway 25 B
Heber Springs, AR
72543

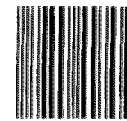
CERTIFIED MAIL



7017 2400 0001 0892 3453



1005



72118

U.S. POSTAGE
PAID
HEBER SPRINGS, AR
72543
MAR 15, 18
AMOUNT
\$9.70
R2306E125192-11

Arkansas Department of Environmental Quality
ATTN: Alan Anderson / Water Enforcement Branch
5301 Northshore Drive
North Little Rock, AR 72118-5317

