

January 19, 2022

Leslie Allen-Daniel, Enforcement Coordinator
Office of Water Quality / Enforcement Section
Division of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

RE: NPDES Permit No. AR0036498, AFIN 63-00063
CAO LIS 11-069 / SSES Review

Dear Ms. Allen-Daniel,

This letter comprises the Benton Utilities Wastewater Conveyance system 2021 annual report , and affirm our efforts to satisfy the demands of the Consent Administrative Order issued in 2011. 2021 again like 2020 has come with many challenges with the wide spread of Covid-19 and its effects on our department, contractors that we use and part suppliers. I am grateful to report that even with the challenges with Covid-19 we have had a very productive year in our efforts to reduce sanitary sewer overflows as well as infiltration and inflow issues. Overall, we have had a productive year in an increasingly rapid growing city with expanding infrastructure and capacity demands. With the help and support from our General Manager, Mr. David Vondran, P.E. and Benton Public Utility Commission we have been able to rehab many lift stations that have been a problem, replacing many pumps in our system, upgrading many lift stations, repair and stabilize creek crossings, we have also hit some of the bad areas with pipe bursting to reduce sewer stoppages and overflows. We have had numerous subdivisions, commercial buildings, retail complexes, and other significant development all come online. Consequently, this growth has challenged our resources, but we still feel we are on our way of completing the demands of the C.A.O. before the 2023 deadline.

In keeping with the objectives outlined in the Sewer System Evaluation Study (SSES), we continue to place special emphasis on the significant reduction of sanitary sewer overflows as well as inflow and infiltration issues throughout the system. We have pursued these objectives by (1) gravity line repairs and replacement, (2) manhole rehabilitation, repairs and replacement, (3) addition of equipment, (4) upgrades and rehabilitation of lift stations, (5) proactive and preventative maintenance, and (6) strategic planning.

Some highlights of the year have been significant in helping grow our sewer infrastructure while repairing problems that cause overflows in our system. We have done a total rehab on 6 lift stations and replaced over 17 lift stations pumps. We are continuing to make significant changes with SCADA system. We had added more Flygt Multismart pump station manager to let us use remote control programming, pump reversal to remove blockages automatically, pump efficiency to ensure intelligent maintenance and capital improvements at our major lift stations. We are continuing to change out our PumpAlarm notification system to a better monitoring system of HighTide at our smaller stations. We have installed 7 more High Tide units and 4 more Flygt Multismart units.

The following chart represents statistical data of the sewer system.

Benton Wastewater Conveyance Statistical Data-2021													
JOB DATA:	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
Generators check	18	18	18	18	18	18	18	18	18	18	18	18	216
CAO GRAVITY REPAIR-PIPE BURST	0	0	1229'	0	1626	0	0	0	301'	624'	255	0	4035
Manhole SSES/CAO- work/inspect.	1	0	0	0	0	19	27	54	45	30	6	4	186
M.H -Lined/Patched/Repair/cleaned	1	1	4	2	0	2	3	0	3	0	7	10	33
NO. OF I/S FAILURES or work done	28	12	27	11	28	17	12	25	32	17	18	30	257
NO. OF LIFTSTATIONS OVERFLOW	0	1	0	0	0	0	0	0	1	0	0	0	2
NO. OF LIFT STATIONS CLEANED	16	8	26	20	22	14	13	13	13	18	4	14	181
Survey sewer mains/ manholes	1	1	4	2	0	5	5	10	3	30	9	4	74
No. Sewer Main overflow	0	0	0	0	0	0	0	0	0	0	0	0	0
NO. OF MANHOLES OVERFLOW	0	4	0	1	1	1	1	0	0	1	0	0	9
AIR RELIEF /Force main- Overflow	0	0	0	0	0	1	1	0	0	0	0	0	2
Call out not sewer-storm water issue	1	3	0	1	0	0	0	0	0	0	0	0	5
NO. Line blockage call (not ours)	4	6	8	8	8	11	5	3	8	4	8	3	76
NO. OF SEWER LINES BLOCKAGE	4	6	4	5	4	4	3	2	3	4	3	4	46
NO. OF FT OF SEWER LINE CLEANED	4061'	9649'	3318'	4272'	4772'	2238'	4201'	4630'	2812'	6736'	2230'	2671'	56590'
NO. OF FT PIPE BURSTED	503'	919'	0	1544'	0	0	0	0	0	0	0	0	2966'
POINT REPAIR DUE TO BORING CO. or Contractor	1	1	0	2/7'	0	0	0	0	0	4	2	1/20'	11
SEWER POINT REPAIRS	1/12'	0	3/15'	1/20'	3/10'	1/5'	1/1'	1/10'	1/11'	5/17'	0	2	19/101'
Station/ Right of way/M.H-spray,cut	0	0	31	45	24	41	34	60	34	8	0	0	277
Right of Ways cleared cut	0	0	3	18	4	16	11	12	25	8	0	0	97
NO. Monthly Liftstations Inspected	364	363	402	365	307	327	366	300	404	305	303	359	4165'
NO. OF SEWER INSPECTIONS	36	27	35	51	40	27	43	57	38	42	43	36	475
NO. OF GREASE TRAPS INSPECTED	169	0	0	0	177	0	1	0	181	4	0	0	532
NO. OF FT OF SEWER LINE CAMERA	255'	1818'	673'	2330'	1715'	3024.9'	524.1'	421.8'	222.5'	1608'	556.5'	7159'	20307.8'
ASST. OTHER DEPT.	1	3	0	2	2	0	0	0	1	4	0	0	13

Summarily, the spreadsheet documents problems within the system, but also significant efforts that were made in preventative and proactive maintenance to curtail these issues. We have had 9 manhole sanitary sewer overflows (SSO's) were recorded in 2021 from 16 sanitary sewer overflows (SSO's) recorded in 2020, 2 air relief and force main overflows in 2021 due to contractor error. At the same time, some 56,590' linear feet (10.7 miles) of sewer main cleaned with our jet-vac. Pipe bursting (7,001 linear feet) done in areas plagued with inflow and infiltration (I & I) problems, and 19 sewer point repairs. Moreover, there was 20,307' linear feet of sewer line video inspected to identify line deficiencies and issues. There was a total of 219 manholes in which repairs and rehabilitation work were performed. There were 2 lift stations that had SSO's in 2021 and 257 lift station failures, but there were also 181 lift station cleanings (jet-vac) done with a total of 4,165 lift station inspections. In an effort to keep oil and grease out of the system and from entering the treatment plant, 532 inspections were performed on grease traps in 2021 from 324 in 2020.

These numbers demonstrate that real effort and resources that we expended in the war against system failures. We feel, both statistically and practically, that we have accomplished a huge task in satisfying the requirements of the C.A.O before the 2023 deadline. The following spreadsheet further illustrates this regarding manhole repairs that we have completed in 2021.

Benton Utilities Wastewater Conveyance Manhole Repair Record																					
Basin Number	Total No. Manholes	Surface Above Manhole								Priority Need for Repair					Repair Requirement						Total number of manholes still needing repair
		Unable to Access	Concrete Pave	Asphalt Pave	Sidewalk Pave	Gravel	Grass	Wood	None	1st	2nd	Low	No Access/Not able to perform inspection	Replace Manhole	Bench & Trough or Around Pipe	Remove Roots	Replace Cover	Raise Rim	Seal Rim or Extension	Cementitious Lining	
BASIN NO. 1	110	10	0	3	0	3	76	18	81	2	3	14	13	0	3	2	0	17	18	6	59
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 2	495	116	12	96	9	0	221	57	351	0	14	14	117	0	18	4	9	134	8	11	301
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 3	657	128	30	241	0	11	226	90	445	8	36	40	128	0	51	22	16	138	23	46	424
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 4	217	26	3	125	6	7	63	7	173	0	13	5	26	0	4	1	1	29	3	12	76
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 5	594	35	4	344	4	20	160	62	458	4	67	30	35	0	54	28	18	59	27	56	277
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 6	210	14	2	75	0	16	78	37	130	0	18	48	14	0	24	9	3	27	28	18	123
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 7	124	37	1	38	0	4	34	4	72	0	6	9	37	0	3	5	0	39	8	2	94
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 8	388	72	2	134	0	12	183	37	291	0	6	19	72	1	8	5	6	89	5	1	187
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 9	107	2	5	29	0	6	43	20	70	1	4	30	2	0	16	4	1	4	33	7	67
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 10	949	46	34	239	21	12	531	78	456	4	157	286	46	3	364	64	60	126	199	195	1057
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
BASIN NO. 11	540	5	26	54	94	15	337	12	409	1	8	117	5	1	50	5	3	47	86	4	201
Manhole Repairs Still Needed on CAO													0	0	0	0	0	0	0	0	0
Total number of repairs we started from on the CAO report:													495	2	444	116	79	574	316	340	1871
Total number of repairs left from all basins:													0	0	0	0	0	0	0	0	0
Total number of completed manhole repairs:													5	595	149	117	709	438	358	2371	

This chart above and below offers a summary of both significant progresses and hard work we have done to accomplish, complete and have repaired over 2,371 manholes in our system with 1,871 were reported in the section of the CAO. This was a continued effort directed towards locating and evaluating manholes that are under asphalt or inaccessible otherwise. Examination of these manholes revealed additional repairs that we have completed in our system. In turn, cost projections for labor and supplies for repairs can be made for budgetary planning. I am proud of the hard work our staff has done and great support from our General Manager, Mr. David Vondran, P.E. and Benton Public Utility Commission to help my department accomplish and complete the manhole repairs two years ahead of our 2023 deadline.

BENTON UTILITIES SS MANHOLE REPAIR RECORD SUMMARY																				Manhole finished repairs																											
Basin No.	Total No. Manholes	Unable to Access	Surface Above Manhole										Need for Repair					Repair Requirement							Manhole finished repairs																						
			Conc. Pave	Asph. Pave	Side walk	Grav.	Grass	Wood	None	1st	2nd	Low	No Access	Replace Manhole	Bench & Trough or Around Pipe	Remove Roots	Replace Cover	Raise Rim	Seal Rim or Extension	Cementious Lining	Manhole Replaced	Bench and Trough Repaired or Hole Sealed at Pipe	Roots Removed	Cover Replaced	Rim Raised	Extension or Rim Sealed	Lining Completed																				
BASIN NO. 1	110	10	0	3	0	3	76	18	81	2	3	14	13	0	3	2	0	15	18	6	0	3	2	0	17	18	6																				
BASIN NO. 2	495	116	12	96	9	0	221	57	351	0	14	14	117	0	14	4	6	115	7	9	0	18	4	9	134	8	11																				
BASIN NO. 3	657	128	30	241	0	11	226	90	445	8	36	40	128	0	40	22	10	106	19	33	0	51	22	16	138	23	46																				
BASIN NO. 4	217	26	3	125	6	7	63	7	173	0	13	5	26	0	3	1	1	27	3	11	0	4	1	1	29	3	12																				
BASIN NO. 5	594	35	4	344	4	20	160	62	458	4	67	30	35	0	49	17	18	45	2	56	0	54	28	18	59	27	56																				
BASIN NO. 6	210	14	2	75	0	16	78	37	130	0	18	48	14	0	22	5	3	24	26	16	0	24	9	3	27	28	18																				
BASIN NO. 7	124	37	1	38	0	4	34	4	72	0	6	9	37	0	2	4	0	36	8	2	0	3	5	0	39	8	2																				
BASIN NO. 8	388	72	2	134	0	12	183	37	291	0	6	19	72	0	8	4	4	79	4	1	1	8	5	6	89	5	1																				
BASIN NO. 9	107	2	5	29	0	6	43	20	70	1	4	30	2	0	15	4	1	4	18	7	0	16	4	1	4	33	7																				
BASIN NO. 10	949	46	34	239	21	12	531	78	456	4	157	286	46	1	256	48	34	76	140	195	3	364	64	60	126	199	195																				
BASIN NO. 11	540	5	26	54	94	15	337	12	409	1	8	117	5	1	32	5	2	47	71	4	1	50	5	3	47	86	4																				
Total Work Done on Manholes																																															
Totals	4,391	491	119	1,378	134	106	1,952	422	2,936	20	332	612	495	2	444	116	79	574	316	340	5	595	149	117	709	438	358																				
Total Manholes Inspected	3,900																																														
Total manhole repair Requirements																				1,871																											
																											Total number of manhole repair still left to do:							0													
																																		Total number of manhole repaired:							2,371						

There has also been significant manhole rehab that was done outside the scope of the C.A.O. For example, we have repaired over 7 more manholes this year with epoxy lining to ensure the gasses and H2S do not deteriorate the manholes and cause major issues. We have also changed out over 33 manhole rings and covers on one of the main roads through Benton. We are also continuing to implement in our specifications that any manholes that are constructed in the Benton Utilities infrastructure will require epoxy coating on the receiving manhole of any lift station installed.

A key component of line system improvement is pipe bursting. We have completed (7,001 linear feet) of pipe bursting done in 2021. Some of this work, however, was done in areas outside the scope of the C.A.O. For example, it became necessary to pipe burst and up size our sewer main where the line was collapsing, and I & I was rampant and continued to cause overflows in heavy rain events in the vicinity of Denise Dr. and Janet and another section on Rasburry and South St. We are still working in the area of I-30, Edgemoor Trl and Woodland Dr. This is a major project that half was completed this year and the other half will be completed next year. The scope of work is replacing a major trunk line from 10" and 12" to 15" and three creek crossings. We will be continuing our Pipe Burst on our C.A.O and have plans to finish the pipe burst section on the CAO in year 2022. We have 2,805 linear feet left on the C.A.O.

We have taken into our system on new residential development over 7,912 feet of new 8" sewer main. Total of 7,780 feet of force main, and two lift stations into our infrastructure in 2021.

(Page 5, 2021 SSES/CAO Report)

The following spreadsheet offers a snapshot of what has been accomplished to date and that which remains under the C.A.O.

BENTON UTILITIES SS GRAVITY MAIN REPAIR AND PIPE BURST RECORD (SU CORRECTED sewer lines needing to be pipe burst: 2021)																		
Basin No.	Pipe Defect/Repair Requirement										Repair Completed						Repairs Left	
	Storm Drain	Asph Pav	Side walk Pav	Grass	Line Sag/Grease	Separation joints/Roots	Objects through main	Replace Pipe size	Point Repair	Pipe Burst Length Ft	Line Sag/Grease	Separation joints/Roots	Objects through main	Replace Pipe size	Point Repair	Pipe Burst Length Ft	Feet left on CAO report:	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2	0	1	0	2	1	2	0	0	0	472	0	1	0	0	0	472	0	
3	0	6	0	10	2	13	0	0	0	6,017	0	5	0	0	0	4,474	1,543	
4	0	1	0	5	0	3	2	0	3	3,280	0	3	2	0	3	3,280	0	
5	2	11	0	12	16	19	4	0		6,776	2	3	1	0	0	6,776	0	
6	0	0	0	3	6	6	0	0	0	1,566	3	3	0	0	0	304	1,262	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	0	19	1	24	13	36	1	0	10	11,453	6	8	1	0	1	11,453	0	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	2	38	1	56	38	79	7	0	13	29,564	11	23	4	0	4	26,759		
																Total number of feet left to pipe burst:		2,805

Out of the total 25,807 linear feet of pipe bursting required under the original C.A.O. report and while inspecting our sewer infrastructure we have added 3,739 linear feet to our report for a total of 29,546 feet. 26,759 feet has been completed. This leaves 2,805 feet to be done. We will be completing the pipe bursting and repaired sewer main section of the C.A.O in 2022. We will continue to upgrade and repair our sewer infrastructure past 2022.

During the pipe burst and repair projects, we found many sections of gravity sewer mains that have been taking in creeks during heavy rain events. We have also performed point repairs on 4 ductile creek crossings this year and stabilized the bank and wash out on all 4 crossings, many lines on the creeks created major I&I into our system.

We have performed many point repairs this year that have been creating sewer stoppages and some had been creating manhole overflows. We have reduced the number of overflows from 2021 and will be working on reducing 2021's number in 2022.

(Page 6, 2021 SSES/CAO Report)

In conclusion, 2021 was a challenging year trying to juggle the C.A.O and our sewer infrastructure with the road blocks Covid-19 has brought again. But I believe we still had a very productive year with demonstrable progress in completing the manhole section in the CAO and meeting the demands of the Consent Administrative Order. The integrity of the system infrastructure was ensured and expanded. Inflow and infiltration have been noticeably reduced. We will continue to place emphasis again this year on the priority basins identified in the Sanitary Sewer Evaluation Study. It is both our goal and our duty to improve Benton's sanitary sewer collection system for public health, for diligent stewardship of the environment, and for the demands of the vibrant growth of this city.

Please feel free to contact me at 501-776-5955, or you may email me at nschultz@bentonutilities.com with any questions or comments you may have.

Sincerely,



Nathan Schultz,
Benton Utilities Wastewater Conveyance Manager

Cc: David Vondran, P.E., and General Manager of Benton Utilities
Doug Stracener, Chairman of the Benton Utilities Public Utilities Commission
Byron Hicks, P.E. and C.E.O. of McClelland Consulting Engineers, Inc.