

# North Little Rock Waste Water Utility

## 2012 Annual Report

Consent Administrative  
Order LIS 10-218



# North Little Rock Waste Water Utility 2012 Annual Report

## Consent Administrative Order LIS 10-218

### *Table of Contents*

#### **1. Wastewater Master Plan**

##### **A. Milestone Schedule**

##### **B. Capital Improvements Plan (CIP)**

- i. Faulkner Lake Phase III STP Modifications
- ii. Miscellaneous Cured-In-Place Pipe (CIPP) Liner Project
- iii. Shillcutt Pump Station Modifications
- iv. Five Mile Creek Bar Screen and Conveyor Modifications
- v. Five Mile Creek Influent Pump Station Modifications
- vi. Auxiliary Generators for the Shillcutt, Wilcox and White Oak Pump Stations, and for the White Oak STP
- vii. Oakbrook Pump Station Upgrade
- viii. Miscellaneous Gravity Collection Improvements

##### **C. Sewer System Evaluation Survey (SSES)**

##### **D. SSES, Pumping Station, Capacity Assessment, and Hydraulic Model Evaluation Report**

## **E. Collection System and Wastewater Treatment Plant Remedial Measures Plan**

- i. Increase production with existing crews
- ii. Increase production by adding additional crews or personnel
- iii. Provide emergency pumping connections at pump stations.
- iv. Provide emergency generator connection and transfer switches at pump stations.
- v. Identify areas subject to building/private property backups.
- vi. Public education
- vii. Treatment plant stormwater runoff protection
- viii. Annual CIPP Maintenance Contract
- ix. Secure Funding for Deficiencies

### **2. Civil Penalty Payment Summary**

### **3. Notifications of Deficiencies**

### **4. Compliance Delays**

### **5. Certification**

# North Little Rock Waste Water Utility

## 2012 Annual Report

Consent Administrative Order LIS 10-218

**Attn: Allen Anderson, Enforcement Analyst**  
**Water Enforcement Division**  
**Arkansas Department of Environmental Quality**

In accordance with the requirements of Consent Administrative Order LIS 10-218 (CAO), Order and Agreement, Paragraph 3, Reporting, the second Annual Report is due February 1, 2012.

### 1. Wastewater Master Plan

#### A. Milestone Schedule

<u>Date</u>	<u>Milestone</u>
• Feb. 1, 2011	First Annual Report due
• Feb. 10, 2011	Effective date of Order
• Mar 10, 2011	Cross Connection Certification due
• Mar. 10, 2011	First Penalty Payment due (\$4,375.00)
• Apr. 25, 2011 – Feb. 25, 2013	Monthly Penalty Payment due (\$4,375.00/Mo.)
• Feb. 1, 2012 – Feb. 1, 2021 Or until closure of this CAO	Annual Report due

## B. Capital Improvements Plan (CIP)

The following is a description of progress made on CIP projects during the past year and listing of projects scheduled to be started in 2012.

### i. Faulkner Lake Phase III STP Modifications

This project consists of modifications to the influent pump station, addition of a primary clarifier, addition of a gravity thickener, addition of a parshall flume, removal of the existing grit chamber, and miscellaneous piping, structural, and hydraulic modifications.

This project is currently in design and is funded by RLF No. 00594-CWRLF-L. Crist Engineers, Inc. is the design engineer. It is projected that construction will begin mid-year 2012.

Projected cost of construction is \$3,900,000.

### ii. Miscellaneous Cured-In-Place Pipe (CIPP) Liner Project

This project consists of CIPP rehabilitation of existing pipelines identified from staff investigations in the Lakewood Lake No. 2 basin, Roseclair Drive, and Rhodes Street.

Design, bidding and construction observation services will be provided using in-house resources. It is projected construction will begin in the 2<sup>nd</sup> quarter of 2012.

Projected cost of construction is \$800,000 — \$900,000.

### iii. Shillcutt Pump Station Modifications

Modifications to the Shillcutt P.S will include: installation of a new wetwell; new pumps with variable frequency drives; modifications to the existing bar screens; auxiliary power supply; modifications to the discharge piping and valves; and miscellaneous structural, piping, electrical, and site work items.

Topographic site survey has been completed by in-house resources.

This project is currently in design. Crist Engineers, Inc. is the design engineer. It is projected that construction will begin late 2012 or early 2013.

In-house resources will conduct periodic inspections during construction in addition to engineering services by Crist Engineers, Inc.

Projected cost of construction is \$4,526,000 and the projected cost of professional services is \$533,000.

iv. Five Mile Creek Bar Screen and Conveyor Modifications

This project will consist of replacement of the bar screen rake mechanism and replacement of the existing belt conveyor with an auger type conveyor.

This project is currently in design by Marlar Engineering Co., Inc. Construction is projected to be complete late in 2012.

Projected cost of construction is \$925,000.

v. Five Mile Creek Influent Pump Station Modifications

This project will consist of modifications to the influent pump station for future hydraulic expansion to include provisions for future flow equalization and the possible addition of flow from the Sherwood South WWTP. The project will also include the addition of auxiliary power generation for influent and effluent pumping during power failures.

Design is in progress by Marlar Engineering Co., Inc. Construction is projected to begin in the second half of 2012.

In-house staff will conduct periodic inspections during construction, in addition to engineering services by Marlar Engineering Co., Inc.

Projected cost of construction is \$1,425,000.

vi. Auxiliary Generators for the Shillcutt, Wilcox and White Oak Pump Stations, and for the White Oak STP

The Shillcutt, Wilcox and White Oak pump stations are the Utility's largest pump stations and require permanently mounted stand-by power generation units. Additionally, auxiliary generators will be installed at the White Oak STP to minimize disruption of the treatment process during extended power outages.

Auxiliary generators for the Shillcutt Pump Station have been included in the Shillcutt Pump Station Modifications project (Sec. 1.B.iii).

Design, bidding and construction observation services will be provided using outside contracts.

Projected cost of construction is \$627,000, and the projected cost of professional services is \$94,000.

vii. Oakbrook Pump Station Upgrade

This project will consist of a new submersible-type pump station with wet weather capacity to replace the existing suction-lift type station.

In-house staff will provide the topographic survey.

Design, bidding and construction observation will be provided using outside services contracts.

In-house staff will conduct periodic inspections during construction.

Projected cost of construction is \$670,000, and the projected cost of professional services is \$100,500.

viii. Miscellaneous Gravity Collection Improvements

The Capital Improvements Plan included a line item for miscellaneous gravity system improvements. These are projects identified during the flow monitoring and hydraulic modeling phases of the Masterplan. Staff identified the projects with the highest priority as follows:

a. Sediment Removal ((FL-P1-SR)

Projected cost of construction is \$290,000 and the projected cost of professional services is \$43,500.

b. Cedar Street Sewer Improvements

Design and timing for this project is dependent on final stabilization of the landslide.

Projected cost of construction is \$220,000 and the projected cost of professional services is \$33,000.

c. Gravity Pipe Replacement (FL-GSO2)

This project is the downstream extension of the Lakewood Lake No. 2 project.

Projected cost of construction is \$1,300,000, and the projected cost of professional services is \$195,000.

#### d. Gravity Pipe Replacement (FL-GSO3)

This project consists of gravity collection improvements along the south side of Lakewood Lake No. 1.

Projected cost of construction is \$1,100,000, and the projected cost of professional services is \$165,000.

#### C. Sewer System Evaluation Survey (SSES)

The following is an update on SSESs completed and/or in progress during the past year, and scheduled for the upcoming year:

With the overall goal of eliminating non-capacity and capacity related SSOs, the Work Plan will consist of utilizing in-house and outside services to complete a sewer system evaluation survey of the entire service area (+/- 522 miles) over an eight(8) year period (2012 – 2019).

The Masterplan recommended priorities for SSES fieldwork (See FIGURE 1-1: Recommended Prioritization for SSES Fieldwork). These areas have been further subdivided into sub-basins of manageable sizes and will be selected for in-house investigation or for contracting with outside services companies. Outside services contracts will be utilized to conduct SSES fieldwork and reporting for approximately 230,000 LF/yr or approximately 1/12<sup>th</sup> of the collection system. In-house resources will be utilized to conduct SSES fieldwork and reporting for approximately 115,000 LF/yr or approximately 1/24<sup>th</sup> of the collection system. The combined effort of in-house resources and outside services will approximate one-eighth (1/8<sup>th</sup>) of the system each year.

Projected cost of rehabilitation is \$1,000,000 per year, and the projected cost of professional services is \$150,000 per year.

#### D. SSES, Pumping Station, Capacity Assessment, and Hydraulic Model Evaluation Report

The following is an update of progress on specific pump station capacity assessment, equipment condition adequacy, historical and current flow monitoring, inspection, rainfall, and other data.

The Masterplan included a “Capacity, Management, Operations, and Maintenance Self-Assessment Report”, “Flow Monitoring”, and “Hydraulic Model” of the North Little Rock Waste Water Utility’s



facilities. This information along with staff input was used to develop the capital improvements plan.

The Utility's geographical information system has been utilized to subdivide the collection system into sub-basins or "sewersheds" of manageable size. SSO data for non-capacity related overflows is being used to focus the Utility's cleaning efforts to the sewersheds with the highest number of non-capacity related overflows.

E. Collection System and Wastewater Treatment Plant Remedial Measures Plan

The following is an update of progress on specific collection system and WWTP Remedial Measures:

The remedial measures plan generally consists of measures involving existing equipment, personnel and practices which can be modified to reduce the occurrence of SSOs.

- i. Increase production with existing crews
  - a. New CCTV equipment and vans were purchased in 2011 to replace equipment for TV crews 1 and 2. The new digital equipment replaces VCR technology which with operator training will standardize defect ratings and create databases for incorporation into the GIS.
  - b. A portable CCTV unit capable of operating as a stand alone unit was purchased for use in limited access situations. This equipment is interchangeable with the equipment used by TV1 and TV2 to minimize downtime in the event of equipment failures.
  - c. Vacon crews 2 and 3 were transferred from the Engineering Department in September 2011 to the Maintenance Department to increase cleaning production. A review of the SSO data since 2006 indicates that 88% of overflows were the result of line blockages. The strategy will be to maximize cleaning production to reduce overflows caused by blockages.

Previously, Vacon2 worked in tandem with TV2, and Vacon3 worked in tandem with TV1. Production reviews indicated that Vacon production was being limited by the capability and progress of the TV crews.

All three (3) Vacon crews are now assigned to separate sub-basins for dedicated cleaning unless called specifically to assist a TV or repair crew or for plant maintenance.

This reorganization of existing staff is projected to more than double the total footage cleaned by all three(3) Vacon resulting in an additional 117 miles of pipeline cleaned per year.

- ii. Increase production by adding additional crews or personnel
  - a. A Power Rodder crew and equipment was added to increase cleaning totals by a projected 17,000 lineal feet per month. The power rodder provides mechanical cleaning for hilly areas which are problematic for the Vacon cleaning equipment.
  - b. A laborer was added to completely staff the Manhole crew and to provide a labor pool for all cleaning and repair crews. The Manhole crew functions only when an inventory of manholes that require rehabilitation have been identified (approximately 30 – 50% of the time). The remainder of the time, the members of the Manhole crew will assist on the Repair crews and will fill in on cleaning crews when there is an absence. This will minimize down time of all cleaning crews.
  - c. Flagman

We have been notified by North Little Rock Traffic Service Department that we will be required to prepare and file a barricade plan for each crew working on a “busy” roadway. This includes the cleaning and TV crews, which were previously excluded. We have arranged for training for the Safety Clerk and other personnel to assist with the preparation of barricade plans and to provide flagman duties where required.

- iii. Provide emergency pumping connections at pump stations.

Following the ice storms in December 2000, the Utility implemented a program to provide emergency pumping connections at all the pump stations. The connections allow a trailer mounted, suction lift pump to draw water from the wetwell and pump directly into the force main, thus by-passing the permanent pumping equipment during emergency situations such as power and equipment failures.

Since December 2000, emergency pumping connections have been installed on thirty-two(32) pump stations, and emergency pumping connections are required on new pump stations where feasible.

The attached “Pump Station Emergency Response Connections” sheets identify pump stations with emergency pumping connections.

Three (3) additional emergency pumping connections are scheduled to be installed in 2012 (Quapaw P.S., Burns Park East and Burns Park West) All remaining stations are deemed to be either too large, too small, or too deep for a trailer mounted suction lift pump.

- iv. Provide emergency generator connection and transfer switches at pump stations.

In 2008, the Utility purchased a 480V, 3phase, 100 KW trailer mounted generator. This generator is used to provide temporary power to certain pump stations.

To date, transfer switches have been installed on eight(8) pump stations. New pump stations are required to include emergency generator connections and transfer switches.

The attached “Pump Station Emergency Response Connections” sheets identify pump stations with transfer switches.

Nine (9) additional 480V, 3 phase transfer switch installations are scheduled to be installed over the next three(3) years. Stations with 480V, 3 phase power which do not have transfer switches include: Counts Massie P.S., Collins Industrial Park P.S., HWY 365/Sherman Rd. P.S., Cock of the Walk P.S., Oakbrook P.S., Austin Lakes P.S., Frontier Drive P.S., Rixie Trammel Rd. P.S., and Cypress Crossing P.S.

- v. Identify areas subject to building/private property backups.

The Utility utilizes trouble calls to initiate an investigation to determine areas subject to building/private property backups. A trouble call attributed to “high water” and resulting in slow draining fixtures or backups in buildings or property initiates a work order to the Assistant Superintendent of Permits and Inspections. The Permits and Inspections department conducts an investigation to determine the cause of the backup and documents

the need for corrective action. The Assistant Superintendent of Permits and Inspections documents the need for a backwater valve and sends a letter to the property owner. A copy of the letter is given to the GIS Administrator for entry into the GIS database.

vi. Public education

a. The Utility designed a bi-fold pamphlet which describes the proper method for disposal of grease and cooking oils. A copy is attached.

b. The Utility designed a bi-fold pamphlet which describes the proper method for disposal of pharmaceuticals. A copy is attached.

c. The Utility designed a two-sided flier to be distributed with the monthly bill describing the proper methods for disposal of grease, cooking oils and pharmaceuticals. These fliers are to be distributed bi-annually. A copy is attached.

d. Two (2) employees in the Treatment Department have prepared a program for educating school children about the wastewater system and our grease reduction program. Six (6) presentations were made in North Little Rock schools reaching approximately 400 students. Two (2) presentations were made (December 27, 2011 and January 9, 2012 to the City Council which were broadcast on the public access television station.

vii. Treatment plant stormwater runoff protection

a. The maintenance department is developing plans and cost estimates for additional covered equipment storage bays along the southeast corner of the plant site.

This project also includes plans for the addition of a vehicle wash station. In-house staff will provide the topographic survey for this project.

b. The vacon dump station has been modified to collect drainage from the dumpsters and route it back to the treatment plant headworks. A service schedule has been set up with Waste Management, Inc. for bi-weekly pick up of the dumpsters.

viii. Annual CIPP Maintenance Contract

This project will consist of preparation of contract documents for on-call cured-in-place pipe (CIPP) rehabilitation of existing pipelines to be identified from staff investigations. Contract shall be for one(1) year with an option to renew.

Design, bidding, and construction observation will be provided using in-house resources.

ix. Secure funding for Capital Improvement Projects

An application has been made to enter the state revolving loan fund program for the capital improvements program. A “Resolution of Intent” and a “Resolution of Signatory Authority” were passed by the North Little Rock city council on December 27, 2011. The requested loan amount is \$20,000,000.

The Utility has contracted with Economists.com to conduct a “Cost of Services Rate Study”. The study is projected to be complete in February 2012

2. **Civil Penalty Payment Summary**

<b><u>Total Owed</u></b>	<b>\$105,000.00</b>
<b><u>Payments</u></b>	
Mar. 10, 2011	(\$4,375.00)
Apr. 25, 2011	(\$4,375.00)
May 25, 2011	(\$4,375.00)
Sep. 25, 2011	(\$4,375.00)
Oct. 25, 2011	(\$4,375.00)
Nov. 25, 2011	(\$4,375.00)
Dec. 25, 2011	(\$4,375.00)
Jan. 25, 2012	(\$4,375.00)
<b>Balance Owed (2/01/2012)</b>	<b>\$70,000.00</b>

### 3. **Notifications of Deficiencies**

CAO Notices of Deficiencies received from ADEQ: **None** (no. & date)  
NLRWU response to Notice of Deficiencies: **N/A** (must be within 15 days)

Summary of NLRWU actions to address deficiencies: **N/A**

### 4. **Compliance Delays**

Notifications of Compliance Delays submitted to ADEQ: **None** (no. & date)  
Length of Compliance Delay: **N/A**

Cause of Compliance Delay: **N/A**

Measures Taken to Minimize Delay: **N/A**

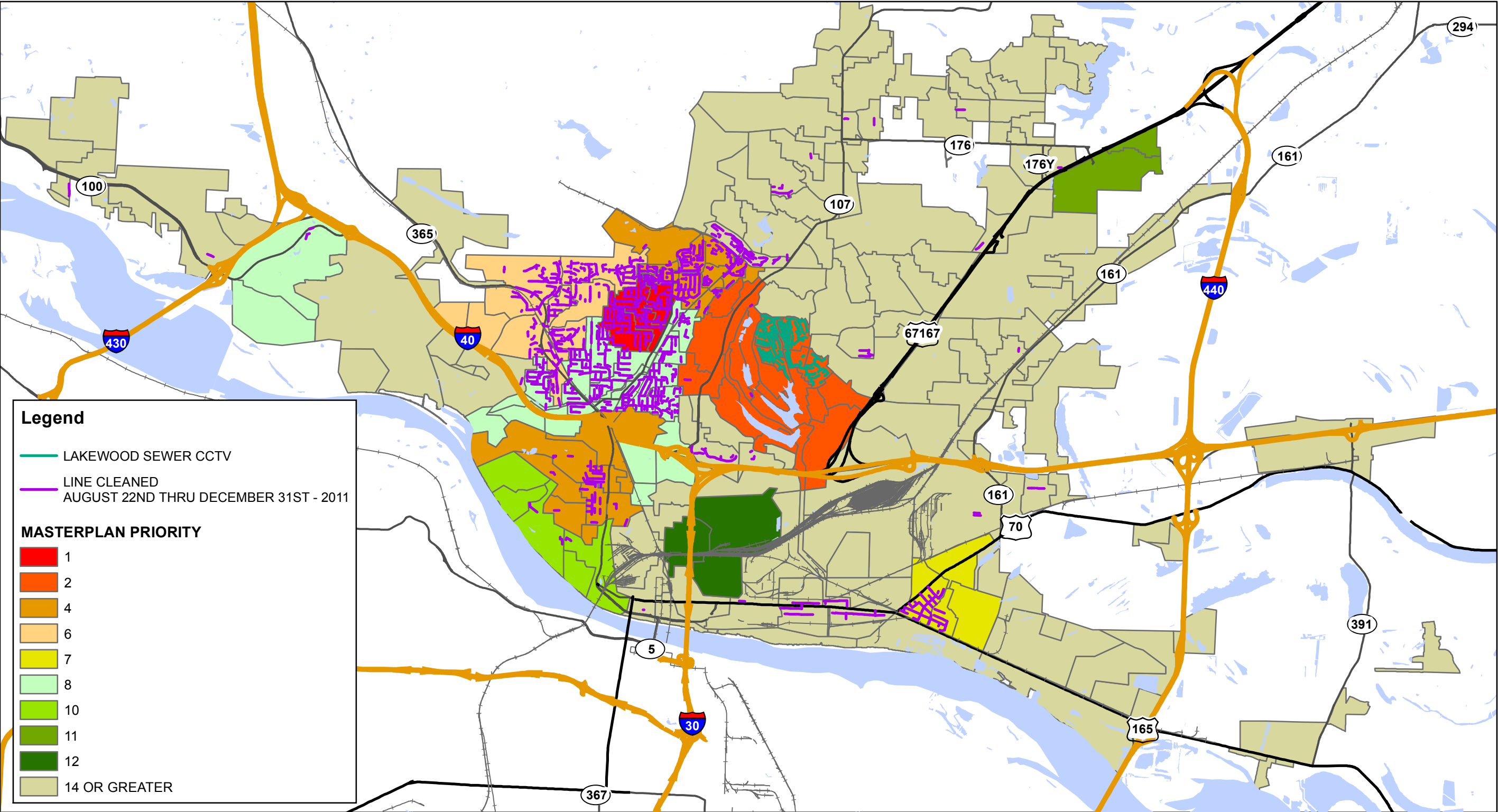
Timetable for Implementing Additional Measures: **N/A**

### 5. **Certification**

As required by the Order and Agreement, Paragraph 3, North Little Rock  
Waste Water Utility certifies that we are complying with the ADEQ-approved  
Wastewater Master Plan.

Respectfully Submitted,

Marc E. Wilkins, PE  
Interim Director  
North Little Rock Waste Water Utility



# North Little Rock Waste Water Utility

The data contained herein was compiled from various sources for the sole use and benefit of the North Little Rock Waste Water Utility. Any use of the data by anyone other than the North Little Rock Waste Water Utility is at the sole risk of the user; and by acceptance of this data, the user does hereby hold the North Little Rock Waste Water Utility and the City of North Little Rock harmless and without liability from any claims, costs, or damages of any nature against the North Little Rock Waste Water Utility and the City of North Little Rock, including cost of defense arising from improper use of the data or use by another party. Acceptance or use of this data is done without any expressed or implied warranties.



501-945-7186



501-945-7186

# MAINTAIN YOUR DRAIN

# MAINTAIN YOUR DRAIN

## Pharmaceuticals

Do NOT flush them down the toilet.

Mix old pharmaceuticals with used coffee grounds or kitty litter.

Place them in a sealable container and throw them in the trash.

OR

Contact local law enforcement for community take-back programs.

## Pharmaceuticals

Do NOT flush them down the toilet.

Mix old pharmaceuticals with used coffee grounds or kitty litter.

Place them in a sealable container and throw them in the trash.

OR

Contact local law enforcement for community take-back programs.

[WWW.NORTHLITTLEROCK.AR.GOV](http://WWW.NORTHLITTLEROCK.AR.GOV)

[WWW.NORTHLITTLEROCK.AR.GOV](http://WWW.NORTHLITTLEROCK.AR.GOV)

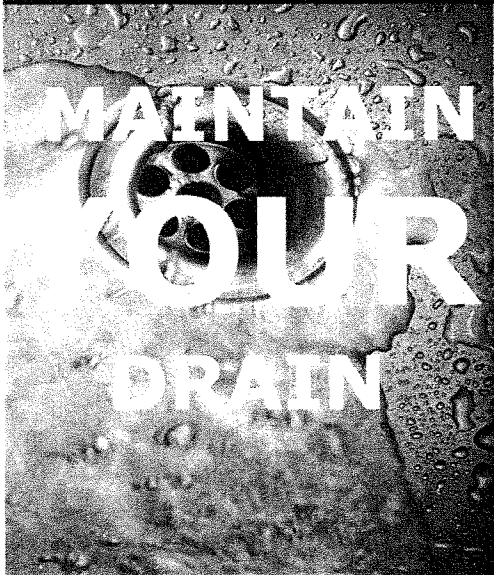




501-945-7186



501-945-7186



**MAINTAIN  
YOUR  
DRAIN**



**MAINTAIN  
YOUR  
DRAIN**

## Grease

**Never pour grease or  
cooking oil down  
sink drains  
or  
garbage disposals.**

**Place grease and oil in the  
trash.**

[WWW.NORTHLITTLEROCK.AR.GOV](http://WWW.NORTHLITTLEROCK.AR.GOV)

## Grease

**Never pour grease or  
cooking oil down  
sink drains  
or  
garbage disposals.**

**Place grease and oil in the  
trash.**

[WWW.NORTHLITTLEROCK.AR.GOV](http://WWW.NORTHLITTLEROCK.AR.GOV)