



MENA WATER UTILITIES

701 MENA STREET ~ MENA, ARKANSAS ~ 71953
PH (479) 394-2761 ~ FAX (479) 394-5053

Gina Porter
ADEQ
5301 Northshore Dr.
N Little Rock, AR 72118

RE: Letter dated May 12, 2016 NPDES Permit Number AR0036692 AFIN 57-00423

Ms. Porter, in response to your letter dated 5/12/16 and phone conference call 8/4/16 in regards to Sanitary Sewer Overflows in the City of Mena we engaged RJN Group to help us craft a Corrective Action Plan. The Corrective Action Plan is included with this letter. We hope that it sufficiently addresses ADEQ's concerns.

Sincerely,

Charles Pitman
General Manager

CC: George McKee, Mayor, City of Mena

October 31, 2016

Mr. Charles Pitman
General Manager
Mena Water Utilities
701 Mena Street
Mena, Arkansas 71953

RE: Response to ADEQ Letter
NPDES Permit Number AR0036692 AFIN 57-00423

Mr. Pitman,

The City of Mena has contracted with RJN Group, Inc. to assist the City with preparing a Corrective Action Plan (CAP) in response to the letter dated May 12, 2016 from the Arkansas Department of Environmental Quality (ADEQ) in response to overflows reported during the period from May 1, 2013 through April 30, 2016. The CAP should detail the measures that are being taken to reduce Sanitary Sewer Overflows (SSOs). This letter summarizes the efforts taken to reduce SSOs in the collection system to date and recommendations moving forward.

History of Documented Overflows – May 1, 2013 to April 30, 2016

RJN Group, Inc. downloaded overflow data from the online ADEQ Sanitary Sewer Overflow Reported Incident Database. For the period from May 1, 2013 through April 30, 2016, seventy-seven (77) overflows were reported and are shown in Figure 1.

Of the 77 overflows reported, 72 overflows occurred during periods of significant wet-weather. Please refer to Table 1 for a summary of rainfall for the period from May 1, 2013 through April 30, 2016. Please note that recorded rainfall was well above average in years 2013 and 2015, 78.50" and 90.12" respectively. Average annual rainfall for Mena, Arkansas is approximately 59.19" as reported by the National Oceanic and Atmospheric Administration (NOAA).

The 5 overflows that occurred during periods of dry-weather could be attributed to stoppages caused by roots, grease, other issues within the sewer line, and/or pump station mechanical or electrical failure. Overflows during dry-weather are typically isolated events. The cause of the SSO can be investigated using CCTV equipment after the blockage has been removed. The sewer line may be hydro-cleaned to remove grease, roots may need to be removed by root cutting, and in the instance of pipe failure, a point repair may need to be performed.

Excluding significant wet-weather events, the City of Mena collection system performs well with only a handful of dry-weather overflow occurring annually. 6 of the past 10 years have reported 10 or fewer total SSOs for the year. Please refer to Table 2 for a summary of SSOs by year.

Figure 1

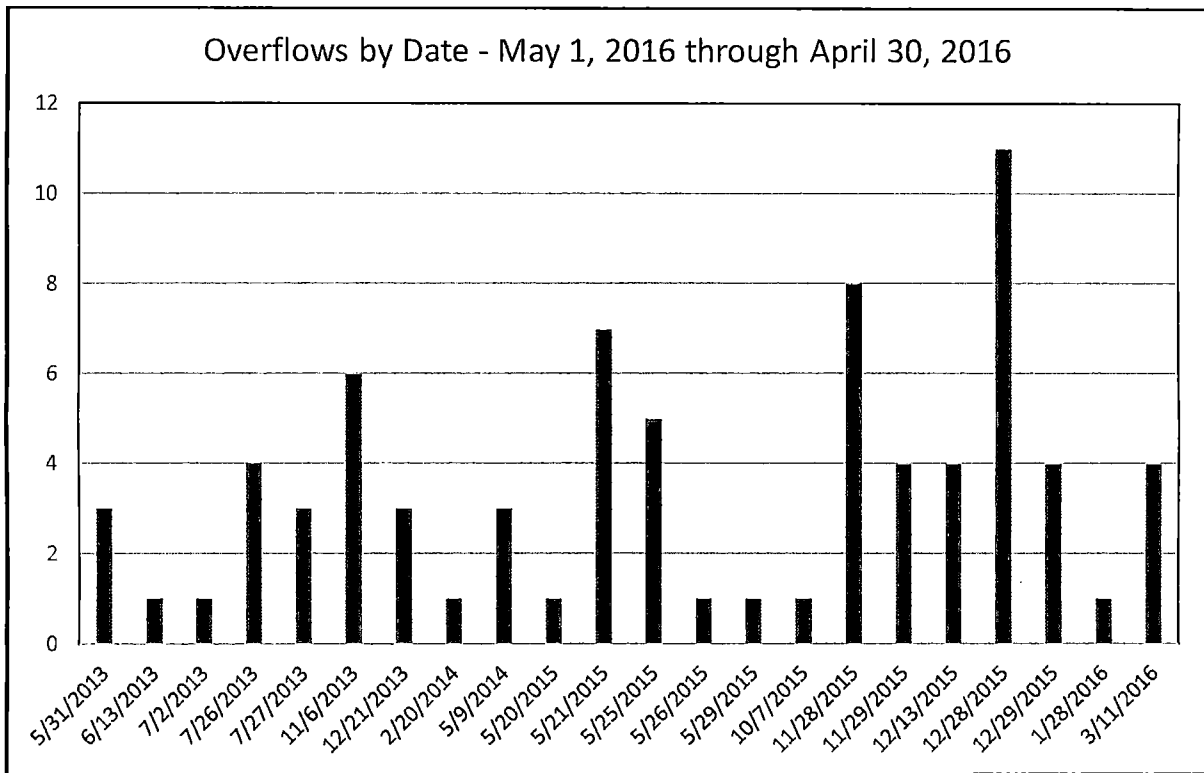
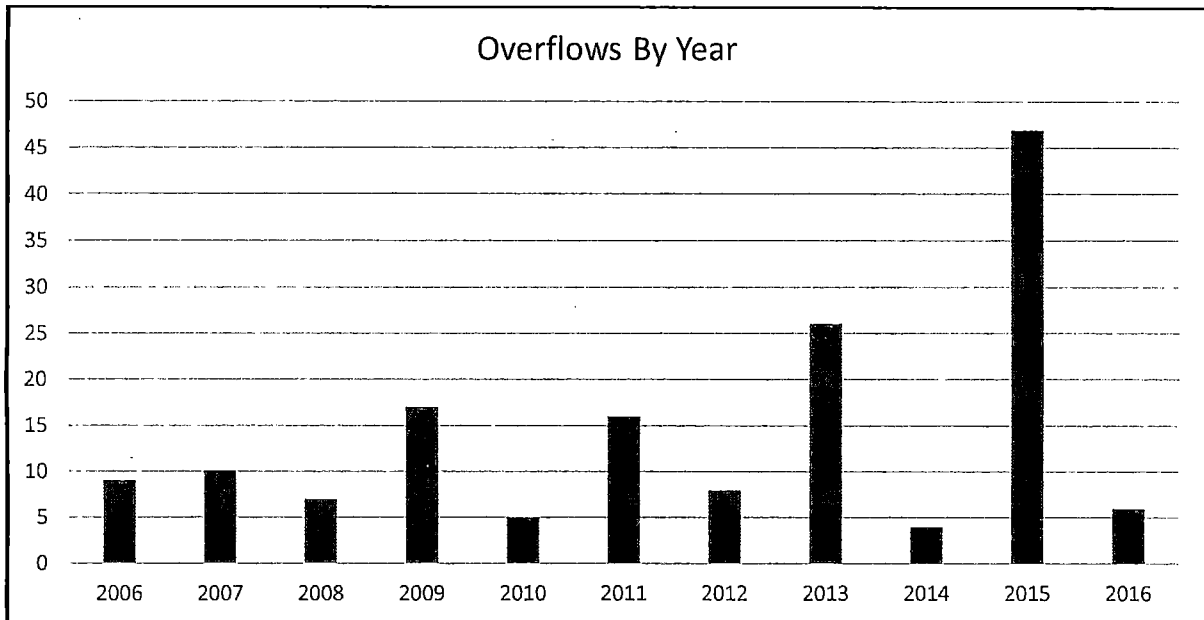


Table 1

Rainfall	
Period	Amount (inches)
1/1/13 - 4/30/13	22.35
5/1/13 - 12/31/13	56.15
1/1/14 - 12/31/14	67.02
1/1/15 - 12/31/15	90.12
1/1/16 - 4/30/16	22.42

Figure 2



CORRECTIVE ACTIONS

Capital Cost to Reduce SSOs

The City of Mena passed a sales tax in 2007 to appropriate funds for the wastewater collection system, approximately \$300,000 per year. Beginning in January 2008, the City has spent funds specifically to address deficiencies within the sewage collection system. Please refer to Table 2 for a summary of capital expenditures. A comprehensive list of expenditures is attached as Appendix 1.

Table 2

Capital Expenditures	
Description	Expenditures
Sewer Vac Truck, CCTV Equipment, Smoke Blower	\$290,100
SSES Report	\$8,520
Expenditures between January 2008 and October 2016	\$977,512
13,741 feet of sewer line replaced	
108 manholes repaired or replaced	
40 customer services repaired or replaced	
Cost of materials to correct other sewer related deficiencies	<u>\$4,906</u>
Summary to date	\$1,281,038

Sanitary Sewer Evaluation Survey

The City of Mena procured the services of CLB Engineers, Inc. to prepare a Sanitary Sewer Evaluation Survey (SSES) that was completed in May 2012. A copy of the report has previously been submitted to the ADEQ. The SSES identified sources of inflow and infiltration (I/I) of stormwater into the collection system during rain events.

Inflow is defined as the water discharged into a sewer system and service connections from such sources as roof leaders; yard, and area drains; foundation drains; manhole covers; cross connections from storm sewers, catch basins; and storm water runoff. Inflow is typically a direct response to wet weather events.

Infiltration is defined as the water entering a sewer system and service connections from the ground through such means as, but not limited to, defective pipes, pipe joints, service connections, service laterals, or manhole walls and pipe seals. Infiltration is typically a delayed response to wet weather events but can also include permanent infiltration from sources such as springs, creeks, swampy areas, and proximity to water system leaks.

Future Recommendations

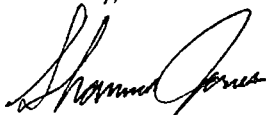
The City of Mena continues to make strides in reducing SSO occurrence, frequency, and volume. Utilizing the data provided in the SSES, the City of Mena has been performing ongoing manhole rehabilitation and/or replacement, sewer line repairs, and customer service line repairs.

The City of Mena will need to go through the May 2012 SSES Report and track which items have been corrected, and which items still need to be addressed. This will be used as the guidance document for future work. It is recommended that a "master document" be kept that will be marked up and split into "completed" and "still need to do" documents.

RJN Group can assist with identifying and prioritizing a list of future work items based on the May 2012 SSES Report. For each identified defect, an estimate of cost to repair the defect is compared to the estimated amount of I/I reduced (\$/gallon). Making low cost repairs that have the highest return on investment to reduce inflow and infiltration will be given the highest priority.

One of the larger projects was a sewer line replacement along Weiss and Oak Grove. The project consisted of approximately 2,581 feet of sewer line and approximately 38 manholes. The improvement project is immediately upstream of the intersection of Averitt and Weiss which is located in a low lying area that is subject to collection system surcharging. The project has reduced the amount of surcharging in the immediate area. The City of Mena will continue to work downstream of this area and correct defects identified in the SSES Report. This top-down approach will provide the most effective means to mitigate SSOs in the area.

Sincerely,



Shannon Jones, P.E.
Project Manager

Enclosures: Appendix 1: List of Capital Expenditures

Appendix 1 - List of Expenditures

Cost Center	Date	Amount	Description of Work	Pipe Ft.	MH
1	1/10/2008	\$ 1,266.45	Repair and replace sewer line at Oak & 3rd Streets	395	
1	3/11/2008	\$ 1,039.07	Replace sewer line on Wimberly Street	360	
1	9/8/2008	\$ 11,513.64	Replace sewer line on Martin Street	580	
1	10/8/2008	\$ 755.31	Repair sewer line at Dallas Ave & Pine Street	36	
1	11/14/2008	\$ 4,161.75	Repair sewer line in alley between 9th & 10th Streets	640	
1	11/15/2008	\$ 462.84	Repair sewer line at Lum and Cherry Streets	98	
1	11/30/2008	\$ 2,295.25	Repair sewer line at Port Arthur & Maple Streets	260	
1	1/23/2009	\$ 352.44	Replace and repair sewer line at Gilham & DeQueen Streets	30	
1	2/18/2009	\$ 203.12	Replace sewer line behind Ace Hardware	60	
1	2/19/2009	\$ 180.94	Replace sewer line at 2004 Missouri Ave	40	
1	2/20/2009	\$ 86.19	Replace sewer line at 2109 Missouri Ave		
1	4/1/2009	\$ 16,789.68	Repair and replace sewer line on Gilham & Oak Streets	1156	
1	10/31/2009	\$ 2,951.74	Repair sewer line in alley between Gilham & Martin Streets	430	
1	6/15/2011	\$ 196,897.16	Replace sewer main in alleys behind Mena and DeQueen st	1900	8
1	2/24/2012	\$ 625.00	Replaced sewer main and service 407 Holly	16	
1	2/29/2012	\$ 16,567.66	Replaced sewer main between Elm & Sherwood	370	
1	5/24/2012	\$ 492.14	Repaired sewer main between Bethesda & Mena	2	
1	8/23/2012	\$ 1,442.24	Repaired sewer main by ball field at school	6	
1	10/10/2012	\$ 918.30	Replaced sewer main by ball field at school	28	
1	10/18/2012	\$ 1,392.72	Repaired sewer line between MH 1097 & 1098		
1	11/9/2012	\$ 1,630.94	Replaced sewer main on Sherwood to 4th	22	
1	2/25/2013	\$ 1,533.35	Repaired sewer main on Sherwood	24	
1	3/20/2013	\$ 12,030.82	Repaired sewer main in alley between Gilliam & Oak	362	
1	3/27/2013	\$ 1,533.35	Replaced sewer main 311 S Eve	25	
1	5/14/2013	\$ 800.00	Replaced sewer main and service 1308 Hickory	48	
1	7/1/2013	\$ 198,489.92	Replace sewer main around LD School	2062	9
1	7/8/2013	\$ 2,074.30	Repaired sewer main 407 1st st	14	
1	12/2/2013	\$ 6,341.55	Replace sewer main	300	
1	2/20/2014	\$ 250.00	Repair Sewer Main RMCC	0	
1	1/31/2014	\$ 1,596.25	Repair Sewer Main Mid South Lift Station	10	

Appendix 1 - List of Expenditures

Cost Center	Date	Amount	Description of Work	Pipe Ft.	MH
1	5/8/2014	\$ 1,765.00	Repair Sewer Main	0	
1	8/12/2014	\$ 2,074.30	Repair Sewer Main	14	
1	8/26/2014	\$ 138.87	Repair Sewer Main Glenaire	0	
1	9/15/2014	\$ 10,859.88	Replace 10" Sewer Main	270	
1	12/31/2014	\$ 295,301.32	Replace sewer main Oak Grove and Weiss	2581	38
1	3/25/2015	\$ 872.25	Repair Sewer Main 10th & Serwood	5	
1	4/2/2015	\$ 34,614.63	Replace Sewer Main and Service 209 Sherwood Ave	510	
1	5/1/2015	\$ 1,481.37	Repair Sewer Main Sherwood & 4th St.	19	
1	10/8/2015	\$ 364.00	Repair Sewer Main Sewer Plant	0	
1	12/10/2015	\$ 3,568.90	Replace Sewer Main 12th & Church St	60	
1	12/11/2015	\$ 660.40	Repair Sewer Main 1206 Church St	10	
1	11/4/2016	\$ 440.00	Repair Sewer Main Sewer Plant	0	\$ 838,815.04
2	2/9/2012	\$ 600.00	Replaced sewer service 601 11th	10	
2	2/9/2012	\$ 600.00	Replaced sewer service 1004 10th	10	
2	2/22/2012	\$ 600.00	Replaced sewer service 1405 Wildwood	10	
2	2/24/2012	\$ 600.00	Replaced sewer service 708 Holly	6	
2	6/26/2012	\$ 492.14	Replaced sewer service 700 Dewey	12	
2	9/12/2012	\$ 535.86	Replaced sewer service 701 12th	40	
2	11/6/2012	\$ 600.00	Replaced sewer service at 911 Pine	14	
2	11/28/2012	\$ 1,630.94	Replaced sewer service for LaVilla	5	
2	12/11/2012	\$ 702.88	Replaced sewer service at 1800 Missouri	14	
2	3/19/2013	\$ 600.00	Repaired sewer service on Janssen	5	
2	3/27/2013	\$ 600.00	Replaced sewer service 1302 Oak Grove	2	
2	4/19/2013	\$ 1,067.07	Replaced sewer service 100 Polk St	20	
2	5/3/2013	\$ 600.00	Replaced sewer service 1300 Texas St	30	
2	8/13/2013	\$ 600.00	Replaced sewer service 706 10th	70	
2	12/5/2013	\$ 708.76	Replace Sewer Service 2602 Ozark St	4	
2	12/26/2013	\$ 709.74	Replace Sewer Service 1200 Teaxas St	0	
2	2/10/2014	\$ 3,236.52	Replace Sewer Service 1003 Hope Circle	105	

Appendix 1 - List of Expenditures

Cost Center	Date	Amount	Description of Work	Pipe Ft.	MH
2	3/13/2014	\$ 524.78	Repair Sewer Service 1107 Reine St	0	
2	4/16/2014	\$ 529.41	Replaced Sewer Service Gilden St	20	
2	4/28/2014	\$ 709.04	Repair Sewer Service 1505 Reeves St	14	
2	5/15/2014	\$ 1,392.72	Replace Sewer Service Polk 77	30	
2	6/2/2014	\$ 1,192.27	Replace Sewer Service 1011 7th St	40	
2	6/26/2014	\$ 784.00	Replace Sewer Service 713 Meadoebrook	30	
2	6/27/2014	\$ 104.00	Repair Sewer Service Port Arthur	3	
2	7/8/2014	\$ 702.88	Replace Sewer Service 300 11th St	14	
2	10/21/2014	\$ 131.29	Repair Sewer Service 1103 Magnolia	0	
2	10/21/2014	\$ 88.50	Repair Sewer Service 12th ST & Reeves	10	
2	11/18/2014	\$ 1,216.29	Repair Sewer Service Mena St Allbaugh	30	
2	1/29/2015	\$ 18.63	Repair Sewer Service 1907 Church	4	
2	3/17/2015	\$ 433.11	Replace Sewer Service 1700 Hidden Valley	1	
2	6/5/2015	\$ 903.11	Replace Sewer Service 1308 Cole St	20	
2	6/24/2015	\$ 626.19	Replace Sewer Service 2300 HWY 71 S	17	
2	9/15/2015	\$ 341.18	Repair Sewer Service 100 Magnolia	8	
2	9/24/2015	\$ 903.24	Replace Sewer Service 608 Forest Ave	6	
2	11/20/2015	\$ 710.68	Repair Sewer Service Tyler & Church	28	
2	12/11/2015	\$ 1,166.99	Replace Sewer Service 2250 Hwy 375 W	40	
2	5/6/2016	\$ 286.25	Repair Sewer Service 1006 Reeves St	10	
2	5/12/2016	\$ 229.39	Repair Sewer Service 401 Petros	0	
2	8/18/2016	\$ 746.65	Repair Sewer Service West Boundary	14	
2	9/15/2016	\$ 210.00	Repair Sewer Service Martin St	32	\$ 28,434.51
3	6/13/2008	\$ 343.19	Replace manhole at Oak & 4th Streets		1
3	7/28/2010	\$ 4,950.00	Manhole rehab		3
3	8/18/2010	\$ 15,247.23	Manhole rehab		6
3	8/27/2010	\$ 12,549.04	Manhole rehab		6
3	9/10/2010	\$ 7,385.00	Manhole rehab		4
3	9/30/2010	\$ 14,806.80	Manhole rehab		8

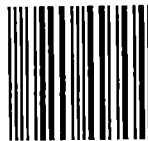
Appendix 1 - List of Expenditures

Cost Center	Date	Amount	Description of Work	Pipe Ft.	MH	
3	10/13/2010	\$ 25,049.00	Manhole rehab		11	
3	11/22/2010	\$ 12,622.00	Manhole rehab		6	
3	12/6/2010	\$ 5,695.00	Manhole rehab		3	
3	1/21/2011	\$ 11,615.00	Manhole rehab		5	\$ 110,262.26
4	7/2/2008	\$ 234,000.00	Purchased sewer vac truck			
4	5/9/2009	\$ 54,100.00	Purchased sewer camera			
4	5/7/2010	\$ 2,000.00	Purchased sewer smoke machine			\$ 290,100.00
5	4/5/2012	\$ 150.00	Replaced 6 customer service pop-off			
5	4/7/2012	\$ 1,200.00	Raised 4 manholes along Prairie Creek			
5	4/9/2012	\$ 200.00	Replaced 8 customer service pop-off			
5	5/11/2012	\$ 300.00	Raised manhole 506 Profitt Circle			
5	9/14/2012	\$ 1,225.00	Repaired and replaced 7 manhole ring and lids			
5	9/20/2012	\$ 300.00	Raised manhole behind ballfield at school			
5	10/18/2012	\$ 100.00	Replaced 4 customer service pop-off			
5	2/27/2014	\$ 250.00	Repair Manhole RMCC	0		
5	10/31/2014	\$ 62.00	Manhole Risers Petros 2"	0		
5	4/14/2015	\$ 220.00	Manhole Repair Center St.	0		
5	7/9/2015	\$ 133.47	Fix Manhole Vivian & Abner St	0		
5	10/13/2015	\$ 766.00	Raise Manholes All Over Town	0		\$ 4,906.47
6		\$ 8,520.00	SSES Report			\$ 8,520.00
Totals		\$ 1,281,038.28		13,471	108	\$ 1,281,038.28

City of Mena Water Utilities
701 Mena St
Mena, AR 71953



1005



72118

U.S. POSTAGE
PAID
MENA, AR
71953
NOV 01, 16
AMOUNT

\$2.62

R2304M113545-7

ADEQ
Attn: Gina Porter
5301 Northshore Dr.
N Little Rock, AR 72118-5317

USPS TRACKING NUMBER

