

From: [McWilliams, Katherine](#)
To: [Deardoff, Amy](#)
Subject: FW: Cave Springs WWTP Subsurface Discharge Permit Modification; Permit No.: 4893-WR-3
Date: Monday, October 23, 2017 2:03:35 PM
Attachments: [Request for Sub-Surface Modification 4893-WR-3.pdf](#)

4893-WR-3
Public Comments

From: Barrett Knutson [mailto:bknutson@mce.us.com]
Sent: Friday, September 08, 2017 1:36 PM
To: McWilliams, Katherine
Subject: Cave Springs WWTP Subsurface Discharge Permit Modification; Permit No.: 4893-WR-3

Katherine,

Please see the attached PDF document. It is in regards to the Cave Springs Subsurface wastewater discharge permit 4893-WR-3. Give it a look over and see what you think; I would like to discuss this with you before we move towards talking to our superiors about how to proceed. I will be out of the office until Monday and I will give you a call then.

Thank you so much for all of your hard work and everything that you do.

Respectfully,

Barret R. Knutson, E.I.
Project Designer



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Katherine McWilliams
Arkansas Department of Environmental Quality
Office of Water Quality, Permitting Division
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: Request for Alteration of Sub-Surface Discharge Permit for Cave Springs WWTP;
Major Changes Needed for Permit No.: 4893-WR-3

Dear Katherine,

Based on a new strategic plan developed by McClelland Consulting Engineers and Cave Springs City officials during a Cave Springs city meeting, it was determined that wastewater treatment plant #1 (TP1) needs to be put back online for city wastewater treatment capacity needs of the city over the upcoming permitting cycle. This will require major modification to the existing permit draft, which is currently in the public comment period and has yet to be officially issued. Mr. Billy Tyler has been working to correct the issues that were preventing TP1 from being operated. My hope is that we can either redraft the existing permit draft or move straight into a permit modification. In addition to implementing TP1 into the upcoming permit, there are other critical issues with the current permit draft, which include the following:

- 43 treatment zones were listed in the permit; however, there are only a total of 31 treatment zones in existence. Dripfield zones 1-4 are connected to treatment plant 1 (TP1), while Zones 5-31 are connected to TP2 and are currently the only dripfield zones being utilized.
- Disposal rates and dosage volumes for the zones used in the draft permit are inconsistent with actual parameters of the system. This issue arose from the fact that the original Waste Management Plan used preliminary calculations that are inconsistent with actual values.

Initially we used the existing WMP, developed by CEI, because they did the initial design and all of the calculations and because the system is buried, it is difficult to confirm some of the design details. However, it is my opinion that it would be in the best interest of the city to have a permit that fully meets their needs and only includes relevant information, in regards to the existing drip fields and their dosing capacities. Any work needed to confirm system parameters in order to draft a proper WMP will be executed by McClelland Consulting Engineers.

Please contact me back and let me know what the best course of action will be for us to proceed with resolving these issues. In order to serve the community of Cave Springs properly, as they deserve, we corrective action seems to be needed prior to executing a five (5) year permit. Refer to the attached tables, which show how the initial calculations done in the WMP are inconsistent with actual system parameters.

Please contact me at your earliest possible convenience so that we can discuss this further and work out the best possible solution. Again, I apologize for the inconsistencies of the WMP which led to the current debacle in which we find ourselves.

Thank you for your time and effort.



Barret Knutson, E.I.
Project Designer



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Actual			
<i>Treatment Plant #1 Dripfields</i>			
<i>Dripfield Zone Number</i>	<i>Zone Surface Area (ft²)</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 1	46,486	0.42	19,524
Zone 2	19,309	0.45	19,309
Zone 3	41,135	0.4	16,454
Zone 4	24,024	0.45	10,811
Subtotals	130,954	1.72	66,098
<i>Treatment Plant #2 Dripfields</i>			
<i>Dripfield Zone Number</i>	<i>Zone Surface Area (ft²)</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 5	65,293	0.20	13,059
Zone 6	38,613	0.20	7,723
Zone 7	54,549	0.20	10,910
Zone 8	23,602	0.30	45,726
Zone 9	45,726	0.40	18,291
Zone 10	31,500	0.30	9,450
Zone 11	20,548	0.20	4,110
Zone 12	18,804	0.40	7,522
Zone 13	22,866	0.25	5,717
Zone 14	40,649	0.15	6,097
Zone 15	41,890	0.20	8,378
Zone 16	23,567	0.40	9,427
Zone 17	16,062	0.23	3,694
⁽¹⁾ Zone 18	35,272	0.30	11,655
Zone 19	39,365	0.35	13,778
Zone 20	28,832	0.20	5,766
Zone 21	42,600	0.40	17,040
Zone 22	56,225	0.50	28,113
Zone 23	62,580	0.25	15,640
Zone 24	38,186	0.25	9,547
Zone 25	22,178	0.20	4,436
Zone 26	31,114	0.30	9,334
Zone 27	53,280	0.36	16,511
Zone 28	41,993	0.31	13,018
Zone 29	19,613	0.20	3,923
Zone 30	18,393	0.55	10,116
Zone 31	19,048	0.30	5,714
Subtotals	952,348	7.90	314,695
<i>Both Treatment Plant Drip Fields</i>			
Totals	1,083,302	9.62	380,793

⁽¹⁾ No Zone 18 Found on As-Built Drawings. Averages of other fields used as values

Permit			
<i>Treatment Plant #1 Dripfields</i>			
<i>Dripfield Zone Number</i>	<i>Zone Surface Area (ft²)</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 1	46,486	0.42	19,524
Zone 2	19,309	0.45	19,309
Zone 3	41,135	0.40	16,454
Zone 4	24,024	0.45	10,811
Subtotals	130,954	1.72	66,098
<i>Treatment Plant #2 Dripfields</i>			
<i>Dripfield Zone Number</i>	<i>Zone Surface Area (ft²)</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 5	65,293	0.20	11,262
Zone 6	38,613	0.20	5,491
Zone 7	54,549	0.20	4,585
Zone 8	23,602	0.30	7,038
Zone 9	45,726	0.50	2,113
Zone 10	31,500	0.20	2,380
Zone 11	20,548	0.30	6,328
Zone 12	18,804	0.40	17,832
Zone 13	22,866	0.16	1,222
Zone 14	40,649	0.45	7,814
Zone 15	41,890	0.10	2,235
Zone 16	23,567	0.40	12,137
Zone 17	16,062	0.20	6,497
Zone 18	35,272	0.60	17,455
Zone 19	39,365	0.28	4,372
Zone 20	28,832	0.25	4,015
Zone 21	42,600	0.25	9,516
Zone 22	56,225	0.40	17,628
Zone 23	62,580	0.20	4,171
Zone 24	38,186	0.20	5,601
Zone 25	22,178	0.40	9,427
Zone 26	31,114	0.30	12,592
Zone 27	53,280	0.20	4,206
Zone 28	41,993	0.50	11,144
Zone 29	19,613	0.50	14,703
Zone 30	18,393	0.15	2,550
Zone 31	19,048	0.25	4,067
Subtotals	952,348	8.09	208,380
<i>Both Treatment Plant Drip Fields</i>			
Totals	1,083,302	9.81	274,478

Permit Defeciencies		
<i>(1) Treatment Plant #1 Dripfields</i>		
<i>Dripfield Zone Number</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 1	-	-
Zone 2	-	-
Zone 3	-	-
Zone 4	-	-
Subtotals	-	-
<i>Treatment Plant #2 Dripfields</i>		
<i>Dripfield Zone Number</i>	<i>Disposal Rate (gal/day/ft)</i>	<i>Dosage Volumes (GPD)</i>
Zone 5	0.00	1,797
Zone 6	0.00	2,232
Zone 7	0.00	6,325
Zone 8	0.00	38,688
Zone 9	0.10	16,179
Zone 10	0.10	7,070
Zone 11	0.10	2,218
Zone 12	0.00	10,310
Zone 13	0.09	4,495
Zone 14	0.30	1,717
Zone 15	0.10	6,143
Zone 16	0.00	2,710
Zone 17	0.03	2,803
Zone 18	0.30	5,800
Zone 19	0.07	9,406
Zone 20	0.05	1,751
Zone 21	0.15	7,524
Zone 22	0.10	10,485
Zone 23	0.05	11,469
Zone 24	0.05	3,946
Zone 25	0.20	4,991
Zone 26	0.00	3,258
Zone 27	0.16	12,305
Zone 28	0.19	1,874
Zone 29	0.30	10,780
Zone 30	0.40	7,566
Zone 31	0.05	1,647
Subtotals	0.19	106,315

(1) Zones for Treatment Plant 1 (Zones 1-4) were not specified on the Permit; Permit No.: 4893-WR-3