



February 25, 2022

Alan York
Associate Director - Water Quality
Arkansas Department of Energy and Environment
5301 Northshore Drive
North Little Rock, AR 72118-5317

Re: 2021 Annual Report for the
Collection System Management Program (CSMP)
Little Rock Water Reclamation Authority
Little Rock, Arkansas
Arkansas Department of Environmental Quality
Consent Administrative Order LIS No. 06-037

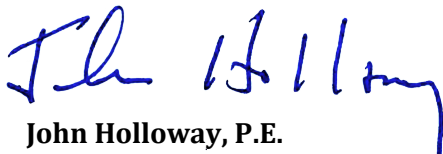
Dear Mr. York,

Little Rock Water Reclamation is pleased to submit one original with a copy on a thumb drive of the referenced 2021 Annual Report on the implementation and effectiveness of the Collection System Management Program in compliance with the Arkansas Department of Environmental Quality Consent Administrative Order LIS No. 06-037 ("CAO") as referred to on Page 9 of 20, Paragraph V of the CAO.

Should you have any questions regarding this submittal, please contact me at 501-688-1416 or email at john.holloway@lrwra.com.

Sincerely,

LITTLE ROCK WATER RECLAMATION AUTHORITY


John Holloway, P.E.
Director of Engineering Services



CONSENT ADMINISTRATIVE ORDER

February 28, 2022

**IN ACCORDANCE WITH
LIS NO. 06-037
DATED MARCH 9, 2006**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
CONSENT ADMINISTRATIVE ORDER
ANNUAL REPORT FOR 2021

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**CONSENT ADMINISTRATIVE ORDER REPORT
FOR 2021
EXECUTIVE SUMMARY
From Greg Ramon, C.E.O.**

I am pleased to submit the attached Consent Administrative Order (CAO) outlining the progress Little Rock Water Reclamation Authority (LRWRA) has made in mitigating sanitary sewer overflows during 2021. A similar report has been submitted to the Sierra Club in compliance with the Settlement Agreement (Agreement). System improvements began on September 12, 2001, when LRWRA (formerly Little Rock Wastewater) and the Sierra Club signed the Settlement Agreement (Agreement). Since then, LRWRA has worked diligently to comply with the terms set forth. Since its inception, LRWRA has spent almost \$446.7 million to meet the requirements of the Agreement. LRWRA will continue to renew the aging collection system and reduce the occurrence of sanitary sewer overflows.

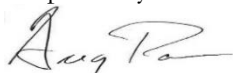
Since signing the Agreement, LRWRA has realized great success in mitigating non-capacity related overflows and continued to meet the Agreement throughout 2021. This is a result of the established maintenance procedures and schedules which continue to provide the desired results by minimizing mainline stoppages within the collection system. It is my privilege to say that LRWRA continues to meet the requirements for non-capacity overflows outlined in the Agreement.

As it relates to capacity related overflows, LRWRA continues to have success. We continue to secure the needed sewer rate increases and bond financing that will fund capital improvements to mitigate capacity related overflows within the system. We are continuing a rehabilitation and replacement program to improve the performance of the collection system. In early 2022, we are set to complete improvements to the Adams Field Water Reclamation Facility which will increase the hydraulic throughput. This project will increase the capacity of the system. We are confident it will be recognized as one of the most innovative approaches to mitigating overflows.

Also, as part of our ongoing communication efforts, LRWRA continues its outreach efforts to educate our customers on available programs to assist in preventing overflows, maintaining a reliable sewer system and renewal projects around the city. Our commitment to providing excellent service to the community is as strong as ever. We continue to promote our free *Can the Grease*® program which provides residents the ability to dispose of grease safely by not pouring it into the sewer and the *Sewer Service Line Replacement Program* which provides financial assistance when residents replace their entire sewer service. Our *Cap the Clean Out* Program focuses on sealing the system by replacing missing or damaged caps at no cost to the homeowner, which helps to keep debris and rainwater out of the system. Our newest program is our *Don't Flush That* campaign focused on educating residents about the items that cause the most damage to the system and the environment and reminding them to *Don't Flush That*.

I am proud of our many successes and look forward to continuing to move LRWRA in the right direction. Our efforts are in line with improving our community, the environment, and protecting our one water.

Respectfully submitted,



Greg Ramon, CEO

I. INTRODUCTION

The following activities constituted LRWRA's major compliance efforts which are discussed with other activities in the order mentioned, consisting of (1) Project Updates, (2) Financing, (3) Other Compliance Actions, (4) Supplemental Environmental Projects, (5) 2021 Non-Capacity Related Sanitary Sewer Overflows, and (6) 2021 Capacity Related Overflows.

II. PROJECTS UPDATE

The System Evaluation Capacity Assurance Plan (SECAP) update is the Capital Improvement Master Plan (CIP) to mitigate overflows for the designated design storm. Amendment No. 1 to the 2010 SECAP Update was implemented by the Little Rock Water Reclamation Commission (LRWRC) by resolution in April 2016. This Amendment No. 1 to the 2010 SECAP Update encompassed a reduction in storage capacity at the Scott Hamilton Facility, eliminated additional storage at the Adams Field Water Reclamation Facility (AFWRF), and called for a high-rate treatment process at Adams that eliminates the need for the aforementioned storage. Amendment No. 2 to the 2010 SECAP Update was implemented by the Little Rock Water Reclamation Commission by resolution in April 2019. This amendment validates the reduction of inflow and infiltration (I/I) in the Rock Creek and Cantrell Road areas will be as effective at overflow mitigation as the storage methods originally proposed. Amendment No. 2 also further defines the design storm referenced within the 2010 SECAP. To help demonstrate compliance with the Consent Administrative Order, LRWRA has created a dashboard to allow easy access online to view rainfall totals and compliance within the two-year storm curve which will benefit both Department of Environmental Quality (DEQ) and the Public. The dashboard is available through our website under "About Us and Regulation Compliance.

LRWRA listed the master plan projects in the 2021 budget and scheduled them accordingly. The report lists storage facilities, operation adjustments, capacity improvements, and other pertinent items to mitigate overflows. One such project, the Upper Country Club Outfall was completed which required a capacity increase from 8-inch and 10-inch mains to a 12-inch mainline. The one storage site project is now complete, Scott Hamilton Drive Peak Flow Facility (formerly referred to as the Mabelvale Pike Peak Flow Attenuation Facility), adding 31 million gallons (MG) of storage capacity to the existing facility. On December 1, 2015, LRWRA was granted a discharge permit modification allowing parallel treatment to the existing biological train. The new water reclamation facility configuration allows for 94 million gallons per day of continuous treatment while meeting discharge permit parameters. The new approach eliminates the need for additional storage at the AFWRF. There are multiple projects listed in the SECAP update to increase the capacity of existing gravity mains. A large diameter main (42-inch & 54-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 following is a list of projects already completed or currently included in the 2022 budget.

A. Little Maumelle Water Reclamation Facility

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

B. Cantrell Road Pump Station and Force Main Upgrade

Construction of the projects was completed in November 2015.

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

Construction of a 30-million-gallon peak flow attenuation facility was completed in September 2009 in efforts to mitigate overflows. The updated SECAP, 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, further reduces the surcharge of rainfall dependent I/I within the North and South 60 Sewer Interceptors. This mitigates sanitary sewer overflows within the service area. The preliminary engineering report identified the need for an additional 31 MG of storage. The Conditional Use Permit phase is completed.

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 sanitary sewer overflows with the additional 31 MG storage at the Scott Hamilton Peak Flow Facility. The additional pump was installed in 2018 along with the additional storage basin.

Construction of this project was completed in May 2019.

D. Fourche Creek Water Reclamation 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 Water Reclamation Facility (FCWRF) to a minimum of 45 MGD. In 2008, LRWRA, with its consultant, completed a 20-year CIP to assess treatment processes, identify deficiencies, and plan for improvements to the water reclamation 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. 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, was completed October 2011. With the completion of the second phase, the water reclamation facility can hydraulically handle 45 MGD. The third phase addressed headworks and primary and secondary clarifier needs. Phase three had a project cost of \$10,048,835 and was completed in early 2021.

E. Adams Field Parallel Treatment – (previously Storage/Disinfection)

The updated SECAP report was revised November 2010 and identified the need for additional storage at the AFWRF 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. However, the amount of storage prescribed in the SECAP update limits the wet weather capacity of the water reclamation facility to the duration of the design storm. Also, elevated flow rates through the biological portion of the water reclamation facility hinder the ability of the water reclamation facility to remove ammonia nitrogen (NH₃-N). Within the 2016-2017 permit cycle, ADEQ requires more stringent limits on the amount of NH₃-N within the effluent.

In 2014, LRWRA applied for and was granted in late 2015, a permit modification to enable parallel treatment of the biological system. A parallel treatment system used during wet weather events takes peak flows from the biological treatment train allowing it to run steady state and thereby removing NH₃-N to within permit limits. Also, parallel treatment proves effective in adequately treating effluent to within permit limits during wet weather events. The advantage of a parallel treatment system over storage is the water reclamation facility can maintain its peak capacity indefinitely, thereby reducing the hydraulic impact to the collection system during a rain event. With this permit modification, LRWRA no longer needed to add additional storage at the water reclamation facility and proceeded with parallel treatment design in 2017. As a part of this project, LRWRA plans to increase the peak flow treatment capacity to 94 MGD by installing media filtration to be operated in parallel with the existing activated sludge facilities. In 2015, before ADEQ determined the oxygen demanding constituent of all municipal wastewater discharges, NH₃-N, had a significant effect on the predicted dissolved oxygen (DO) level in the Arkansas River. The ADEQ water quality model indicated a NH₃-N permit limit of 7.0 mg/l for the AFWRF was needed to meet the in-stream DO water quality standard of 5.0 mg/l. This project addresses capital improvements to the secondary clarification, aeration basins and equipment in order to comply with future permit limits for NH₃-N removal. The project cost was \$5,238,864 in 2021 and is set to finish early 2022, with a remaining cost of \$200,000 to be paid in 2022.

F. Fourche Creek Water Reclamation Facility Nutrient Removal

Effective October 1, 2014, ADEQ issued a permit renewal for the facility. Within the permit, ADEQ directed LRWRA 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. Prior to the 24-month after the effective date deadline for Report No. 2, correspondence was received from ADEQ indicating their re-evaluation of the water quality model incorporating more accurate river widths, and site-specific instream values instead of ecoregion-based values. According to this letter, the re-evaluation of the modeling analysis and the ammonia toxicity calculations determined NH₃-N limits are not needed for this facility. Both the updated model and the updated ammonia toxicity calculations were technically reviewed and deemed technically acceptable by EPA. Therefore; ADEQ recommended that LRWRA file for an NPDES permit modification application as soon as possible to have the final CBOD₅ and NH₃-N limits and the remaining compliance schedule removed from the current permit. On October 13, 2016, LRWRA filed with ADEQ the FCWRF Permit Modification Application requesting these changes.

G. Adams Field Water Reclamation Facility Asset Renewal Phase 1

The AFWRF was placed into service as a primary water reclamation facility in 1961 with the addition of secondary treatment in 1972. AFWRF went through some modifications in the 1980s. In the mid-2000s, the facility was again modified to reduce odors, eliminate risks associated with chlorine gas storage, and accommodate flows up to 94 MGD through primary treatment for a period of hours. Through these modifications, some facility assets were renewed or replaced to accommodate the intent of the modifications. The goal is to have AFWRF further evaluated using a formal Asset Management Plan (AMP) to identify the lifespan and replacement timeframe for existing assets. While the AMP is being developed in another project, this project sets aside monies to allow for the systematic replacement of identified assets targeted for replacement or renewal at the facility.

H. Jamison Pump Station Upgrade

The Jamison Road Pump Station was constructed in 1993. The station consists of five submersible pumps which include two 25 HP and three 150 HP pumps. There are two grinders and screens – one on each of the inlet channels. Dry weather flow at the station is approximately 2 MGD. Peak pumping capacity is approximately 16 MGD. Overall, the wet well, valve vault, and building structure are in good condition and the station is functioning as designed. No changes are immediately required, but the SECAP recommended installing back-up power, painting the ferrous surfaces at the station, and replacing the grinders with a mechanical bar screen when maintenance of the grinders becomes an issue. The forecast prepared within the 2022 capital budget allocates a project cost of \$2,960,500 for 2022. The project design was finished in 2021 and the construction is scheduled to be complete in 2022.

I. Overflow Mitigation Projects

In the late 1980s, LRWRA was the first municipality in Arkansas to establish a program to address excessive I/I which leads to sanitary sewer overflows during or following wet weather events. During the 1990s, LRWRA shifted its focus not only to address excessive I/I within public mains, but to restore capacity to basin outfalls that were undersized for designated wet weather events and labeled this effort as the overflow mitigation program (OMP). The program has reduced the number of overflow points within the city as well as reduced the amount of extraneous rainwater treated. LRWRA will continue this program as evidenced by the following identified future projects and corresponding funding efforts:

1. Overflow Mitigation Projects (OMPs) 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 (SECAP) Update (RLF VIII)**
 - Completed in 2010.

2. Overflow Mitigation Projects (OMPs) funded by RLF 2013:

- a. **Allsopp North/Country Club Rehabilitation**
 - Construction completed December 2015.
- b. **Allsopp Park/Country Club Outfall**
 - Construction completed February 2015.
- c. **Leawood OMP**
 - Construction completed October 2017.
- d. **Lower Swaggerty OMP**
 - Construction completed August 2017.
- e. **Pleasant Valley OMP**
 - Construction completed October 2015.
- f. **Echo Valley OMP**
 - Construction completed April 2016.
- g. **0H – 0G Relocation**
 - Construction completed March 2016.
- h. **42” Force Main Inspection & Diversion Structure – R29**
 - Construction completed December 2016.
- i. **Allsopp North/Country Club Manhole Rehab**
 - Construction completed October 2017.
- j. **Leawood Manhole Rehab**
 - Construction completed October 2017.
- k. **Echo Valley Manhole Rehab**
 - Construction completed October 2017.
- l. **Pleasant Valley Manhole Rehab**
 - Construction completed October 2017.
- m. **Springer Blvd – R1**
 - Construction completed August 2017.
- n. **West Markham Mainline – R6**
 - Construction completed September 2017.
- o. **Bishop Street Upsize – R14**
 - Construction completed September 2016.
- p. **Grassy Flat Main – R27**
 - Construction completed December 2016.
- q. **Lower Swaggerty OMP Manhole Rehab**
 - Construction completed October 2017.

- r. **17th Street Pipeburst Upsize – R15**
 - Construction completed September 2016.
 - s. **Fair Park Relay – R12**
 - Construction completed August 2016.
- 3. Overflow Mitigation Projects (OMPs) Funded for RLF 2016:**
- a. **36th Street to Mabelvale Pike Outfall**
 - Project continued using RLF 2018.
 - b. **Granite Mountain OMP - Linework**
 - Construction completed September 2018.
 - c. **Jimerson West OMP**
 - Project continued using RLF 2018.
 - d. **Longfellow OMP**
 - Project continued using RLF 2018.
 - e. **Mainline Improvements for Verified Overflows/Growth**
 - Project continued using RLF 2018.
 - f. **Middle Hinson Drainage Area OMP**
 - Project continued using RLF 2018.
 - g. **Overlook/Pinnacle Point OMP**
 - Project continued using RLF 2018.
 - h. **River Ridge OMP**
 - Project continued using RLF 2018.
 - i. **Rose Creek Central OMP**
 - Project continued using RLF 2018.
 - j. **Sherrill Heights OMP**
 - Project continued using RLF 2018.
 - k. **Upper Country Club Outfall**
 - Project continued using RLF 2018.
- 4. Overflow Mitigation Projects (OMPs) Funded by RLF 2018:**
- a. **36th Street to Mabelvale Pike Outfall**
 - Construction completed December 2020.
 - b. **Granite Mountain OMP – Manhole Rehab**
 - Construction completed April 2021.
 - c. **Jimerson West OMP**
 - Construction completed September 2019.
 - d. **Longfellow OMP**
 - Construction completed June 2021.
 - e. **Mainline Improvements for Verified Overflows/Growth**
 - Construction completed January 2021.
 - f. **Middle Hinson Drainage Area OMP**
 - Construction completed January 2022.

- g. Overlook/Pinnacle Point OMP**
 - Construction completed September 2019.
- h. River Ridge OMP**
 - Construction completed September 2019.
- i. Rose Creek Central OMP**
 - Construction completed June 2021.
- j. Sherrill Heights OMP**
 - Construction completed June 2021.
- k. Upper Country Club Outfall**
 - Construction completed March 2019.

5. Overflow Mitigation Projects (OMPs) Planned for RLF 2019:

RLF 2019 Projects

Inflow and Infiltration Reduction Program – Subbasins 30100, 30700	\$3,774,256
Inflow and Infiltration Reduction Program - Cantrell/Rebsamen/Rock Creek/Grassy Flat/Walton Heights Basins	\$11,131,115
University Ave, 17 th Street, Rodney Parham, Markham to Rodney	\$1,345,681
Middle Hinson Drainage Area OMP	\$1,038,749
Total	\$17,289,801

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

6. Overflow Mitigation Projects (OMPs) Planned for RLF 2020:

RLF 2020 Projects

Inflow and Infiltration Reduction Program – Subbasins 30100, 30700	\$2,798,866
Inflow and Infiltration Reduction Program - Cantrell/Rebsamen/Rock Creek/Grassy Flat/Walton Heights Basins	\$18,367,808
University Ave Relay	\$480,610
Total	\$21,647,284

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

III. FINANCING

Discussion

No new Revolving Loans were issued in 2021. Existing bond issues with remaining proceeds were used to fund the design and construction of collection system overflow mitigation projects provided in the SECAP and the SECAP Update. The goal of these projects is to mitigate capacity related SSOs in the LRWRA collection and treatment system.

Water Reclamation System Revenue Bonds Series 2017 (Series 2017 Bond)

Proceeds from Series 2017 Bond totaling \$1,089,417 funded the costs associated with professional services for the Fourche Creek Water Reclamation Facility Phase III Rehabilitation project to increase the hydraulic capacity of the water reclamation facility from 36 MGD to 45 MGD and project 4170300, Sewer Assessment Lines > 18 Inches. The Series 2017 Bond proceeds remaining to be drawn as of December 31, 2021, total \$747,630 and are expected to be drawn in full in 2022.

Water Reclamation System Revenue Bonds Series 2018 (RLF 2018)

Proceeds from RLF 2018 totaling \$8,437,088 funded the costs associated with engineering services and construction of the following projects in 2021. The RLF 2018 proceeds remaining to be drawn as of December 31, 2021, total \$4,342,738 and are expected to be drawn in full in 2022.

Project Number	Project Description
4084600	Longfellow Subbasin 11400 OMP
4101800	Rose Creek Central OMP
4115000	River Ridge Subbasin 11200 OMP
4115100	Sherrill Heights Subbasin 1100 OMP
4120500	36th Street to Mabelvale Pike Outfall
4120800	Upper Country Club Outfall
4121400	Overlook/Pinnacle Point
4121900	Mainline Improvements for Modeled Overflows/Growth
4160600	Middle Hinson
4170300	Sewer Assessment Lines > 18 Inches
4171700	Jimerson West OMP Phase 2

Water Reclamation System Revenue Bonds Series 2019 (RLF 2019)

Proceeds from RLF 2019 totaling \$7,939,016 funded the costs associated with engineering services and construction of the following projects in 2021. The RLF 2019 proceeds remaining to be drawn as of December 31, 2021, total \$3,473,174 and are expected to drawn in full in 2022.

Project Number	Project Description
4110400	Barrow OMP SB 30700
4112400	University / Rodney Parham
4190400	I/I Basin Reduction Project - Phase I
7191000	Fourche Creek FOG Receiving Station & Digester Upgrade

Water Reclamation System Revenue Bonds Series 2020A (RLF 2020A)

Proceeds from RLF 2020A totaling \$8,266,679 funded the costs associated with engineering services and construction of the following projects in 2021. The RLF 2020A proceeds remaining to be drawn as of December 31, 2021, total \$42,072,437 and are expected to be drawn in full in 2023.

Project Number	Project Description
6130500	Barrow OMP SB 30700
7130300	Adams Field Parallel Treatment & Disinfection Upgrade
7191000	Fourche Creek FOG Receiving Station & Digester Upgrade

IV. OTHER COMPLIANCE ACTIONS

A. Signage/Public Notification/Public Information:

As required in the Agreement, LRWRA 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 (*see Attachment A*). The plan establishes a protocol for maintenance crews to follow when responding to a sanitary sewer overflow 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 (*see Attachment B*). A copy of the ‘door hanger’ LRWRA uses to post residences is also provided (*see Attachment C*).

The sanitary sewer overflow notification program requirements contained in the Agreement are addressed in the SSORP, including the provisions for permanent signage at recurring sanitary sewer overflow locations on public property. Locations eligible for permanent signage are in *Table A-1* of the SSORP. Permanent signage is placed at recurring sanitary sewer overflow sites (*see Attachment D*).

B. Fats, Oils, and Grease Program

In order to help mitigate dry weather overflows and to further LRWRA’s compliance efforts with EPA National Pretreatment Program, a new FOG Ordinance was passed by the Board of Directors on November 5, 2019, and was fully implemented on February 3, 2020. LRWRA requires annual registration of all haulers and registered 9 grease haulers in 2021, who service grease interceptors for Food Service Establishments (FSEs) within the City of Little Rock. These haulers are required to manifest the brown grease from its point of collection to its point of disposal. LRWRA uses Swift Comply software to help track manifested pump outs and compliance schedules of the FSEs in Little Rock. The requirement in the Ordinance for FSEs (restaurants or other entities with grease interceptors) to use only registered haulers has proven helpful in encouraging the haulers to properly submit their manifests. COVID-19 continued to impact FSEs in 2021, but nevertheless LRWRA was able to account for over 3 million gallons of FOG manifested by haulers in 2021. We anticipate this volume to increase in 2022 as restaurants return to more normal operation. LRWRA was able to conduct its outreach to FSEs in 2021, through site visits and education of FSEs. We believe this outreach program has been beneficial in increasing the numbers of registered FSEs and manifests of FOG pumped from those FSEs, and we will continue this outreach program going forward.

C. Public Education and Outreach Programs:

LRWRA is committed to building community partnerships and providing public outreach regarding our “One Water. One Future.” commitment.

1. *Public Relations*

To provide consultation services, market research, and other related services, LRWRA has contract services with a communications and marketing consultant company. This effort has been critical in outreach efforts around Project RENEW, redesigning informational material to make it customer friendly, and marketing strategies to promote educational programs.

2. *Project Renew*

As part of LRWRA’s multi-year, capital improvement project to renew aging pipelines throughout the city, an outreach campaign continued in project areas. The outreach included postcard mailers, door hangers, vehicle magnets for contractors and an interactive project map on the website, so residents can search to see if there are current or planned projects in their neighborhood (*see 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. LRWRA’s residential customers can request a free grease starter kit, which includes a grease container, three (3) heat-resistant liners, the LRWRA *Can the Grease®* information card, and an information magnet. Starter kits are also distributed in larger quantities at community events and to apartment complexes. In 2021, we delivered 2,700 kits to

residential customers, apartment complexes, mobile home parks, and community centers. Additional heat-resistant liners are available at no-cost. (*see Attachment F*).

4. *Cap the Cleanout*

Cap the Cleanout is an initiative kicked off in 2017. While working in project areas evaluating and rehabilitating sewer lines, if a cleanout cap is found to be missing from the homeowner's sewer line, they can receive a free cap, and have it replaced by LRWRA. In 2021, LRWRA installed 7 cleanout caps at individual residences. However, with the inception of new projects in four different drainage subbasins, we anticipate the need for many more cleanout caps to be delivered to homeowners in 2022 and beyond. This is part of our continued effort to help homeowners properly maintain their sewer service line while helping us seal the system. By replacing the cleanout cap, it prevents rainwater from entering the sewer system causing water to unnecessarily be treated, keeps debris out of the service lines which can cause blockages and leads to backups in the home, prevents small animals and rodents from entering the sewer system and helps prolong the life of the sewer system. (*see Attachment O*).

5. *Sewer Service Line Replacement Program*

The SSLRP was created by an ordinance passed in June 2012. On January 1, 2013, this ordinance was placed into effect to control I/I from a source LRWRA had no control over in the past. Studies have determined that as much as 40 percent of the excess water entering the collection system was coming from the private sewer services of homes, and many of these homes have had long-standing sewer service line issues that were too costly to repair by the homeowner alone. Since its implementation, there have been nearly 4,500 applicants to the program with nearly 3,000 complete replacements as of the end of 2021. The average cost of replacing a service line is \$3,500, for which LRWRA offers up to \$2,500 in reimbursement assistance. The funds supporting 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 LRWRA to reimburse some homeowners (meeting more stringent guidelines) with money from the State of Arkansas Clean Water Revolving Loan Funds (RLF). In 2021, LRWRA issued over \$864,000 in homeowner reimbursements using these RLF monies. Since the program started in 2013, LRWRA has reimbursed over \$8 million back to customers participating in the program. This represents some 40 miles of service lines replaced, resulting in the removal of approximately 12.5 million gallons of I/I from our system annually. Before the implementation of this program, LRWRA 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 LRWRA (*see Attachment G*).

6. *Opportunity Zones Incentive Program*

To encourage and incentivize infill and redevelopment in areas where there is underutilized infrastructure, LRWRA has eliminated certain permit fees related to development in the affected areas. These affected areas include not only the four (4)

federally-designated Opportunity Zones within the City of Little Rock but also southern parts the city. Beginning January 1, 2021, LRWRA suspended all Connection Fees, Inspection Fees, Building Sewer Seal Fees, and Street Excavation Fees in the affected areas for all Residential and Commercial developments. We believe this is a benefit to the environment because it represents increased use and improving the existing infrastructure as opposed to extending new infrastructure to serve new developments. In 2021, LRWRA suspended these fees for over 220 new connections for residences and commercial businesses in the Opportunity Zone areas, representing over \$100,000 of potential future annual revenue from these areas for LRWRA, based on the average monthly sewer bill.

7. *Private Sewer Line Cleaning Permit*

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

8. *Bill Inserts*

Four (4) bill inserts were distributed in 2021. In March, LRWRA celebrated Women's History Month by featuring employees and a Little Rock Water Reclamation Commissioner, as part of the Women of Water campaign. In April the "Earth Day" insert was released which included details on LRWRA's commitment to protecting public health and the environment and announcing the semiannual Drug Take Back Day. The insert in November highlighted the *Can the Grease*[®] program and reminded residents that with all the cooking during the holidays, it's important to properly dispose of grease to help avoid backups into their homes. The "How to Read Your Bill" insert was released in December. (see Attachment H)

9. *Awards*

LRWRA received several awards and recognitions for contributions to the environment, financial reporting, procurement, and innovation. The awards LRWRA received are as follows:

(a) Certificate of Achievement for Excellence in Financial Reporting

The Government Finance Officers Association (GFOA) is a nonprofit professional association that serves approximately 19,000 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." LRWRA'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 LRWRA's seventeenth(17th) consecutive year to accomplish this feat. (see Attachment I)

(b) Distinguished Budget Presentation Award

The GFOA of the United States and Canada awarded LRWRA the GFOA'S Distinguished Budget Presentation Award for its budget. 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, along with 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.

Award recipients have pioneered efforts to improve the quality of budgeting and provide an excellent example for other governments throughout North America. The GFOA is a nonprofit professional association serving approximately 19,000 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 LRWRA's eleventh consecutive year to accomplish this feat. (*see Attachment J*)

(c) Excellence in Achievement - Procurement

The LRWRA Procurement Department was presented the Excellence in Achievement Award for 2021 by the Universal Public Procurement Certification Council (UPPCC) for having a fully certified staff. The 2021 award is the thirteenth (13th) time LRWRA received this award. LRWRA Procurement is the only procurement department in the State of Arkansas to be honored with this award.

This award was created to acknowledge an agency's commitment to the value of certification in the public sector. Kathleen Muretti, Chair of the UPPCC Board of Directors, states that "This accomplishment speaks volumes of [this] agency's commitment and dedication to the profession and the skills and expertise that [LRWRA] bring[s] to the public procurement industry."

(d) National Association of Clean Water Agencies (NACWA) Award

LRWRA received national recognition from NACWA, the nation’s leader in legislative, regulatory, and legal clean water advocacy. LRWRA received NACWA Peak Performance awards for all three water reclamation facilities (WRF). Peak Performance Awards are granted based on compliance with federal and state regulatory requirements. Fourche Creek WRF and Adams Field WRF earned the Peak Performance Platinum Award for five consecutive years of performance at the Gold level. Little Maumelle WRF earned a Peak Performance Gold Award. LRWRA takes pride in meeting daily, weekly and monthly regulatory permit limits set by both federal and state agencies.

9. Outreach and Community Service

We build community partnerships and provide public outreach regarding our “One Water. One Future.” commitment. One of the major success elements of our public awareness program is our outreach efforts. Despite the continual global pandemic, we were able to find ways to safely continue our Community Champions program by encouraging activities where employees were able to practice social distancing or were outside at events such as park cleanups . Participation in community events not only allows employees to give back to the community we serve but provides educational opportunities to residents on the importance of reducing grease in the sanitary sewer system and programs offered by the utility. Also, to better communicate with our residents, we increased our presence on social media platforms and saw a significant increase in online engagement.

(a) Partners in Education

LRWRA has teamed with local schools to aid and provide materials when needed and to help promote our public education programs. Since 1995, LRWRA has sponsored the Little Rock Central High (LRCH) STEM Fair by providing judges for the many categories, incentive awards, and other materials needed for event day logistics. LRCH teachers, PTA, and administration have been most appreciative of LRWRA’s efforts in supporting environmental education, and LRWRA employees have been very responsive in volunteering. LRWRA also participated in the Volunteers in Public Schools virtual reading program, provided demonstrations and tours for students. We established a new partnership with J.A.Fair K-8 Preparatory Academy and as part of our partnership with Little Rock School District we donated two copies of *The Girl With a Mind for Math, The story of Raye Montague* to each elementary school in the district.

(e) Virtual Chat with Scientist

As part of our outreach around STEM, we hosted Dr. Kizzmekia Corbett in a virtual chat. Dr. Corbett was part of the leadership team instrumental in the groundbreaking research for the development of the Moderna COVID-19 vaccine. Students were able to ask questions about her journey in science and her path in becoming one of the country’s leading research scientists.

(b) Don’t Flush That

In response to the health crisis, we increased outreach efforts around the Don’t Flush That campaign reminding residents not to flush wipes, paper towels and other items

that are harmful to the system. These efforts resulted in radio and TV interviews on local stations.

(f) National Volunteer Week

During National Volunteer Week, we volunteered through the City of Little Rock's Impact the Rock Day by cleaning up Hindman Park and on Earth Day, we planted trees at McArthur Park with the Little Rock Parks & Recreation Department.

(c) Toy Drive for the Watershed

In December, LRWRA employees donated \$1,245 that was used to purchase toys. The items were donated to the Watershed Family Resource Center where they were distributed to children in Little Rock.

(d) Summer Cereal Drive with AR Food Bank

LRWRA helped the community through the Arkansas Food Bank. Employees donated enough money to purchase 1,063 boxes of cereal to provide breakfast for children with food insecurity.

10. Media

LRWRA employees appeared on more than 11 radio and TV broadcasts promoting the *Don't Flush That* program and advertised in various local publications such as *Arkansas Times*, *El Latino* and *Arkansas Business*, to promote programs and public education campaigns (see Attachment L).

11. Advertising

As part of LRWRA's Diversity, Equity and Inclusion efforts, efforts were made to ensure all material was diverse and that all areas of the city were included with proper messaging and imagery.

12. Website

LRWRA continued to make improvements to the website, making it innovative and interactive with the latest news, updates, and information. The website, lrwra.com, enables visitors to view a calendar listing all LRWRC meeting dates, approved minutes of the Commission, and biographies of each Commissioner and Senior Staff. We also added a video link with our Core Value of the month to allow stakeholders to see how the core value is exhibited daily in our work. The site also includes interactive pages, general water reclamation facility information, ordinances, rate information, and much more. Ratepayers can also look at LRWRA's construction schedule to see dates and places of work to be performed.

13. Facility Tours

LRWRA hosted a reduced number of water reclamation facility tours due to the health pandemic. However, some small groups were able to tour outside areas while practicing COVID safety requirements.

14. Women of Water Campaign

LRWRA sponsored the WOW (Women of Water) campaign during the month of March, which is also women’s history month. As part of the WOW campaign, four women from LRWRA and one Little Rock Water Reclamation Commissioner were featured on digital and print media, social media, radio ads, and made television appearances. The campaign celebrates female employees in the male dominated water industry. As part of the campaign, we also include activities in the schools. This year due to COVID, we provided a virtual movie to all 4th and 5th graders in the Little Rock School District about STEM and donated a STEM book to the elementary school libraries.

V. SUPPLEMENTAL ENVIRONMENTAL PROJECTS AND OTHER LRWRA ENVIRONMENTAL EFFORTS

Friends of Fourche Creek

LRWRA continued its 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. LRWRA participated in a cleanup day, distributed *Can the Grease*® kits at the events, worked joint community booths 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. 2021 NON-CAPACITY RELATED SANITARY SEWER OVERFLOWS

A. Compliance Standard

The Settlement Agreement limits the number of non-capacity related sanitary sewer overflows per 100 miles of sanitary sewer operated and maintained by LRWRA in LRWRA’s collection and treatment system. The Settlement Agreement specifies the following ‘interim schedule’ for non-capacity related sanitary sewer overflows:

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

B. Non-Capacity Related Sanitary Sewer Overflows in 2021

There were 33 non-capacity related sanitary sewer overflows reported in 2021. Of the 33 totals, seven (7) sanitary sewer overflows were related to construction and vandalism. The result was a total of 26 non-capacity related overflows attributed to the operation

and maintenance of the LRWRA collection system. Of the 26 non-capacity related overflows, six (6) sanitary sewer overflows were attributed to debris; seven (7) sanitary sewer overflows were attributed to grease; two (2) sanitary sewer overflows were attributed to line failures; nine (9) sanitary sewer overflows were attributed to roots; two (2) sanitary sewer overflows were attributed to equipment failure. (see Attachment M)

C. Compliance Assessment

LRWRA has reduced the number of non-capacity related sanitary sewer overflows attributed to the operation and maintenance of the collection system owned by LRWRA to below 6 per 100 miles of sewer lines for sixteen (16) 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, 2015 with a total of 36, 2016 with a total of 47, 2017 with a total of 33, 2018 with a total of 17, 2019 with a total of 31, 2020 with a total of 30, 2021 with a total of 26. Therefore, under the Settlement terms in Paragraph No. 5, page 10, LRWRA is deemed to have complied with all provisions of this settlement related to non-capacity related sanitary sewer overflows.

Calendar Year	Miles of Sewer	Number of Non-Capacity Related Sanitary Sewer Overflows Per Year	Maximum Allowable Non-Capacity Related Sanitary Sewer Overflows (Based on 6 per 100 miles)
2004	1210	42	73
2005	1217	53	73
2006	1270	42	76
2007	1291	46	77
2008	1311	33	79
2009	1312	38	79
2010	1321	39	79
2011	1346	45	81
2012	1353	49	81
2013	1358	46	81
2014	1366	36	82
2015	1374	36	82
2016	1383	47	83
2017	1396	33	83
2018	1395	17	83
2019	1400	31	84
2020	1403	30	84
2021	1404	26	84

D. Additional Projects Not Covered by SECAP

In addition to the progress made on SECAP projects during 2021, LRWRA spent approximately \$4,368,174.60 renewing or replacing structurally deteriorated sewer mains. Old, deteriorated sewers are sources of I/I and are prone to blockage, contributing to both the number of capacity and non-capacity sanitary sewer overflows.

In a continued effort to maximize rehabilitation dollars, LRWRA treated 48,923 feet of mainline in 2021 with a contracted chemical root removal company with a total cost of \$84,028.51. Root removal is an important component of LRWRA's Plan 66 that targets sanitary sewer overflow reduction

LRWRA personnel completed work on 216-line segments that needed point repairs as well as relocated or replaced 6,385.64 feet of sewer line.

16,533 feet of sewer line was rehabilitated under the 2021 Trenchless Pipe Renewal contracts for pipe bursting and cured-in-place-pipe (CIPP), for a total cost of \$2,061,027.60

In 2021, the Cleaning and Inspection Division televised 431,355 feet, hand rodded 299,516 feet, Hydro Cleaned 1,131,839 feet, and Acoustically Inspected 5,520,688 feet of sewer lines.

VII. 2021 CAPACITY RELATED SANITARY SEWER OVERFLOWS

A. Compliance Standard

The Settlement Agreement requires capacity related sanitary sewer overflows be mitigated, provided sanitary sewer overflows 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 timeline for specific actions to address capacity related sanitary sewer overflows. The study would serve as the foundation for a long-term compliance program.

B. Capacity Related Sanitary Sewer Overflows in 2021

There were 71 capacity related sanitary sewer overflows reported in 2021 at 35 locations. There were eight (8) rain events recorded in 2021 measuring above the Design Storm which resulted in Twenty-five (25) capacity related overflows. The remaining forty-six (46) capacity related overflows occurring in 2021 resulted from seven (7) rain events measuring below the Design Storm threshold. (*see Attachment N*)

VIII. UPDATE OF THE CONSTRUCTION PROJECTS

The SECAP Update lists projects which address the objective of the CAO. The table updates the anticipated completion dates of these projects.

Description	Project Number		Intermediate Completion Date in CAO	Previously Adjusted Intermediate Completion Date	Current Estimated Completion Date	Actual Completion Date	Status as of 31-Dec-20
Collection System							
1 OH - OG Relocation	3120400	RLF 11	31-Mar-16			5-Mar-16	Completed
2 Allsop North Country Club Rehabilitation	4060300	RLF 11	31-Dec-12	6-Apr-17		31-Oct-17	Completed
3 Leawood OMP	4070600	RLF 11	31-Dec-14	6-Apr-17		31-Oct-17	Completed
4 Echo Valley OMP	4070700	RLF 11	31-Dec-12	6-Apr-17		31-Oct-17	Completed
5 Pleasant Valley	4070800	RLF 11	31-Dec-10	6-Apr-17		31-Oct-17	Completed
6 Lower Swaggerty OMP	4080200	RLF 11	28-Feb-17	6-Apr-17		31-Aug-17	Completed
7 Springer Blvd. Relay	4111300	RLF 11	28-Feb-17	1-Mar-17		10-Aug-17	Completed
8 West Markham Mainline	4112300	RLF 11	31-Dec-16	1-Jul-17		13-Sep-17	Completed
9 Fairpark Relay	4112900	RLF 11	31-Dec-16			3-Aug-16	Completed
10 Bishop Street Relay	4113400	RLF 11	31-Dec-16			22-Sep-16	Completed
11 42 Inch Force Main Inspection & R29	4120300	RLF 11	30-Jun-16			31-Dec-16	Completed
12 Grassy Flat Main	4120400	RLF 11	~	31-Dec-16		9-Dec-16	Completed
13 Allsopp Park and Country Club	4131900	RLF 11	31-Dec-12	31-Dec-14		19-Jan-15	Completed
14 University Avenue Relay - SECAP - R7	4112400	RLF 14 & 15	****	31-Dec-16	31-Aug-21	3-Sep-21	Completed
15 Granite Mountain OMP - M20	4080100	RLF 12 & 13	31-Dec-17	31-May-18		30-Sep-18	Completed
16 Granite Mountain Manhole Rehabilitation	4200300	RLF 13	31-Dec-17	30-Apr-21		19-Apr-21	Completed
17 Upper Country Club Outfall - R19	4120800	RLF 12 & 13	31-Dec-16	28-Feb-19		25-Apr-19	Completed
18 17th Street Pipe Burst - R15	4123000	RLF 12	31-Dec-16			22-Sep-16	Completed
19 Jimerson West OMP	4171700	RLF 11 & 12 & 13	31-Oct-18	31-Oct-19		1-Oct-19	Completed
20 Longfellow OMP - Subbasin 11400	4084600	RLF 11 & 12 & 13	31-Oct-18	28-Feb-21		4-Jun-21	Completed
21 Abigail Street Relay - R11	4112800	RLF 15	31-Dec-17	31-Dec-21	31-Dec-23		Future
22 River Ridge - SB 11200 OMP	4115000	RLF 12 & 13	31-Oct-18	31-Oct-19		1-Oct-19	Completed
23 Sherrill Heights - SB 11000 OMP	4115100	RLF 12 & 13	31-Oct-18	28-Feb-21		4-Jun-21	Completed
24 Cantrell Basin I/I Reduction	4190400	RLF 12, 13, 14, 15	~	31-Oct-18	31-Dec-23	31-Dec-23	Investigation/Construction
25 Rose Creek Central OMP	4101800	RLF 12 & 13	***	31-Dec-19	28-Feb-21	4-Jun-21	Completed
26 36th Street to Mabelvale Pike Outfall - R22 & R3	4120500	RLF 12 & 13	~	30-Jun-18	16-Sep-20	6-Nov-20	Completed
27 Overlook/Pinnacle Point 10070	4121400	RLF 12 & 13	31-Dec-19	31-Oct-19		1-Oct-19	Completed
28 Mainline Improvements for Verified Overflows/Growth	4121900	RLF 12 & 13	31-Dec-21	31-Jan-21		9-Feb-21	Completed
29 Middle Hinson Drainage Area OMP	4160600	RLF 12, 13 & 14	31-Dec-20	1-May-21	14-Jan-22		Construction
30 Sewer Assessment Lines >18"	4170300	RLF 13 & 15	31-Dec-19	31-Dec-20	31-Dec-23		Design
31 Barrow OMP SB 30700	4110400	RLF 14	*****	31-Dec-09	31-Dec-21	31-Dec-23	Investigation
32 Sewer Repairs Lines > 18"	4200400	RLF 15	31-Dec-23	31-Dec-25	31-Dec-23		Design
33 Boyle Park Mainline - (EXH C-RQ19) R24	4121600	RLF 15	31-Dec-23	31-Dec-22	31-Dec-23		Future
34 Allsopp Park South Near CRPS - R16	4160500	RLF 15	31-Dec-23	31-Dec-22	31-Dec-23		Future
35 Needed Collection System Projects			31-Dec-25		31-Dec-23		Future
Pump Stations							
36 Cantrell PS Upgrade & Force Main	6130100	~	31-Dec-15	31-Jul-15		16-Oct-15	Completed
37 Peak Flow Additional Pump	6130400	RLF 12	~	31-Dec-17	31-Oct-18	19-Apr-19	Completed
38 Jamison Pump Station Upgrade	6130500	RLF 15	~	28-Feb-18	30-Jun-22	8-Nov-22	Construction
Treatment Plant							
39 Scott Hamilton Peak Flow Equalization Facilities	7130100	RLF 12	~ *	31-Dec-17	31-Oct-18	19-Apr-19	Completed
40 Fourche Creek WRF Phase III Rehabilitation	7160100	2017 Bonds	^^	31-Dec-09	31-Dec-18	31-Dec-20	Completed
41 AFWRF Parallel Treatment & Disinfection Upgrade	7130300	RLF 12 & 15	~	30-Sep-18	30-Jun-21	30-May-22	Construction
42 Adams Field Asset Renewal	7150100	RLF 12 & 15	^	31-Dec-21	30-Jun-20	31-Dec-23	Future

* formerly known as Mabelvale Peak Flow

** includes Rose Creek East and West OMP; Rebsamen Collector/Murray Park, Commercial, Harbor, Golf Course and Alltel; Rebsamen/Rock Creek/Grassy Flat I&I Reduction; Rose Creek East Relay (R13); Walton Heights - Basin 11600 OMP

*** includes Victory St. Relay - SECAP R20

**** includes 17th St. Relay (R10), Rodney Parham Relay (R25), and Markham to Rodney Parham Relay (R26)

***** includes Subbasin 30100 OMP and Roselawn Cemetery Relay (R9)

~ projects listed in the SECAP update

^ formerly known as Adams Field Nutrient Removal (Ammonia)

^^ projects related to permit modifications or reliability upgrades

Description	Project Number	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
		Budget	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Collection System Engineer													
Design	Cat 4												
Construction - (10 Projects Designed)	Cat 4			3,108,044	1,400,364								
Design (26 Projects)	Cat 4			1,273,579	1,962,303	1,264,207	654,748	668,315	76,911	44,703			
Construction (25 Projects)	Cat 4			6,133,358	15,951,431	12,743,329	10,816,264	9,427,348	7,651,126				
Program Management (25 Projects)	Cat 4			499,290	1,354,562	799,335	784,840	609,547	367,860	311,184			
Rebsamen Sewer Basin I/I Reduction	6130300					2,904,515	2,904,515	2,904,515	2,904,515	2,904,515			
Rock Creek Sewer Basin I/I Reduction	7130200					2,904,515	2,904,515	2,904,515	2,904,515	2,904,515			
Sewer Repairs Lines >18" (368,000 old)							3,000,000	3,000,000	3,000,000				
25% = 92,125 LF	4160400												
Total Collection System	\$115,947,798	\$0	\$0	\$4,880,913	\$10,850,587	\$23,824,003	\$22,991,947	\$20,903,156	\$18,681,149	\$13,816,043	\$0	\$0	\$0
Facilities Engineer													
Design	Cat 6 & 7												
Construction - (3 Projects Designed)	Cat 6 & 7			14,504,825	14,693,436	3,247,541							
Design (5 Projects)	Cat 6 & 7				4,088,590				1,890,203				
Construction (3 Projects)	Cat 6 & 7				457,067	15,398,908	13,750,000	13,750,000	13,750,000	1,426,683			
Total Facilities	\$96,957,253	\$0	\$0	\$14,504,825	\$19,239,093	\$18,646,449	\$13,750,000	\$13,750,000	\$15,640,203	\$1,426,683	\$0	\$0	\$0

Loans			
2016	20 Year	\$13,628,788	\$57,733,750
2016A	30 Year	\$44,104,961	
2018A	30 Year	\$83,537,491	
2020A	30 Year	\$71,633,812	
2022A	30 Year		
2024A	30 Year		
		<u>\$212,905,052</u>	

IX. CONCLUSION

LRWRA has remained committed to educating our customers and the stakeholders of Little Rock with programs available to assist with maintaining a healthy sewer system, preventing overflows, and projects that 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. LRWRA strives to improve upon these programs and to develop new programs as the world of water reclamation changes through new technologies, regulations, and industry knowledge. Since the development of these programs LRWRA has seen a noticeable drop in the frequency and severity of sanitary sewer overflows.

Since the execution of the Settlement Agreement in 2001, LRWRA has come a long way in mitigating sanitary sewer overflows. LRWRA is taking a holistic approach to improving the current aging collection system by rehabilitating and replacing existing infrastructure that contributes to sanitary sewer overflows. In 2021, LRWRA continued with the large diameter assessment and rehabilitation program. This program will cover all 130 miles of mains that are 18 inches in diameter and larger. 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. LRWRA is committed to protecting public health and being a good steward of the environment. The improvements LRWRA has completed or will complete will add years of life to the system. In other words, we are improving the system for future generations.

Sanitary Sewer Overflow Response Plan

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LRWRA: SANITARY SEWER OVERFLOW RESPONSE PLAN

The LRWRA Sanitary Sewer Overflow Response Plan (SSORP), or 'Plan', became effective on **September 30, 2002**. This plan is designed to ensure that every report of a confirmed sanitary sewer overflow (SSO) - also referred to as confirmed sewage spill, sewer overflow, overflow, or SSO - is immediately dispatched to the appropriate maintenance crew personnel so that the effects of the overflow can be minimized, with respect to the impacts on the environment, public health, integrity of the sewer collection system and treatment facilities, quality of surface waters, as well as customer service.

This plan further includes provisions to ensure safety, pursuant to the directions provided by the Arkansas Department of Environmental Quality (ADEQ), LRWRA's regulating agency/authority, and that proper notification and reporting is made to all appropriate levels of authority (local, state, and federal) in order to remain within compliance of all permit limits issued by ADEQ for the three (3) LRWRA Treatment Plants. For purposes of this SSORP document, *confirmed sewage spill* is also sometimes referred to as *sewer overflow, overflow, or sanitary sewer overflow or SSO*.

AUTHORITY

The Arkansas Department of Environmental Quality is the regulatory agency/authority that issues, monitors, regulates, and outlines the conditions of the National Pollutant Discharge Elimination System (NPDES) Permits for each of the three (3) LRWRA Facilities. The NPDES/AFIN information for each LRWRA facility is as follows:

	<i>NPDES PERMIT ID</i>	<i>AFIN</i>
<i>AFWRF (ADAM'S FIELD)</i>	<i>AR0021806</i>	<i>60-00409</i>
<i>FCWRF (FOURCHE CREEK)</i>	<i>AR0040177</i>	<i>60-01021</i>
<i>LMWRF (LITTLE MAUMELLE)</i>	<i>AR0050849</i>	<i>60-04200</i>

PLAN OVERVIEW

SSORP Objectives

The primary objectives of the SSORP are to protect public health and the environment, as well as to satisfy regulatory agencies and waste discharge permit (NPDES) conditions which address procedures. Additional objectives of the Plan are to:

- Provide appropriate and best practices customer service
- Protect water reclamation treatment plant and collection system personnel;
- Protect the collection system, water reclamation treatment facilities, and all LRWRA assets
- Protect private property as well as public property expanding beyond the collection system and water reclamation treatment facilities

This Plan shall not supersede existing emergency plans nor Standard Operating Procedures (SOPs), unless directed by the LRWRA Chief Executive Officer (C.E.O.) for managing SSOs, and to minimize risk of enforcement actions against Little Rock Water Reclamation Authority ("LRWRA").

ORGANIZATION OF PLAN

The key elements of the LRWRA Sanitary Sewer Overflow Response Plan are addressed individually within the following section of this document:

- Section 1: Overflow Response Procedure
- Section 2: Public Advisory Procedure
- Section 3: Regulatory Agency Notification Plan
- Section 4: Media Notification Procedure
- Section 5: Distribution & Maintenance of SSORP

SANITARY SEWER OVERFLOW (SSO) RESPONSE TRACKING

A procedure to track the frequency, type, and location of SSOs has been prepared and can be found in Appendix A of this SSORP document, entitled *Appendix A – Procedure to Track an SSO*.

Data on each SSO occurrence is maintained in a database that can be analyzed, based on any recorded SSO parameter(s). The database is maintained and backed up on a regular basis by the LRWRA Information Services Department.

Section 1: OVERFLOW RESPONSE PROCEDURE

The Sanitary Sewer Overflow Response Procedure (SSORP), or “Plan”, presents a strategy for LRWRA to mobilize labor, materials, tools, and equipment to correct or repair any condition which may cause or contribute to an unpermitted discharge. The Plan considers a wide range of potential system failures that could create an overflow to surface waters, land, or buildings.

Subsection 1.A. Responding to a Report of Possible Overflow

An SSO may be detected by LRWRA employees or by others, such as members of the public, including, but not limited to, the citizens of Little Rock, guests of Little Rock, and other Little Rock utility organizations. The Collection System Maintenance Dispatchers are primarily responsible for receiving phone calls from the public reporting possible SSO occurrences within the water reclamation collection system and are also responsible for forwarding Work Requests Numbers and details to the Responding Maintenance Crew personnel.

Generally, Dispatchers in the Collection System Maintenance Division receive telephone calls from the public reporting possible SSOs. The emergency phone line is staffed 24 hours per day, every day of the year, with Emergency On-Call Response Crews responding to calls received after normal business hours. The Communications Department has a program in place for educating the public to report SSOs that they observe by providing a contact phone number for reporting the occurrence.

Subsection 1.A (a). Possible SSO Reported by a Member of the Public

LRWRA Collection System Maintenance Dispatchers obtain all relevant information available regarding the possible overflow from the member of the public reporting the possible SSO, to include the following details, if possible:

- When?
 - Date/Time the call was received
 - Date/Time reported spill was discovered
- Where?
 - Nearest Address/Intersection to the location of the spill
 - Specifics of spill location (i.e. front vs rear of property, etc.)
 - Ground surface type for reported spill (street; yard, drainage ditch etc.)

- Manhole spill vs. spill between manholes

- What?
 - Description of reported spill, with documentation of all observations described
 - Confirmation & description of any present odor
 - Duration of reported spill (active spill vs. inactive spill)

- Who?
 - Caller details to include name & telephone number at minimum

- Additional Details Reported
 - Documentation of any other relevant information that may enable the Responding Maintenance Crew(s) to quickly locate, assess, and determine if the spill is an SSO, and to take measures necessary to correct and contain a possible SSO

Subsection 1.A.(b). Possible or Confirmed SSO Reported by Treatment Plant

Pump station failures are monitored and received by Operators-on-Duty at the Adams Field, Fourche Creek, and Little Maumelle Water Reclamation Facilities. The Operator-On-Duty immediately conveys all information regarding alarms to the Superintendent of Facilities and Equipment to initiate the investigation. Water Reclamation Facilities Investigating Crew determines if the failure resulted in an overflow and then reports the findings to the Collection System Maintenance Dispatchers if an SSO has occurred. For proper documentation, a completed LRWRA Overflow Report Form shall be sent via e-mail to the 'OVERFLOWS' email group at Overflows@lrwra.com email address and the Collection System Maintenance Dispatch should be copied on all emails.

Subsection 1.A.(c). Possible or Confirmed SSO Reported by Other LRWRA Personnel

SSOs detected by any LRWRA personnel during their normal duties are reported immediately to the Collection System Maintenance Dispatchers who record all relevant SSO information and immediately dispatch the proper Maintenance Response Crew(s), as well as any additional Maintenance Crews as needed. The Response Crew may also contact additional maintenance crews identified to assist in the correction, containment, and/or cleanup of an SSO.

Subsection 1.B. Confirming a Reported Spill as an SSO

Collection System Maintenance Crews confirm reported spills to be SSOs. Until verified, the report of a possible spill is not referred to as a sewer overflow, overflow, nor SSO. If an overflow has in fact occurred, the Maintenance Crew Leader is responsible for completing the proper LRWRA Overflow Report Form and for ensuring all maintenance personnel follow the guidelines outlined in the Plan. *See Figure 1.B.-1: SSO Response Tracking Protocol.*

If the reported spill is confirmed to be an SSO by the Responding Maintenance Crew(s), the SSO confirmation and all related details of the SSO are reported back to the Dispatchers who record and input the SSO information into the LRWRA EAM database Work Request module. A Work Request number is created and communicated back to the Responding Crew(s) who will record the number on all SSO-related paperwork to track all response efforts and labor and to log all information relevant to the specific SSO occurrence.

The Dispatchers use various waterway-type layers within the GIS program to identify bodies of water to determine if an impacted waterway is an unnamed drainage ditch or a named waterway, which is necessary for determining the proper LRWRA Overflow Report Form to be completed and if an email notification to ADEQ within 24 hours is required. Some Response Crews also now have access to electronic tablets and/or Smart Phone apps with mapping capabilities that can aid in making such determinations.

A **Red** Overflow Report Form is used when an impacted drainage area is determined to be a named waterway (creek/stream/river), indicating environmental impact (ADEQ Environmental Damage Code of OEEI) or when the SSO involves observed or evidence of human contact (Environmental Damage Code of OEHC). A Black Overflow Report Form is used whenever there is NO evidence of environmental impact nor human contact evidenced or observed. *See Figures 1.A.-1: LRWRA (Black) SSO Report Form (revised 2/2/2018) & 1.A.-2: LRWRA (Red) SSO Report Form (revised 2/2/2018).*

Figure 1.A.-1 LRWRA SSO Report Form (Black)_Revised 2/2/2018

Revision Date: February 2, 2018

**LITTLE ROCK WATER
RECLAMATION AUTHORITY**

SANITARY SEWER OVERFLOW OR BYPASS REPORTING FORM

SERVICE REQUEST NUMBER: _____

REPORTED _____ ADDRESS: _____

BY: _____

CALL TIME: _____ **AM or PM** (circle one) CALL DATE: _____

RESPONSE DATA:

CREW LEADER: _____

ARRIVAL TIME _____ **AM or PM** DATE: _____

COMPLETED TIME: _____ **AM or PM** DATE: _____

ACTION(S) TAKEN:

_____ **HC** = Hydro-cleaned/Jet-Vac. _____ **DD** = Disinfected & Deodorized/Environmental Cleanup

_____ **HR** = Hand/Machine Rodded _____ **LIME** = Lime Applied to Affected Area/Environmental Cleanup

_____ **PN** = Public Notification _____ **GPPE** = Generator Used to Power Pumps/Equipment

_____ **WO** = Work Order _____ **EN** = Notify Engineering

SSO DATA:

DATE OF SSO: _____ TIME OF SSO: _____ **AM or PM**

LOCATION: _____ ADDRESS: _____

CAUSE:

_____ **RO** = Root(s) _____ **D** = Debris _____ **EF** = Equipment Failure

_____ **G** = Grease _____ **LF** = Line Failure/Break _____ **PF** = Power Failure

_____ **R** = Rainfall/I&I _____ **HC** = Hydro Cleaning

_____ **CO** = Construction _____ **VA** = Vandalism

IMPACT OF SSO INCIDENT:

_____ **GRPUB** = SSO Reached Public Land Only _____ **GRPVT** = SSO Reached Private Property

_____ **TP** = SSO Occurred at Treatment Plant

ACTIVE DISCHARGE: _____ YES _____ NO (Evidence of Discharge)

OBSERVED FLOWRATE: _____ **GALLONS PER MINUTE** *NOTE: IF SSO is active when found, the actual volume may be greater than the known volume.*

ESTIMATED DURATION: _____ **MINUTES**

ESTIMATED VOLUME: _____ **GALLONS**

ENVIRONMENTAL DAMAGE: _____ **NEAH** = No Evidence of Adverse Health or Environmental Impacts

Figure 1.A.-2 LRWRA SSO Report Form (Red)_Revised 2/2/2018

Revision Date: February 2, 2018

**LITTLE ROCK WATER
RECLAMATION AUTHORITY
SANITARY SEWER OVERFLOW OR BYPASS REPORTING FORM**

**WHEN USING THIS FORM, SEND AN EMAIL WITH THE SSO DATE AND LOCATION TO
SSOADEQ@adeq.state.ar.us WITHIN 24 HOURS!**

SERVICE REQUEST NUMBER: _____

REPORTED BY: _____ ADDRESS: _____

CALL TIME: _____ **AM or PM** CALL DATE: _____
(circle one)

RESPONSE DATA:

CREW LEADER: _____

ARRIVAL TIME: _____ **AM or PM** DATE: _____

COMPLETED TIME: _____ **AM or PM** DATE: _____

ACTION(S) TAKEN:

_____ **HC** = Hydro-cleaned/Jet-Vac _____ **DD** = Disinfected & Deodorized/Environmental Cleanup
 _____ **HR** = Hand/Machine Rodded _____ **LIME** = Lime Applied to Affected Area/Environmental Cleanup
 _____ **PN** = Public Notification _____ **GPPE** = Generator Used to Power Pumps/Equipment
 _____ **WO** = Work Order _____ **EN** = Notify Engineering

SSO DATA:

DATE OF SSO: _____ TIME OF SSO: _____ **AM or PM**
(circle one)

LOCATION: _____ ADDRESS: _____

CAUSE: _____ **RO** = Root _____ **D** = Debris _____ **EF** = Equipment Failure
 _____ **G** = Grease _____ **LF** = Line Failure/Break _____ **PF** = Power Failure
 _____ **R** = Rainfall/I&I _____ **HC** = Hydrocleaning
 _____ **CO** = Construction _____ **VA** = Vandalism

IMPACT OF SSO INCIDENT:

_____ **CR** = SSO Reached Receiving Water (creek/stream/river) _____ **GRPUB** = SSO Reached Public Land Only
 _____ **CB** = SSO Contained in Building/Basement Backup _____ **GRPVT** = SSO Reached Private Property
 _____ **GRCB** = SSO Reach Ground Surface AND Building _____ **TP** = SSO Occurred at Treatment Plant

If **CR**, provide name of waterway: _____

ACTIVE DISCHARGE: _____ YES _____ NO (Evidence of Discharge)

OBSERVED FLOWRATE: _____ **GALLONS PER MINUTE**

ESTIMATED DURATION: _____ **MINUTES**

ESTIMATED VOLUME: _____ **GALLONS**

IF "GRCB" IS CHECKED, ESTIMATE GALLONS WITHIN BUILDING: _____

ENVIRONMENTAL DAMAGE: _____ **OEHC** = Observed or Evidence of Human Contact
 _____ **OEEI** = Observed or Evidence of Environmental Impact
 _____ **EFK** = Evidence of Fish Kill

Figure 1.B.-1. SSO Response Tracking Protocol (“Overflow Response Procedures”)



SSO RESPONSE TRACKING PROTOCOL

When Maintenance Crew Confirms an SSO:

(Response Crew for Non-Capacity SSO + any crew that has the capability to open main line stoppages & stop the SSO)

- 1) Crew that locates overflow fills out Overflow Report Form:
 - a. **RED FORMS** are used when there is evidence of human contact or environmental impact (named waterway). When using this form, the responding crew leader shall send an email to SSOADEQ@adeq.state.ar.us within 24 hours, stating the date and location of the SSO (per revised AFWWTP permit language). Dispatcher will use the Arc Map database to assist Responding Crew in determining if an SSO in a drainage area is either a ditch or a named waterway (creek/stream/river). If it is determined the fate is a named waterway, the SSO shall be reported on a **RED OVERFLOW REPORT FORM**.
 - b. **BLACK FORMS** are used when there is NO evidence of human contact and/or environmental impact (unnamed waterway).
 - 2) Crew that locates overflow notifies Dispatch. Dispatch assigns a Service Number for tracking.
 - 3) Response Crew (or Locating Crew) installs warning signs.
 - 4) Response Crew (or Locating Crew) takes photographs *before* cleanup.
 - 5) Response Crew cleans and sanitizes.
 - 6) Response Crew verifies cleanup is done correctly. If within a structure, assures photos are taken within the structure, volume is estimated, **Customer Flood Report** is properly completed, and contact information for the Safety & Risk Administrator is provided if applicable (i.e. damage claims).
 - 7) Response Crew removes warning signs.
 - 8) Response Crew (or Emergency Crew) takes photographs *after* cleanup.
 - 9) Response Crew verifies that Overflow Report Form is turned in to Dispatch on the same day.
 - 10) Dispatch downloads photographs into database.
 - 11) Dispatch enters overflow information into the SSO event database.
 - 12) Plant Superintendent reports SSO data to ADEQ and other departments as required by the NPDES Permits.
-

Subsection 1.C. Dispatching Maintenance Crews for SSO Response

Failure of any element within the water reclamation collection system that threatens to cause or causes an SSO triggers an immediate response to isolate and correct the problem. Maintenance Crews and equipment are available for response to any SSO location 24-hours/day, 7 days/week. Additional Maintenance Crews are designated "On Call" if additional support is needed. (See "Appendix B: SSO Action Plan".)

Subsection 1.D. Dispatching Crews

Dispatchers receive notification of possible SSOs (as outlined in *Section 1.A Responding to a Report of a Possible SSO*) and dispatch an Emergency Crew or the appropriate area Response Crew as required.

Dispatchers notify the appropriate Manager(s) by phone regarding SSO details and field crew locations.

Subsection 1.E. Crew Instructions and Work Orders

Responding Crews are dispatched by phone, and in some cases, the Work Request details are emailed to the Responding Maintenance Crew. The Dispatchers receive instructions from the Responding Crew(s) or their Manager(s) regarding the necessary additional crews/type of crews, and proper materials, supplies, & equipment needed to resolve the SSO and complete proper cleanup procedures.

Dispatchers verify that the entire message has been received and acknowledged by the additional dispatched Maintenance Crews. All standard communication procedures are followed. All employees being dispatched to the site of an SSO proceed immediately to the site of the overflow. Any delays or conflicts in assignments are reported immediately to the Manager for resolution.

In all cases, Response Crews report their findings to the available Manager immediately upon concluding their investigation findings. Information should include any and all possible damage to private and public property. If the Manager has not received findings from the Response Crew within one (1) hour, the Manager contacts the Response Crew to determine the status of the investigation.

Subsection 1.F. Additional Resources

The Manager receives requests for additional personnel, material, supplies, and equipment from crews working at the site of an SSO and conveys the requests to the appropriate parties.

Subsection 1.G. Preliminary Assessment of Damage to Private and Public Property

The focus is to resolve the problem. The Response Crews use discretion in assisting the property owner/occupant as reasonably as they can. Be aware that LRWRA could face increased liability for any further damages inflicted to private property during such assistance. In the event the SSO occurs inside a structure, the Safety & Risk Administrator shall be notified and shall personally assess and document all damages as well as notify the Manager of the event. The Response Crew shall enter private property for purposes of overflow reporting.

NOTE: A Collections System Maintenance Manager can take the place of the Safety & Risk Administrator in damage assessment activities relating to the time-sensitive information in the case that the Safety & Risk Administrator is unable to be on site at that time. In this case, the Collection System Maintenance Manager will provide the customer with the Safety & Risk Administrator's business card. All communication regarding damage claims will take place between the property owner and the Safety & Risk Administrator. The crew shall take appropriate still photographs, if possible, of the area of the SSO and the impacted area to thoroughly document the nature and extent of impact.

Subsection 1.H. Field Supervision and Inspection

The Responding Crew (or whomever confirmed the SSO), visits the site of the SSO, if possible, and takes photos before cleanup begins and installs temporary LRWRA warning signage to ensure that provisions of this LRWRA Overflow Response Plan and other directives are met.

Subsection 1. I. Coordination with Hazardous Material Response

Upon arrival at the scene of an SSO, should a suspicious substance (e.g., oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g., gasoline) that is uncommon to the sewer system be detected. The Responding Crew should secure the immediate area and should contacts the Dispatcher or Safety & Risk Department (*See Appendix D: Collection System Spill Contacts*)



!! REMEMBER !! Keep a safe distance and observe caution until assistance arrives: Any vehicle engine, portable pump, and/or open flame (e.g., cigarette lighter) can provide ignition for an explosion or fire, should flammable fluids/vapors be present.

Subsequent response actions should follow existing LRWRA procedures for **DETECTING HAZARDOUS ATMOSPHERES**. These procedures are outlined within the LRWRA Safety Manual & are also attached to this LRWRA SSORP (*Appendix C: Detecting Hazardous Atmospheres*). Only when the Safety & Risk Department deems it safe for personnel to resume activities can they proceed with SSO containment, clean-up, and correction activities.

Subsection 1. J. SSO Correction, Containment, and Clean-Up

This section describes specific actions to be performed by Maintenance Crews during a confirmed SSO occurrence.

SSOs of various volumes occur from time to time despite concerted prevention efforts. Spills may result from blocked sewer lines, pipe failures, or mechanical malfunctions among other natural or manmade causes. LRWRA is constantly on alert and ready to respond upon notification and confirmation of an overflow.

Overflow Response Objectives:

- Protect public health, the environment, and property from sewage overflows and to restore the surrounding area back to normal as soon as possible;
- Promptly notify the regulatory agency of preliminary overflow information and potential impacts (within 24-hours if human contact or environmental impact apply);
- Contain the SSO to the maximum extent possible, including preventing the discharge of sewage into surface waters as possible; and
- Minimize LRWRA's exposure to any regulatory agency penalties and fines

Under most circumstances, LRWRA handles all response actions with its own Maintenance Department forces. Maintenance personnel are equipped with the skills and experience to respond rapidly and in the most appropriate and efficient manner. An important issue with respect to emergency response is to ensure that the temporary actions necessary to divert flows and repair the problem are methodical and do not produce a problem elsewhere in the system. (For example, repair of a force main could require the temporary shutdown of the pump station and

diversion of the flow at an upstream location. If the closure is not handled properly, sewage system backups may create other overflows.)

Circumstances may arise when LRWRA could benefit from the support of private-sector construction assistance. This may be true in the case of large diameter pipes (e.g. ≥ 18 ") buried to depths requiring sheet piling and dewatering should excavation be required. LRWRA may also choose to use private-sector contractors to complete open excavation operations that might exceed one (1) day to complete.

Subsection 1.K. Maintenance Crew Responsibilities Upon Arrival

It is the responsibility of the initial Responding Crew (or Locating Crew that finds and confirms the SSO) that first arrives 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. Should the SSO not be the responsibility of LRWRA, LRWRA shall notify Little Rock Code Enforcement of the incident.

Upon Arrival at an SSO, the Initial Response Crew:

- Determines the cause of the overflow (e.g. sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.), if possible
- Identifies and requests, if necessary, required assistance or additional resources to correct the overflow or to assist in the determination of its cause;
- Takes immediate steps to stop the overflow (e.g. relieves pipeline blockage, manually operates pump station controls, repairs pipe, etc.) Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off private property into the public right-of-way); and

Note: *If Initial Response Crew confirms the SSO (i.e. Inspection Crew), it is their duty to contact the appropriate Response Crew (i.e. area Hand Rod Crew; area Hydro Clean Crew; Hydro Clean Rover Crew; Daytime Emergency Crew) for immediate arrival onsite so steps can be taken to stop the overflow, relieve pipeline blockage, etc.*

- Requests additional personnel, materials, supplies, and/or equipment to best expedite minimizing the impact of the SSO.

Subsection 1.K.(a) Containing the SSO

The following measures serve to contain and/or recover the overflowing sewage, and are initiated to minimize the impact to public health or the environment:

- Determine the immediate destination of the SSO. Dispatchers can use the GIS program to assist in determining if the impact of the SSO is a named waterway (creek/stream/river).
- Identify and request the necessary materials and equipment to contain or isolate the overflow (if not readily available); and
- Take immediate steps to contain the overflow (e.g., block or bag storm drains, recover through vacuum truck, divert SSO into downstream manhole, etc.) if conditions allow, as determined by the LRWRA Maintenance Department.
- In the event an SSO has discharged into a creek, stream, or river, the following immediate measures to eliminate and contain the discharge and eliminate the chances as best possible from the SSO discharging into a creek/stream/river will be taken, which include:
 - Establishing bypass pumping of sewer to other areas of the collection system; or
 - Implement holding tanks until repairs can be made.

Be sure to utilize equipment that can vacuum sewer to eliminate or contain overflow until repairs can be made!

Once corrective action has been taken to restore flow to the collection system, immediate measures will be taken to contain and remove contaminants from the waterway as feasible. The focus is to remove oxygen-depleting solids from water, returning it back into the collection system. Efforts can include the following:

- Establishing strategic points of containment along the waterway and removing contaminants through pumping, vacuuming, sweeping, etc.
- Applying disinfectants as feasible along edges of waterway to eliminate contamination.
- Utilize portable aerators (as feasible) along edges of waterways to maintain adequate oxygen levels to preserve aquatic life until proper removal of contaminants is achieved.

Subsection 1.K.(b) Additional Measures for Prolonged Overflow Conditions

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

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

Subsection 1.K.(c) Cleanup

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

- Where practical, thoroughly flush the area and clean of any sewage or wash-down water. Solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal.
- Secure the overflow to prevent contact by members of the public until the site has been thoroughly cleaned. If posting is required, see *Appendix E: SSO Permanent & Temporary Signage – Verbiage* for examples of postings.
- Where appropriate, disinfect and deodorize the overflow site.
- Where sewage has resulted in ponding, pump the pond dry and dispose of the residue in accordance with applicable regulations and policies.

If a ponded area contains sewage which cannot be pumped dry, it may be treated with approved waterway application that is designed to kill bacteria. If sewage has discharged into a body of water that may contain fish or other aquatic life, do not use bleach or other disinfectants and contact the Arkansas Game & Fish Commission.

Use of portable aerators may be required where complete recovery of sewage is not practical and where severe oxygen depletion in existing surface water is expected.



Do **not** use enzymes in flowing creeks, streams, or waterways

Subsection 1.L. Overflow Report Form

Emergency Crew, Locating Crew, or Response Crew completes a LRWRA Sanitary Sewer Overflow or Bypass Report Form (*See Figure 1.A.-1 and Figure 1.A.-2*). The Crew promptly notifies Dispatcher when the SSO is eliminated.

There are two (2) types of LRWRA internal Overflow Report Forms: a **RED** Sanitary Sewer Overflow or Bypass Report Form & a **BLACK** Sanitary Sewer Overflow or Bypass Report Form (commonly referred to Overflow Report Forms). The impact of the SSO and/or the proper ADEQ environmental damage code that best describes the SSO at hand are used to determine the proper Overflow Report Form when reporting each SSO. ADEQ environmental damage codes and associated proper LRWRA internal Overflow Report Form are listed next for reference.

Subsection 1.M. Completing the SSO Report Form

Subsection 1.M.(a)Environmental Damage / Impact of SSO:

RED LRWRA Overflow Report Forms are used to report SSOs involving the following impacts:

Observation or Evidence of Environmental Impact (ADEQ Environmental Damage Code OEEI): for example, an overflow that has reached / impacted a named waterway such as a named creek, stream, pond, or river. This includes all SSOs where there is indication that the SSO reached surface waters. For SSOs where sewage was observed running to surface waters, Emergency Crew / Response Crew / Locating Crew should complete a **RED** SSO Report Form (indicating ADEQ code "OEEI" – observed or evidence of environmental impact); this indicates all SSOs where sewage was observed running to surface waters, or where there was obvious indication (e.g. sewage residue) that sewage had flowed to surface waters.

If the overflow was contained in a named creek/stream/river/pond, the name of the waterway must be supplied. Dispatchers can utilize the GIS program to help in determining if the SSO reached a named waterway (creek/stream/river). There is a blank on the **RED** Overflow Report Form where the name of the waterway should be entered; this information is required for SSO entry in the EAM database when the fate of named waterway (CR) is selected.

Observation or Evidence of Human Contact (ADEQ Environmental Damage Code OEHC): for example, a building backup where sewer has reached / impacted the inside of a residence of business; or an overflow where person/persons were observed to have come in contact/ been impacted with the overflow

Evidence of Fishkill (ADEQ Environmental Damage Code EFK): for example, an SSO that reached /impacted a waterway where it is observed that there was Fishkill as a result (aquatic life was impacted as a result)

BLACK LRWRA Overflow Report Forms are used to report SSO impacts involving:

NO Evidence of Human Contact of Environment Impact (ADEQ Environmental Damage Code NEAH): for example, an SSO that did not reach a named waterway nor had any evidence of or observations of human contact involved such as most ground surface areas or drainage areas that are not named waterways.

This includes:

- SSOs where there is indication that the SSO had **not** reached surface waters. These include SSO occurrences such as the following, indicating ADEQ code NEAH – evidence of environmental impact or human contact & thus can be used a guide to characterize such occurrences:
- SSO that runs to covered storm drains (with no public access) where personnel verify, by inspection, that the entire volume is contained in a sump or impoundment and where complete clean up occurs leaving no residue.
- SSOs where observation or on-site evidence clearly indicates that all sewage was retained on land and did not reach surface water and where complete cleanup occurs leaving no residue.

NOTE: *The Below Scenario is NOT an SSO:*

Preplanned or emergency maintenance jobs involving bypass pumping (if access by the public to a bypass channel is restricted) and subsequent complete cleanup occurs leaving no residue.

Any preplanned bypass under these circumstances will not be considered an overflow.

The summary table below can be used to help in determining when to use a **RED** LRWRA Overflow Report Form vs. a **BLACK** LRWRA Overflow Report Form.

ADEQ Environmental Damage Code:	ADEQ Environmental Code Definition & SSO Description(s):	Type of LRWRA SSO FORM
OEEI	<p>Observation or Evidence of Environmental Impact</p> <p><i>* Description of SSO:</i></p> <p>An overflow where the sewer spill has reached a named waterway (pond/ creek / stream / river, etc.)</p>	<p>RED</p> <p>Overflow Report Form</p>
OEHC	<p>Observation or Evidence of Human Contact</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill has reached the inside of a building structure such as a residence or a business or where it was observed that there were people walking / riding bicycles through the overflow area</p>	<p>RED</p> <p>Overflow Report Form</p>
EFK	<p>Evidence of Fishkill</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill has reached a waterway and aquatic life was impacted as a result / there was Fishkill present</p>	<p>RED</p> <p>Overflow Report Form</p>
NEAH	<p>NO Evidence of Environmental Impact or Human Contact</p> <p><i>*Description of SSO:</i></p> <p>an overflow where the sewer spill did not reach a named waterway nor had any evidence of human contact such as most ground surface areas or drainage areas that are not named waterways</p>	<p>BLACK</p> <p>Overflow Report Form</p>

Subsection 1.M.(b) TIME of SSO

The *TIME of SSO* field is a reporting requirement for all SSOs. It is a required field for completion on both types of internal Overflow Report Forms (Red and Black), as well as within the EAM database. There are differing ways to determine the *TIME of SSO*, and it is dependent upon if the SSO is capacity-related (wet weather; due to rainfall; main line is at capacity) or non-capacity related (dry weather; due to blockage or structural issue; main line is not at capacity and is surcharging for some other reason).

Thus, the *TIME of SSO* is determined one (1) of the following methods, depending on whether the SSO is capacity-related or non-capacity related:

Capacity-Related Overflows:

A Rain Intensity Dashboard has been developed and will be utilized in determining the storm event category as well as the peak time of the event. This Rain Intensity Dashboard has been developed using the SCADA rainfall and historical rainfall intensity-duration-frequency (IDF) to depict each rainfall event. Engineering and Maintenance will be responsible for monitoring rain events. Events are categorized as Under 2-year Storm and Exceeds 2-year Storm. The Rain Intensity Dashboard shall be monitored during any rainfall and will be utilized to prompt SSORP protocol as well.

The determined *TIME of SSO* is sent via email to Collection System Maintenance Response Crews who begin checking manhole locations identified by Engineering personnel and are listed in *Appendix A: SSO Response Tracking Protocol Table A-2* of the SSORP. The *Time of SSO* is also communicated to Dispatchers and Maintenance Manager, Cleaning and Inspection Divisions.

The determined *TIME OF SSO* is consistently used by Response Crews on the LRWRA Overflow Report Form in the *DATE of SSO* and *TIME of SSO* fields for each SSO found that is related to the corresponding rain event.

Non-Capacity-Related Overflows:

The *TIME OF SSO* is when the Response Crew arrives on site and confirms that the reported sewage spill is an actual overflow. Thus, the *TIME of SSO* and the *ARRIVAL TIME* fields will be identical and will be recorded as such on the Overflow Report Forms as well as in the EAM database.

Subsection 1.M.(c). COMPLETED DATE & COMPLETETD TIME of SSO

The date and time at which the SSO cleanup efforts have been completed and the after cleanup photo has been taken is the date and time information that should be entered in the *COMPLETED TIME* and *DATE* fields in the EAM database (and on the Overflow Report Form if available and not yet submitted to Dispatch, meaning the cleanup was completed the same day the SSO was reported.)

Subsection 1.M.(d) ESTIMATED VOLUME of SSO

The *VOLUME of SSO* is figured by multiplying the *FLOWRATE of SSO (GPM – gallons per minute)* with the *ESTIMATED DURATION OF SSO (MINUTES)*.

To establish the *FLOWRATE OF SSO*, one (1) of the flowing methods should be applied:

- Direct observation of the overflow: *See Appendix F: SSO Flow & Volume Determination* for guidance on estimating sewer overflow rates using visual indicators of the asset and SSO area.
- Measurement of actual overflow from the sewer main.
- Visual Observations.
- Pump Station and Lift Station flow charts and other recorded data that is available.

When the rate of the overflow is known, multiply the duration of the overflow by the overflow rate. When the rate of the overflow *not known*, investigate the surrounding area for evidence of ponding or other indications of overflow volume to obtain an *ESTIMATED FLOWRATE of SSO* and, thus, an *ESTIMATE VOLUME of SSO*.

Subsection 1.N. Photographs of SSO

Maintenance Response Crew takes photographs of the SSO area before cleanup AND after cleanup, when possible. These are submitted to Dispatch and are uploaded into the LRWRA and EAM databases.

Subsection 1.O. Assessment of any Damage

Assessment of any damage to exterior/interior of public/private property: Personnel shall enter private property for purposes of estimating or determining SSO volume. If permission to enter property, Maintenance Response Crew, as well as, other Collection System Maintenance field personnel, Collection System Maintenance Manager, Safety & Risk Administrator and/or

Communications Coordinator should attempt to obtain photographs of the SSO and affected areas both before & after cleanup, as well as any affected area room measurements and flooring types. A Customer Flood Report Form should be completed if possible, and the *VOLUME of SSO* should be noted in all areas possibly affected by the SSO.

Subsection 1.P. Customer Satisfaction

When an SSO involving either observation or evidence of human contact (OEHC), observation or evidence of environmental impact (OEEL), or evidence of fishkill (EFK) is reported, the EAM database automatically notifies the Communications Department when all SSO information is entered into the database. The Communications Department will then contact the reporting citizen(s) and discuss the actions taken and the problem resolution. Upon notification of these SSO occurrences, the Communications Department, if necessary, takes any follow up action required (i.e. notify media or residents affected – see *Section 2: Public Advisory Procedures and Section 4: Media Notification Procedure.*)

If the resident wants to make a claim for damages incurred, they are directed to the Safety & Risk Administrator. For all SSOs where damages may possibly be incurred, Collection System Maintenance crews provide the citizen(s) with the Safety & Risk Administrator's business card with listed contact information. The crew also complete a Customer Flood Report Form which is submitted to Dispatch. Dispatch logs the Customer Flood Report information into the Hansen database on the Work Request *Log* tab and also notifies the Safety & Risk Administrator of the occurrence. The Safety & Risk Administrator informs the resident of LRWRA's damage claim process and current Damage Claim Policy and handles all damage claims in entirety.

Subsection 1.Q. Responding to Overflow Locations Where an SSO has Reoccurred Prior to the Initial SSO Being Completed

When an SSO has been confirmed to have reoccurred prior to the initial SSO reported being closed, then the initial SSO reported will be closed with associated details. (*This may happen when there are back-to-back category level rainfall events and MH location checks are still in progress for the first rain event at the time the second category level rain event takes place and causes a MH asset to overflow again before cleanup has been completed from the first overflow following the first rain event.*) The reoccurring SSO that has been confirmed will be recorded as another SSO incident with associated details.

If manhole locations listed in *Appendix A: Procedure to Track SSOs, Table A-2* of this document become inaccessible to LRWRA crews, the crew will conduct site visits daily until the site becomes accessible; crews will use an emergency call work order activity (CIEMER) to track the daily site visits/to document site conditions. If an SSO has in fact occurred once the manhole becomes

accessible, the same Work Request will be associated to the Emergency Work Order(s) (CIEMER) and to the SSO Work Order for tracking purposes. All associated work order numbers can be found associated to the same Work request number.

Section 2: PUBLIC ADVISORY PROCEDURE

This section describes the actions LRWRA takes, in cooperation with the Arkansas Department of Environmental Quality (ADEQ) and the Arkansas Department of Health (ADH) to limit public access to areas potentially impacted by unpermitted discharges of pollutants to surface water bodies from the water reclamation collection system. Temporary and permanent public notices will be provided as indicated below. *See Appendix F: Signage SSO Permanent & Temporary Signage – Verbiage for verbiage on both permanent & temporary public notices.*

Subsection 2.A. Temporary public notice for polluted surface water bodies or ground surfaces that result from uncontrolled discharges from LRWRA facilities

LRWRA has the primary responsibility for determining when to post notices of polluted surface water bodies or ground surfaces that result from uncontrolled water reclamation 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.

Figure 2.A.-1 (below) outlines the decision process to recommend to the Chief Operating Officer (COO) that posting of a confirmed SSO be undertaken of that there is reasonable potential for an SSO to occur, thus the need to post in advance. If posting is deemed necessary, ADEQ shall be notified.

Figure 2.A-1. Decision Process to Post Temporary Signage for Polluted Surface Water Bodies or Ground Surfaces that Result from Uncontrolled Discharges from LRWRA Facilities

Reported Overflow

Step Event

- 1 Collection System Maintenance Division Manager or Response Crew confirms that the SSO that is not posted has resulted in ponded wastewater (ground surface or ditch ponding) or direct discharge to body-contact recreational waters between May 1st and September 30th.
- 2 Collection System Maintenance Manager dispatches *Investigator* to consult with CS Maintenance Division on remedial action & need/extent of posting
- 3 If Chief Operating Officer decides posting is required, Chief Operating Officer directs Collection System Maintenance Division to post warning signs & notifies the Communications Department of location & intent to post
- 4 Dispatched *Investigator* notifies Collection System Maintenance Division of assessment and makes recommendation on posting
- 5 Collection System Maintenance Manager consults Director/Chief Operating Officer (C.O.O.) for final decision on posting
- 6 If Chief Operating Officer (C.O.O.) decides posting is required, Chief Operating Officer (C.O.O.) directs Collection System Maintenance Division to post warning signs(s) & notifies the Communications Coordinator of intent to post and at which locations
- 7 Warning signs are installed by Collection System Maintenance personnel

Potential Overflow

Step	Event
1	Reasonable potential for SSO that will result in ponded wastewater (ground surface or ponding) or direct discharge to body-contact recreational waters between May 1 and September 30 th identified
2	Collection System Maintenance Superiors identifying potential SSO consults Chief Operating Officer (C.O.O.) for final decision on posting.
3	If Chief Operating Officer decides posting is required, Chief Operating Officer directs Collection System Maintenance Division to post warning signs & notifies the Communications Department of location & intent to post
4	Warning signs are installed by Collection System Maintenance personnel

Subsection 2.B. Permanent Public Notice

LRWRA shall place a permanent notice at manholes located on City-owned property that may experience an SSOs in a twelve-month period. A list of applicable manholes has been provided in *Appendix A: Procedure to Track SSOs Table-A-1*.

Subsection 2.C. Other Public Notification

If the Chief Operating Officer (COO) determines additional public notification is needed, the Communications Department will make said notifications under the C.O.O.'s direction.

Section 3: REGULATORY AGENCY NOTIFICATION PLAN

The SSORP's Regulatory Agency Notification Plan establishes procedures that LRWRA follows to provide formal notice to ADEQ as necessary in the event of SSOs. The reporting criteria that are listed below explain to whom (agencies and individuals) various forms of notification should be made and also provide those agencies/individuals to be contacted.

Agency notifications will be performed in parallel with other internal notifications. The procedures for providing notification to the media of an SSO are presented in *Section 4: SSORP Media Notification Procedure*. Internal notification and mobilization of personnel are detailed within the Overflow Response Procedure portion of the SSORP. (See *Section 1: Overflow Response Procedure*)

Subsection 3.A. Immediate Notification

Upon data entry of a SSO event, an automated electronic event notification is sent to the Adams Fields Plant Operations Superintendent. The Adams Field Water Reclamation Facility Superintendent then notifies and reports the SSO to ADEQ in compliance with LRWRA's NPDES Permits. For convenience, the AFWRF NPDES Permit reporting requirements are reprinted below.

*"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 email, ssoadeq@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 of overflow (address or MH ID)
3. Duration of overflow (minutes)
3. Estimated Volume of Overflow (gallons)
4. Receiving Water (if applicable)
5. Cause of Overflow (if known)

A web written report of overflows shall be provided to ADEQ within 5 days of the 24 hours oral report. A 5-day follow-up written report can be filled-in and submitted on the ADEQ Office of Water Quality/Enforcement Branch Web page at:

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

Collection System Maintenance Staff are responsible for meeting the 24-hour (oral or) online notification requirement. Per LRWRA NPDES Permit conditions, this 24-hour immediate notification to ADEQ is met for all overflows with environmental impact, which are those SSOs for which the ADEQ Environmental Damage codes OEEI (environmental impact/named waterway

impacted) and OEHC (human contact) are applied. In other words, for LRWRA internal reporting purposes, the 24-hour immediate notification to ADEQ is required for all SSOs that are reported properly on the LRWRA **Red** SSO Report Forms.

ADEQ CONTACT(S):

The ADEQ Enforcement Analyst assigned to LRWRA is listed below, along with all contact details I am name, mailing address, e-mail address, and telephone number for LRWRA's primary ADEQ contact is provided below: (No changes for 2022 SSORP Annual Review).

Arkansas Department of Environmental Quality (ADEQ) Enforcement Analyst assigned to LRWRA (2022) Contact Details:

Leslie Allen-Daniels	5301 Northshore Drive	Telephone:
<i>ADEQ Enforcement Analyst</i>	North Little Rock, Arkansas 72218	501.682.0630

Subsection 3.B. Secondary Notification

After those parties identified as requiring *Immediate Notification* have been contacted, the Chief Operating Officer (COO) will notify other federal, state, and local agencies, as well as other interested and possibly impacted parties (as directed by the COO)

Section 4: MEDIA NOTIFICATION PROCEDURE

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

- Maintenance Response Crew verifies overflow & reports findings back to Dispatcher
- Dispatcher informs Communications Department, with primary contact being the Communications Coordinator (*see Table 4.A.-1. for contact information*)
- After-hours and weekend SSOs that are a threat to public health are also reported to the Communications Department at the contact numbers listed in *Table 4.A.*

All media requests, if a request is in fact received, should be referred to the Communications Department.

Table 4.A-1. Little Rock Water Reclamation Media Contacts

Contact	Contact Name	Office	Mobile
Primary	Greg Ramon, Chief Executive Officer	501.688.1404	501.529.6340
Backup	Kenetta Ridgell, Communications Coordinator	501.688.1470	870.818.7993

LRWRA Media Spokespersons

The following LRWRA personnel are authorized to be interviewed by the media and are the designated spokespersons for LRWRA:

Chief Executive Officer (C.E.O.)
Communications Coordinator
Chief Operations Officer (C.O.O.)
Chief Legal Officer (C.L.O.)

Section 5: 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.

Subsection 5.A. Submittal and Availability of SSORP

Copies of the SSORP and any amendments are distributed to the following departments and functional positions as part of the annual SCAR (Attachment A of the SCAR):

<u>DEPARTMENT</u>	<u>FUNCTIONAL POSITIONS</u>
LEGAL SERVICES	CHIEF EXECUTIVE OFFICER, CHIEF LEGAL OFFICER
ENGINEERING	DIRECTOR, ENGINEERING
MAINTENANCE	DIRECTOR, CHIEF OPERATING OFFICER (C.O.O.)
OPERATIONS	DIRECTOR, SUPERINTENDENTS
EAD	DIRECTOR

All other personnel who may become incidentally involved in responding to overflows should also be familiarized with the SSORP.

Subsection 5.B. Review and Update of SSORP

Review of the SSORP is conducted annually and amended/**updated** as appropriate.

LRWRA should:

- Update the SSORP with issuance of a revised or new NPDES permit or state waste discharge permit (NPDES Permit renewals are reviewed at least annually)
- Conduct annual SSORP Training sessions with appropriate personnel, to include at minimum all Maintenance Staff involved in SSO reporting procedures and SSO response
- Review and update, as needed, the various contact persons and associated contact details listed throughout the SSORP (reviewed at least annually)

Along with the submittal of the annual Consent Administrative Order Report (Sierra Club Annual Report or SCAR), this SSORP document will be updated and submitted as Attachment A of the entire report.

Subsection 5.C. Practical Resources

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

Subsection 5.D. Training

Each division will be responsible for training their own personnel. The training should include any employee who is involved in or may possibly be involved in the SSO process. These persons are provided a copy of the SSO Response Plan and said plan will be reviewed in depth with them. This training should take place annually or when revisions occur so that all personnel are brought up to date on any changes that may occur. Each division should also review their response efforts at these annual training sessions and should take suggestions to revise procedures. These suggestions will then be submitted to all divisions for review to determine if the revisions will be implemented in the next annual SSORP review.

Appendix List

Appendix A: SSO Tracking Procedure

Appendix B: SSO Response Action Plan

Appendix C: Collection System Spill Contacts

Appendix D: Detecting Hazardous Atmospheres

Appendix E: SSO Signage

Appendix F: SSO Flowrate & Volume Determination

Appendix G: Flowchart Process for SSO Reporting
(External Source)

Appendix H: Flowchart Process for SSO Reporting
(Internal Source)

Appendix A: Sanitary Sewer Overflow (SSOs) Tracking Procedure

SANITARY SEWER OVERFLOWS (SSOs) Tracking Procedure

The procedure to track the frequency & location of SSOs as follows:

Step 1:

All SSOs have a EAM -generated Work Order prepared within the database

Step 2:

SSOs will be defined as of the following:

CAPACITY SSOs:

Asset has insufficient carrying capacity to handle inflow and/or infiltration during a storm event; Engineering shall maintain & update a list of capacity-related SSOs.

*Activity Code
in EAM Database*

Activity Code - Defined

SOC

= Sewer Overflow – Capacity

SOCP

= Sewer Overflow – Capacity – Private
(*overflow at a Privately-owned asset*)

NON-CAPACITY SSOs:

Overflow due to an obstruction in the main line, line failure, or equipment failures. Non-Capacity overflows also encompass private overflows at private assets and/or inside buildings, as well as ones outside of LRWRA control (due to vandalism or construction/BPU).

*Activity Code
in EAM Database*

Activity Code – Defined

SONC	= Sewer Overflow – NON-Capacity
SONCP	= Sewer Overflow – NON-Capacity – Private <i>(SSO at a privately-owned asset or inside building)</i>
SONCO	= Sewer Overflow – NON-Capacity – Other <i>(due to vandalism or construction damage)</i>

Step 3:

The Work order will also include the asset number to identify the overflow locations, which will always be the upstream manhole number of the sewer main asset. A Work Request number will also be assigned by Dispatch for tracking all associated activities.

Step 4:

A Monthly Report will be prepared, providing the number of capacity & non-capacity SSOs.

Step 5:

In addition to Work Order data, information on all reported SSOs is maintained in an event database, called the Discharge Monitoring Report (DMR). It contains all information required for regulatory reporting and more. (total number of SSOs and total volume – gallons – per month). Reports generated from the database have the capability of pulling SSO locations based upon dates, assets, and occurrences within a time frame.

Step 6:

The updated annual capacity-related SSO manhole list has been developed for inclusion in the Permanent Signage phase of this SSORP. This list is maintained and annually updated as conditions and overflow mitigation efforts work to improve capacity-related deficiencies in the collection system. The following list, **Table A-1**, contains those SSO sites that are to be equipped with permanent signage.

Collection System Maintenance personnel are responsible for removing/installing any signage necessary to reflect any updates made to Table A-1 each year.

Table A-1: SSOs Eligible for Permanent Signage (2022)

Step 7:

A second list has been developed, and shall be maintained, by Engineering that defines each potential capacity related SSO location.

Rainfall amounts, recorded by the SCADA network at various stations throughout the collection system, are continuously reported to SCADA monitoring stations and to individual computers supported by SCADA-viewing software. A Rain Intensity Dashboard has been developed using the SCADA rainfall, and historical rainfall intensity-duration-frequency (IDF) to depict each rainfall event. Engineering and Maintenance will be responsible for monitoring rain events. Events are categorized as Under 2-year Storm and Exceeds 2-year Storm. The Rain Intensity Dashboard shall be monitored during any rainfall and will be utilized to prompt SSORP protocol.

The following list, **Table A-2**, provides the known, or suspected, SSO manholes that have the potential to discharge during wet weather events.

Collection system maintenance Crews proactively check all MH locations listed within Table A-2 upon receipt of notification from Engineering when the Rain Intensity Dashboard records a rain event, or upon receipt of an auto generated e-mail which is triggered when the recorded rainfall reaches 1-inch within a 24 hour period.

Table A-2 2022 Checklist

Status	Manhole	Area
Active	1B012	11502
Pending	1G008	30050
Pending	1G010	30040
Pending	1G087	30060
Pending	1G090	30060
Pending	1G091	30060
Active	2B068	11502
Pending	2H018	30040
Active	2H019	30040
Active	2H074	30030
Pending	2K142	30700
Pending	2K143	30700
Pending	2K167	30700
Pending	2M028	30400
Pending	2O002	30501
Active	2O007	40030
Pending	2O018	40702
Active	2O025	30501
Pending	2O026	30501
Pending	2P012	40702
Active	2P013	40702
Pending	2P014	40702
Active	2P015	40702
Pending	2P024	40702
Active	2P025	40702
Active	2Q020	40703
Active	2Q021	40703
Active	2R026	40703
Pending	3D065	11501
Pending	3D108	11501
Pending	3I036	30700
Pending	3K058	30700
Pending	3K061	30700
Pending	3M002	30400
Active	3N004	30501
Active	3N005	30501
Pending	3N006	30501
Pending	3N007	30501
Pending	3N055	30400
Pending	3O128	40702
Active	4B003	10090

Status	Manhole	Area
Active	4B005	10090
Pending	4L007	20030
Pending	4L015	30300
Pending	4L017	20030
Pending	4L076	20030
Active	4N013	40030
Pending	4N900	40030
Pending	4N016	30400
Pending	4N030	40702
Pending	4N031	40702
Active	4N089	30501
Pending	5C002	10090
Pending	5C003	10090
Active	5C007	10070
Pending	5L030	20030
Active	5L051	20030
Active	5L052	20030
Pending	5L059	20030
Investigate	5L093	20030
Pending	6C001	10090
Active	6C004	10080
Pending	6C006	10080
Pending	6C036	11400
Pending	6C047	11400
Pending	6E143	11102
Pending	6E144	11102
Pending	6G006	21303
Pending	6H049	21200
Active	6L011	20030
Investigate	6N006	40701
Active	6N008	40701
Pending	6N009	40701
Pending	6N015	40701
Active	6N016	40701
Pending	6N077	40701
Pending	-7A053	60200
Pending	-7A065	60200
Pending	7C006	10080
Pending	7K012	20020
Pending	7K900	20020
Pending	7K112	21100

Status	Manhole	Area
Pending	7K113	21200
Investigate	7N016	40600
Pending	-8-A012	60200
Active	-8-A015	60200
Pending	8C002	10080
Pending	8D034	11000
Investigate	8E047	11101
Investigate	8E048	11101
Pending	8E049	11101
Pending	8E061	11101
Active	8E114	11101
Active	8G020	10903
Pending	8I006	20902
Active	8O001	40600
Pending	9O001	40501
Pending	-10-B009	60301
Pending	-10-B008	60301
Active	10G191	10902
Pending	10I012	10901
Pending	10L013	20800
Pending	13J070	20401
Pending	13J087	20401
Pending	14G026	10010
Pending	14L038	30200
Active	16H003	10010

Step 8:

An annual report will be prepared by Engineering, which shall include a review of all capacity related overflows, as well as determine updates to the two (2) tables above for permanent signage and potential capacity related SSO manholes. These updated capacity-related SSO lists shall be included for amendment to this SSORP.

Appendix B: SSO Action Plan

SSO ACTION PLAN

Dispatching Crews

Dispatchers receive notification of possible SSOs from two sources:

- public (i.e. customers; guests of LR; other utility companies)
- internal crews (i.e. Maintenance Crews; Treatment Plant personnel)

Notification of Possible SSO During Working Hours

Dispatchers receive notification of a possible SSO from the public at which time they collect all relevant information as outlined in *Subsection 1.A.(a): Possible SSO by a Member of the Public*, which at this point they dispatch one of our area Maintenance Response Crew to the site to verify if an SSO has occurred.

The Responding Maintenance Crew will report findings back to Dispatcher, who assigns a Work Request number for tracking and is used by all involved Maintenance Crews by documenting this number on all SSO-related paperwork and initiated work orders/inspections.

The Maintenance Response Crew determines if an SSO has occurred, and, if so, places warning signage at the site of the SSO (as well as at adjacent homes if required and available). The Dispatcher or Manager also verifies that the Responding Maintenance Crew has filled out a LRWRA Overflow Report Form and that all required information is on form. The Dispatcher can assist in determining if a **RED** or **BLACK** Overflow Report Form is the proper form to use when the by using GIS Arc Map mapping layers to determine if a drainage area is a named waterway; if a named waterway is impacted a **RED** form should be completed, indicating environmental impact. If the SSO occurs within a structure, a **RED** form should also be completed, indicating human contact – evidenced or observed.

Maintenance Crews at this point start cleanup and sanitize the site. When complete, the Maintenance Response Crew is to verify that the cleanup is completed, take after-cleanup photographs, and remove warning signs.

Maintenance Crews submit all SSO paperwork and any initiated Work Orders/Inspection to Maintenance Dispatchers (same day), who, at the start of the next business day, sort all SSO paperwork and work orders/inspections, ensure the SSO Report Form is completed correctly, and check to make sure the Work Request number is documented on all SSO paperwork and initiated Work Orders/Inspection, if any. Dispatchers are responsible for distributing the SSO Report Form to Dispatch this day. All Work Orders will be submitted to the Maintenance Manager, and all Inspections are provided to the Maintenance Planner.

Maintenance Crews submit all before-cleanup and after-cleanup photos to the overflows email group at Overflows@lrwra.com (if using a Smart Phone). If using a handheld camera, all photos are saved onto an SD Card and the card is provided to Collection System Maintenance Staff (See *Figure 1.B.-1: SSO Tracking Protocol*).

For all SSOs reported on RED Overflow Report Forms, Collection System Maintenance Staff is responsible for submitting the required 24-hour email notification to ADEQ, with all required information regarding the details of the SSO occurrence. (See *Subsection 3: Regulatory Agency Notification*).

Notification of Possible SSO After Hours

The After-Hours Emergency On-Call Crews (who manage all incoming phone calls after normal business hours via the On-Call cell phone, to which all incoming calls to the main LRWRA Dispatcher Office phone number are forwarded) receive notification of a possible SSO from the public at which time they collect all relevant information as outlined in *Subsection 1.A(a): Possible SSO Reported by a Member of the Public*, and then proceed to the location.

The Emergency On-Call Crew determines if an SSO has occurred, attempts to correct the problem and contain the SSO, places warning signs at the site as well as at adjacent homes if required, and takes before-cleanup photographs. The crew is to fill out a LRWRA Overflow Report Form which is submitted with their paperwork at the beginning of the next workday. All photos are submitted to the overflows email group at overflows@lrwra.com.

The Emergency On-Call Crew then starts cleanup and sanitizes the site (if possible). When cleanup is completed, the crew is to take after photographs and then remove warning signs.

If the SSO occurred within a structure, the Maintenance Manager is to verify that cleanup has been completed and all policies were followed. A site visit is to be performed no later than the first workday after the overflow occurrence. The Safety & Risk Administrator will be informed as well to handle any damage claims.

Internal Notification:

Personnel in the field who find an SSO are to contact the Dispatcher and provide the relevant information as outlined in *Subsection 1.A(a): Possible SSO Reported by a Member of the Public*. The same procedure as shown for public notification under working hours will be used – See *first part of this document, Appendix B: SSO Action Plan*.

Rain events that are one (1)-inch or greater will trigger our crews to investigate possible recurring SSO sites to verify if an overflow has occurred. These crews will be furnished with a list of possible SSO sites (See *Appendix A: SSO Tracking Protocol, Table A-2*) which has been determined as being locations that have the potential to overflow. The Maintenance Responding will follow the same procedure as outlined under public notification during working hours. When a crew has gone through their list and an SSO was found, they will return to the site to conduct proper cleanup.

Collection System Spill Contacts

IN THE EVENT OF A KNOWN SPILL OR DISCHARGE OF HAZARDOUS MATERIAL INTO THE LITTLE ROCK SANITARY SEWER COLLECTION SYSTEM, **IMMEDIATE** CONTACT SHOULD BE MADE TO OUR 24-HOUR EMERGENCY CREW AT 223-1509

IN THE EVENT THAT A FLAMMABLE OR OTHER EXTREMELY HAZARD SUBSTANCE IS RELEASED INTO THE SANITARY SEWER SYSTEM PLEASE CALL THE **LITTLE ROCK FIRE DEPARTMENT (911)**

IN ADDITION, PLEASE CONTACT (ASAP) ONE THE STAFF MEMBERS LISTED BELOW SO A FOLLOWUP INVESTIGATION CAN BE CONDUCTED.

Megan Jones, Pretreatment Administrator

Work: 501-688-1495

Mobile: 479-216-0961

Jamie Ewing, Director of Environmental Assessment

Work: 501-688-1486

Mobile: 870-917-7463

Michael Kline, Safety & Risk Administrator

Work: 501-688-1468

Mobile: 501-352-0513

Adams Field Water Reclamation Facility (**24 hour**)

1001 Temple Street

Operations: 501-688-1533

Mobile: 501-413-7381

Fourche Creek Water Reclamation Facility (**24 hour**)

9500 Birdwood

Operations: 501-490-5405

Mobile: 501-541-3559

(Revised 2018)

Appendix D: Detecting Hazardous Atmospheres

DETECTING HAZARDOUS ATMOSPHERES

(Chapter 9 of the LRWRA Safety Manual pg. 65)

Purpose

To ensure that all affected LRWRA employees are notified of potential health or safety hazards in the LRWRA collection system.

Procedures

The following procedures must be followed when detecting potential health or safety hazards in the LRWRA collection system:

Step 1

The LRWRA employee(s) or crew discovering the potential health or safety hazard must notify dispatch (223-1509) or the Environmental Health & Safety [Safety & Risk] Department (688-1468 or 688-1466) to report the potential problem.

Information included in the report:

- Name of the employee making the report
- Street address or location or potential hazard
- Manhole number (if known)
- Brief description of findings (submit verbally or via e-mail)

If the health or safety hazard was reported to dispatch: dispatch should contact the Environmental Health & Safety [Safety & Risk] Department and report the above information.

Step 2:

The Environmental Health & Safety [Safety & Risk] Department will then investigate the report.

Step 3:

If Environmental Health & Safety [Safety & Risk] Department confirms the report, the Environmental Health & Safety [Safety & Risk] Department will notify Dispatch to ALERT all affected field crews that the reported area is "Off Limits" until further notified. The Environmental Health & Safety [Safety & Risk] Department will notify ALL other affected LRWRA & CAW department supervisors of the reported area.

Step 4:

Dispatch will draft a notice with the location of the ALERTED areas and place a copy on all Safety News Bulletin Boards and Backdoors at the Clearwater Complex. Dispatch will also forward a copy

of the notice to the Environmental Health & Safety [Safety & Risk] Department for placement on the other Safety News Bulletin Boards throughout LRWRA.

Step 5:

The Environmental Health & Safety [Safety & Risk] Department will notify Central Arkansas Water dispatch of the Potential Hazardous Area.

Step 6:

If the investigation suspects a Natural Gas Leak, the SAFETY [Safety & Risk] Department will contact CenterPoint/Reliant Energy to report the situation.

Step 7:

The Environmental Health & Safety [Safety & Risk] Department will keep ALL effected LRWRA & CAW departments informed of the situation and monitor their (CenterPoint/Reliant Energy) findings.

Step 8:

Once the health or safety hazard has been corrected, the Environmental Health & Safety [Safety & Risk] Department will perform a follow-up investigation and when NO HAZARDOUS conditions exist, the SAFETY [Safety & Risk] Department will remove the Safety ALERT and notify all affected departments.

Step 9:

If gasoline, solvents, paint, or other foreign material is suspected and the hazardous area is located in an Industrial/Commercial Area, the Environmental Health & Safety [Safety & Risk] Department will contact the Environmental Assessment Department (EAD) and transfer the report for further action.

Step 10:

Industrial investigations resulting from explosive or toxic conditions will be performed by EAD pretreatment staff members using procedures from the pretreatment procedures manual. Findings will be provided to the Environmental Health & Safety [Safety & Risk] Department upon completion of the investigation.

After Hours Reporting

If a hazardous atmosphere is detected after normal working hours, the employee must report the area the next working day prior to his/her normal working hours. After this report is made, the process will begin with step one.

If a hazardous atmosphere is detected after normal working hours, that is suspected to contain gasoline, solvents, paint, or other foreign material and the hazardous area is located in an

Industrial/Commercial Area, follow the procedures (found in Chapters 9 & 16 of the LRWRA Safety Manual Collection System Spill Contacts (revised 2018) & Detecting Hazardous Atmospheres.

TEMPORARY SSO SIGNAGE

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:



LRWRA
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 688-1490

See SSORP Table A-2 for a list of manhole locations that Maintenance Crews will check following a rain event.

LRWRA Overflow Signage Verbiage

**LRWRA
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 688-1490

PERMANENT SSO Signage

The below language shall be used on signs for possible SSO sites that are located on publicly owned property and which have the potential to occur within a twelve (12)-month period.

See SSORP Table A-1 for a list of manholes requiring permanent SSO signage throughout 2022 that was provided by the Engineering Department

Appendix F: SSO Flow & Volume Determination

SSO FLOW & VOLUME DETERMINATION

As indicated previously in this SSORP, each SSO that is actively discharging during the investigation phase of this response plan's tasks shall be evaluated for flow and ultimate total volume discharged, each of which is to be included as part of the reporting requirements. The Engineering Department has defined a three-tiered flow estimating system that is derived from the reaction of the manhole lid in relation to the flow exiting the collection system. This system is easily field estimated without the need for measuring devices, which in most instances, would fail to achieve a proper signal due to the lack of sufficient depth of flow.

It has been determined that the majority of actively discharging SSOs reported by a Response Crew would be non-capacity related. Therefore, criteria for determining flow should concentrate on these conditions for gravity sewer collection systems. **The three (3)-category rating system is outlined below:**

**** GPM = Gallons Per Minute**

1 – 10 GPM

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.

11 – 100 GPM

This rate covers the moderate discharge experience 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.

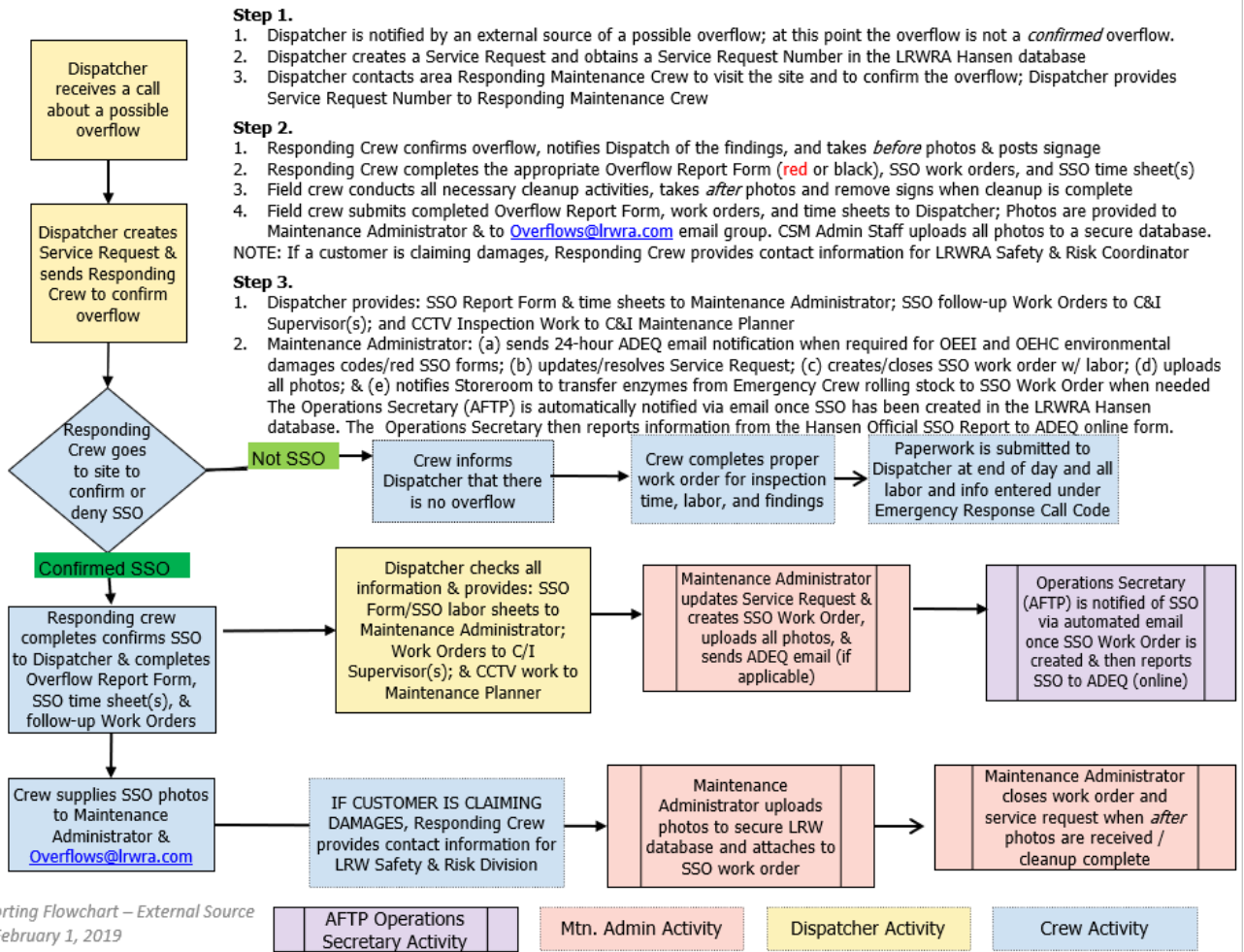
> 100 GPM

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 derived from the above category multiplied by the duration of discharge. If the exact length of discharge is unknown, criteria for determining an estimated time have been established in the *Section 1.M(d): Completing the SSO Report Form*.

Appendix G: Flowchart Process for SSO Reporting (External Source)

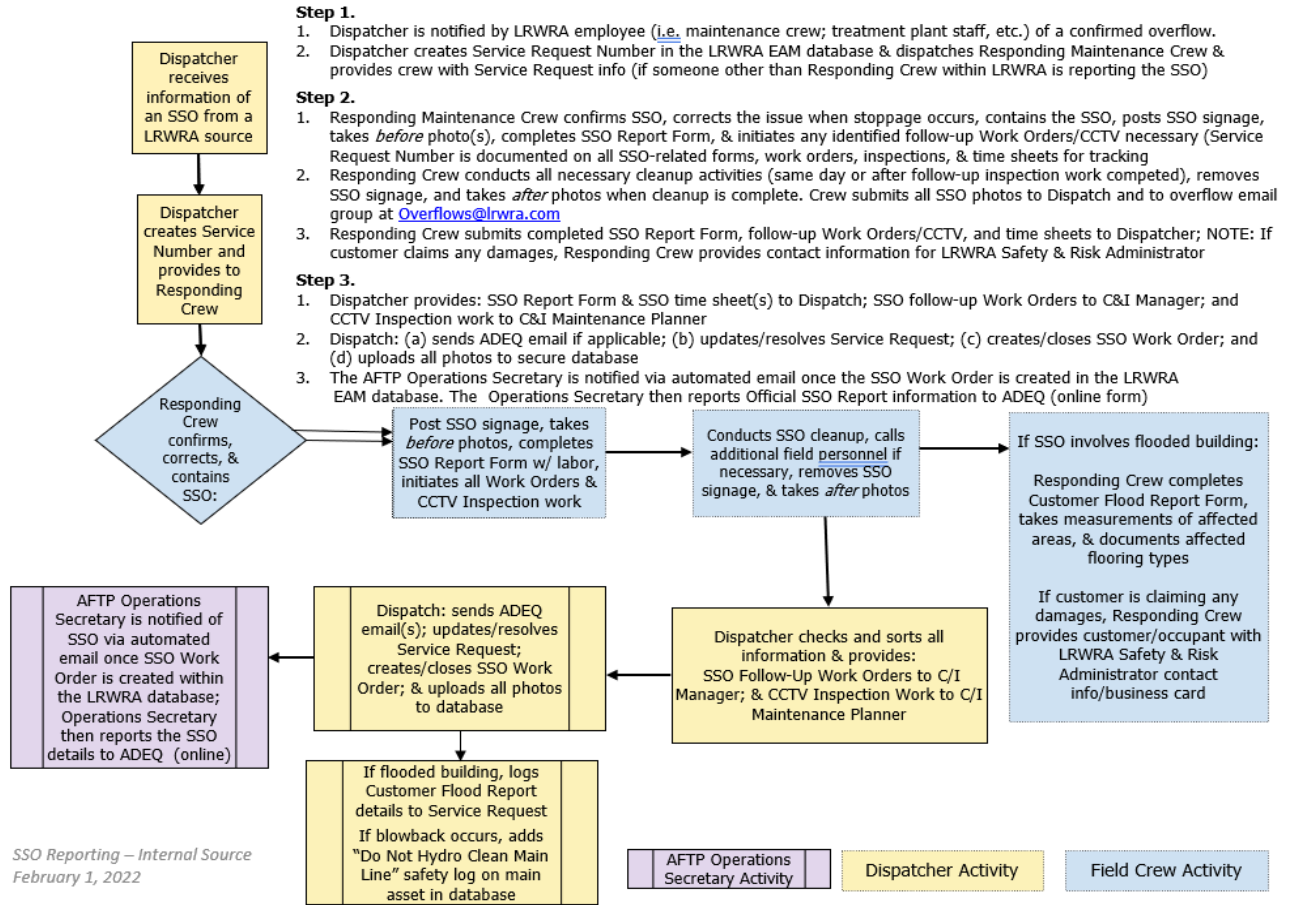
SSO Reporting Flow Chart (Reported by EXTERNAL Source)



SSO Reporting Flowchart – External Source
Revised February 1, 2019

Appendix H: Flowchart Process for SSO Reporting (Internal Source)

SSO Reporting Flow Chart (Reported by INTERNAL Source)



SSO Reporting – Internal Source
February 1, 2022

--- End of LRWRA SSORP ---

Revised February 3, 2020

ATTACHMENT B. Notice of Sanitary Sewer Overflow – Temporary Signage



ATTACHMENT C. Door Hanger

YOU CAN ALSO HELP

CAN THE GREASE
PROTECTING YOUR ENVIRONMENT AND YOUR WATER
For More Information, Please Call
LITTLE ROCK WATER RECLAMATION AUTHORITY
501-688-1490

Mitigate sanitary sewer overflows by enrolling in Little Rock Water Reclamation Authority's Can the Grease® program. This program allows you to receive one grease can and lid, heat-resistant liners, and lots of information. **ALL AT NO CHARGE.** Upon receiving the grease packet, all you have to do is:

1. Place the heat-resistant liner in the grease can.
2. Pour your leftover cooking grease into the bag and put the lid back on the can.
3. Once the bag is full, take it out and toss it in the trash. Place another liner in the can.

Signing up is easy, too. You can request a FREE Can the Grease® Kit by calling 501.688.1490 or visit us online at lrwu.com/ctg.

NOTICE

Dear Customer:

In an increasing effort to provide our customers with exceptional service, protect public health and the environment and continue our preventive maintenance program, our crews are working in your area. **PLEASE CONTACT US.** We need to discuss the following with you:

- Check an existing manhole
- Perform routine inspection/maintenance on an existing line or manhole
- Grease-related stoppage
- Sewer Service Line Replacement Program – up to \$2,500 reimbursement
- Other _____

For more information contact
Customer Assistance
501.688.1490

Work Order # _____ Today's Date: _____
or
Line Segment _____

Little Rock Water Reclamation Authority
11 Clearwater Drive
Little Rock, AR 72204
501.688.1490
lrwu.com

Project RENEW
Quality Water. Quality Pipes. Quality Life.

LITTLE ROCK Water Reclamation Authority
ONE WATER. ONE FUTURE.

Can the Grease® Enrollment

Name _____

Address _____

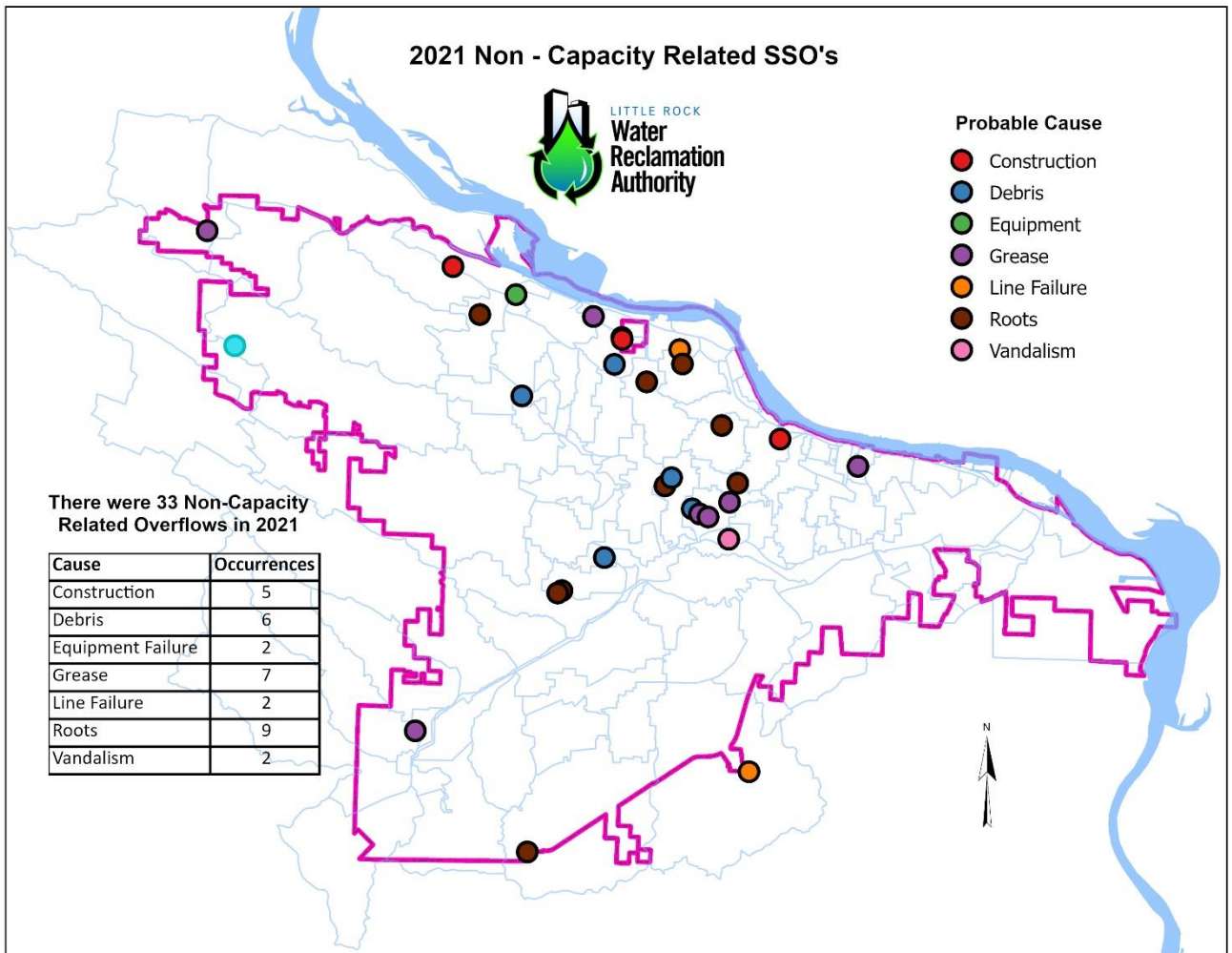
Telephone number _____

Please return card to:
Little Rock Water Reclamation Authority
11 Clearwater Drive • Little Rock, AR 72204

ATTACHMENT D. Notice of Sanitary Sewer Overflow – Permanent Signage



ATTACHMENT M. 2021 Non-Capacity Related Sanitary Overflows Summary Report and Map



**LITTLE ROCK WASTEWATER UTILITY
NON-CAPACITY SANITARY SEWER OVERFLOW REPORT
1/1/2021 - 12/31/2021**

CODE DESCRIPTIONS

NPDES PERMIT

FC - Fourche Creek Treatment Plant
NPDES Permit No. AR0040177
AF - Adams Field Treatment Plant
NPDES Permit No. AR021306
LM - Little Maumelle Treatment Plant
NPDES Permit No. AR050349

CAUSE(S) OF SSO

CO - Construction
D - Debris
E - Equipment Failure
G - Grease
HC - Hydro-Clean
LF - Line Failure
PF - Power Failure
RO - Roots
VA - Vandalism

OBSERVED ENVIRONMENTAL IMPACT

EFK - Evidence of Fish Kill
NEAH - No Evidence of Adverse Health or Environmental Impacts
OEHC - Observed or Evidence of Human Contact
OEEI - Observed or Evidence of Environmental Impact

ACTION(S) TAKEN

DD - Disinfected & Deodorize
EN - Reporting to Engineering
HC - Hydro Cleaned
HR - Hand Rodded
LIME - Lime Applied
PN - Public Notification
WO - Work Order

ULTIMATE DISCHARGE LOC.

CB - Contained in Building
CR - Creek/Stream/River
GRCB - Both Ground/ In Building
GRPUB - Reached Public Property
GRPVT - Reached Private Property
TP - Occurred at Treatment Plant

NPDES PERMIT	LOCATION	MANHOLE NO.	DATE OF SSO	TIME OF SSO	ESTIMATED DURATION, MIN	ESTIMATED VOLUME, GAL	CAUSE OF SSO	OBSERVED ENVIRON. IMPACT	ACTION(S) TAKEN TO ADDRESS SSO	ULTIMATE DISCHARGE LOCATION
AF	11 VARENNES CT	-12D087	01/20/2021	2:12 pm	30	60	VA	NEAH	PN, WO	GRPUB
AF	12380 SOUTHRIDGE DR.	-3A009	05/25/2021	10:00 am	30	90	CO	NEAH	EC, PN, WO	GRPUB
AF	3300 BROWN ST	8K017	07/01/2021	11:30 am	30	90	VA	NEAH	EC, PN, WO	GRPUB
AF	6801 GREENWOOD RD	4C090	09/26/2021	11:15 am	30	60	CO	NEAH	EN, PN	GRPVT
AF	6721 KENWOOD RD	4C091	09/28/2021	11:45 am	30	90	CO	NEAH	EC, PN, WO	GRPVT
AF	6723 KENWOOD RD	4C091	10/03/2021	2:35 pm	15	30	CO	NEAH	PN, WO	GRPVT
AF	DO NOT HYDRO CLEAN - CANNOT	10G056	12/02/2021	10:01 am	30	30	CO	NEAH	EC, PN, WO	GRPVT

COUNT of OTHER OVERFLOWS: 7

FC	10803 IRONTON CUTOFF RD	-S0013	01/06/2021	12:30 pm	30	60	LF	NEAH	EN, PN, WO	GRPVT
AF	1402 S VAN BUREN ST	6I010	01/12/2021	12:30 pm	30	60	D	NEAH	EC, PN	GRPUB
AF	5 HEARTHSIDE DR	2B042	01/12/2021	4:30 pm	10	10	G	NEAH	PN	GRPUB
FC	13400 HEINKE RD	0X004	01/14/2021	10:45 am	60	300	RO	NEAH	PN, WO	GRPVT
AF	BACKFLOW PREVENTER	3D079	02/01/2021	10:15 am	30	150	D	NEAH	EC, PN, WO	GRPUB
AF	610 E 6TH ST	13H086	02/19/2021	10:55 am	30	30	G	NEAH	PN, WO	GRPUB
AF	Longfellow pump station	6D001	02/25/2021	8:30 am	30	30	LF	NEAH	EN, PN, WO	GRPUB
AF	LAT 34-48-41.04414, LON	-14-A001	03/04/2021	7:30 pm	15	150	G	NEAH	EC, PN, WO	GRPUB
AF	1700 S TYLER ST	5I117	04/01/2021	10:00 am	60	60	RO	NEAH	EC, WO	GRPVT
AF	2105 BROWN ST	8J131	04/07/2021	10:15 am	30	120	G	NEAH	EC, PN, WO	GRPUB
AF	11420 ROCKY VALLEY DR	-2C005	05/10/2021	11:30 am	30	120	RO	NEAH	EC, PN, WO	GRPVT
AF	BACKFLOW PREVENTER	3D079	05/13/2021	3:30 pm	30	30	D	NEAH	EC, PN, WO	GRPUB
FC	4 WESTFIELD DR	-4S028	05/15/2021	10:00 am	30	60	G	NEAH	PN, WO	GRPVT
AF	8609 WEST WOOD AVE	1N008	06/10/2021	4:00 pm	20	20	RO	NEAH	PN, WO	GRPUB
AF	1615 N UNIVERSITY AVE	5E048	06/22/2021	8:45 pm	30	30	RO	NEAH	PN, WO	GRPUB

**LITTLE ROCK WASTE WATER UTILITY
NON-CAPACITY SANITARY SEWER OVERFLOW REPORT
1/1/2021 - 12/31/2021**

CODE DESCRIPTIONS

NPDES PERMIT

FC - Fourche Creek Treatment Plant
NPDES Permit No. AR040177

AF - Adams Field Treatment Plant
NPDES Permit No. AR021806

LM - Little Maumelle Treatment Plant
NPDES Permit No. AR050849

CAUSE(S) OF SSO

CD - Construction
D - Debris
E - Equipment Failure
G - Grease
HC - Hydro-Clean
LF - Line Failure
PF - Power Failure
RO - Roots
VA - Vandalism

OBSERVED ENVIRONMENTAL IMPACT

EFK - Evidence of Fish Kill
NEAH - No Evidence of Adverse Health or Environmental Impacts
OEHC - Observed or Evidence of Human Contact
OEEI - Observed or Evidence of Environmental Impact

ACTION(S) TAKEN

DD - Disinfected & Deodorize
EN - Reporting to Engineering
HC - Hydro Cleaned
HR - Hand Rodded
LIME - Lime Applied
PN - Public Notification
WO - Work Order

ULTIMATE DISCHARGE LOC.

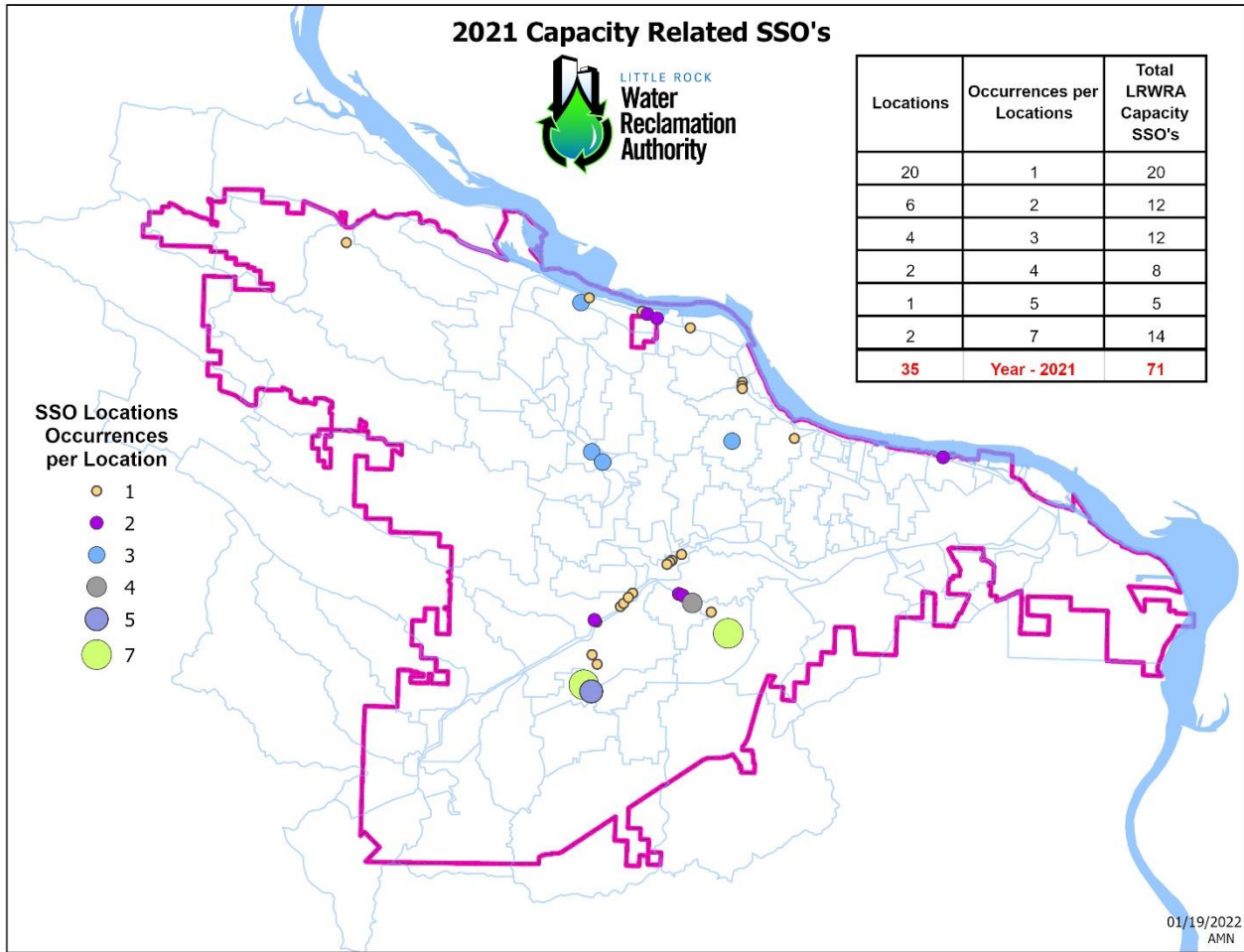
CB - Contained in Building
CR - Creek/Stream/River
GRCB - Both Ground/ In Building
GRPUB - Reached Public Property
GRPVT - Reached Private Property
TP - Occurred at Treatment Plant

NPDES PERMIT	LOCATION	MANHOLE NO.	DATE OF SSO	TIME OF SSO	ESTIMATED DURATION, MIN	ESTIMATED VOLUME, GAL	CAUSE OF SSO	OBSERVED ENVIRON. IMPACT	ACTION(S) TAKEN TO ADDRESS SSO	ULTIMATE DISCHARGE LOCATION
AF	8411 WEST WOOD AVE	1N004	07/21/2021	9:00 am	60	300	RO	NEAH	EC, PN, WO	GRPUB
AF	484 RIDGEWAY DR	8G131	07/22/2021	9:20 am	60	180	RO	NEAH	EC, PN, WO	GRPUB
AF	4501 W 24TH ST	6I098	08/12/2021	8:40 am	10	10	D	NEAH	PN	GRPUB
AF	9800 N RODNEY PARHAM RD	0F139	09/16/2021	11:45 am	30	90	D	NEAH	EN, PN, WO	GRPUB
AF	CHANGE CLEANING SCHEDULE TO	6D042	09/21/2021	10:20 am	30	30	RO	NEAH	PN, WO	GRPVT
AF	3915 W 26TH ST	7I154	09/22/2021	6:30 pm	30	60	G	NEAH	EC, PN, WO	GRPVT
AF	DOWNSTREAM IS PUMP STATION	-1B007	10/29/2021	9:30 am	30	30	E	NEAH	EC, PN	GRPUB
AF	DOWNSTREAM IS PUMP STATION	-1B007	11/01/2021	1:30 pm	30	30	E	NEAH	EC, PN, WO	GRPUB
AF	4213 W 25TH ST	7I130	11/08/2021	4:30 pm	5	5	G	NEAH	EC, PN, WO	GRPUB
AF	102 GREENCREST DR	3L038	12/15/2021	2:30 pm	30	30	D	NEAH	PN, WO	GRPVT
AF		8I093	12/20/2021	10:00 am	30	30	RO	NEAH	PN, WO	GRPUB

COUNT of MANHOLE OVERFLOWS: 26

COUNT of NON-CAPACITY OVERFLOWS: 33

ATTACHMENT N. 2021 Capacity Related Sanitary Sewer Overflows Summary Report and Map



**LITTLE ROCK WASTEWATER UTILITY
CAPACITY SANITARY SEWER OVERFLOW REPORT
1/1/2021 - 12/31/2021**

**CODE DESCRIPTIONS
NPDES PERMIT**

FC - Founce Creek Treatment Plant
NPDES Permit No. AR0040177

AF - Adams Field Treatment Plant
NPDES Permit No. AR0021806

LM - Little Maumelle Treatment Plant
NPDES Permit No. AR0050849

CAUSE(S) OF SSO

R - Rainfall

OBSERVED ENVIRONMENTAL IMPACT

NEAH - No Evidence of Adverse Health or Environmental Impacts

OEHC - Observed or Evidence of Human Contact

EFK - Evidence of Fish Kill

ACTION(S) TAKEN

WO - Work Order

EC - Environmental Cleanup

HC - Hydro Cleaned

HR - Hand Rodded

EN - Reporting to Engineering

PN - Public Notification

ULTIMATE DISCHARGE LOC.

CR - Creek/Stream/River

DI - Ditch

DK - Drop Inlet

GR - Ground Surface

PA - Paved Area

CB - Contained in Building

GR/CB - Building and Ground

NPDES PERMIT	LOCATION	MANHOLE NO.	DATE OF SSO	TIME OF SSO	ESTIMATED DURATION, MIN	ESTIMATED VOLUME, GAL	CAUSE OF SSO	OBSERVED ENVIRON. IMPACT	ACTION(S) TAKEN AT ADDRESS SSO	ULTIMATE DISCHARGE LOCATION
FC	6100 MURRAY ST	8O001	01/25/2021	12:00 pm	10	100	R	NEAH	EN, PN, WO	GRPUB
AF	Rebsamen Park rd	6C004	01/25/2021	12:00 pm	10	50	R	NEAH	EC, EN, PN	GRPUB
AF	Rebsamen Park	4B003	02/28/2021	4:00 pm	5	50	R	NEAH	EN, PN	GRPUB
AF		1B012	02/28/2021	6:00 pm	10	200	R	NEAH	EN, PN	CR
FC		2P013	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPUB
AF		5L052	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPUB
AF		6L011	02/28/2021	6:00 pm	25	500	R	NEAH	EN, PN	GRPVT
FC	16 ROSEMOOR CT	6N008	02/28/2021	6:00 pm	30	300	R	NEAH	EN, PN	GRPVT
AF	1701 REBSAMEN PARK RD	8E047	02/28/2021	6:00 pm	60	180	R	NEAH	EN, PN, WO	GRPUB
AF	322 S VALENTINE ST	8G020	02/28/2021	6:00 pm	20	100	R	NEAH	EN, PN	GRPUB
FC	37 ELMHURST DR	6N006	02/28/2021	6:00 pm	30	30	R	NEAH	EN, PN, WO	GRPVT
AF	5207 WESTERN HILLS AVE	3N005	02/28/2021	6:00 pm	25	500	R		EN, PN	CR
FC	5207 WESTERN HILLS AVE	4N013	02/28/2021	6:00 pm	30	300	R		EN, PN	CR
AF	5207 WESTERN HILLS AVE	4N089	02/28/2021	6:00 pm	30	300	R		EN, PN	CR
FC	6100 MURRAY ST	8O001	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPVT
FC	7500 W 65TH ST	2O007	02/28/2021	6:00 pm	30	600	R		EN, PN	CR
AF	7500 W 65TH ST	2O025	02/28/2021	6:00 pm	30	300	R		EN, PN	CR
FC	7909 MCDANIEL DR	2Q020	02/28/2021	6:00 pm	10	100	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q021	02/28/2021	6:00 pm	20	200	R	NEAH	PN	GRPVT
FC	9401 INTERSTATE 30	2R026	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPVT
FC	BACK WATER FLOW VALVE	6N016	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPVT
AF	coleman creek	5L051	02/28/2021	6:00 pm	20	200	R	NEAH	EN, PN	GRPUB
AF	coleman creek	5L093	02/28/2021	6:00 pm	20	1,000	R	NEAH	EN, PN	GRPUB
FC	EQ basin	7N016	02/28/2021	6:00 pm	60	30,000	R	NEAH	EN, PN	GRPVT

**LITTLE ROCK WASTEWATER UTILITY
CAPACITY SANITARY SEWER OVERFLOW REPORT
1/1/2021 - 12/31/2021**

**CODE DESCRIPTIONS
NPDES PERMIT**

FC - Fourche Creek Treatment Plant
NPDES Permit No. AR0040177

AF - Adams Field Treatment Plant
NPDES Permit No. AR0021806

LM - Little Maumelle Treatment Plant
NPDES Permit No. AR0050849

CAUSE(S) OF SSO

OBSERVED ENVIRONMENTAL IMPACT

ACTION(S) TAKEN

ULTIMATE DISCHARGE LOC.

R - Rainfall

NEAH - No Evidence of Adverse Health or Environmental Impacts

OEHC - Observed or Evidence of Human Contact

EFK - Evidence of Fish Kill

WO - Work Order

EC - Environmental Cleanup

HC - Hydro Cleaned

HR - Hand Rodded

EN - Reporting to Engineering

PN - Public Notification

CR - Creek/Stream/River

DI - Ditch

DR - Drop Inlet

GR - Ground Surface

PA - Paved Area

CB - Contained in Building

GR/CB - Building and Ground

NPDES PERMIT	LOCATION	MANHOLE NO.	DATE OF SSO	TIME OF SSO	ESTIMATED DURATION, MIN	ESTIMATED VOLUME, GAL	CAUSE OF SSO	OBSERVED ENVIRON. IMPACT	ACTION(S) TAKEN TO ADDRESS SSO	ULTIMATE DISCHARGE LOCATION
AF	Fourche Creek	3N004	02/28/2021	6:00 pm	30	600	R		EN, PN	CR
AF	Kanis Park	2H019	02/28/2021	6:00 pm	10	250	R	NEAH	EN, PN	GRPUB
AF	LINE TIES INTO 24" LINE BELOW	8E048	02/28/2021	6:00 pm	60	130	R	NEAH	EN, PN, WO	GRPUB
AF	OPEN CHANNEL FLOWMONITOR IN	16H003	02/28/2021	6:00 pm	50	500	R	NEAH	EN, PN	GRPVT
AF	rebsamen park	5C007	02/28/2021	6:00 pm	10	200	R	NEAH	EN, PN	GRPUB
AF	Rebsamen Park	4B005	02/28/2021	6:00 pm	10	200	R	NEAH	EN, PN	GRPUB
AF	1420 REBSAMEN PARK RD	8E114	03/17/2021	11:00 am	30	300	R	NEAH	EN, PN	GRPUB
FC	16 ROSEMOOR CT	6N008	03/17/2021	11:00 am	30	300	R	NEAH	EN, PN	GRPVT
AF	201 GILL ST	10G191	03/17/2021	11:00 am	30	300	R	NEAH	EN, PN	GRPUB
AF	322 S VALENTINE ST	8G020	03/17/2021	11:00 am	60	60	R	NEAH	EN, PN	GRPUB
FC	37 ELMHURST DR	6N006	03/17/2021	11:00 am	10	50	R	NEAH	EN, PN	GRPVT
AF	3807 FOXCROFT RD	1B012	03/17/2021	11:00 am	60	600	R		EN, PN	CR
AF	3807 FOXCROFT RD	2B068	03/17/2021	11:00 am	60	600	R	NEAH	EN, PN	GRPUB
FC	6100 MURRAY ST	8O001	03/17/2021	11:00 am	20	400	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q020	03/17/2021	11:00 am	20	100	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q021	03/17/2021	11:00 am	30	300	R	NEAH	EN, PN	GRPVT
FC	9401 INTERSTATE 30	2R026	03/17/2021	11:00 am	20	200	R	NEAH	EN, PN	GRPUB
FC	BACK WATER FLOW VALVE	6N016	03/17/2021	11:00 am	20	100	R	NEAH	EN, PN	GRPVT
AF	Kanis Park	2H074	03/17/2021	11:00 am	60	600	R	NEAH	EN, PN	GRPUB
AF	Rebsamen Park	4B005	03/17/2021	11:00 am	60	1,200	R	NEAH	EN, PN	GRPUB
AF	Rebsamen Park	5C007	03/17/2021	11:00 am	60	600	R	NEAH	EN, PN	GRPUB
FC	7909 MCDANIEL DR	2Q021	03/23/2021	4:00 am	20	200	R	NEAH	EN, PN	GRPVT
FC	7711 DISTRIBUTION DR	2R026	03/25/2021	8:00 am	30	150	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q021	03/25/2021	8:00 am	30	300	R	NEAH	EN, PN	GRPVT

**LITTLE ROCK WASTEWATER UTILITY
CAPACITY SANITARY SEWER OVERFLOW REPORT
1/1/2021 - 12/31/2021**

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NPDES PERMIT	LOCATION	MANHOLE NO.	DATE OF SSO	TIME OF SSO	ESTIMATED DURATION, MIN	ESTIMATED VOLUME, GAL	CAUSE OF SSO	OBSERVED ENVIRON. IMPACT	ACTION(S) TAKEN TO ADDRESS SSO	ULTIMATE DISCHARGE LOCATION
FC	BACK WATER FLOW VALVE	6N016	03/25/2021	8:00 am	30	90	R	NEAH	EN, PN	GRPVT
AF	Hindman Park	2O025	03/25/2021	8:00 am	30	300	R	NEAH	EN, PN	GRPVT
AF	Kanis Park	2H019	03/25/2021	8:00 am	10	20	R	NEAH	EN, PN	GRPUB
AF	Kanis Park	2H074	03/25/2021	8:00 am	10	10	R	NEAH	EN, PN	GRPUB
FC	6100 MURRAY ST	8O001	04/24/2021	1:00 am	20	100	R	NEAH	EN, PN, WO	GRPVT
FC	7909 MCDANIEL DR	2Q020	04/24/2021	1:00 am	20	100	R	NEAH	EN, PN, WO	GRPVT
FC	7909 MCDANIEL DR	2Q021	04/24/2021	1:00 am	30	300	R	NEAH	EN, PN, WO	GRPVT
FC	9401 INTERSTATE 30	2R026	04/24/2021	1:00 am	30	300	R	NEAH	EN, PN, WO	GRPUB
AF		2H074	05/18/2021	12:30 pm	120	120	R	NEAH	EN, PN	GRPUB
FC		2P025	05/18/2021	12:30 pm	30	300	R	NEAH	EN, PN	GRPUB
FC	7909 MCDANIEL DR	2Q021	05/18/2021	12:30 pm	30	600	R	NEAH	EN, PN	GRPUB
AF	Kanis Park	2H019	05/18/2021	12:30 pm	15	45	R	NEAH	EN, PN	GRPUB
AF	3807 FOXCROFT RD	1B012	06/08/2021	9:00 am	5	5	R	NEAH	EN, PN	GRPUB
AF	5512 TULLEY CV	-8-A015	06/08/2021	9:00 am	5	5	R	NEAH	EN, PN	GRPVT
FC	6100 MURRAY ST	8O001	06/08/2021	9:00 am	60	300	R	NEAH	EN, PN	GRPVT
FC	7711 DISTRIBUTION DR	2R026	06/08/2021	9:00 am	50	250	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q020	06/08/2021	9:00 am	30	150	R	NEAH	EN, PN	GRPVT
FC	7909 MCDANIEL DR	2Q021	06/08/2021	9:00 am	45	450	R	NEAH	EN, PN	GRPVT
FC	BACK WATER FLOW VALVE	6N016	06/08/2021	9:00 am	30	90	R	NEAH	EN, PN	GRPVT
AF	OPEN CHANNEL FLOWMONITOR DN	16H003	06/08/2021	9:00 am	60	1,200	R	NEAH	EN, PN	GRPUB
FC	6100 MURRAY ST	8O001	08/15/2021	1:30 am	20	100	R	NEAH	EN, PN	GRPUB
AF	322 S VALENTINE ST	8G020	10/02/2021	11:30 pm	60	60	R	NEAH	EN, PN, WO	GRPUB
FC	6100 MURRAY ST	8O001	12/18/2021	4:30 am	5	5	R	NEAH	EN, PN	GRPUB

COUNT of CAPACITY OVERFLOWS: 71

