



**2016
SIERRA CLUB
COMPLIANCE
REPORT**

**SUBMITTED TO THE LITTLE ROCK
WATER RECLAMATION COMMISSION
FEBRUARY 15, 2017**

SIERRA CLUB SETTLEMENT
ANNUAL REPORT
FOR 2016

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P. Capacity Related Sanitary Sewer Overflows Summary Report



SIERRA CLUB SETTLEMENT COMPLIANCE REPORT FOR 2016

EXECUTIVE SUMMARY From Greg Ramon, C.E.O.

I am pleased to submit the attached Sierra Club Annual Report which outlines the progress Little Rock Wastewater has made in mitigating sanitary sewer overflows (SSOs) during 2016. System improvements began on September 12, 2001, when LRW and the Sierra Club signed the Settlement Agreement (Agreement). Since then, the Utility has worked diligently to comply with the terms set forth. Since its inception, LRW has spent more than \$345 million to meet the requirements of the Agreement. It is projected to cost an additional \$192 million to renew the aging collection system and to reduce the occurrence of SSOs. Since the signed Agreement, LRW has realized great success in mitigating non-capacity related overflows and continued to meet the Agreement throughout 2016. This is a result of the established maintenance procedures and schedules which continue to provide the desired results by minimizing mainline stoppages within the collection system. It is my privilege to say that LRW has been meeting the requirements for non-capacity overflows outlined in the Agreement.

As it relates to capacity related overflows, the Utility continues to have success. We have secured the needed sewer rate increases and bond financing necessary to continue to make the improvements to the system. We have embarked on renewing the collection system, increasing capacity by 31 million gallons at the Scott Hamilton Peak Flow Facility and we will make improvements at the Fourche Creek Treatment Facility as well as the Adams Field Treatment Facility.

Also as part of our communication effort, LRW continues to educate our customers on available programs to assist in preventing overflows, maintaining a reliable sewer system and construction projects in their neighborhoods. We remain committed to helping the residents receive reliable service.

Since the development of programs like *Can the Grease®*, the *Sewer Service Line Replacement Program* (which has been expanded to help more residents) and *Call Us First*, we have seen a noticeable decrease in the frequency and magnitude of SSOs. As we continue to build on this foundation, we are preparing to launch additional programs in 2017.

LRW is committed to improving the system and meeting the requirements of the Agreement. I am proud of the past success and look forward to future improvements which will move the Utility in the right direction. Also, we believe that our efforts are in line with improving our community and the environment we all cherish. It is with great pride that I present to you this annual report.

Respectfully submitted,

A handwritten signature in black ink that reads "Greg Ramon".

Greg Ramon, C.E.O.

I. INTRODUCTION

The following activities constituted LRW's major compliance efforts, and they will be discussed with other activities in the order mentioned, consisting of (II) Projects Update; (III) Financing; (IV) Other Compliance Actions; (V) Supplemental Environmental Projects and Any Other LRW Environmental Efforts; (VI) 2016 Non-Capacity Related Sanitary Sewer Overflows; (VII) 2016 Capacity Related Overflows; and (VIII) Conclusion.

II. PROJECTS UPDATE

The System Evaluation Capacity Assurance Plan (SECAP) Update is the Capital Improvement Plan (CIP) to mitigate overflows for the designated design storm.

LRW has listed the CIP projects in the 2017 budget and scheduled the projects accordingly. The report lists one storage facility, operation adjustments, capacity improvements, and other pertinent items to mitigate overflows. The Grassy Flat main was completed which required a capacity increase from an 18-inch mainline to a 30-inch mainline. The one storage site project is under construction, Scott Hamilton Drive Peak Flow Facility (formerly referred to as the Mabelvale Pike Peak Flow Attenuation Facility), adding 31 million gallons of storage capacity to the existing facility. On December 1, 2015, LRW was granted a discharge permit modification allowing parallel treatment to the existing biological train. The new facility configuration will allow for 94 million gallons per day of continuous treatment while meeting discharge permit parameters. The new approach will eliminate the need for additional storage at the Adams Field Wastewater Treatment Facility (AFWTF). There are multiple projects listed in the SECAP update to increase the capacity of existing gravity mains. A large diameter main (42-inch & 48-inch) proposed from 36th Street to Mabelvale Pike is the largest line project required. Multiple projects such as manhole adjustments and upsizing of mains are included in the report. The SECAP Update assumed all previous collection system projects would be completed. The following are projects already completed or currently included in the 2017 budget.

A. Little Maumelle Wastewater Treatment Facility

Construction of the project was completed in March 2011, and the facility was placed in operation in July 2011.

B. Peak Flow Attenuation Facilities

Construction of the projects was completed in August 2011.

C. Cantrell Road Pump Station and Force Main Upgrade

Construction of the projects was completed in November 2015.

D. Scott Hamilton Drive Peak Flow Facility (formerly referred to as Mabelvale Pike Peak Flow Attenuation Facility)

The SECAP Update, dated November 2010, identified the need for additional storage to complement the existing storage facility on Scott Hamilton Drive. The additional storage, along with a hydraulic upgrade at the Peak Flow Pump Station, will further reduce the effects of inflow and infiltration (I/I) within the North and South 60 Sewer Interceptors thereby mitigating sanitary sewer overflows (SSOs) within the service area for the identified design storm. The preliminary engineering report identified the need for an additional 31 MG of storage. The Conditional Use Permit phase is completed. LRW progressed towards completion of the design phase efforts for this project in mid-2016. The project was bid, and construction began in September 2016.

The Peak Flow Pump Station was designed with a vacant pump position so the capacity of the station could be readily increased when storage becomes available. The increased capacity of the station will reduce the occurrence of SSOs for the design storm event with an additional 31 MG storage at the Scott Hamilton Peak Flow Facility. The additional pump is scheduled to be installed in 2017 along with the additional storage basin.

The five-year forecast prepared in conjunction with the 2017 capital budget allocates project cost of \$6,069,094 in 2017; \$8,299,700 in 2018; and \$548,384 in 2019.

E. Fourche Creek Wastewater Treatment Facility Hydraulic Upgrade

The hydraulic upgrade of the Arch Street Pump Station from 36 million gallons per day (MGD) to 45 MGD necessitated the hydraulic upgrade of the Fourche Creek Wastewater Treatment Facility (FCWTF) to a minimum of 45 MGD. In 2008, LRW, with its consultant CDM, completed a 20-year CIP to assess treatment processes, identify deficiencies, and plan for improvements to the facility to meet future hydraulic and process needs. The overall project was divided into four phases. Phase One was the addition of the new disinfection system, with a project cost of \$9,756,140.97. The disinfection project was completed January 2011. The second phase was the addition of a secondary clarifier, with a project cost of \$10,066,644.03, was completed October 2011. With the completion of the second phase, the treatment facility can hydraulically handle 45 MGD. The third phase will address headworks, and primary clarifier needs with a project cost estimate of \$3,659,000 to be completed in 2017, and \$4,988,820 in 2018. Phase Four of FCWTF does not include any improvements pertaining to the SECAP Update. This project is scheduled to be completed in 2018.

F. Adams Field Wastewater Treatment Facilities Nutrient Removal

In 2015, the Arkansas Department of Environmental Quality (ADEQ) determined that the oxygen demanding constituent of all municipal wastewater discharges, ammonia nitrogen (NH₃-N), has a significant effect on the predicted dissolved oxygen (DO) level in the Arkansas River. The ADEQ water quality model indicated that an NH₃-N permit limit of 7.0 mg/l for the Adams Field facility will be needed to meet the in-stream DO water quality standard of 5.0 mg/l.

In a letter dated May 21, 2015, ADEQ notified LRW that the next renewal permit will include new limits for NH₃-N and directed LRW to begin working toward compliance in the next permit. The letter went on to say that LRW's failure to meet future permit limits could result in a significant noncompliance issue that will make this issue more difficult and costly to remove.

To achieve compliance, ADEQ directed LRW to submit two progress reports identifying steps taken toward evaluating and selecting operational changes and treatment options. Progress Report No. 1 was submitted on February 1, 2016, and indicated LRW's ability to comply with future NH₃-N limits on a consistent basis with its current treatment system configuration. By February 1, 2017, Progress Report No. 2 shall evaluate changes in operational and treatment options. The forecast prepared within the 2017 capital budget allocates project cost of \$150,000 in 2017, \$33,800,000 between 2019 and 2022, and \$5,860,000 between 2024 and 2026.

G. Adams Field Parallel Treatment—(previously Storage/Disinfection)

The SECAP Update, dated November 2010, identified the need for additional storage at the AFWTF to complement existing and proposed storage facilities (Scott Hamilton Drive Peak Flow Facility). The additional storage would allow for extended hydraulic pass-through of rainfall dependent I/I volume thereby mitigating sanitary sewer overflows within the service area for the identified design storm. However, the amount of storage prescribed in the SECAP Update limits the wet weather capacity of the facility to the duration of the design storm. Also, elevated flow rates through the biological portion of the facility hinder the ability of the facility to remove NH₃-N. Within the 2016-2017 permit cycle, ADEQ requires more stringent limits on the amount of NH₃-N within the effluent.

In 2014 LRW applied for and was granted in late 2015 a permit modification that will allow for parallel treatment of the biological system. A parallel treatment system used during wet weather events will take peak flows from the biological treatment train allowing it to run steady state and thereby remove NH₃-N to within permit limits. Also, parallel treatment will prove effective in adequately treating effluent to within permit limits during wet weather events. The advantage of a parallel treatment system over storage is that the facility can maintain its peak capacity for a much longer duration than the design storm thereby reducing the amount of spillage within the collection system. With this permit modification, LRW abandoned the concept of additional storage at the facility and will proceed with parallel treatment design in 2016. The forecast prepared within the 2017 capital budget allocates project cost of \$18,187,775 between 2017 and 2018.

H. Fourche Creek Wastewater Treatment Facility Nutrient Removal

Effective October 1, 2014, the ADEQ issued a permit renewal for the facility. Within the permit, ADEQ directed LRW to comply with a schedule for ammonia based limits predicated upon general water quality standards for this segment of the Arkansas River. At 18-months after the effective date of the renewed permit, Report No. 1 was submitted which contained an evaluation of the current treatment system, as configured, and its inability to comply with the final ammonia nitrogen (NH₃-N) limits on a consistent basis. Before the 24-month after the effective date deadline for Report No. 2, a correspondence was received from ADEQ

surroundings. Both outfall replacement projects were designed by McClelland Consulting Engineers (MCE), and MCE performed construction administration. The construction efforts were completed in February 2015.

- c. Leawood OMP** **\$6,829,800**
The CIPP portion of this OMP has been completed. Construction of the second phase of rehabilitation, containing Pipe Burst and Open Cut Construction began in February 2016 and is scheduled to be completed in February 2017.
- d. Lower Swaggerty OMP** **\$6,075,900**
The CIPP portion of this OMP has been completed. Construction of the second phase of rehabilitation, containing Pipe Burst and Open Cut Construction began in May 2015 and is scheduled to be completed in February 2017.
- e. Pleasant Valley OMP** **\$2,723,073**
The CIPP portion of this OMP was combined with the rehabilitation, containing Pipe Burst and Open Cut Construction. This project was completed in October 2015.
- f. Echo Valley OMP** **\$3,501,354**
The CIPP portion of this OMP was combined with the rehabilitation, containing Pipe Burst and Open Cut Construction. This project was begun in September 2014. Construction has been completed with final close-out of the contract in September 2016. A section of the outfall was pulled from the original contract, due to a major conflict with a 48" waterline, redesigned and bid as the Millbrook Upsize section of another project including Bishop St. Upsize and 17th Street Pipeburst Upsize. This work was completed in April 2016.
- g. 0H – 0G Relocation** **\$580,800**
The 36" outfall serving the Baptist Hospital, the Natural Resources Complex, as well as West Financial District, was previously under design for relocation. The proposed relocation was disapproved by the Federal Highway Administration, due to being, in essence, a longitudinal utility installation inside the right-of-way of an Interstate Highway. Therefore, it was determined necessary to stabilize the existing 36" pipe in place as well as internally rehab the pipe, to help ensure the long-term integrity of this vital interceptor. The external stabilization phase was completed in November 2014. Bids for the Internal Rehabilitation phase were opened on September 4, 2015, and the work was completed in March 2016.
- h. 42" Force Main Inspection & Diversion Structure – R29** **\$2,942,318**
Since its installation in the early 1980s, the force main serving the FCWTF has undergone five major repairs due to hydrogen-sulfide degradation. This investigation will afford an internal review and structural determination of the remaining pipe. The unique situation of investigating while surcharged with raw wastewater created a challenge that until only recently has

technology been available to “see” through this medium and evaluate the surrounding pipe material. A technology using the SmartBall was completed in the summer of 2014. No leaks were detected, but the ARVs on the force main will need to be upsized and access points will be installed at the locations. During the installation of the access points, further investigation will be performed internally on the force main. A diversion structure to allow flows to be transferred from the 30” Fourche Force Main to the Adams 60” during high flows is installed near Springer Boulevard which addresses the R29 project. The construction on this project began January 2016 and was completed in December 2016.

i. Allsopp North/Country Club Manhole Rehab \$431,900

This manhole rehab project will help to address I/I, as well as repair any structural deterioration within the Allsopp North/Country Club basins. Construction on this project began in July 2016 and is scheduled to be completed by April 2017.

j. Leawood Manhole Rehab \$525,036

This manhole rehab project will help to address I/I, as well as repair any structural deterioration within the Leawood area. Construction on this project began in 2016 and is scheduled to be completed by March 2017.

k. Echo Valley Manhole Rehab \$283,446

This manhole rehab project will help to address I/I, as well as repair any structural deterioration within the Echo Valley area. Construction on this project began in 2016 and is scheduled to be completed by March 2017.

l. Pleasant Valley Manhole Rehab \$431,400

This manhole rehab project will help to address I/I, as well as repair any structural deterioration within the Pleasant Valley area. Construction on this project began in July 2016 and is scheduled to be completed by April 2017.

m. Springer Blvd – R1 \$1,159,089

This project consists of the upsizing of the mainline and addresses any I/I, as well as structural deterioration. Construction began in October 2016 and is scheduled to be completed by March 2017.

n. West Markham Mainline – R6 \$1,523,519

This project consists of the upsizing of the mainline and addresses any I/I, as well as structural deterioration. Construction is scheduled to begin in January 2017 and is scheduled to be completed by July 2017.

o. Bishop Street Relay – R14 \$287,964

This project consisted of the upsizing of the mainline and addressed any I/I, as well as structural deterioration. This project was combined with the Millbrook Relay and 17th Street Pipeburst Upsize projects and bid together. Construction began in April 2016 and was completed in September 2016.

- p. Grassy Flat Main – R27** **\$1,016,199**
This project consisted of the upsizing of the mainline and addressed any I/I, as well as structural deterioration. Construction began in July 2016 and was completed in December 2016.
- q. Lower Swaggerty OMP Manhole Rehab** **\$544,000**
This manhole rehab project will help to address I/I, as well as repair any structural deterioration within the Lower Swaggerty area. Construction on this project began in July 2016 and is scheduled to be completed by April 2017.
- r. 17th Street Pipeburst Upsize – R15** **\$378,662**
This project consisted of upsizing three sections of the main line by re-laying and pipe bursting to provide adequate hydraulic capacity. This project was combined and bid with Bishop Street Upsize and Millbrook Upsize projects. Construction on this project began in April 2016 and was completed in September 2016.
- s. Fair Park Relay – R12** **\$114,665**
This project consisted of upsizing three sections of the main line to provide adequate hydraulic capacity. This project was combined and bid as a package with the W. Markham Street Relay project. Construction on the Fairpark Relay portion began in July 2016 and was completed in August 2016.

2. Overflow Mitigation Projects Planned for RLF 2016:

RLF 2016 Projects	
36th Street to Mabelvale Pike Outfall	\$840,444
Cantrell Basin I/I Reduction SSES	1,781,875
Granite Mountain OMP	3,466,850
Jimerson West OMP	422,789
Longfellow OMP - Subbasin 11400	207,452
Mainline Improvements for Modeled Overflows/Growth	60,000
Markham to Rodney Parham Relay	166,535
Middle Hinson	1,303,419
Overlook/Pinnacle Point 10070	179,375
River Ridge - SB 11200 OMP	71,856
Rodney Parham Relay	57,564
Rose Creek Central OMP	443,834
Scott Hamilton Peak Flow Equalization Facilities	14,917,178
Sherrill Heights - SB 11000 OMP	70,200
Trenchless Sewer Line Renewal	1,700,000
University Avenue Relay	715,896
Upper Country Club Outfall	117,486
Victory St. Relay	8,764
Service Line Replacement Program	1,000,000
Total	\$27,531,517

3. Overflow Mitigation Projects Planned for RLF 2018:

<u>RLF 2018 Projects</u>	
17th Street Relay	\$382,204
36th Street to Mabelvale Pike Outfall	15,945,528
Abigail Street Relay	81,739
Barrow OMP	349,549
Jimerson West OMP	2,465,667
Little Maumelle Sludge Line Design	2,493,783
Longfellow OMP	1,506,951
Lower Swaggerty OMP	1,187,929
Mainline Improvements for Modeled Overflows/Growth	4,908,310
Middle Hinson	9,241,369
Overlook/Pinnacle Point 10070	1,073,112
River Ridge OMP	349,305
Roselawn Cemetery Relay	596,411
Rock Creek Remediation	750,000
Rose Creek Central OMP	2,582,831
Rose Creek East Relay	752,202
Sewer Assessment Lines >18" (550,000 LF Total)	7,000,000
Subbasin 30100 OMP	263,367
Sherrill Heights OMP	255,286
Trenchless Sewer Line Renewal	2,500,000
Upper County Club Outfall	2,801,755
Walton Heights OMP	224,789
Total	\$57,712,087

4. Overflow Mitigation Projects Planned for RLF 2019:

<u>RLF 2019 Projects</u>	
Cantrell Basin I/I Reduction Construction'	\$2,671,394
Jamison Pump Station Upgrade	2,289,565
Rebsamen Sewer Basin I/I Reduction	2,951,237
Rock Creek & Grassy Flat Sewer Basin I/I Reduction	2,951,237
Service Line Replacement Program	1,000,000
Trenchless Sewer Line Renewal	1,100,000
Two Rivers Park Pump Station	3,524,435
Total	\$16,487,868

- **Project purpose:** SECAP/CAO/Sierra Club - Protect Health, Environment

5. Overflow Mitigation Projects Planned for RLF 2020:

<u>RLF 2020 Projects</u>	
Barrow OMP SB 30700	2,837,778
Cantrell Basin I/I Reduction Construction'	6,296,074
Rebsamen Sewer Basin I/I Reduction	9,700,755
Rock Creek & Grassy Flat Sewer Basin I/I Reduction	8,826,574
Sewer Repairs Lines >18" (368,000 old) 25% = 92,125 LF	6,000,000
Subbasin 30100 OMP	1,501,445
Trenchless Sewer Line Renewal	1,440,000

Walton Heights - Basin 11600 OMP	1,694,015
Total	\$38,296,641

- **Project purpose:** SECAP/CAO/Sierra Club - Protect Health, Environment

6. Overflow Mitigation Projects Planned for RLF 2022:

<u>RLF 2022 Projects</u>	
Allsopp Park South Near CRPS	1,192,283
Boyle Park Mainline	729,570
Cantrell Basin I/I Reduction SSES & Construction	5,927,631
Rebsamen Sewer Basin I/I Reduction	4,658,998
Rock Creek & Grassy Flat Sewer Basin I/I Reduction	3,468,143
Sewer Repairs Lines >18" (368,000 old) 25% = 92,125 LF	6,000,000
Trenchless Sewer Line Renewal	1,440,000
Total	\$23,416,625

- **Project purpose:** SECAP/CAO/Sierra Club - Protect Health, Environment

7. Overflow Mitigation Projects Planned for RLF 2024:

<u>RLF 2024 Projects</u>	
Collection System Projects	6,498,770
Sewer Repairs Lines >18" (368,000 old) 25% = 92,125 LF	6,000,000
Trenchless Sewer Line Renewal	1,440,000
Total	\$13,938,770

- **Project purpose:** SECAP/CAO/Sierra Club - Protect Health, Environment

8. Future Overflow Mitigation Projects:

<u>Future Projects</u>	
Walnut Valley OMP	\$2,791,600
Chicot Subbasin 40704	\$3,138,700
Cloverdale Subbasin 40703	\$4,771,400
Mabelvale Pike Subbasin 40701	\$2,955,800
Meadowcliff Subbasin 40701	\$4,864,200
Quapaw South SB 20401	\$2,017,800
District 84 OMP	\$3,066,000
Upper Coleman OMP	\$5,557,500
District 119 OMP	\$3,767,100
Mabelvale OMP	\$2,365,300
Quapaw North OMP	\$1,995,600
Foreman Lake OMP	\$1,252,100
Hall High South OMP	\$3,987,400
Total	\$42,530,500

9. Overflow Mitigation Projects Completed under RLF VIII:

- a. **Jimmerson Creek (RLF VIII)** – Completed in 2010.
- b. **Jimmerson West Outfall (RLF VIII)** – Completed in 2010.
- c. **Jimmerson East and Upper Hinson Manhole Rehab (RLF VIII)** – Completed in 2010.
- d. **Allsopp South (RLF VIII)** - Completed in 2011.
- e. **Barton (RLF VIII)** – Completed in 2011.
- f. **System Evaluation and Capacity Assurance Plan Update (RLF VIII)** – Completed in 2010.

III. FINANCING

A. Discussion:

A sewer revenue bond of \$61,000,000 was approved by the City of Little Rock (CLR) Board of Directors in 2016. CLR Ordinance 21,258, for Sewer Revenue Bonds Series 2016, was adopted on June 28, 2016. It was issued for the State of Arkansas RLF through the Arkansas Natural Resources Commission. This bond issue was included in the 10-year CIP and was necessary for various projects provided in the SECAP and the SECAP Update. The goal of these projects is to mitigate capacity related SSOs in the LRW collection and treatment system.

LRW refunded two outstanding bond issues in 2016 (Series 2014 and Series 2016B) for a gross savings of \$5,060,170.

Proceeds from RLF 2013 and RLF 2016 funded the projects listed in the charts below.

RLF 2013 Funded Projects

Project Number	Project Description
3120400	OH - OG Relocation
4060300	Allsopp North/Country Club Rehabilitation
4070600	Leawood OMP
4070700	Echo Valley OMP
4070800	Pleasant Valley OMP
4080100	Granite Mountain OMP
4080200	Lower Swaggerty OMP
4080300	Subbasin 30100 OMP
4083100	Jimmerson West OMP
4084600	Longfellow SB11400
4111300	Springer Boulevard Relay - SECAP R1
4112300	West Markham Mainline - SECAP R6
4112900	Fairpark Relay - SECAP R12
4113400	Bishop Street Relay - SECAP R14
4120300	42" Force Main Inspection

4120400	Grassy Flat Main
4123000	17th Street Pipe Burst - SECAP R15

RLF 2016 Funded Projects

Project Number	Project Description
4080100	Granite Mountain OMP
4083100	Jimerson West OMP
4084600	Longfellow OMP – Subbasin 11400
4101800	Rose Creek Central OMP
4112400	University Avenue Relay
4113500	Victory Street Relay
4113600	Rodney Parham Relay
4113700	Markham to Rodney Parham Relay
4115000	River Ridge – SB 11200 OMP
4115100	Sherrill Heights – SB 11000 OMP
4120500	36th Street to Mabelvale Pike Outfall
4120800	Upper Country Club Outfall
4121400	Overlook/Pinnacle Point 10070
4121900	Mainline Improvement for Overflows
4160300	Cantrell Basin I/I Reduction
4160600	Middle Hinson
4170100	Trenchless Sewer Line Renewal
7130100	Scott Hamilton Drive Peak Flow Equalization Facilities
7130300	AFWTF Parallel Treatment Install & Disinfection
7150100	AFWTF Asset Renewal
7160100	FCWTF Phase III Asset Renewal

IV. OTHER COMPLIANCE ACTIONS

A. Signage/Public Notification/Public Information:

As required in the Agreement, LRW staff developed a Sanitary Sewer Overflow Response Plan (SSORP) which was authorized by the Little Rock Sanitary Sewer Committee, now the Little Rock Water Reclamation Commission (LRWRC), on September 18, 2002. The SSORP, as amended, is included in this document as Attachment A. The plan establishes a protocol for maintenance crews to follow when responding to an SSO event and specifies internal and regulatory reporting procedures. The SSORP is reviewed and revised annually to ensure all policies, procedures, and contacts are accurate. The response protocol includes provisions for temporary signage and posting notices at individual residences. Temporary signage currently used by LRW is shown in Attachment B. A copy of the “door hanger” LRW uses to post residences is provided in Attachment C.

Practically all the SSO Notification Program requirements contained in the Agreement are addressed in the SSORP, including the provisions for permanent signage at recurring SSO locations on public property. Locations eligible for permanent signage are in Table A-1 of the SSORP.

An example of permanent signage placed at recurring SSO sites is shown in Attachment D.

B. Public Education and Outreach Programs - LRW is committed to public education and outreach and has developed several programs to reach our customers to minimize SSOs and to educate the public on what they should do to help protect the environment.

1. *Public Relations* – To provide Consultation Services, Market Research and other Related Services LRW has contracted with The Design Group, a Little Rock based multicultural communications and marketing company. The Design Group has played a critical role in the launching of Project RENEW, the organizing of public meetings and market strategies to promote educational programs.

2. *Project RENEW*– As part of LRW’s multi-year, capital improvement project to renew aging pipelines throughout the city, an outreach campaign was launched in the project areas. The outreach included postcard mailers to the homes, community meetings, door hangers and an interactive project map on the website so residents can search to see if there are any current or planned projects in their neighborhood. (Attachment E)

3. *Can the Grease*© - The *Can the Grease*© initiative kicked off in 2002 as a means of education, motivation, and promotion of the grease related problems in Little Rock’s sanitary sewer system. LRW’s residential customers can request a grease information “starter kit,” which includes a grease container, three (3) heat-resistant liners, two (2) information pamphlets, the LRW *Can the Grease*© brochure and the WEF Fat-Free Sewers brochure, and an information magnet. Starter kits are also distributed in larger quantities at community events and to apartment complexes. In 2016, **745** starter kits were delivered to residential customers, **873** to apartment complexes and mobile home parks, **50** at various community events or tradeshow, **109** for grease related overflows, and **25** for the subsidy program. LRW distributed approximately **2340** *Can the Grease*© starter kits for the year. (Attachment F)

The *Can the Grease*© program was nationally recognized in 2008 with the *NACWA Public Information & Education Award*, and in 2009 with the *ADEQ Stewardship Award*.

4. *Stay Connected*© - LRW continues to promote our *Stay Connected*© program which has made a huge leap towards a cleaner, environmentally affable future through public education. The message is one of awareness and preservation: know where your sewer service line is and have it checked for cracks, breaks, and debris. With an involved advertising campaign and service line inspection plan, LRW has made significant steps in public awareness and education of sewer service line responsibility and maintenance.

Stay Connected© paved the way for the development of the Sewer Service Line Replacement Program. This year's message to residences was "Call Us First." Promoted in bill inserts, "Call Us First" spread the message to call LRW before calling a plumber to verify whether stoppages were truly on a private sewer line or the sewer main.

5. Sewer Service Line Replacement Program – Passed as an ordinance in June 2012 and put into effect January 1, 2013, the Sewer Service Line Replacement Program was put into effect to control inflow and infiltration from a source that LRW had no control over in the past. Studies determined that up to 40 percent of the excess water entering the collection system was coming from the private sewer services of homes and that many of these homes have had long-standing sewer service line issues that were too costly to repair by the home owner alone. Since its implementation, there have been **1,953** applicants to the program with **1,382** complete replacements. The average cost of replacing a service line is **\$3,360.00** to which LRW offers up to \$2,500.00 in assistance reimbursement. The funds that support the program are collected from a \$1.00 monthly charge to the domestic customer and are held in an independent account. All funds in the account go directly back to our customers. An additional funding source was added in February 2016, allowing LRW to reimburse some homeowners (meeting more stringent guidelines) with money from the State of Arkansas RLF. To date, LRW has issued **\$301,391** in homeowner reimbursements using these State of Arkansas RLF monies. In total LRW has reimbursed **\$3,444,195.00** back to customers participating in the program since its inception. Before the implementation of this program, LRW met with the Arkansas Plumbers' Association and hosted an educational meeting informing local plumbers on how the program works and how to process these requests with LRW. (Attachment G)

6. Private Sewer Line Cleaning Permit – This program is aimed at apartment complexes to coordinate their private sewer line cleaning with LRW to prevent downstream stoppages due to flushing debris and fats, oil and grease (FOG) into the public mains. The program requires that before cleaning their services, apartments contact LRW, obtain the free permit, use a debris catcher, and work with our crews to prevent overflows to residents downstream.

7. Bill Inserts - LRW created two (2) bill inserts that were distributed in the Utility bill in 2016. The "Where Does Your Money Go/Call Us First" insert was released in July. The "Can The Grease©/Rate Increase Notification" was released in November and encouraged customers to continue utilizing the FREE Can The Grease© kits provided by LRW and promoted the *Stay Connected*© "**Call Us First**" program to aid customers with resolving sewer line issues that do not warrant a plumber's call thus reducing the cost to the customer. (Attachment H)

8. Awards – LRW received several awards and recognition during 2016 for contributions to the environment, financial reporting, and safety. The awards LRW received are as follows:

- (a) **NACWA Peak Performance Awards** – The National Association of Clean Water Agencies (NACWA) awards Peak Performance Award.

Platinum Awards recognize 100 percent compliance with NPDES permits over a consecutive five (5) year period. If a member agency has received a Platinum Award, in the subsequent years, if 100 percent compliance is maintained, Platinum Award status can be continued. Should 100 percent compliance not be maintained, member agency facilities must receive four (4) consecutive Gold Awards to be again eligible for another Platinum Award.

Gold Awards honor treatment works that have achieved 100 percent compliance with their NPDES permit for an entire calendar year.

Silver Awards recognize facilities that have received no more than five (5) NPDES permit violations per calendar year.

All eligible member agency facilities must provide at least secondary treatment or advanced primary treatment with a 301(h) waiver. Additionally, there are no facility capacity minimums for Peak Performance Award eligibility.

Fourche Creek Wastewater Treatment Facility, Little Maumelle Wastewater Treatment Facility, and Adams Field Wastewater Treatment Facility had no violations for the year of 2015.

- (b) **Certificate of Achievement for Excellence in Financial Reporting**

The Government Finance Officers Association (GFOA) is a nonprofit professional association that serves approximately 17,500 professionals in the governmental finance field. The Certificate of Achievement for Excellence in Financial Reporting (CAFR) is the “highest form of recognition in governmental accounting and financial reporting” by the GFOA and is a “significant accomplishment by a government and its management.” LRW’s CAFR was judged by an impartial panel that looked for high standards of the program such as “demonstrating a constructive ‘spirit of full disclosure’ to clearly communicate its financial story and motivate potential users and user groups to read the CAFR.”

This is LRW’s eleventh (11th) consecutive year to accomplish this feat. (Attachment I)

- (c) **Distinguished Budget Presentation Award** - The GFOA of the

United States and Canada awarded LRW the GFOA'S Distinguished Budget Presentation Award for its budget for 2016. The award represents a significant achievement by the entity. It reflects the commitment of the governing body and staff to meeting the highest principles of governmental budgeting. To receive the budget award,

the entity had to satisfy nationally recognized guidelines for effective budget presentation. These guidelines are designed to assess how well an entity's budget serves as:

- a policy document
- a financial plan
- an operations guide
- a communications device

Budget documents must be rated "proficient" in all four (4) categories, and the 14 mandatory criteria within those categories to receive the award.

When a Distinguished Budget Presentation Award is granted to an entity, a Certificate of Recognition for Budget Presentation is also presented to the individual or department designated as being primarily responsible for its having achieved the award. This award was presented to Debbie Williams, Director of Finance.

Award recipients have pioneered efforts to improve the quality of budgeting and provide an excellent example for other governments throughout North America. The Government Finance Officers Association (GFOA) is a nonprofit professional association serving over 17,600 government finance professionals throughout North America. The GFOA's Distinguished Budget Presentation Awards Program is the only national awards program in governmental budgeting. This is LRW's seventh (7th) consecutive year to accomplish this feat. (Attachment J)

- (d) **Excellence in Achievement – Procurement** - LRW was presented the Excellence of Achievement Award in 2015 by the Universal Public Purchasing Certification Council (UPPCC) for having a fully certified staff. This was the eighth (8th) consecutive year that LRW received this award. LRW has submitted the 2016 application for this award and anticipates notification from UPPCC in April 2017 regarding our standing.

This award was created to acknowledge an agency's commitment to the value of certification in the public sector. David P. Gragan, Chair of the UPPCC Government Board, states that "This accomplishment speaks volumes of [this] agency's commitment and dedication to the profession and the skills and expertise that [LRW] bring[s] to the public procurement industry." (Attachment K)

- (e) **Water Environment Federation, George W. Burke, Jr. Safety Award** - Little Rock Wastewater received the 2016 George W. Burke, Jr. Safety Award for its commitment to safety and training. Presented at the AWW&WEA Conference, this national award was established

in 1982 in honor of George W. Burke, Jr., for his many years of service to both the water environment field and the Federation as staff manager of technical services. Mr. Burke was instrumental in developing the Federation's annual safety survey and assisting in the production of several safety training aids and promotional packets. The purpose of this award is to encourage an active and effective safety program in municipal and industrial wastewater facilities.

- (f) **Arkansas Water Environment Association Safety Professional of the Year** - Little Rock Wastewater Safety and Risk Administrator, Michael Kline Jr. received this award in 2016 for efforts in 2015 at the annual AWW&WEA Conference in the category of “Populations Over 20,000”. The AWEA Safety Professional of the Year Award is given to individuals who have shown dedication and outstanding achievement in promoting safety awareness. Since 1931, the common goal of the members of Arkansas Water Works (AWW) & AWEA has been to provide clean water. Arkansas’s water and wastewater industries have considered the AWW & AWEA Annual Conference, Short School and Expo the premier event for information management in the water and wastewater industries. With more than 2,500 members representing every aspect of the water and wastewater profession, the AWW & WEA is the largest association for water professionals in Arkansas.

9. Trade Associations, Exhibits, Fundraisers, and Community Service - One of the major success elements of our public awareness program in 2016 was our participation in specific trade associations, environmental exhibits, and community events. Participation in selected trade associations has allowed LRW to promote and educate an extensive number of residents and business owners on the importance of reducing grease in the sanitary sewer system, updates on our major projects and water conservation. The 2016 event/exhibit participation is as follows and shown on Attachment L.

- (a) **Partners in Education**- LRW has teamed with local schools to aid and provide materials when needed and to help promote our public education programs. Since 1995, LRW has sponsored the Little Rock Central High (LRCH) School Science Fair by providing materials for protection of the gymnasium floor, the incentive awards, and judges. LRCH teachers, PTA, and administration have been most appreciative of LRW's efforts in supporting environmental education, and LRW employees have been very responsive in volunteering. On February 5, 2016, the LRCH science fair was conducted and several LRW employees volunteered to serve as a judge on projects ranging from Chemistry and Physics to Music and Biology. LRW also partnered with Henderson Middle School, David O’Dodd Elementary School and Booker T. Washington Elementary School providing appearances and guest speakers, educational activity books, bottled water, and *Can the Grease(c)* kits at various school events.

(b) ***National Night Out*** – LRW participated in four (4) National Night events in 2016, via the Neighborhood Resource Centers. On October 4, 2016, LRW employees participated in events throughout the City, promoting *Can the Grease(c)* and the Sewer Service Line Replacement program.

(c) ***Earth Day*** - LRW participated in two Earth Day events. On April 21, 2016, at UAMS and on April 23, 2016, at Bernice Garden. LRW provided *Can the Grease*© kits as well as Sewer Service Line Replacement information and Project RENEW information.

(d) ***Spanish Speaking Customers*** - To better reach Spanish-speaking customers, all handout materials have been translated and put together in packets to give to the homeowner or resident as needed.

(e) ***Arkansas Hospitality Association (AHA) Trade Show*** - LRW participated in the 2016 AHA Trade Show at the State House Convention Center to promote LRW outreach programs as well as using it as an outlet to introduce local service industries to our Environmental Assessment Division (EAD) who oversee compliance of industries with ADEQ's pretreatment regulations.

(f) ***Community Involvement*** - Another way LRW promoted public awareness programs in 2016 was our participation in the United Way fundraiser campaign, Little Rock's Adopt-A-Street program where LRW adopted ¼ of a mile of road along Shackleford Road, the Channel 11 THV Summer Cereal Drive and a non-perishable food drive during the holidays both for the Arkansas Foodbank Network, provided clothes and toys during the holiday to 10 children adopted through David O'Dodd Elementary School, and read books to elementary students about the importance of conserving water during the Volunteers in Public Schools reading program. We also partner annually with the American Red Cross to host a facility-wide blood drive. On March 1, 2016, LRW employees contributed 26 units of blood.

10. Media - It has been the intent of LRW to continue improved communication with all areas of the media during 2016. That goal was accomplished through regularly issued press releases highlighting special topics of interest. LRW worked with The Design Group and ARCOMM Productions.

In 2016 LRW advertised in various local publications such as *Arkansas Times*, *El Latino* and *Arkansas Business*, to promote programs and public education campaigns. (Attachment M)

11. Publications – LRW printed several informational brochures on a variety of topics from our *Can the Grease*, *The Sewer Service Line Replacement Program*, and *Work in Your Area Notices*.

12. Website - LRW continually maintained the website for www.lrwu.com with the latest news, updates, and information. The user-friendly site enables visitors to view a calendar listing all LRWRC meeting dates, approved minutes of the Commission, and biographies of each Commissioner. With several interactive displays, general wastewater information, ordinances, rate information, and much more, website traffic continues to grow. One of the most visited areas of the site is the customer information section, which enables visitors to select a topic or department, and then populate a field with a question or comment. They can also look at LRW's construction schedule to see dates and places of work to be performed.

13. Facility Tours - LRW conducted eight (8) wastewater treatment facility tours at our Little Maumelle Wastewater Treatment Facility, Adams Field Wastewater Treatment Facility, Fourche Creek Wastewater Treatment Facility and the Scott Hamilton Equalization Basin. To further public education, brochures are distributed to each visitor detailing the facility during the tour(s). Some of those who toured the facility were: UALR, Central Arkansas Plumbers' Apprenticeship School, the Arkansas Environmental Academy, Mayflower Middle School, Boy Scouts of America, Pulaski County Youth Services, Wakefield and Baseline Neighborhood Associations and Southwest United for Progress. (Attachment N)

V. SUPPLEMENTAL ENVIRONMENTAL PROJECTS AND ANY OTHER LRW ENVIRONMENTAL EFFORTS

A. Friends of Fourche Creek: LRW formed a partnership with Audubon Arkansas and the Friends of Fourche Creek. The partnership is designed to help conserve and restore the natural ecosystem of Fourche Creek. LRW participated in a cleanup day, distributed *Can the Grease* kits at their events and served on the Drain Smart committee that oversees the campaign to bring awareness to liter which can eventually end up in Fourche Creek.

VI. 2016 NON-CAPACITY RELATED SANITARY SEWER OVERFLOWS

A. Compliance Standard: The Settlement Agreement limits the number of non-capacity related SSOs per 100 miles of sanitary sewer operated and maintained by LRW in LRWRC's collection and treatment system. The Settlement Agreement specifies the following "interim schedule" for non-capacity related SSOs:

Calendar Year	Number of Non-Capacity Related SSOs per 100 Miles of Sewer
2002	12
2003	11
2004	10
2005	9
2006	8
2007	7
2008	6

When LRWRC has reduced non-capacity related SSOs to 6 per 100 miles of sewer mains for two (2) consecutive calendar years, LRWRC shall be deemed to have complied with all provisions of this agreement related to non-capacity related SSOs.

B. Non-Capacity Related SSOs in 2016: There were 60 non-capacity related SSOs reported in 2016. Of the 60 total, thirteen (13) SSOs were related to construction and vandalism. The result was a total of 47 non-capacity related overflows attributed to the operation and maintenance of the LRW collection system. Of the 47 non-capacity related overflows, nine (9) SSOs were attributed to debris; nine (9) SSO were attributed to equipment failure; eight (8) SSOs were attributed to grease; four (4) SSOs were attributed to line failures; seventeen (17) SSOs were attributed to roots.* A complete listing of non-capacity related SSOs is provided under Attachment O.

C. Compliance Assessment: LRW has reduced the number of non-capacity related sanitary sewer overflows attributed to the operation and maintenance of the collection system owned by LRW to below 6 per 100 miles of sewer lines for twelve (12) consecutive calendar years, - 2004 with a total of 42; 2005 with a total of 53; 2006 with a total of 42; 2007 with a total of 46; 2008 with a total of 33; 2009 with a total of 38; 2010 with a total of 39; 2011 with a total of 45; 2012 with a total of 49; 2013 with a total of 46; 2014 with a total of 36; and 2015 with a total of 36; 2016 with a total of 47. Therefore, under the Settlement terms in Paragraph No. 5, page 10, LRW is deemed to have complied with all provisions of this Settlement related to non-capacity related SSOs.

D. Additional Projects Not Covered By SECAP: In addition to the progress made on SECAP projects during 2016, LRW spent approximately \$3,780,468.00 renewing or replacing structurally deteriorated sewer mains. Old deteriorated sewers are sources of infiltration/inflow and are prone to blockage, contributing to both the number of capacity and non-capacity SSOs.

In a continued effort to maximize rehabilitation dollars, LRW treated 32,261 feet of mainline in 2016 with a contracted chemical root removal company with a total cost of \$48,419.55. Root removal is an important component of LRW's Plan 66 that targets SSO reduction.

LRW personnel completed work on 267 line segments that needed point repairs as well as relocated or replaced 5,983 feet of sewer line.

11,843 feet of sewer line was rehabilitated under the 2016 maintenance contracts for pipe bursting and cured-in-place-pipe (CIPP), for a total cost of \$6,000,000.

In 2016, the Cleaning and Inspection Department Televised 603,600 feet, Hand Cleaned 585,605 feet, Hydro Cleaned 1,680,350 feet, and Line Walked 1,326,947 feet of sewer lines.

* In March 2007, LRW eliminated the combination of "Roots & Grease" as a code in reporting the cause of an overflow. LRW decided to use either "Roots" or "Grease" to improve reporting and tracking of SSOs.

VII. 2016 CAPACITY RELATED SANITARY SEWER OVERFLOWS

A. **Compliance Standard:** The Settlement Agreement requires capacity related SSOs be mitigated, provided that SSOs may occur without a breach of the Settlement Agreement if rainfall amounts exceed a duration-quantity table that essentially defines a two-year storm event (“qualifying event”). A qualifying event shall occur if any of the twelve permanent rain gauges within the collection system record a two-year storm event. More specific, to that end, the agreement required completion of a study recommending and establishing a time line for specific actions to address capacity related SSOs. The study would serve as the foundation for a long-term compliance program.

B. **Capacity Related SSOs in 2016:** There was 191 capacity related SSOs reported in 2016 at 85 locations. There were four (4) rain events recorded in 2016 measuring above the Design Storm which resulted in one hundred sixty-eight (168) capacity related overflows. The remaining twenty-three (23) capacity related overflows occurring in 2016, resulted from rain events measuring below the Design Storm threshold. A complete listing of capacity related SSOs is provided under Attachment P.

VIII. CONCLUSION

LRW has remained committed to educating our customers and the stakeholders of Little Rock on programs available to assist with maintaining a reliable sewer system, preventing overflows, and projects they may affect the area they live or work in. Many of these programs have received national recognition over the years and continue to be successful in their intent. LRW strives to improve upon these programs and to develop new programs as the world of wastewater collection and treatment changes through new technologies, regulations, and industry knowledge. Since the development of these programs, LRW has seen a noticeable drop in the frequency and severity of SSOs.

Since the execution of the Agreement in 2001, LRW has come a long way in mitigating SSOs. LRW plans on taking a holistic approach to improving the current aging collection system by rehabilitating and replacing existing infrastructure that contributes to SSOs. The established maintenance procedures and schedules continue to provide the desired results by minimizing mainline stoppages within the system through replacement of structural pipe failures. LRW is committed to protecting public health and being a good steward of the environment.